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LEVERAGING GLOBAL VALUE CHAINS FOR GROWTH IN TURKEY

A Turkey Country Economic Memorandum



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Leveraging Global Value Chains for Growth in Turkey

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List of abbreviations

3-D	3-dimension
AD	Anti-dumping
ARA	Assessing Reserve Adequacy
ARG	Argentina
ASEAN	Association of Southeast Asian Nations
AUS	Australia
AUT	Austria
BCG	Boston Consulting Group
BEL	Belgium
BGD	Bangladesh
BGR	Bulgaria
BLR	Belarus
BN	Billion
BOL	Bolivia
BOP	Balance of payments
BRA	Brazil
BRICS	Brazil, Russia, India, China, South Africa
CAN	Canada
CBAM	Carbon Border Adjustment Mechanism
CBRT	The Central Bank of the Republic of Turkey
CEM	Country Economic Memorandum
CEO	Chief executive officer
CEPII	Centre d’Études Prospectives et d’Informations Internationales
CETA	EU-Canada Comprehensive Economic and Trade Agreement
CHE	Switzerland
CHL	Chile

CHN	China
CJEU	Court of Justice of the European Union
CMB	Capital Markets Board
CMR	Cameroon
COL	Colombia
COVID-19	2019 Novel Coronavirus Disease
CREST	Collaborative Research in Engineering, Science and Technology Centre
CRI	Costa Rica
CU	Customs Union
CVM	Countervailing measures
CZE	Czech Republic
DCFTA	EU-Ukraine Deep and Comprehensive Free Trade Agreement
DEU	Germany
DG	Directorate General
DNK	Denmark
DOM	Dominic Republic
DTA	Deep trade agreement
DVA	Domestic value-added
DZA	Algeria
E&E	Electrical and electronics
EAP	East Asia and the Pacific
EBRD	European Bank for Reconstruction and Development
ECA	Europe and Central Asia
ECJ	European Court of Justice
ECU	Ecuador
EFTA	European Free Trade Association
EIB	European Investment Bank
EIS	Enterprise Information System
EMDE	Emerging Markets and Developing Economies
EPZ	Export processing zone
ERP	Economic Reform Plan
ESG	Environment, Social and Governance
ESP	Spain
EST	Estonia
EU	European Union
EU27	27 European Union member countries

EUROSTAT	European Statistics Institute
ES	Enterprise survey
EV	Electric vehicle
EY	Ernst & Young
FDI	Foreign direct investment
FIN	Finland
FRA	France
FTA	Free-trade agreement
FTE	Full-time equivalent
FX	Foreign exchange
G-20	Group of 20
GATT	General Agreement on Tariffs and Trade
GATS	General Agreement on Trade in Services
GBR	United Kingdom
GD	GVC domestic supplier
GDP	Gross Domestic Product
GE	GVC exporter
GEO	Georgia
GFC	Global Financial Crisis
GHA	Ghana
GIC	Global investment competitiveness
GIN	Guinea
GITES	Input Procurement System
GNI	Gross National Income
GRC	Greece
GSP	Global supplier program
GTAP	Global Trade Analysis Project
GTM	Guatemala
GVA	Gross value added
GVC	Global Value Chain
HKG	Hong Kong
HND	Honduras
HRV	Croatia
HUN	Hungary
HVAC	Heating, Ventilating and Air Conditioning
HS	Harmonized system

ICIO	Inter-country input-output table
ICT	Information and Communication Technologies
ICU	Intensive care unit
IDN	Indonesia
IFC	International Finance Corporation
ICJ	International Court of Justice
IGM	Investor-state grievance mechanism
ILP	Industrial linkage program
IMF	International Monetary Fund
IND	India
IP	Intellectual property
IPA	Investment promotion agency
IPR	Intellectual property rights
IRL	Ireland
IRN	Iran
IRQ	Iraq
ISR	Israel
IT	Information technologies
ITA	Italy
ITKIB	Istanbul Textile and Apparel Exporter Associations
JPN	Japan
KAZ	Kazakhstan
KG	Kilogram
KOR	Korea
KORUS FTA	United States-Korea Free Trade Agreement
KOSGEB	Small and Medium Industry Development Organization
LAC	Latin America and Caribbean
LAO	Laos
LHS	Left Hand Side
LKA	Sri-Lanka
LTU	Lithuania
LVA	Latvia
MAcMap	Market Access Map
MAR	Morocco
MAX	Maximum
MDG	Madagascar

MENA	Middle-East and North Africa
MEX	Mexico
MFN	Most favored nation
MIC	Middle-income country
MIN	Minimum
MLT	Malta
MNE	Multi-national enterprise
MPI	Marginal propensity to import
MMR	Myanmar
MOIT	Ministry of Industry and Technology
MOL	Ministry of Labor
MONE	Ministry of National Education
MOTF	Ministry of Treasury and Finance
MYS	Malaysia
MWI	Malawi
NACE	Statistical classification of economic activities in the European community
NAFIN	Nacional Financiera
ND	Domestically oriented firm
NDP	National development plan
NE	Non-GVC (traditional) exporter
NGA	Nigeria
NIC	Newly industrialized country
NIS	New Incentive System
NLD	Netherlands
NTB	Non-trade barrier
NUTS2	Nomenclature of Territorial Units for Statistics 2
OECD	Organization for Economic Co-operation and Development
OEM	Original equipment manufacturer
OFDI	Outward foreign direct investment
PAK	Pakistan
PE	Private equity
PER	Peru
PET	Polyethylene terephthalate
Ph.D.	Doctor of Philosophy
PHL	Philippines
POL	Poland

PPP	Purchasing power parity
PPML	Poisson Pseudo Maximum Likelihood
PRODY	Product Technological Sophistication Index
PRT	Portugal
PSDC	Penang Skills Development Centre
PRY	Paraguay
PTA	Preferential Trade Agreement
PWC	PricewaterhouseCoopers
R&D	Research and development
RHS	Right-hand side
ROO	Rules of origin
ROU	Romania
RTA	Regional trade agreement
RUS	Russia
SA	South America
SAR	Special administrative regions of China
SAU	Saudi Arabia
SDN	Sudan
SDP	Supplier development program
SGP	Singapore
SILC	Statistics on income and living conditions
SME	Small and medium-sized entrepreneurs
SPS	Sanitary and phytosanitary
SSA	Sub-Saharan Africa
STE	State trading enterprise
STEM	Science, technology, engineering, mathematics
STRI	Service Trade Restrictiveness Index
SWE	Sweden
SVK	Slovakia
SVN	Slovenia
TBT	Technical barriers to trade
TCD	Chad
TFP	Total factor productivity
THA	Thailand
TL	Turkish Lira
TiVA	Trade in value-added
TJK	Tajikistan

TOBB	Union of Chambers and Commodity Exchanges of Turkey
TRIMs	Trade-related investment measures
TRIPs	Trade-related Intellectual Property Rights
TRSFTA	Turkey-Singapore Free Trade Agreement
TRY	Turkish Lira
TUN	Tunisia
TUR	Turkey
TURKHAS	Turkish Household Appliances Suppliers Association
UAE	United Arab Emirates
UK	United Kingdom
UKR	Ukraine
UMIC	Upper-middle income
UN	United Nations
UNCTAD	United Nations Conference on Trade and Development
UNIDO	United Nations Industrial Development Organization
U.S.	United States of America
US	United States of America
USA	United States of America
US\$	United States of America Dollar
USCBC	US-China Business Council
UZB	Uzbekistan
VAT	Value-added tax
VC	Venture capital
VDA	German Association of Automotive Industry
VDP	Vendor development program
VEN	Venezuela
VNM	Vietnam
VS1	Exports that are used as inputs in a second country's production of exports
WB	World Bank
WBG	World Bank Group
WDI	World development indicators
WDR	World Development Report
WIPO	World Intellectual Property Organization
WITS	World Integrated Trade Solution
WTO	World Trade Organization
YASED	International Investors Association
ZAF	South Africa
ZMB	Zambia

Key findings

Developing Through GVCs

GVCs have become a fundamental part of global economic organization, offering opportunities for countries to develop with access to external demand and business-to-business productivity gains. In future, GVCs will evolve with technology to remain efficient, but their basic economic logic will remain.

Turkish firms are established as part of GVCs across multiple sectors and regions, with GVCs accounting for a large share of Turkey's exports. Rising GVC participation has gone hand-in-hand with increased value-added from exports. But Turkey's participation remains relatively low, its products are of limited sophistication and innovation earnings are limited.

Intensifying GVC Trade

GVC exporters in Turkey are highly productive, large employers, employing four times as many employees, who are each twice as productive compared to the average domestic firm. Domestic GVC supply chains have expanded, but GVC suppliers can do more to realize productivity gains.

Turkey has high potential for exports and GVCs. Even though exports are sizeable, they are still 50 percent below potential, with higher technology products and GVCs being particularly promising.

GVC-related FDI for Upgrading

To facilitate GVC growth, Turkey needs to improve market access globally and deepen economic integration with major partners such the EU, especially by reducing barriers to trade in services.

Lead firms, often the product of GVC-linked FDI, are key to increase GVC participation and productivity-enhancing firm relationships. But FDI is far below levels needed to scale up these effects.

Entrenching economic and regulatory stability and a committed and consultative approach to business can raise FDI and other GVC-linked investments and scale up GVC upgrading effects.

Internationalizing Firms

GVCs extend domestically, creating more jobs and raising the productivity of local firms. But market failures and a lack of capabilities constrain the ability of firms to join GVCs.

Public action can help – providing market information, supporting firm capability development, workforce development, and improved frameworks for access to finance

But market-distorting measures like import barriers, domestic content requirements, and incentives are less effective as Turkey moves up the value chain and may even undermine growth.

Social and Environ. Upgrading

GVC growth has been associated with improving employment outcomes in more regions. But activity is still concentrated in major centers, and women are underrepresented, holding back potential.

Several of Turkey's GVCs have a large carbon footprint, presenting environmental and economic risks

Improved economic infrastructure and workforce skills in lagging regions, addressing constraints to female employment, and supporting a green transition will further boost the social benefits of GVCs.

Executive summary

Turkey saw phenomenal growth in the 2000s as economic reforms ushered in FDI, GVCs expanded, and productivity increased. The early 2000s saw Turkey exit from major economic crisis with a strengthened fiscal framework, a strengthened, inflation-targeting mandate for the Central Bank, the establishment of an independent bank regulator, and importantly, a recently agreed Customs Union agreement with the EU. From 2001 to 2017, incomes per capita in Turkey doubled in real terms and tripled in current dollar terms. Turkey transformed from a lower-middle-income country (LMIC) at the start of the 2000s to very nearly reaching high-income status by 2014. This drove a rapid fall in poverty from above 30 percent to just 9 percent¹. Very few other countries matched Turkey's growth over this period, and almost all of them were new EU member states².

Rising FDI, exports and GVC integration played a key role in this growth experience. Exports of goods and services quadrupled over the same period in current US\$ terms and rose from 20 to 26 percent of GDP. Inflows of FDI peaked at US\$19.1bn in 2007. Much of this activity was led by a deepening of Turkey's GVC linkages. OECD

data shows that not only did exports grow over the period, but they were increasingly part of GVCs. Turkey's GVC participation in exports – the share of Turkey's export value that was either imported or that went on to be used in another country's exports increased by 50 percent over the period.

Increasing economic volatility and falling growth in recent years are hampering Turkey's efforts to reach high-income status. While growth remained high up to 2017, economic vulnerabilities were rising. After the GFC, inward FDI and equity investment fell and, with a growing current account deficit, were replaced with the rapid accumulation of short-term portfolio debt. Investment and corporate credit growth proceeded at a rapid rate, focused on less productive areas such as real estate, and total factor productivity switched from being a driver of growth pre-GFC to dragging it down post-GFC. Inflation became entrenched in double-digits (compared to a 5 percent target), the corporate sector became highly leveraged, particularly with FX-denominated debt, and Lira depreciation and volatility increased. Even before the onset of COVID-19, Turkey's economic growth had fallen well below previous averages, and poverty had started to rise.

Development through the lens of GVCs

GVCs have become increasingly important in recent decades

In recent decades, both the geography and the organization of international economic activity have been fundamentally reshaped by global value chains (GVCs). In a GVC, the division of labor involved in producing a product is exploded so that various parts of the production process now take place in many different countries, rather than all in one place as might have happened in the past. The organization of activity increasingly features large networks of firms, with the direction of a lead firm but under independent control, with a wide variety of contractual and partnership arrangements mediating the collaboration among firms.

The emergence of GVCs opens new avenues for countries to promote growth and prosperity. For complex goods like automobiles, aircraft, and electronics, most countries would have not long ago been excluded from participating altogether in the process of production because of the capital investments and technological knowledge required. Now, it is possible to be part of the production chain by specializing in a stage of production. The ability to specialize enables each country to be most productive in its own task and makes the final product more affordable for the consumer.

¹ At the World Bank's poverty line for Upper Middle Income Countries of US\$ 5.50 a day in international US\$ purchasing power parity prices.

² Czech Republic, Croatia, Slovak Republic, Poland, Chile.

GVCs offer routes to raise inclusive growth at all stages of development

Figure ES1: Taxonomy of countries by GVC participation



Source: World Bank Group, World Development Report 2020: Trading for Development in the Age of Global Value Chains, 2019, World Bank: Washington DC

Nearly all countries participate in GVCs, but in different ways. The World Bank’s recent World Development Report on GVCs presents a taxonomy of the GVC engagement of countries. According to this, a country’s GVC engagement can be classified as: i) High commodities, with a high share of primary goods in exports and limited backward participation⁴ in manufacturing; ii) limited commodities, with a moderate share of primary goods in exports, and limited backward participation in manufacturing; iii) limited manufacturing, with a high share of manufacturing in exports and significant backward participation; iv) advanced manufacturing and services, with a high share of manufacturing and business services in exports, but relatively low levels of innovative activities; and v) innovative activities, with significant research and development intensity and a significant share of cross-border receipts for intellectual property.

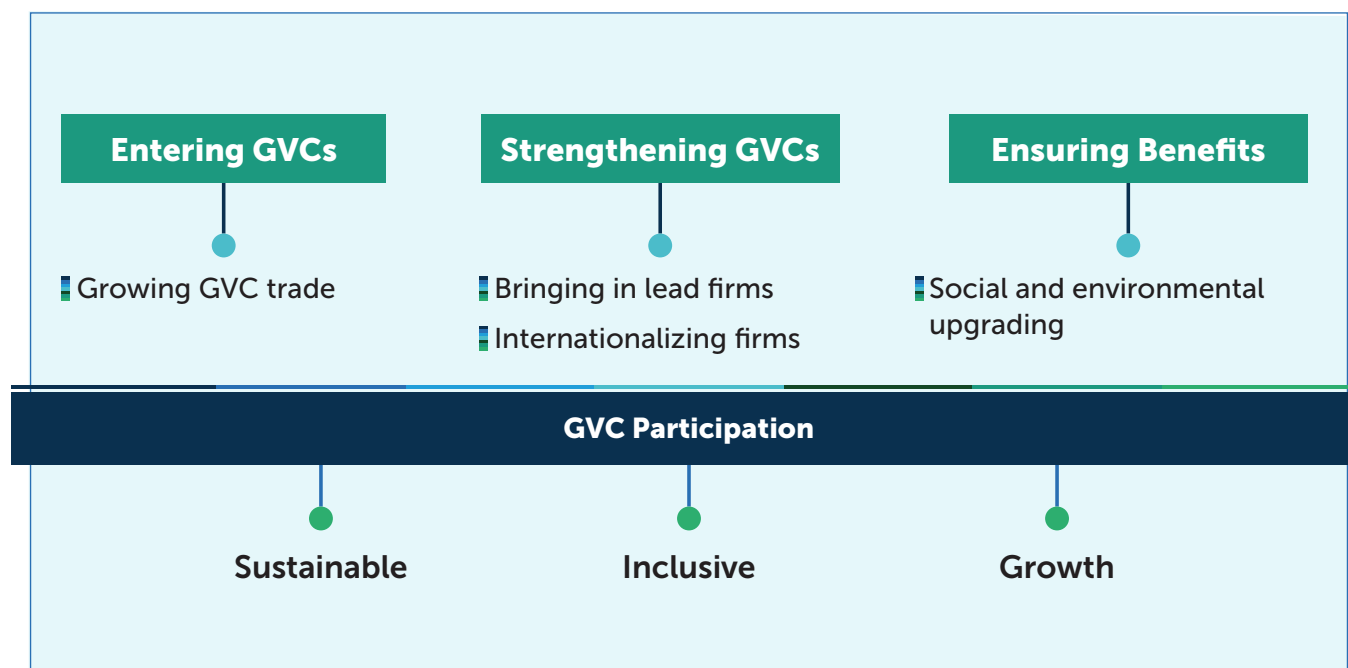
GVCs offer a variety of paths by which to accelerate development, which can be framed as strategic challenges, which provide the structure of policy issues presented in this report. The combination of a large pool of external demand, a hierarchy of different functions of varying value, and the potential for productivity-enhancing learning through firm-to-firm relationships mean that involvement in GVCs can be an important driver of economic growth and development. GVC upgrading is at the core of the study of GVCs, motivated by an urge to understand how the uneven distribution of the gains from globalization can be accessed by firms, states, and households in developing economies. At a firm level, GVC upgrading builds on firm-level competition theory to understand how firms can raise profits. At the national level, countries face different GVC development pathways and strategic challenges for development through GVCs. This report builds on the framework presented in the recent World Bank report, Making GVCs Work for Development⁵. Applied to Turkey, the strategic challenges for policy are as set out in Figure ES2.

³ Export shares all measured in terms of domestic value added.

⁴ Backward participation is measured as the share of foreign value-added (as embodied in imports) in exports.

⁵ World Bank Group, Making GVCs Work for Development, 2016, World Bank: Washington DC.

Figure ES2: Strategic challenges in achieving development through GVCs



GVC development at and beyond Turkey's level is associated with intense GVC participation, increasing use of advanced services, and the development of intellectual property. Having recently joined the advanced manufacturing and services grouping, Turkey can benefit from the continued development of these GVC activities for many years to come. At this stage, countries generally need to increase the intensity of the backward linkages in GVCs (greater use of imported goods in export production) to maximize exposure to international best-practice, as well as the use of advanced business services and intellectual property to raise the value-added of output. Continued advancement in GVCs would see Turkey both increase the benefits of GVCs from its present engagement and gradually build the capabilities to transition to the highest level of innovative activities. Over time, as countries progress to the top level of GVC participation, income from intellectual property and innovation becomes increasingly important, as does earning from services.

Looking ahead, GVCs will evolve with technology and the rise of China

The onset of COVID-19 and rising wages in China have given rise to a discussion about the future of GVCs. China and several other East Asian economies have, since the 1990s, played a central role in GVCs. But higher wages in coastal China and US-China trade conflicts have led to speculation that China may become less attractive for foreign investors, while the disruption of COVID-19 may act as an impetus for firms to reorganize their supply chains, to bring functions back to the home country of the lead firm, or 'reshore' activity. While some investors shifted production from China to Southeast Asia prior to 2020, surveys of European and U.S. investors in China indicate that from 2020 onwards, most plan to stay put. Data on both merchandise trade and FDI shows little evidence of such a pivot away from China.

Lead firms are likely to focus more on supply chain resilience, but we are unlikely to see drastic changes to the structure of GVCs. Many lead firms in GVCs are expected to make operational changes to become more resilient with respect to supply chain shocks while attempting to preserve the competitive advantages that caused GVCs to flourish in the first place, especially by making supply chains more transparent through mapping their networks of suppliers and improving risk management. While changing economic dynamics may lead to an evolution of GVCs over time, East Asia is also a fast-growing source of final demand, while bringing activity closer to home may reduce supply shock risks but lower competitiveness.

Services are becoming increasingly integral to GVCs. The communications revolution means that an increased variety of services can be provided across borders so that both services and goods are part of modern GVCs. Services are important at all levels of GVC participation, but at the highest level of GVC participation, services dominate. As the skills available in a country to provide high-quality services improve, countries may be able to follow paths of upgrading that lead to better jobs with higher wages.

Technological innovations and servicification are leading to changes in GVCs. Servicification refers to two recent trends: i) The increased use of services, particularly advanced business services, in the production of goods; and ii) the incorporation of services as part of the actual product offering in manufactures. The increasing use of advanced technologies such as big data, the Internet of Things, and autonomous robotics in the 2010s led to a convergence of new practices known as Supply Chain 4.0, which is leading to substantial changes in supply chains and GVCs. One significant change is that instead of a linear flow of information among the supply chain, Supply Chain 4.0 enables a “supply chain control tower” system whereby all parts of the supply chain to be seen at once, offering the potential to improve the efficiency of supply chain management.

Turkey in a world of GVCs

What’s new in this report? Novel analysis on GVCs

To develop the understanding of GVCs in Turkey and their potential to support analysis, this report makes use of a series of novel analyses combined with a thorough empirical and literature review. A few of the novel approaches employed are below:

- **Large-scale firm-level GVC analysis** analyzing the characteristics of millions of Turkish firms over more than a decade, we identify firms that are part of GVCs, analyze their characteristics compared to other firms and, and how they have grown and shaped patterns of economic growth over time.
- **GVC trade potential modeling** applies globally specified gravity modeling to understand Turkey’s overall export potential, potential in GVC sectors, by technology level and destination, and the impact trade policy can have on fulfilling unmet potential.
- **GVC policy benchmarking** compares Turkey to its GVC peers based on indicators that have been shown to be related to GVC participation to highlight policy-relevant constraints on GVC growth.
- **GVC social and environmental analysis** is conducted to show, for the first time, the impact of GVCs on employment outcomes in Turkey, as well as how Turkey compared to other countries and the potential for green GVCs in Turkey.

Turkey, already well entrenched in GVCs, has become more so in recent years

Turkey has substantial trade in multiple GVCs. Turkey accounts for around one percent of all global goods and service exports, and a substantial portion of Turkey's international trade is carried out in the context of GVCs. Backwards and forwards linkages – measures of imports and exports that cross more than one border – account for a third of Turkey's gross exports of goods and services, while established GVC sectors (such as motor vehicles, metals, apparel, machinery and electrical equipment) account for 60 percent of goods exports.

In a difficult global context, Turkey's recent GVC performance has been strong. Globally, trade and GVC participation has been stagnant over the past decade. Turkey's progress in deepening its participation in GVCs has also slowed. Nevertheless, Turkey's export growth has still been impressive in this context, outperforming the global average by a factor of two (in constant price terms). Over the past 10 years, motor vehicles have stood out as the fastest-growing sector for Turkey's exports, while the European Union (EU) and the Middle East and North Africa (MENA) region remained the most important export destinations.

In recent decades, Turkey has upgraded into advanced manufacturing. Two important measures of GVC integration are 'backwards participation' and 'forwards participation'. The former is a measure of how much of other countries' goods and services are embedded in a country's exports. Increasing backwards participation means more intense GVC integration, which, at most stages of development, goes alongside increased growth in value and productivity. Forwards participation is the share of a country's exports that are used in another country's onward exports. Turkey's rising backward participation and continued strong manufacturing orientation of exports means that over the past decade, it has advanced from being classified as a "basic manufacturing" to an "advanced manufacturing and services" country in the World Bank's taxonomy of GVC engagement.

Turkey's strong GVC performance was underpinned by decades of supportive policy. Trade and economic integration have long been prioritized by Turkish policymakers, and successive national development plans have sought to raise exports. Turkey's integration into modern GVCs started with economic liberalization and trade reforms over the 1980s and 1990. A flexible exchange rate regime liberalized capital markets, and lower trade barriers provided both support to exporters and FDI promotion. A watershed moment was reached when Turkey entered into a customs union with the European Union in 1995. As a result, trade barriers fell rapidly and set the stage for rapid economic integration in the 2000s.

GVCs are a valuable source of both economic growth and social benefits in Turkey

Turkey's deep participation in GVCs helped raise the country's income levels. The association between increasing GVC participation and rising value-added from exports is unmistakable at both the aggregate and sectoral levels. Deepening participation in GVCs has been associated with improved economic outcomes. At the aggregate level, expansion in Turkey's backward and forward linkages has corresponded with rapid growth in value-added exports. At the sectoral level, the same trend can be observed: faster GVC participation growth corresponds to higher growth in value-added exports.

Firm-level data confirms that GVC firms are productivity leaders and large employers. New firm-level analysis shows that firms that export and import intensively, meeting the definitions of GVC participation, are large – employing more than four times the number of employees of a typical domestic firm and more than double that of non-GVC exporters. Indeed, considering GVC exporters and their direct suppliers, these firms account for around 6 percent of total employment, despite making up only 4 percent of all firms. GVC firms also have much higher labor and total factor productivity than other firms and rely more on skilled and highly skilled workers.

Because of their higher productivity, GVC firms pay much higher wages to workers at all levels. Firm-level analysis reveals a stark difference in average wage levels between GVC and other firms. The average wage at GVC firms is 45 percent higher than for domestic firms and also higher than for non-GVC exporters. This wage premium is not driven by different skills composition: GVC firms pay at least 40 percent more across all broad skill groupings of workers: low skilled, skilled, and highly skilled.

GVCs extend beyond the lead firm, and domestic supply chains have been expanding across the country. Although GVC exporters have a significant level of intermediate imports, they also source goods and services domestically and have increasingly done so over the past decade. On average, there are now 3.6 domestic firms for every GVC exporter that depend on GVCs for a large share of their turnover, up from 2.8 in 2006. And GVCs have spread out from Istanbul to additional areas of the country.

A new agenda for growth

Turkey has considerable potential to spur inclusive growth through GVCs. GVCs have contributed to Turkey's impressive economic performance since the turn of the century. While the gains through GVCs have slowed in recent years, GVCs continue to hold great potential for Turkey. Turkey maintains a pivotal position among major regional global value chains. It is well-connected with a large and increasingly skilled population. Yet various measures indicate that Turkey is only at an early stage of its journey in GVCs: exports, though sizable, are considerably below potential; FDI inflows are well below comparators; GVC participation is less than for other advanced manufacturing and services countries, and the value-added per unit of export remains relatively low. Raising performance against these margins could be expected to reignite rapid, sustained growth for many years to come.

The immediate challenge is to leverage Turkey's existing GVC engagement in advanced manufacturing and services, while the shift towards an innovative economy may require a longer transition. Turkey's recent entry into more advanced GVCs puts it in good company, including many high-income countries that operate in this group. Turkey's challenge now is to deepen and entrench its position at this level and derive the full benefits of such higher-value-added functions. Manufacturing and services are important drivers of job-creation and inclusive growth at all skill levels, and as such, this form of economic activity can be well suited to providing Turkey an inclusive stairway to growth. This engagement also builds the foundations for a more innovation-focused economy, and a transition to this level could become feasible, whereby Turkey's policy frameworks, labor market, and firm capabilities could transform.

But GVC-led development will not happen without concerted public action to unlock the potential of the private sector. The detailed assessments presented in this report indicate a series of key policy recommendations that, if adopted, could be expected to support GVC growth. Many of these recommendations are substantive and may require sustained implementation over the years. Others, such as trade agreements and cooperative partnerships with industry, are not wholly within the gift of the authorities. Nevertheless, we believe that concentrated effort on this policy agenda presents the greatest opportunity for Turkey to accelerate inclusive growth and sustain it to reach high-income levels.

Growing GVCs by bringing down barriers to trade and deepening trade agreements

GVCs are built on cross-border flows, and a renewed agenda to expand market access and bring down barriers for trade in goods and services can yield large returns. Bringing down barriers and strengthening cross-border regulatory frameworks will support the growth of GVCs in Turkey. GVC integration requires precision and quality in production and supply chain management. While domestic firms can also play an important role, to be effective, firms need unrestricted access to imported intermediate inputs,

whether goods or services. This calls for a refocusing on ease of trading, either through international trade agreements or action to lower non-tariff barriers on goods and services domestically.

Turkey is less open to trade than its peers and has potential for trade growth. Although Turkey's export earnings are large in absolute terms, given Turkey's size and upper-middle-income levels, its trade in goods and services relative to GDP is lower than other countries, suggesting a role for increased trade to support income growth. Detailed gravity modeling confirms that Turkey has significant potential to expand exports, and GVC exports, especially in higher technology sectors and to destination markets where trade barriers are currently high. GVC trade potential is highest in electronics, but there is also export potential in machinery, processed food, electrical equipment, and intermediate vehicle GVCs.

Barriers to trade in goods and service restrictions are sizeable. Turkey's simple average tariff rates are not especially low but in the mid-range of all countries around the world. Trade-weighted average tariffs are lower, driven by the Turkey-EU Customs Union, while imports of some products from non-EU countries transiting through the EU pay "additional duties" over and above the applied MFN rate. However, the ability of Turkey to unilaterally lower tariffs on manufactured goods is restricted by its requirement to impose the EU Common External Tariff on these goods, as per the Customs Union the two parties are part of. Non-tariff barriers (NTBs) for goods are prevalent, with Turkey having the 12th highest frequency of NTBs on imports worldwide with anti-dumping, safeguards, and export subsidies more frequently used than in the EU and Turkey's restrictions on services are high. Amongst OECD countries, Turkey has the fourth-highest level of restrictions overall, with air logistics and business services that are important for GVCs being highly restricted.

Bilateral tariff reduction and new trade agreements can provide a major boost to exports. While Turkish firms enjoy excellent market access to the European and Central Asian regions, it is considerably harder for firms to access other markets. Most of Turkey's highest potential markets, like the USA, Japan, China, and Indonesia, are protected with tariffs greater than the world average, hindering Turkish exporters' ability to compete. And past experience shows that new trade agreements can have a large, positive impact on Turkey. On average, Turkey's merchandise exports with a partner country increased by 180 percent in the five years after a trade agreement came into force compared to the period prior. While Turkey is limited in agreeing third party agreements where the EU does not also negotiate one, there are scores of countries where the EU and third parties have a PTA where Turkey is free to and should seek to strike its own agreements. World Bank analytical work underway on the economic impacts of Customs Union and trade agreement reform will provide further quantitative estimates of the impact of new trade agreements for Turkey.

Deeper trade agreements are also needed as Turkey seeks to deepen participation in advanced GVCs. The majority of Turkey's trade agreements, as well as the EU Customs Union, are relatively shallow and, other than tariff policy, tend to cover areas already agreed to at the multilateral level. In particular, they could be deepened to facilitate the movement of capital, promote investment, and strengthen intellectual property rights. Modeling suggests that Turkey's exports could rise by around 10 percent from a deepening of existing agreements and that Turkey's exports respond more positively to an increase in trade depth than the average for other countries and are more responsive than imports.

Revitalizing the EU-Turkey Customs Union is a must to realize the gains from trade and GVCs. The Turkey-EU Customs Union (CU) is Turkey's single most important agreement to facilitate trade and GVCs. Deepening and improving its functioning is, therefore, the uppermost priority. Such reforms could aim to address asymmetries in third-party trade agreements, restrictions on services, and frictions in the movement of goods and people across borders for business purposes. An enhanced dispute resolution system would also be important to help ensure the smooth running of the CU in the future.

Scale up the presence of lead firms to boost demand and productivity through new inter-firm relationships

Bringing in more lead GVC firms will help spread technology and productivity gains more widely. GVC firms are found both in Turkey and worldwide to be the most productive. While such firms, both international and homegrown, operate in Turkey, there is scope to scale up their presence. Foreign direct investment (FDI), and similar forms of durable, cross-border flows are important means by which to raise the intensity of GVC participation and the productivity benefits of GVCs flows. Turkey's FDI inflows are well below the average for countries in similar or more advanced GVC positions, including other large countries such as China, Germany, and the USA. Similarly, there remains considerable potential to further upgrade and increase the value from GVCs. Turkey's export sophistication is relatively low and has lagged comparators, while unit prices of exports in specific sectors to the EU market are below the median for competing countries.

Evidence indicates that low FDI and weaker policy frameworks are constraining GVC growth. Cross-country econometric analysis on the determinants of GVC participation in countries at a similar or more advanced level points to areas which Turkey may need to improve to advance further in GVCs. While some factors work in Turkey's favor, low levels of FDI, low macroeconomic and policy stability, and other regulatory and legislative factors are constraining Turkey's development, and few, if any, countries have succeeded in upgrading without first addressing these constraints.

To increase FDI and productive investment, focus on macroeconomic and regulatory stability

Macroeconomic stability is a key consideration for potential foreign direct investors, for which Turkey falls short. Recent international World Bank surveys show that stability factors are the key considerations for multi-national enterprises (MNEs) in choosing a location to invest, with 85 percent of respondents citing 'macroeconomic stability' as a critically important or important factor. Inflation and exchange rates are frequently cited as the main indicators investors use to gauge macroeconomic stability, and compared to other countries at or above Turkey's level of GVC development Turkey does indeed stand out as having much higher inflation and exchange rate volatility.

A renewed, government-wide commitment to lower inflation and to build international reserves will help address this key constraint on Turkey's potential. Reversing a trend of high inflation and exchange rate volatility requires substantial, sustained effort over time, but the payoffs are large. Relaxing this most critical constraint to investment in Turkey and turning around perceptions could unleash a new wave of growth-enhancing investment. A set of monetary, financial, and fiscal policies coordinated to bring inflation back to its

target level will be most effective. This improved investment environment will also facilitate the rebuilding of external buffers, which, after a series of major economic shocks, stand well below the levels recommended by the IMF.

A focus on ensuring predictable and fair regulatory frameworks will similarly raise the attractiveness of investing in Turkey. Issues related to regulatory and political volatility are also amongst the greatest concerns for foreign investors and are reflected in higher costs of investing, such as insurance coverage. Policy volatility is high in Turkey, based both on perception surveys and objective indicators. Developing further the consultative elements of policy formulation, such as the strengthening of Turkey's nascent Regulatory Impact Assessment regime, would help address this. Identifying and tackling investor-state grievances early on can also support investment retention and expansion.

A strong FDI facilitation and aftercare strategy led by the Investment Office will also support FDI. Investment promotion agencies can play a critical role in FDI attraction and facilitation. They are the government's key interlocutors with foreign businesses. Turkey's Investment Office already

embodies many good practice characteristics, with high-level government support, strong strategic alignment, a clear and uncontested mandate, adequate resourcing, and country-wide

representation. Turkey could build on this to embed further good practice, including private sector representation in its governance and strengthening investor aftercare and advocacy services.

To raise domestic linkages, focus on improving the absorptive capacity of domestic firms

GVCs do not stop at the border but stretch into domestic supply chains and offer opportunities to domestic firms to internationalize. The market-led development of domestic supply chains can multiply the benefits of GVCs. This is often described as increasing domestic linkages or densifying GVC activity. By engaging with GVC lead firms, domestic firms can take several routes to raise productivity and internationalize. This could be domestic supply, forging strategic alliances, moving into direct exporting, or outbound foreign direct investment.

Domestic linkages are already substantial in Turkey, but the focus should be on realizing productivity gains amongst these firms. Turkey already retains a relatively high level of value-added in exports domestically, and domestic GVC supply chains have grown. Turkey retains more than 80 percent of exported value domestically, amongst the highest ratio in the OECD. There is a trade-off to be struck here. If domestic value-added is too high, it can come at the cost of productivity-enhancing relationships with international suppliers, as discussed above. The data suggests that rather than focus on further densification, the focus should be on facilitating the existing, large group of domestic suppliers of GVCs to transform into high-performance, high-productivity firms. Firms that supply GVCs are slightly more productive than domestically oriented firms and have a higher probability of becoming an exporter. But their productivity is still much lower than that of lead firms, and more could be done to accelerate the rate of improvement of these firms. There is a role for targeted policies to address market constraints.

Policymakers should encourage technological upgrading but leave sourcing strategies to

business. Restricting trade to promote domestic manufacturing is often counterproductive. As GVC participation grows, many countries worry about a rise in intermediate imports. But domestic firms gain the most by integrating into GVCs, rather than supplanting them, and to do this, they need access to top-quality intermediate inputs which may be imported. The causality runs from technological upgrading to higher GVC value capture, not from increased domestic content to technological advances. Trade restrictions and domestic content requirement measures are, therefore, not the right options to support domestic firms like those in Turkey seeking to upgrade in advanced GVC functions.

GVC-led development should be guided by strong public-private collaboration. Close dialogue and cooperation between the government and industry help inform effective policy measures to ensure competitive domestic supply chains. Positioning Turkey as a competitive production location in GVC sectors requires strategy with a long-term perspective, designed and supported by industry-government coordination and collaboration. Especially for production with increasing technology and skills content, working together in building a resilient and competitive supply chain with the right access to talent and industrial ecosystem is paramount. Yet Turkey currently lacks adequate public-private platforms to explore new potential and tackle common gaps within and across industries. Committed industry associations and fora are in place, but active coordination with government remains limited.

Readying firms to integrate into GVCs calls for targeted measures to address market failures and build capabilities. Lead firms in Turkey readily

recognize and appreciate the value of a strong and deep ecosystem of firms in the domestic market but often cite a lack of readiness of prospective domestic suppliers to join highly efficient supply chains. Gaps include management capability, investment, and adoption of enabling technologies. Classical industrial policy tools, such as incentives, subsidies, and localization targets, tend not to be well suited to addressing these constraints and may only end up distorting the market. Instead, proactive and targeted policy measures used to carefully address market failures, and that target sustainable improvements in firm competitiveness, can be effective. Measures that help to raise absorptive capacity by promoting firm innovation utilization, connecting producers to GVC lead firms, improving managerial and workforce skills, and improving access to finance are important.

Supplier development programs can help forge new GVC linkages and upgrade supplier capabilities. Supplier development programs (SDPs) encourage existing and new GVC suppliers to invest in business capabilities needed for longer-term competitiveness. Such programs can be transformative, helping suppliers upgrade to meet quality and standards but, given their need for targeting and customization, are also costly. But international experience shows that investing in promoting these linkages and upgrading local firm capacity pays off, and given the positive market externalities of medium-term capacity development, there is a role for public sector participation.

Workforce development is a similarly important agenda for firms seeking to internationalize. As in many emerging markets, skills mismatches are also found to be a considerable problem for firms in Turkey. Targeted workforce development strategies can bridge these gaps, ideally linking lead firms and local institutions, including universities and vocational and technical centers. Governments can facilitate access to skilled labor by ensuring open labor markets and helping match investor needs with available local skills. Plans to develop “sectoral skills maps” to guide labor market policies and

design sectoral labor plans, recently announced by the authorities, could help in this respect, and it would be key for the views of business to be integrated into this exercise to align public support with private sector skill requirements.

Financing is a key consideration for firms trying to enter GVCs but is often the first stumbling block. Successful integration into GVCs, even as a domestic supplier, is an investment-intensive activity, given the requirements to be at the technology and competitive frontier. Yet those firms that will gain the most from joining GVCs are more likely to be small and medium-sized enterprises (SMEs) and are the most likely to face credit constraints. While many SMEs involved in GVCs are able to build sufficient know-how to be competitive, their access to financing is often the main bottleneck to expanding or upgrading production capabilities.

Expansion of non-bank financing options, such as private capital and fintech-based reverse factoring, could help to relax credit constraints on productive firms. Bank financing has been the traditional financing source for SMEs, but many still face severe difficulties in accessing bank finance. Private capital markets, such as private equity and venture capital, could play a role in supporting finance for high-potential SMEs to insert and upgrade in GVCs, although these markets are as yet quite underdeveloped in Turkey. Industry, government, and development partner collaborations may be effective in helping to develop new targeted funds focused on high-potential firms that are part of GVCs, both exporters and domestic suppliers. Bond issuance is more challenging for SMEs given the absence of strong governance structures and information disclosures. The recent bond guarantee fund plans of the Capital Market Board can play a role in supporting credit enhancement for SME bond issuance but need to be carefully considered. Working capital needs, which can be acute in GVCs, can also be met with reverse factoring and other similar financing means, which are amenable to efficient fintech-based clearing systems.

The domestic linkages of GVCs can revitalize lagging regions and support an inclusive agenda

GVCs in Turkey have been remarkably beneficial for the country. GVC firms are large employers that pay workers more. GVCs are associated with more formal jobs and therefore offer workers better conditions and do slightly better on female employment. The rate at which wages and employment have grown in Turkey's GVC-intensive sectors in recent years has been rapid – faster than peers and faster even than the rate of economic upturn over the same period. This suggests that the social benefits of GVCs have been improving, driven by an expansion of domestic linkages, and with workers capturing a sizeable share of increased value-added.

The problems with GVCs generally mirror those of Turkey's broader economy. Although they have been spreading over time, GVCs remain highly concentrated in certain, more developed regions, as does overall formal employment in Turkey. An economic agenda to raise the economic potential of lagging regions is important here, including improving connectivity, public services, and infrastructure in these areas. While GVCs do slightly better than other firms, female employment levels remain extremely low and pursuing a national policy agenda to enable stronger female labor force participation would complement and make GVC growth more inclusive.

Scaling up GVCs is likely to support better social outcomes, while special attention is needed to ensure these benefits are equitably spread. The gains in Turkey over the past decade have been spread more evenly nationwide, with regions previously not participating now significant in GVCs. But GVC activity is still concentrated in major economic centers, especially in and around the Istanbul region. A renewed focus on regional economic development and how lagging regions can more fully integrate into global value chains will be an important complement to national policy. Aspects of such a program are likely to include continued improvements in economic infrastructure, especially plant-to-port transport linkages, location-based support for the development of viable new clusters, and skills development in areas of demand by potential GVC businesses.

With GVCs in Turkey providing good social returns, the challenge is to scale them up. Returning to the earlier discussion, with social benefits strong in most respects, the main means to drive further social and environmental gains would be to scale up and upgrade GVC participation in Turkey. All the recommendations presented here would support achieving these goals.

Global decarbonization presents a risk for Turkish industry but can also create new growth potential

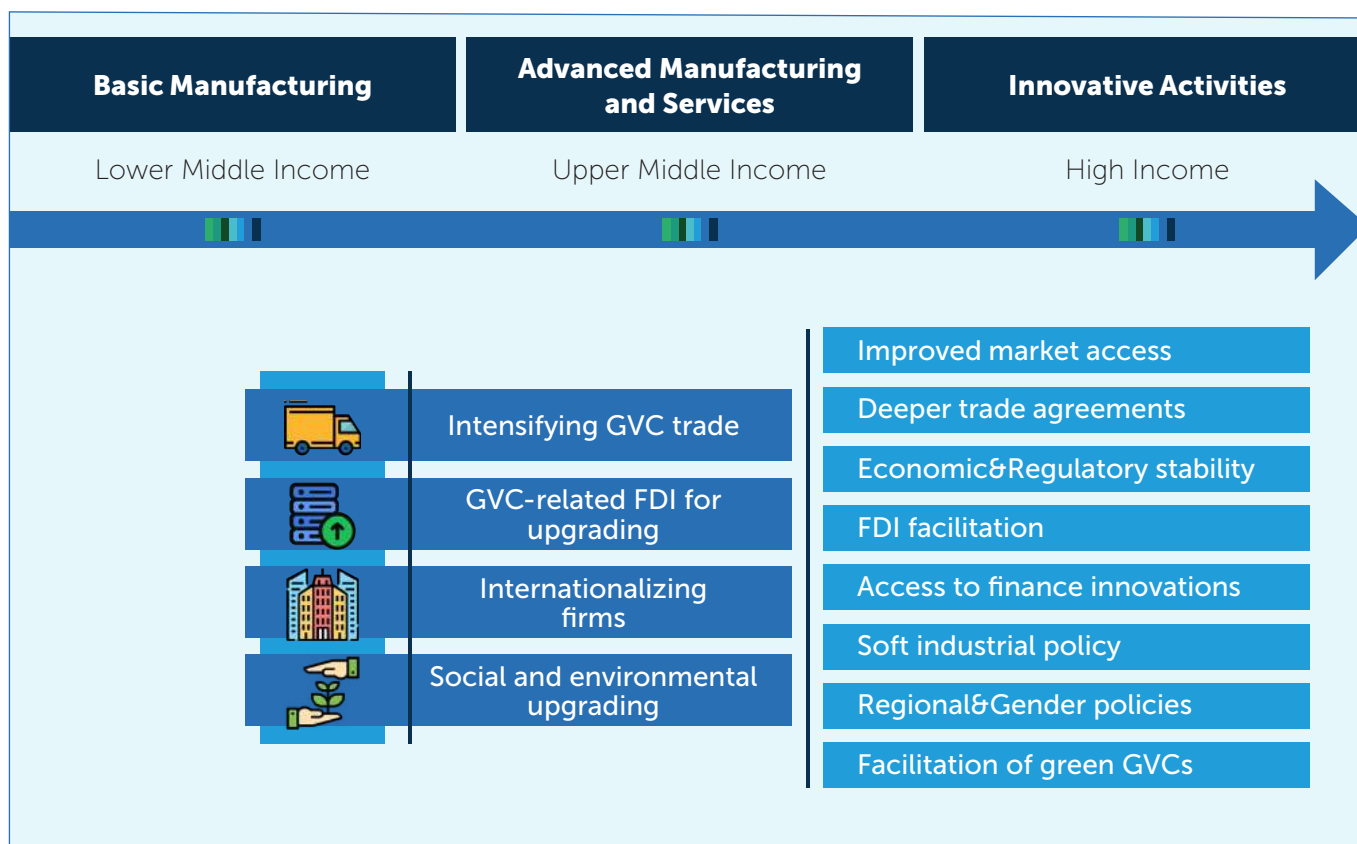
Turkey's GVC participation will be affected by decarbonization, and firms need to adapt to changing demands in the EU and other markets. GVCs are a conduit for the latest technologies and product specifications. As demand in advanced markets – the ultimate focus for much GVC activity – switches to low carbon goods, GVCs will, and are already, adapting. This means that Turkish GVC

firms will have little option but to reduce their carbon footprint to remain competitive. In this, as in other areas of technology, GVC firms are likely to lead the way and support broader green technology adoption in Turkey. Measures of green potential, in fact, indicate that Turkey is amongst the top few countries in the world with the potential to raise its participation in green value chains.

Conclusions

Overall, GVCs constitute a high potential and high return development agenda for Turkey. This is an area where Turkey has high potential, which, with the right policy frameworks, could be realized. An effective agenda to support GVCs could yield sustained, inclusive growth for many years to come. A GVC reform agenda cuts across several other national economic development objectives. It would support increased exports, productive investment, and higher value-addition both in exports and domestically, and GVCs offer a near-unique means to start a new wave of productivity growth. Figure ES3 summarizes the key areas of policy priority identified in the report, while the next section provides a more detailed set of policy recommendations.

Figure ES3: Summary of policy priorities for GVC-led development



Support to GVCs is complementary to other major policy agendas. In this report, we explore the relationship between GVC-led development and a series of other policy issues. We find little evidence of policy trade-offs. While in some contexts, international firms and imports may crowd out domestic activity, Turkey’s private sector is at the stage where they would benefit more from these competitive and productivity-enhancing forces, as many firms in Turkey have already done so far. Furthermore, GVCs in Turkey provide major social benefits – supporting high levels of well-paid workers and, although of a limited nature, do provide some reach beyond major economic centers.

Figure ES4: Detail of policy recommendations

<p>Improved market access</p> <ul style="list-style-type: none"> ■ Lower restrictions in service sectors, especially logistics and business services [MoT, SBO] ■ Minimize non-tariff barriers on imported goods such as additional testing and surveillance ■ Seek to expand network of preferential trade agreements (PTA) [MoT]
<p>Deepen trade agreements</p> <ul style="list-style-type: none"> ■ Seek to expand Turkey-EU Customs Union to cover services and intellectual property [MoT] ■ Seek to modernize the the CU to address issues of dispute resolution and PTA alignment [MoT]
<p>Economic and regulatory stability</p> <ul style="list-style-type: none"> ■ Cross-government prioritization of inflation stabilization, robust external buffers and other macroprudential measures, explicitly highlighted in national plans [MoTF, SBO] ■ Expand use of regulatory impact assessment and consultative policy making [MoTF, SBO]
<p>FDI facilitation</p> <ul style="list-style-type: none"> ■ Build on good practice of Investment Office to expand post-investment service offerings [IO] ■ Improve effectiveness of investment dispute resolution system [IO]
<p>Soft industrial policy</p> <ul style="list-style-type: none"> ■ Strong public-private collaboration aimed at capability building a vibrant ecosystem and capabilities of domestic suppliers, including develop new targeted supplier-development programs, co-led by Ministry of Industry and Technology and relevant industry associations [MoL, MoIT, industry associations] ■ Develop new workforce development programs building on skills needs identified in collaboration with the private sector [MoNE, MoL, MoIT, private sector organizations]
<p>Access to finance</p> <ul style="list-style-type: none"> ■ Increased targeting of public-private blended finance (such as the Credit Guarantee Fund) to smaller GVC participating firms [MoTF] ■ Strengthen the regulatory framework for fintech working capital solutions such as for reverse factoring [CBRT, MoTF] ■ Public-private partnerships for growth capital funds targeted at SMEs that are part of GVCs [CMB, MoTF]
<p>Regional and gender policies</p> <ul style="list-style-type: none"> ■ Plant-to-port connective infrastructure and skill development investments especially in lagging regions where new GVC clusters are viable [MoIT, MoTr, MoL] ■ National policies, including affordable access to child and elderly care and raising minimum education levels of women, to remove barriers for women's access to jobs [MoL, MoIT]
<p>Facilitation of green GVCs</p> <ul style="list-style-type: none"> ■ Introduce market-based price incentives, such as carbon taxation to support green transition [SBO, MoTF, MoE] ■ Prioritize emergent, green sectors in policy [All]

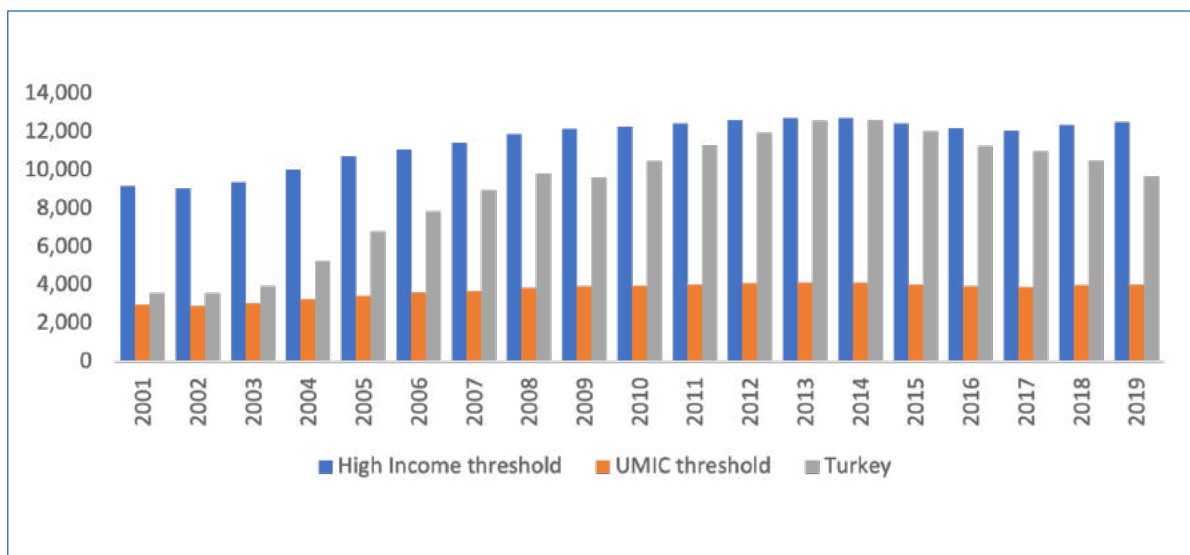
Key: SBO: Presidency of Strategy and Budget, MoIT: Ministry of Industry and Technology, MoTF: Ministry of Treasury and Finance, MoL: Ministry of Labor, MoT: Ministry of Trade; MoTr: Ministry of Transport; MoE: Ministry of Environment; CMB: Capital Markets Board; IO: Investment Office

Introduction

This report is the latest in a series of World Bank Group Country Economic Memoranda that identify the policy that will support sustainable, inclusive growth in Turkey. The Country Economic Memorandum is a long-established tool that the World Bank uses across the world to assess constraints to growth and identify and present policy that can support development through sustainable and inclusive economic growth. In Turkey, the CEMs are a longstanding series of flagship reports, with the first Turkey CEM was published on October 21, 1976, and they have been published at regular intervals since then.

Turkey saw phenomenal growth in the 2000s as economic reforms ushered in FDI, GVCs expanded, and productivity increased. The early 2000s saw Turkey exit from major economic crisis with a strengthened fiscal framework, a strengthened, inflation-targeting mandate for the Central Bank, the establishment of an independent bank regulator, and importantly, a recently agreed Customs Union agreement with the EU. From 2001-2017, incomes per capita in Turkey doubled in real terms (an annual average rate of 4.2 percent) and tripled in current dollar terms. Turkey transformed from an LMIC at the start of the 2000s to very nearly reaching high-income status by 2014 (see Figure I.1). This drove a rapid fall in poverty from above 30 percent to just 9 percent⁶. Only five countries that started at a similar income level post-1990s surpassed Turkey’s growth, four of which were new EU member states⁷.

Figure I.1: Gross national income per capita (current Atlas US\$) and World Bank income thresholds



Source: World Bank

Notes: Thresholds for 2018 and 2019 are projected; Turkey’s GNI for 2019 is forecast-based.

Rising FDI, exports and GVC integration played a key role in this growth experience. Exports of goods and services quadrupled over the same period in current US\$ terms and rose from 20 to 26 percent of GDP. Inflows of FDI peaking at US\$19.1bn in 2007. Much of this activity was led by a deepening of Turkey’s GVC linkages. OECD data shows that not only did exports grow over the period, but they were increasingly part of GVCs. Turkey’s GVC participation in exports – the share of Turkey’s export value that was either imported or that went to be used in another country’s exports increased by 50 percent over the period.

⁶ At the World Bank’s poverty line for Upper Middle Income Countries of US\$ 5.50 a day in international US\$ purchasing power parity prices.

⁷ Czech Republic, Croatia, Slovak Republic, Poland, Chile.

Increasing economic volatility and falling growth in recent years are hampering Turkey's efforts to reach high-income status. While growth remained high up to 2017, economic vulnerabilities were rising. After the GFC, inward FDI and equity investment fell, and with a growing current account deficit, it was replaced by a rapid accumulation of short-term portfolio debt. Investment and corporate credit growth proceeded at a rapid rate, focused on less productive areas such as real estate, and total factor productivity switched from being a driver of growth pre-GFC to dragging it down post-GFC. Inflation became entrenched in double-digits (compared to a 5 percent target), the corporate sector became highly leveraged, particularly with FX-denominated debt, and Lira depreciation and volatility increased. Even before the onset of COVID-19, Turkey's economic growth has fallen well below previous averages, and poverty has started to rise.

As the world recovers from COVID-19 and GVCs evolve, Turkey is positioned well if it adopts the right policy framework. COVID-19 is the latest and most extreme event to have revealed the limitations of globally distributed economic production, with supply chains being severely disrupted. But GVCs have long had to cope with such shocks to different degrees, and COVID-19 is unlikely to alter the fundamental logic of economic efficiency that sustains GVCs⁸. However, these shocks, along with more protectionist moves amongst certain major countries over the past decade, may lead to some tendency to 'reshore' or 'nearshore' some activity, moving it closer to home. Technological advances or 'Supply Chain 4.0' will also alter GVCs, in some cases reducing economies of scale but also improving the ability to effectively manage a widely dispersed supply chain. Already well integrated into GVCs and on the doorstep of Europe, Turkey could benefit from these trends, although to do so, it will need to embrace the GVC dynamics of development that are discussed in this report.

GVCs offer a framework for an impactful new economic program that can put Turkey back on track to high income. While Turkey has continued to integrate, its economic outlook has faltered as this took a backseat to domestically led growth. A top priority for boosting productivity is export-led growth and, in particular, further economic integration via global value chains, and this is indeed recognized in the government's latest national development plan and associated sectoral plans. This report sets out in detail the mechanisms by which GVC-led development can be achieved and the key policy changes that can help realize this.

The report is structured as follows. The first chapter will present GVCs and their global context, as well as factors that are likely to play into the evolution of GVCs in future. The second chapter assesses Turkey's place in GVCs, their impact, and factors that may constrain their further growth, from an aggregate and sectoral perspective. Chapter three presents a detailed assessment of GVCs based on firm-level data, showing how GVC firms, including those in domestic supply chains, perform and how they have developed over the past decade. Chapters four to seven present assessments of and policy recommendations for different aspects of upgrading – or ways by which GVCs can support improved growth and development. These chapters are focused on: GVC trade intensification and diversification (chapter 4); Scaling up lead firm presence and GVC-related investment (chapter 5); fostering domestic linkages and productivity flows through GVCs (chapter 6); and social and environmental upgrading (chapter 7).

⁸ World Bank Group (2021), *Global Value Chains in the Time of COVID-19*, World Bank: Washington DC.

Chapter 1

Understanding global value chains and development



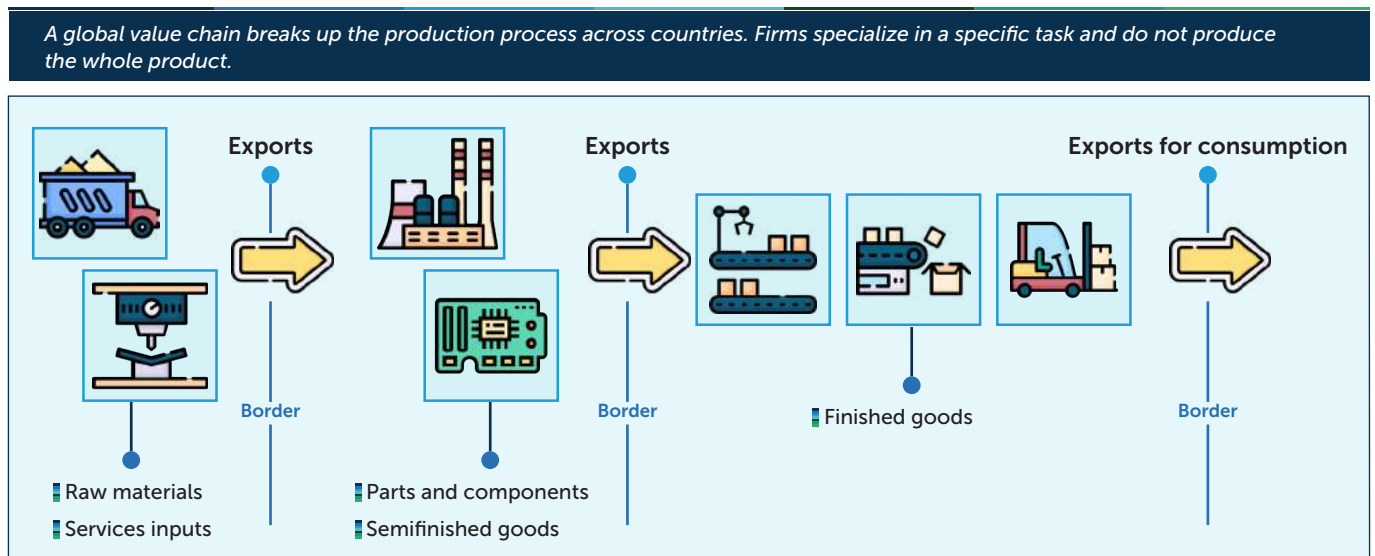
- **GVCs have become a fundamental part of global economic organization**
- **They offer opportunities for countries to develop through a combination of external demand and business-to-business productivity enhancement**
- **GVCs will evolve to adopt new technology and remain efficient, but their fundamental economic logic will remain.**

GVCs shape the global economy

In recent decades, both the geography and the organization of international economic activity have been fundamentally reshaped by global value chains (GVCs). The geography of activity has changed in that the division of labor involved in producing a product is exploded so that various parts of the production process now take place in many different countries (Figure 1.1), rather than all in one place as might have happened in the past.

The organization of activity increasingly features large networks of firms, under the direction of a lead firm but under independent control, with a wide variety of contractual and partnership arrangements mediating the collaboration among firms. This contrasts with the paradigm of a vertically integrated multinational company under central control that was widely studied in the 1960s and 1970s.

Figure 1.1: What is a global value chain?



Source: World Development Report 2020

The emergence of GVCs opens up new options for countries wishing to promote growth and prosperity by participation in international trade. For complex goods like autos, aircraft, and electronics, most countries would have not long ago been excluded from participating altogether in the process of production because of the capital investments and technological knowledge required. Now, it is possible to get a piece of the action by specializing in a stage of production. Countries from Nicaragua to Sri Lanka participate in automotive value chains by producing ignition wiring sets. Turkey, at the other end, engages in the final assembly of complex motor vehicles using a mixture of imported and domestic components. This ability to specialize enables each country to be most productive in its own task and makes the final product more affordable for the consumer.

GVCs fragment the production process across national boundaries

GVCs were made possible because of massive drops in transportation and communications costs in the second part of the 20th century – the so-called “second unbundling”. In Richard Baldwin’s book *The Great Convergence* (2016), changes in technology drive world trade. During the so-called “first unbundling” associated with the Industrial Revolution, international shipping became much cheaper than previously. This led to an expansion of long-distance trade and people consuming more goods that were produced in locations far away from where they lived. Revolutions in ICT and container shipping in the late 20th

century led to the “second unbundling,” in which the various tasks that were previously performed in a single factory could also be spread about to different countries in order to achieve scale economies in each task. Yet further advances in ICT might lead to a “third unbundling,” in which services become much more tradable internationally than they are at present.

Prior to GVCs, industrial production was highly centralized. In the first part of the 20th century, the development of the assembly line process, associated with Henry Ford, led to the centralization of production in a single location. The archetype of this form of production is the River Rouge assembly plant in Michigan, in which raw materials of all types were brought to a single location, worked through the various stages of production, and transformed into finished automobiles that were driven out of the factory (Figure 1.2). In this method of production, the great expense of transport costs involved in moving things to and from a large factory was more than compensated by the economies of scale in production achievable on the assembly line.

Figure 1.2: Ford’s River Rouge assembly plant in Dearborn, Michigan, c. 1927.

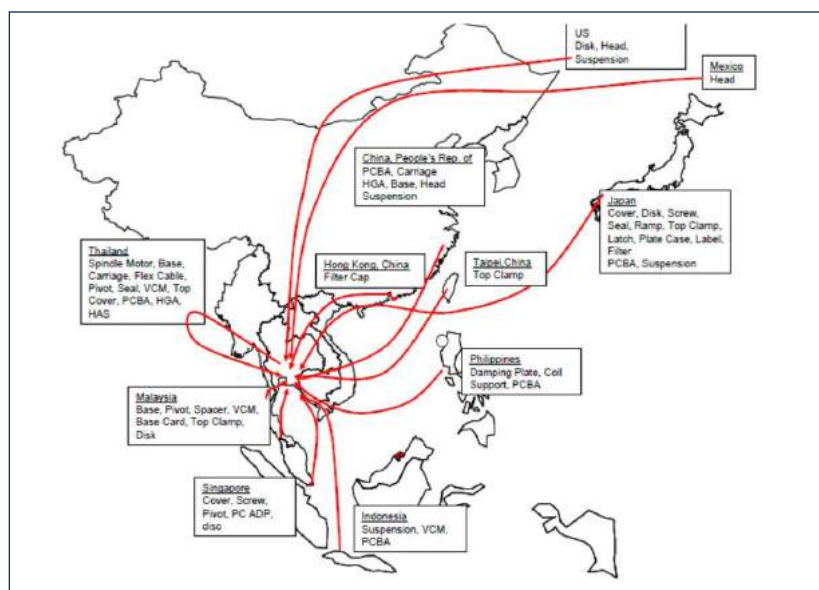


Source: Detroit Publishing Company

In the second part of the 20th century, improvements in transport and communication led to the emergence of international supply chains. These improvements included the emergence of standardized container shipping in the 1960s and 1970s, which enabled intermodal transport among ships, trains, and trucks; the proliferation of standards for electronic data interchange and bar coding in the 1970s and 1980s, and the appearance of commercially available browsers for the World Wide Web by 1993. All these developments dramatically reduced the transport and communications costs involved with coordinating production in different locations. Thus, it became possible to pursue economies of scale for parts and components rather than finished goods and to move the parts and components around, leading to international supply chains. Such international supply chains have been described variously by economists as “production fragmentation” (Arndt and Kierzkowski, 2001), “processing trade” (Görg, 2000), “vertical specialization” (Hummels, Rapoport and Yi 1998), “slicing up the value chain” (Krugman, Cooper and Srinivasan 1995), “the second unbundling” (Baldwin 2008), or “trading in tasks” (Grossman and Rossi-Hansberg, 2008).

The production of electronics in “Factory Asia” is an archetypal example of a global value chain. The manufacture of a computer disk drive in Thailand illustrates the extent to which GVCs have expanded the international division of labor (Figure 1.3). Most major manufacturers of disk drives assemble them in Thailand. They source components not only from Thailand but from ten other markets (Hiratsuka 2005). These components are then brought together using elaborate trucking and warehousing arrangements coordinated by third-party logistics firms. The disk drive may then be sent on to another market (say China, Japan, or Taiwan, China) to be installed into a laptop computer. There, it may be sent on to a retailer in North America or Europe, who sells it to the final customer. The elements of supply chains may be moved around in response to economic incentives or disruptions in operations; yet, if the supply chain is sufficiently profitable, its main features may endure even after a major shock.⁹

Figure 1.3: Division of labor in a computer disk drive



Source: Adapted by Baldwin (2008) from Hiratsuka (2005) Note: This shows the nations where parts are sourced for a hard-disk drive assembled in Thailand; disk drives are then shipped on to various markets to be used in various electronics.

GVCs spread private governance across the boundaries of firms

The transformative nature of GVCs arises in large part from their innovative and flexible structure in organizing private economic activity. The governance of a typical GVC lies somewhere between the extremes of a market and a hierarchy (Williamson 1985) and is based on networks. Key decisions in a GVC depend on coordination between different private firms, which may take a variety of forms.

Networks are more flexible than either markets or hierarchies. In pure markets, buyers and sellers meet incidentally without establishing deep relationships. In the hierarchy of a large corporation, managerial directives may coordinate the activities of thousands of people. But in a GVC, the activities of multiple private firms are coordinated by a variety of means, usually under the coordination of a lead firm, which acts as a sort of impresario that coordinates everything that needs to be done to produce complex goods and services. Firms do develop relationships with each other and invest in those relationships. But those relationships can change over time. Simple contracts may become complex contracts, which may become joint ventures, which become mergers, or the reverse may take place. And firms can be added to, or dropped from, the GVCs as their needs change over time.

⁹ After the 2011 floods in Thailand threatened global production of disk drives, the leading firm, Western Digital, found it more profitable to send divers to retrieve tools and equipment from an inundated factory than to relocate production. By contrast, its competitor Toshiba chose to relocate production to the Philippines (Haruguchi and Lall 2015).

In markets, prices are important, and relationships are unimportant. Why are so many economic activities organized in markets? In markets, buyers and sellers meet for arms'-length, "off-the-shelf" transactions and develop no meaningful relationships. Decisions can be made based on the prices and attributes of the product alone, and it is cheap to replace a buyer or seller with another one. Many consumer shopping choices work in this way. In the extreme case, market relations can be anonymous, as in the organized commodity markets for agricultural goods and raw materials in which the buyer and seller do not know each other. Markets work well when buying standardized products, which are easily described. The advantages of a pure market are flexibility and the ability to use prices and product attributes to make decisions quickly. One disadvantage is that if a transaction goes bad, the market participant has little recourse other than to stop buying from that seller or to take legal action.

In hierarchies, management is responsible for directing large-scale, complex activities. A large vertically integrated corporation may direct the production of a complex product through a series of managerial instructions, as in the historical example of Ford's River Rouge factory. Even a multinational firm operating in several countries may use managerial directives, rather than flexible prices, in organizing its internal activity. In a hierarchical auto company, the engine department, the chassis department, and the final assembly department all follow orders which are coordinated by central managers. Within the boundaries of the firm, the managers act as private-sector dictators, using prices and contracts only to deal with those outside the firm. Hierarchies work better than markets when a product is complex, and all its parts must fit together and work well. The disadvantages include having to manage a great deal of business which, while necessary, is outside the firm's core competency. It is costly to find out how to make or do things that a firm could simply buy from outside.

The governance of GVCs combines the organizational competencies of the lead firm with various degrees of autonomy of the firms

belonging to the network (Gereffi, Humphrey, and Sturgeon 2005). Some suppliers make products according to standardized specifications provided by the lead firm and can be exchanged for other suppliers that are able to understand and follow the standard. Others provide "turn-key services," taking responsibility for their own technology and using flexible capital equipment that allows them to serve different lead firms. In some value chains, there are close relationships between lead firms and suppliers, leading to frequent communications between managers, engineers, and workers across firms. These relationships may be managed through physical clustering, family and ethnic ties, or complex contracts that provide for contingencies. Small "captive" suppliers may require frequent monitoring by the lead firm, for example, a farmer that produces fruits and vegetables for a multinational supermarket like Carrefour.

GVCs can be categorized by the role of the lead firm. In producer-driven value chains, the firm owns a brand name associated with the product produced (Apple, Ford, Nestlé) and may either produce the product itself or contract another firm to do the actual production (as the U.S. firm Apple contracts the Taiwanese Foxconn for final assembly. In buyer-driven value chains, the lead firm is a retailer which organizes production for its own stores through a series of intermediaries. (Wal-Mart, Zara, Nike, Koton¹⁰).

In Turkey, every type of activity in GVC networks is observed. The ecosystem of Turkish GVCs includes foreign lead firms, joint ventures between Turkish firms and foreign firms, Turkish firms that are linked to GVCs through contractual relationships, Turkish domestic firms that are themselves lead firms in GVCs, Tier 1 suppliers, and foreign lead firms which directly control a Turkish affiliate. While precise data on the modes of participation are not readily available, it can fairly be said that these are diverse in Turkey, as in other economies at higher stages of development. The appropriate mode of participation depends on the circumstances of a particular business. Box 1.1 gives some examples of the different ways in which Turkish firms participate in GVCs.

¹⁰ Koton is a Turkish multi-national retailer specializing in garments. It has 480 stores, of which 290 are in Turkey and 190 are overseas.



Box 1.1: Modes of participation of Turkish firms in GVCs

Every mode of participation in GVCs is present in Turkey, with the following being a few examples of these different modes.

Joint ventures: Oyak Renault and Ford Otosan are examples of joint ventures between Turkish firms and foreign lead firms in the auto industry. These firms have a very extensive network of relationships on both the import and export side, including technology relationships and relationships with Turkish and foreign suppliers. They represent an advanced state of integration into GVCs.

Contract production: Yesim Textil produces a wide variety of textile and apparel products under contract with foreign lead firms such as Nike, Tommy Hilfiger, Burberry, and Under Armour. Constant technological exchanges take place between the firm’s own R&D operation, design operations in the brand name holders, and makers of textile machinery. Optimizing the supply chain and reducing costs is key to competitiveness.

Domestic firms: Ermaksan is an R&D-intensive Turkish company founded in 1963, specializing in processing machines for the metal industry, including 3-D printing technology. It provides capital equipment for major building projects, including U.S. shipyards, and purchases both Turkish steel and U.S. robotics. Thus, it has both forward and backward linkages to the world economy, as do all of the firms in this box.

Tier 1 supplier and Turkish multinational: Martur is a producer of auto seats and accessories for most European auto companies and Toyota. Because the operations of its customers are globalized, Martur has production locations in 8 countries, including Romania, Morocco, and Nigeria. This allows the firm to maintain cost competitiveness while leveraging Turkish management and technology.

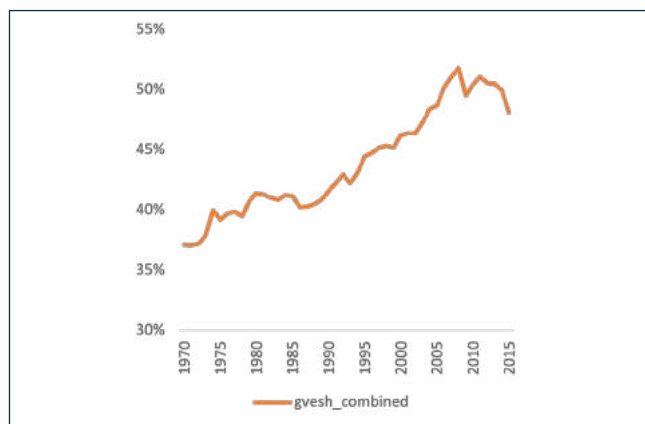
Foreign direct control: Hugo Boss is a German-based multinational company that operates in the high fashion end of the global apparel market. It maintains a production affiliate in Izmir.

Source: World Bank staff interviews, conducted in January and February 2020.

GVCs have grown to account for a large share of global trade

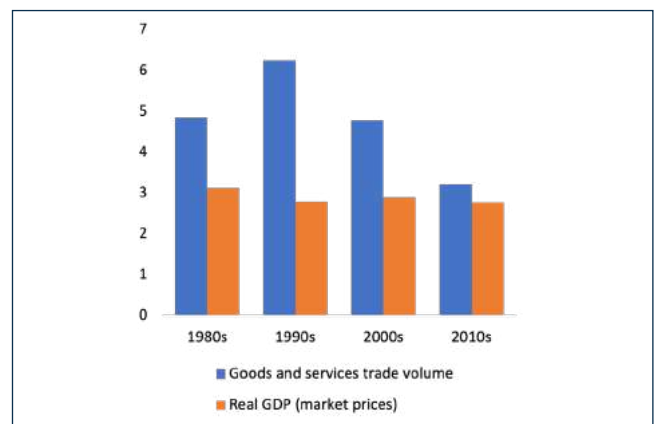
GVCs grew steadily and, by the late 2000s, accounted for the majority of global trade. One way to measure the importance of GVCs in world trade is to use a measure of GVC participation based on international input-output datasets. This measure tracks the share of value-added in exports which have crossed borders at least twice and is the sum of forward participation (value-added in country A’s exports to country B, which are incorporated as intermediate goods in B’s exports to country C) and backward participation (value-added in country A’s imports from country D, which is imported to country E.)¹¹ The innovations in transport, communications, and managerial practices described above have caused a steady increase in the share of export value-added that crosses two or more borders (Figure 1.4).

Figure 1.4: GVCs’ share of global trade growing up until the GFC



Source: World Development Report 2020

Figure 1.5: Trade growth has fallen in recent decades



Source: WB WDI. Note: 2010s defined as period 2012-2019; 2000s defined as period 2001-2011.

¹¹ By this definition, exports of final goods are not counted as GVC trade. However, exports of complex final goods such as motor vehicles, consumer electronics, and apparel are clearly part of GVCs because they involve the coordinating activities of lead firms operating across several countries. The distinction is important for Turkey which, as we shall see in the following chapter, has significant GVC exports in final goods. The GVC participation rate shown above is still useful as a global summary.

Since the Global Finance Crisis, GVC growth has declined for a number of reasons. The increase in the GVC intensity of trade peaked around 2008, at the time of the Global Financial Crisis, and there has been some decline in GVC activity since then. Over the same period, global trade growth overall declined (see Figure 1.5). A number of factors may have contributed to this slowdown in trade and the decline in GVC intensity. There has been some slowdown in economic growth since 2000. China has increased its domestic production of intermediate goods which it had previously imported (Kee and Tang 2015). The US shale oil boom also replaced international trade in fossil fuels with domestic commerce in the United States. The post-GFC period also saw far less trade liberalization than previous decades, while barriers to trade began rising (see, for instance, Figure 1.6 and Figure 1.7) due, at least in part, to the ‘tariff war’ between the US and China and the US’s imposition of tariffs on other countries.¹²

Figure 1.6: Average tariffs have been creeping up in recent years

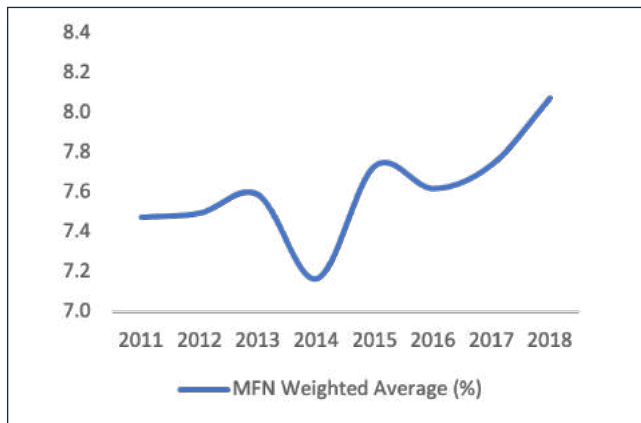
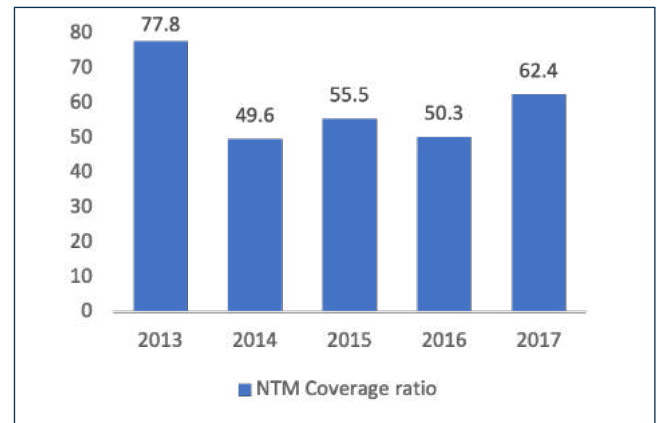


Figure 1.7: ...and NTM coverage remains high



Sources: WB WITS

Notes: MFN: Most-favored nation; NTM: Non-tariff measures

Participation in more advanced GVC functions is associated with higher income levels

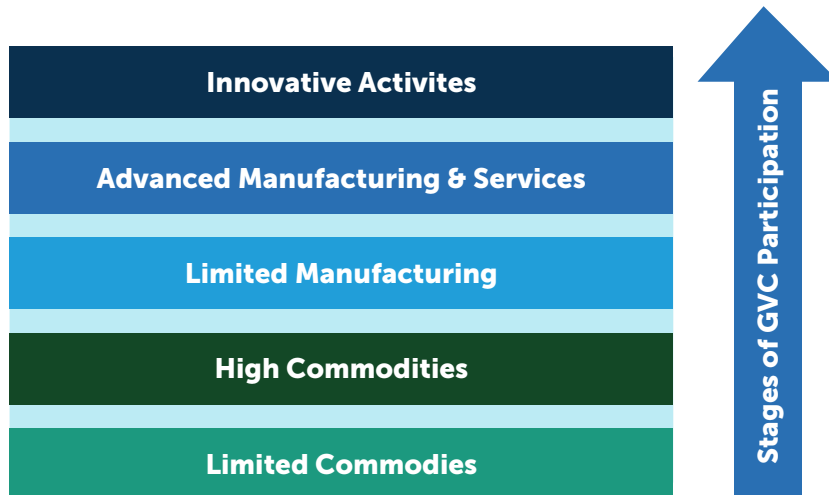
The way countries engage in GVCs is important to understand their development potential

Nearly all countries participate in GVCs, but in different ways. Countries can be classified according to the extent of backward participation in manufacturing exports, their sector specialization in domestic value-added, and their engagement in innovation (Figure 1.9).¹³ The categories used in the World Development Report include the following:

¹² World Bank Group, *World Development Report 2020*, 2020, World Bank: Washington DC.

¹³ See World Bank, *WDR 2020*, pp. 22-23 for details.

Figure 1.8: Countries engaged in GVCs can be identified as being in different stages of participation



Source: World Bank Group, World Development Report 2020: Trading for Development in the Age of Global Value Chains, 2019, World Bank: Washington DC

High commodities – primary goods’ share of domestic value in exports is high, and backward participation in manufacturing is limited (e.g., Nigeria, Norway, Saudi Arabia)

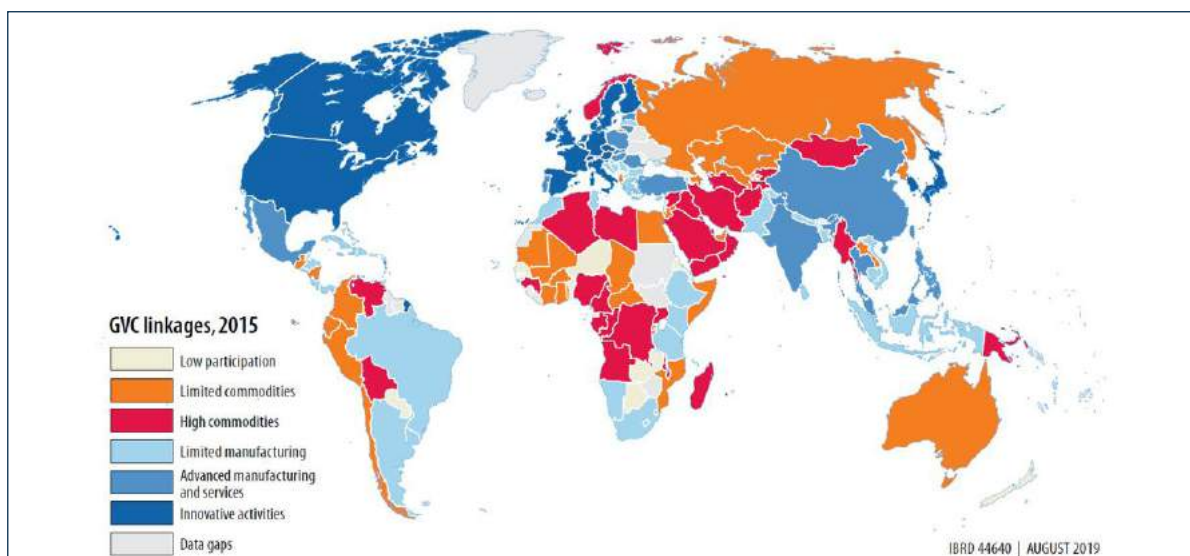
Limited commodities – primary goods’ share in domestic value-added in exports is moderate, and backward participation in manufacturing is limited (e.g., Australia, Egypt, Russia)

Limited manufacturing – manufacturing share of domestic value-added in exports is high, and backward participation is significant (e.g., Bangladesh, Brazil, Pakistan)

Advanced manufacturing and services – the combined share of manufacturing and business services is high, as well as the share of backward participation, but with relatively low levels of innovative activities (e.g., China, India, Mexico, and Turkey)

Innovative activities – Countries with both significant R&D intensity and a significant share of cross-border receipts for intellectual property (e.g., Germany, Japan, United States)

Figure 1.9: GVC participation varies across the world



Source: World Development Report 2020

Progressing to higher levels of GVC engagement is associated with economic growth. The deepening and broadening of GVC participation are associated with economic growth at each stage of upgrading (Figure 1.10). However, the challenges involved in achieving growth through upgrading become greater at each step. The greatest boost to growth comes from the transition from commodity-based participation to participation in limited manufacturing (WDR 2020, p. 3), while entry into the more advanced categories (advanced manufacturing and services, innovation) can also bring considerable growth.

Figure 1.10: Advancing to a higher level of GVC participation is associated with growth



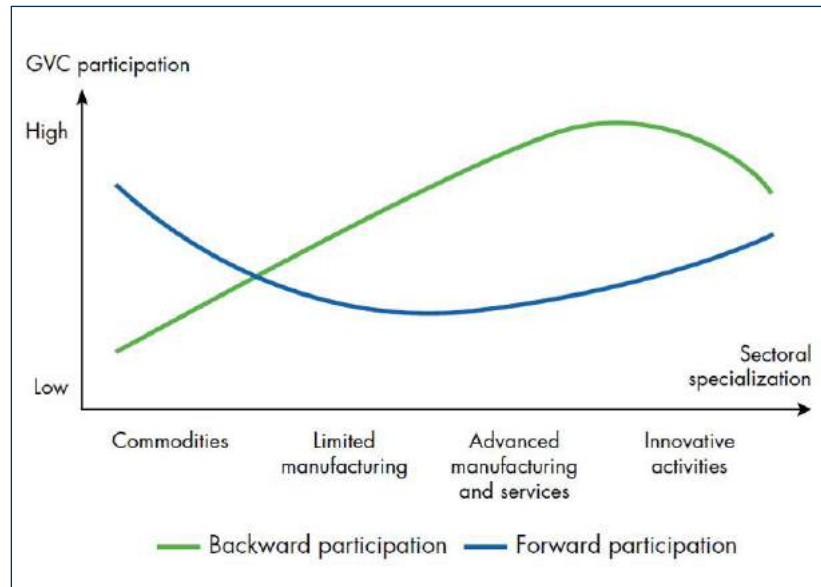
Source: World Development Report 2020

A country's GVC specialization shapes the extent of its GVC participation. Figure 1.11 shows an approximate distribution of backward and forward GVC integration across the four taxonomy groups. Backward integration is lowest for countries specialized in commodities and starts to expand for countries in the limited manufacturing group. Countries specializing in advanced manufacturing and services are highly reliant on imported inputs for exports. Backward participation is slightly lower for countries in the innovative group because their activities are less dependent on imported inputs¹⁴.

Turkey is one of several countries to have risen into the advanced manufacturing and services group in recent years. As of 2015, Turkey was classified as a country in the "advanced manufacturing and services" type of GVC participation. The challenge of transitioning to high participation in innovative activities is significant but has been achieved by several countries in recent years. Countries making this transition between 1990 and 2015 include Austria, Canada, the Czech Republic, Finland, Ireland, Israel, Italy, the Republic of Korea, Singapore, and Spain (WDR 2020, p. 21). The countries making transitions were concentrated in East Asia and Eastern Europe and frequently specialized in sectors such as electronics and machinery that were amenable to being organized as GVCs. The transition to advanced manufacturing and services usually involved an increase in backward participation (importing in order to export), while the transition to innovation usually involved an increase in forward participation (deepening capabilities in advanced parts and components and business services used to support exports).

¹⁴ World Bank Group, 2020, *World Development Report 2020L Trading for Development in the Age of Global Value Chains*, World Bank: Washington DC, p23

Figure 1.11: Average backward and forward GVC participation changes between taxonomy groups



Source: World Bank World Development Report 2020

Notes: Stylized relationship of observed data

Upgrading in GVCs can drive development

GVCs offer a variety of paths by which to accelerate development, which can be framed as strategic challenges. The combination of a large pool of external demand, a hierarchy of different functions of varying value, and the potential for productivity-enhancing learning through firm-to-firm relationships mean that involvement in GVCs can be an important driver of economic growth and development. Along with the governance of GVCs, upgrading is at the core of the study of GVCs, and is motivated by an urge to understand how the uneven distribution of the gains from globalization could be accessed by firms, states, and other social actors in developing economies. At a firm level, GVC upgrading builds on firm-level competition theory, such as Michael Porter’s “Competition Strategy” to understand how firms can raise profits. At an aggregate level, countries face different GVC development pathways depending on their existing position. This report builds on the framework presented in the recent World Bank report, *Making GVCs Work for Development*¹⁵. Applied to Turkey, the strategic challenges for policy are as set out in Figure 1.12.

Economic upgrading is closely related to the concept of productivity but decomposes several dynamics which are commonly lumped together as ‘total factor productivity’. Economic upgrading strategies include: i) Product upgrading, producing new and more complex products, and higher quality products; ii) technological upgrading, upgrading production technology to produce at a lower cost; iii) intersectoral upgrading, moving from less sophisticated to more sophisticated sectors, and iv) functional upgrading, moving from less sophisticated activities in the production chain, like manual assembly, to more sophisticated activities like design and R&D within the same value chain. All of these strategies have in common the increasing of profits per unit of output, and thereby value-added.

Continued technology and consumer behavior changes mean that suppliers need to be agile and adaptive. In automotive, for instance, changes from combustion to battery power systems require new inputs while making others obsolete; lighter and less polluting vehicles require new composite materials; connected mobility and digitization of core functions increase the demand for quality and security of electronic systems in the car. These trends affect the relationships and dynamics between lead firms and core suppliers. New partnerships and sourcing models emerge, and new firms are entering the market. But new cooperation

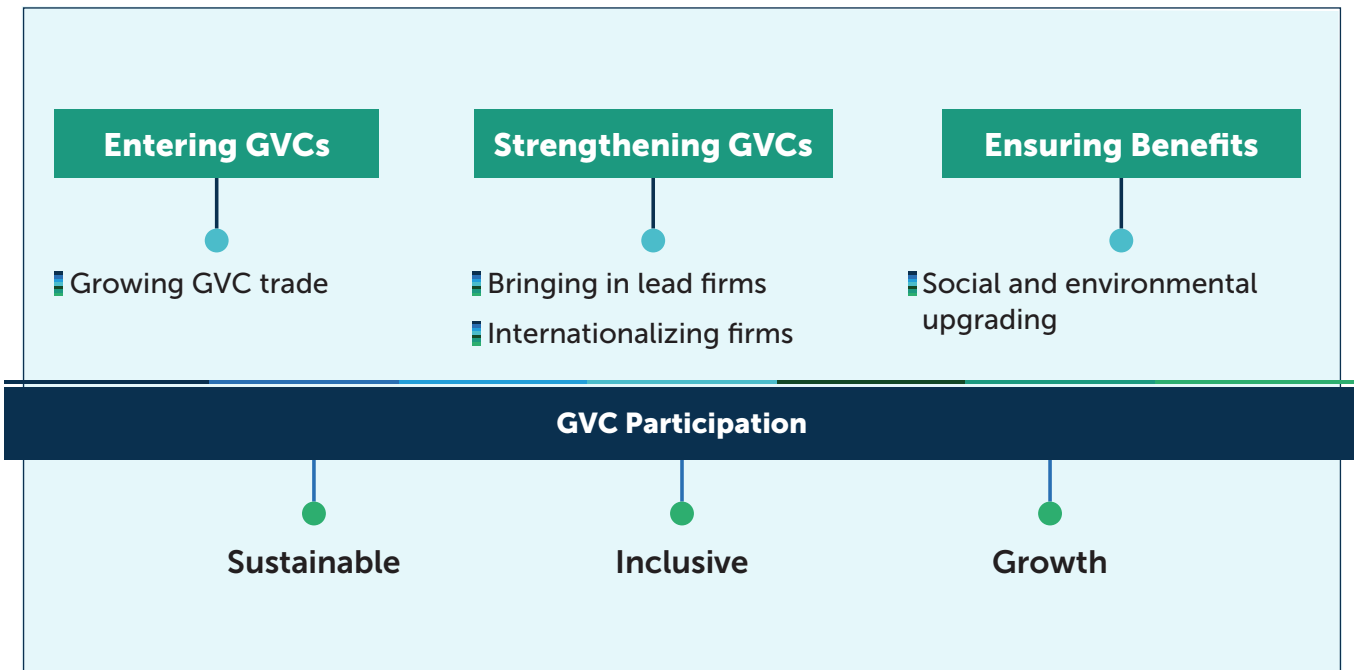
¹⁵ World Bank Group, *Making GVCs Work for Development*, 2016, World Bank: Washington DC.

models will also increasingly arise in the innovation ecosystem since the rising complexity of product and process functionalities will make it difficult for a single player to develop and maintain such systems end to end as they would want to share R&D risk and cost (industry consultations 2019, McKinsey 2019, PWC 2019). However, these disruptions might also change the core location of the supply chain and draw assembly operations closer to where core components (e.g., EV-batteries) are produced.”

For countries like Turkey already participating in GVCs, the first focus area is increasing GVC trade. The first means to development through GVCs is increasing the scale of cross-border GVC activity and achieving the benefits of trade applied to GVCs. By raising its market share in GVCs – be it in existing markets or by access new geographical markets, Turkey can increase incomes and support growth.

Similarly, increased access to imported goods, services, and intellectual property are key ingredients for GVCs to grow.

Figure 1.12: Strategic challenges in achieving development through GVCs



Strengthening GVCs, or upgrading requires a strong and vibrant group of lead firms with a presence in the country. The gains from GVCs depend on inter-firm relationships through which productivity gains and demand and can flow. Domestic firms can most effectively foster such relationships with lead GVC firms located in Turkey. Increasing the benefits from GVCs calls for increasing the number of international lead firms based in Turkey.

Domestic firms can be both linked to GVCs, and experience productivity from those linkages. This enables domestic firms to realize the benefits of GVCs through progressive stages of ‘internationalization’. Often known as ‘increasing domestic linkages’ or ‘densification’, the process of domestic firms joining GVCs multiplies the positive effect GVCs have on the local economy and offers routes through which local firms can upgrade to reach the cutting edge of global competitiveness. This objective concerns much more than just supplying inputs domestically, although this is often the first step to internationalization. Through their interactions with GVCs, firms are exposed to competitive forces, technologies, and best practices that help to improve firm performance. However, the conditions conducive to firms absorbing these changes must be in place.

Ensuring that GVC growth translates into desirable social and environmental outcomes for the country is important. Known in the literature as ‘social upgrading’, GVC literature has increasingly focused on measuring and assessing the conditions for positive final outcomes for people and the environment. Conceptually broad, the social aspect is centrally focused on good quality jobs – decent wages and benefits, good working conditions, and general job satisfaction. The environmental aspect assesses the negative environmental impacts GVCs may have and the means to support environmental goals through GVCs. While economic upgrading can lead in many cases to social upgrading, this is not automatic. When economic upgrading takes the form of higher productivity per worker, the resources exist to generate social upgrading. But economic upgrading can also be associated with lower-value activities that have negative consequences for wages, employment, and working conditions. For example, a GVC may increase its competitiveness by sharp cost-cutting. This dynamic should also consider other social dimensions of economic policy, such as redressing regional disparities and providing fair access to jobs for different groups such as women and lower-income households.

Environmental risks associated with GVCs

Like all international trade, GVC trade can have both positive and negative effects on the environment. (WDR 2020, Chapter 5). Scale effects—which refer to increasing the volume of economic activity while holding everything else constant – are bad for the environment (e.g. producing twice as much might cause twice as much pollution). Composition effects—which refer to how tasks are distributed across the globe—have ambiguous effects. Engaging in trade may cause the mix of a country’s output to become dirtier or cleaner, depending on its comparative advantage. Technique effects—which refer to the environmental cost per unit of production—are positive for the environment. International trade can cause the diffusion of cleaner technologies. Countries which become rich through international trade are more likely to prioritize regulation towards stronger environmental standards than are poor countries.

GVCs are associated with more shipping and more waste on aggregate than standard trade. The multiple stages of production in a GVC involve more transport and more packaging. Transport has an environmental impact, including the use of fossil fuel and the migration of invasive species through discharge of bilge water in harbors. Packaging has disposal costs.

Concerns about a “race to the bottom” are not borne out by empirical analysis. It is often argued that firms will locate to countries with weak environmental laws so as to save on the costs of environmental compliance. But studies have shown that pollution havens tend to be transitory and limited phenomena. The tendency of firms to locate in less-regulated countries open to trade is offset by pressures for improved environmental regulation in countries with rising incomes (Mani and Wheeler 1998.)

The network of relationships in GVCs can promote environmentally friendly technology. Lead firms in GVCs generally develop their technology under the relatively strict standards of higher-income countries. Since a key part of the competitive advantage of multinational firms is the ability to deploy their technology in more than one country, it makes more sense for firms to use clean technology in many countries rather than to retrofit to an older version of the technology in a host country of looser environmental regulation. In cases where lead firms do not directly control all of the steps of the production process, incentives for network partners to use environmentally sound technologies may arise from the lead firms’ engaging in programs of corporate social responsibility, either voluntarily or legislatively mandated (e.g., the Lieferkettengesetz in Germany.)

The outlook for GVCs

- Going forward, the outlook for GVCs is likely to be shaped by several major trends. These include: The increasing role of services in merchandise-based GVCs, with associated implications for productivity and innovation;
- The increasing ability of lead firms in GVCs to monitor and optimize the functioning of networks of firms through “Supply Chain 4.0” managerial technologies;
- The experience of the global trade collapse associated with COVID-19, and the recovery therefrom, which has caused firms to re-evaluate the tradeoff between efficiency and resilience.

GVCs in services and “servicification”

More and more, services are integral to GVCs. The communications revolution means that an increased variety of services can be provided across borders so that both services and goods are part of modern GVCs (Gereffi and Fernandez-Stark 2010). Many of the back-office services that firms used to provide for themselves can now be obtained from contract partners in other countries (offshore services). Information technology, business processes, and knowledge processes can all be outsourced to foreign contract partners. Tourism is an example of an export service that has its own value chain.

Services are important at all levels of GVC participation, but the highest level of GVC participation is centered on services. The skills required to provide services in GVCs range from basic skills (e.g., call centers that serve customers) to intermediate (some types of accounting, payroll, and IT services) to advanced (market intelligence, business analytics, and legal services). As the skills available in a country to provide services improve, countries may be able to follow paths of upgrading that lead to better jobs with higher wages. Workforce development initiatives can promote such upgrading. For example, Guatemala was able to enter Spanish language call centers through a mix of private and government training. India was able to upgrade into advanced business process outsourcing by offering degree programs that were popular among middle-class women and

through the expansion of IT and consulting service firms into business processes. And the Czech Republic offers masters’ and Ph.D. programs in a number of engineering and management fields important in exporting an increasing variety of high-end sector-specific services. The relationship between education and Servicification is not necessarily uncausal; for example, the Czech program operated against the background of increased Internet penetration, increased R&D intensity in the economy as a whole, and accession to the European Union in 2004.

Servicification can be the increased use of services to produce products or the conversion of erstwhile products into service offerings. Servicification refers to two recent trends: i) the use of services, particularly advanced business services, in the production of goods; and ii) the incorporation of services as part of the actual product offering in manufactures (Kommerskollegium 2012). The use of financial, accounting, marketing, software, and web design, and other services, increasingly sourced on the international marketplace, leads to more sophisticated product offerings and greater profitability. Examples of servicification in the product offering include automobiles with satellite-based safety and entertainment systems; smart tractors that can access weather and soil information through the Internet; and medical devices that can update medical records while being used on a patient.

A set of Supply Chain 4.0 technologies opens the possibility of significant changes to GVCs. The increasing use of advanced technologies such as big data, the Internet of Things, and autonomous robotics in the 2010s led to a convergence of new practices known as Supply Chain 4.0 (Ferrantino and Koten, 2019). Supply Chain 4.0 can be viewed as a specialized outgrowth of servicification particular to the management of global value chains. It replaces a linear flow of information among designers, producers, distributors and retailers with a “supply chain control tower” system that allows all parts of the supply chain to be seen at once. In principle, the act of scanning a bar code to purchase a Barbie doll at retail in the United States could send messages not only to the local distributing warehouse to update inventory but to a factory in China, with every step of the

supply chain revising its planning and activity. Access to data across the supply chain enables new levels of analytics about production, distribution, and marketing decisions and better coordination between lead firms and Tier 1 and Tier 2 suppliers.

The wholesale adoption of these new technologies is still underway. These new technologies and management techniques have not fully diffused among GVCs, even at the level of large lead firms. As an example, during the COVID-19 outbreak in January 2020, many firms were unable to quickly determine whether they had Tier 1 suppliers at the epicenter in Hubei Province, China, let alone Tier 2 suppliers. The ability to effectively employ strategies of servicification and Supply Chain 4.0 thus remains a significant source of competitive advantage for firms and countries.

The COVID-19 induced disruption to trade has been short-lived

With the onset of COVID-19, global trade collapsed in early 2020. Global merchandise trade had collapsed by more than a quarter by April 2020. This share fall in trade was driven by a number of factors, namely: i) Direct reduction in production and exports due to quarantines that shut down production facilities; ii) reduction in export demand from markets that have been under quarantine (e.g., EU, United States); iii) reduction in supplies of imported intermediate goods from markets that were under quarantine (e.g., China, during January and February), and iv) disruption in transport and logistics activities because of quarantines on seaports, air travel, and domestic trucking.

While merchandise trade has already rebounded, services trade, which is more dependent on face-to-face contact than goods trade, has been slower to recover. Merchandise trade recovered strongly in the second half of the year with the resumption of economic activity and large fiscal stimulus in G20 countries, and by early 2021 had reached new highs (Figure 1.13). Services trade has been slower to recover and remains well below pre-COVID-19 levels. As of December 2020, global services exports remained 16.7 percent lower, and global services imports 17.7 percent lower than their level a year earlier. Turkey’s services exports recovered more rapidly than the global average (Figure 1.14).

Figure 1.13: Goods trade began recovering in late 2020

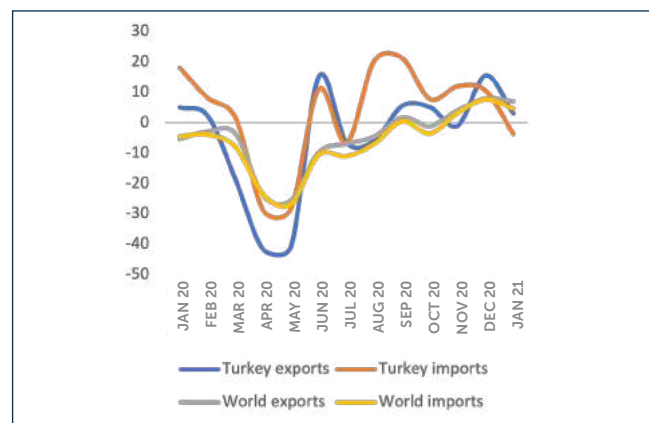
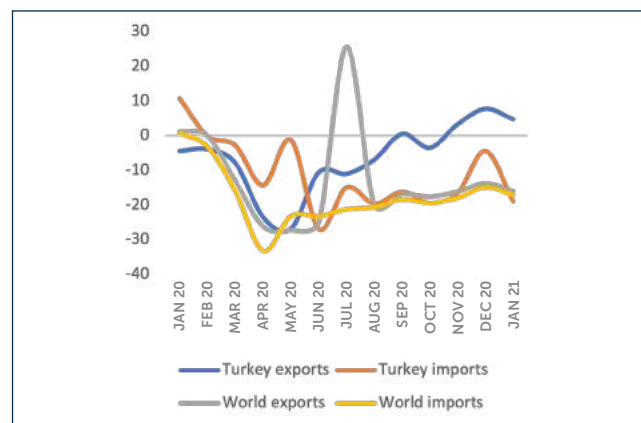


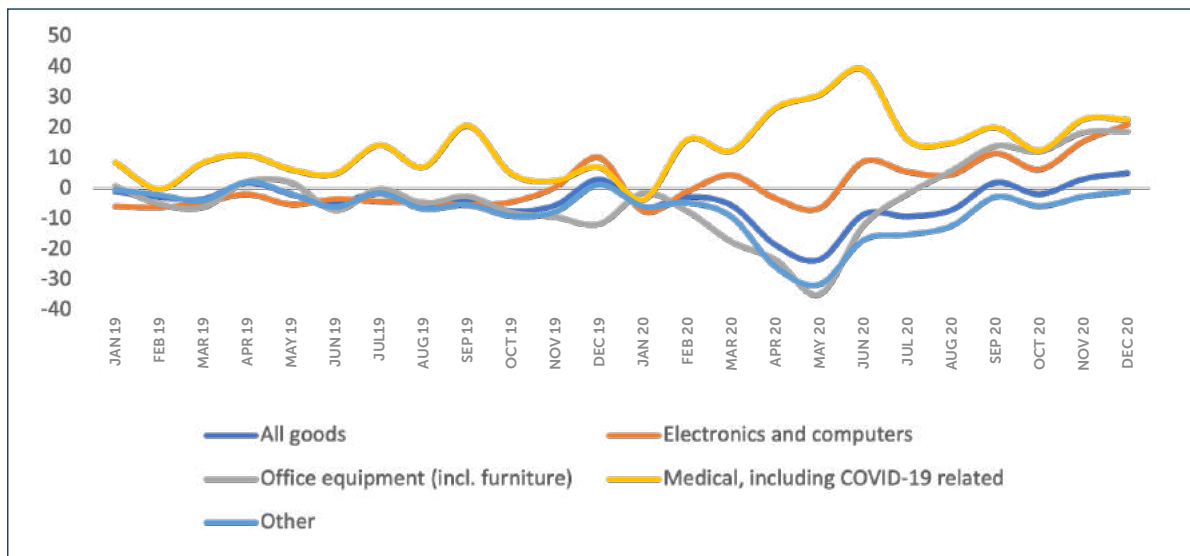
Figure 1.14: ...although services have been slower to recover



Sources: World Bank Global Economic Prospects and WBG staff calculations

The global resurgence in trade has been led by increased imports of medical supplies, office equipment (including furniture), and electronics and computers. All of these trends have been driven by COVID-19. Medical supplies have been driven by increased demand for ICU supplies and, in recent months, by trade in vaccines. Office supplies and furniture have been increasing in demand as working from home has become more prevalent, as are electronics and computers – which also have a consumption component arising from home entertainment, such as video games. By contrast, demand for motor vehicles and apparel (included among “other”) has lagged, only beginning to recover in 2020Q4 (Figure 1.15).

Figure 1.15: Medical, electronic and office equipment has led the trade recovery



Source: China Customs, Japan Customs, U.S. Customs, Eurostat, and WBG staff calculations

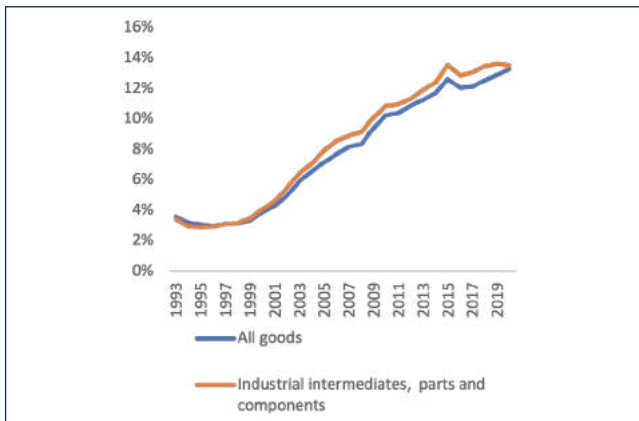
Notes: Based on imports of China, the EU, Japan, and the U.S.

And there is little evidence that a “pivot” away from China is underway

It has been widely speculated that a pivot away from China by global investors would create windfall opportunities for other countries, particularly in East Asia and Africa. However, data on both merchandise trade and FDI show little evidence of a China pivot. According to this argument, pre-existing factors made China less attractive prior to 2020, including higher wages in coastal China, U.S.-China trade conflicts, and the perceived increased political risk of China, e.g., from the treatment of Hong Kong SAR. The vulnerability of Chinese trade to COVID-19 is said to have accelerated these trends. China’s global share of merchandise trade has been relatively stable since 2015 and increased to record levels in 2020 (Figure 1.16). China’s trade was only negatively affected by COVID-19 during the period of its lockdown in January and February in 2020 before recovering. While China’s share of global FDI has been volatile, the long-run trend has been positive (Figure 1.17). The main pivot away from China as an investment location took place in the late 1990s, after the great boom in Chinese inbound FDI, and has been replaced by a gradual pivot back towards China.

Surveys of U.S. investors in China show that most plan to stay put. In an August 2020 survey of its members by the U.S.-China Business Council (USCBC 2020), 91 percent of U.S. investors in China reported that their operations were currently profitable, 71 percent reported that their revenues increased in 2020, and only 15 percent stated that they either had or planned to, relocate operations beyond China. A factor in these trends is that a large share of foreign investment in China is to serve the Chinese domestic market. While export-oriented FDI in China can move according to changed incentives, anecdotal reports from private-sector actors indicate that most firms with concerns about China as a location have already moved and that COVID-19 has not accelerated the trend.

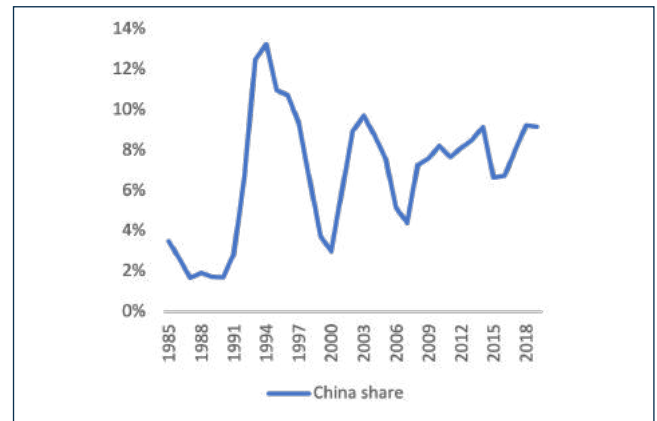
Figure 1.16: China’s share of world trade remains high



Source: China Customs, Japan Customs, U.S. Customs, Eurostat, and WBG staff calculations

Notes: The 2020 estimates are based on data from the first half of the year.

Figure 1.17: ...as does China’s share of inbound FDI



Source: UNCTAD and WBG staff calculations

Wholesale ‘reshoring’ is unlikely, although supply chain resiliency is likely to be a focus

The issue of managing GVCs with respect to supply chain shocks is not unique to pandemics – it also applies to natural disasters,¹⁶ financial crises, labor, and transport disruptions, and other events, all of which can cause a member of the supply chain to fail to deliver or purchase. A recent McKinsey study indicates that a typical supply chain faces disruptions of 1-2 months on average every 3.7 years, from one source or another.

Going forward, many lead firms in GVCs will make operational changes to become more resilient with respect to supply chain shocks while attempting to preserve the competitive advantages that caused GVCs to flourish in the first place. Firms are seeking to make supply chains more transparent through mapping their networks of suppliers and improving risk management¹⁷. The traditional method of seeking efficiency in supply chains by aiming for large economies of scale in a single supplier may be offset by diversifying suppliers or maintaining inventories of critical parts and components, but there is a cost to doing this; firms that invest too heavily in “just-in-case” strategies to improve resiliency face a tradeoff against the “just-in-time” approach which has underpinned the competitive advantages of GVC organization.

Governments also have a role in promoting supply chain resiliency when shocks happen. Governments can promote information sharing about potential supply-chain bottlenecks and organize “stress tests” of supply chains like those introduced for financial institutions after the 2008-09 financial crisis. The uppermost questions that require answers are; which foreign customers of my country’s exporters have a history of helping their suppliers when a shock happens, and which try to shift the risk back to suppliers? Is the domestic banking system prepared to extend additional credits if foreign customers fail to pay domestic firms? Is the domestic regulatory system predictable, or does it add additional uncertainty to domestic firms over and above the shocks that supply chains have to face anyway?

¹⁶ Like the Fukushima tsunami/earthquake/nuclear meltdown in Japan, and the floods in Thailand, both in 2011.

¹⁷ OECD, 2020, COVID-19 and Global Value Chains: Policy Options to Build More Resilient Production Networks.

Conclusion

In recent decades, both the geography and the organization of international economic activity have been fundamentally reshaped by global value chains (GVCs). The division of labor involved in producing a product is exploded so that various parts of the production process now take place in many different countries, rather than all in one place as might have happened in the past. The organization of activity increasingly features large networks of firms, under the direction of a lead firm but under independent control, with a wide variety of contractual and partnership arrangements mediating the collaboration among firms.

The emergence of GVCs opens new avenues for countries to promote growth and prosperity. For complex goods like automobiles, aircraft, and electronics, most countries would have not long ago been excluded from participating altogether in the process of production because of the capital investments and technological knowledge required. Now, it is possible to be part of the production chain by specializing in a stage of production. The ability to specialize enables each country to be most productive in its own task and makes the final product more affordable for the consumer.

Nearly all countries participate in GVCs, but in different ways. The World Bank's recent World Development Report on GVCs presents a taxonomy of GVC engagement of countries. According to this, a country's GVC engagement can be classified as: i) High commodities, with a high share of primary goods in exports¹⁸ and limited backward participation¹⁹ in manufacturing; ii) limited commodities, with a moderate share of primary goods in exports, and limited backward participation in manufacturing; iii) limited manufacturing, with a high share of manufacturing in exports and significant backward participation; iv) advanced manufacturing and services, with a high share of manufacturing and business services in exports, but relatively low levels of innovative activities; and v) innovative activities, with significant research and development intensity and a significant share of cross-border receipts for intellectual property.

GVCs offer a variety of paths by which to accelerate development. The combination of a large pool of external demand, a hierarchy of different functions of varying value, and the potential for productivity-enhancing learning through firm-to-firm relationships mean that involvement in GVCs can be an important driver of economic growth and development. Strategies for raising the value derived from GVCs are commonly referred to as 'upgrading' of various forms, in addition to intensification or straight-forward volume expansion.

Economic upgrading can take place in several dimensions. Economic upgrading refers to a variety of processes by which firms increase their value-added through participation in GVCs. These include producing new and more complex products, producing higher quality products, upgrading production technology to produce at a lower cost, and moving from less sophisticated to more sophisticated sectors. Firms can also engage in functional upgrading – moving from less sophisticated activities like manual assembly to more sophisticated activities like design and R&D within the same value chain. Densification of GVCs, in which the number of firms involved in a value-chain, often discussed in the context of building domestic supply chains, is also a form of economic upgrading. The ability of local firms to absorb new technologies and managerial practices from multinational lead firms, their 'absorptive capacity', is a key factor in economic upgrading, and processes of densification can lead to productivity improvements.

¹⁸ Export shares all measured in terms of domestic value added.

¹⁹ Backward participation is measured as the share of foreign value-added (as embodied in imports) in exports.

Social upgrading focuses on improved and more equitable outcomes for people and environmental sustainability. The concept of social upgrading exists as a means of identifying whether GVC upgrading is leading to desirable social benefits. While in many cases it does, especially as countries move higher up the value chains, this is not automatic, and there can be cases where the competitive forces in GVCs push down wages, reduce employment or cause environmental damage. Government policies and legal frameworks, in addition to corporate social responsibility, can play an important role in ensuring social upgrading.

The onset of COVID-19 and rising incomes in China have given rise to a discussion about the future of GVCs. China and several other East Asian economies have, since the 1990s, played a central role in GVCs. But higher wages in coastal China, US-China trade conflicts, and perceived increased political risk in China have led to speculation that China is less attractive for foreign investors, while the disruption of COVID-19 may act as an impetus for firms to reorganize their supply chains, to bring functions back to the home country of the lead firm, or ‘reshore’ activity. The issue of managing GVCs with respect to supply chain shocks is not unique to pandemics – it also applies to natural disasters, financial crises, labor, and transport disruptions, amongst other events, all of which can cause a member of the supply chain to fail to deliver or purchase.

Lead firms are likely to focus more on supply chain resilience, but we are unlikely to see drastic changes to the structure of GVCs. Many lead firms in GVCs are expected to make operational changes to become more resilient with respect to supply chain shocks while attempting to preserve the competitive advantages that caused GVCs to flourish in the first place, especially by making supply chains more transparent through mapping their networks of suppliers and improving risk management. But there is little evidence of a pivot away from China by global investors, and data on both merchandise trade and FDI show little evidence of such a pivot. While changing economic dynamics may lead to an evolution of GVCs over time, East Asia is also a fast-growing source of final demand, while bringing activity closer to home may reduce supply shock risks but lower competitiveness. Surveys of US investors in China indicate that most plan to stay put.

Services are becoming increasingly integral to GVCs. The communications revolution means that an increased variety of services can be provided across borders, such that both services and goods are part of modern GVCs. Services are important at all levels of GVC participation, but at the highest level of GVC participation, services dominate. As the skills available in a country to provide high-quality services improve, countries may be able to follow paths of upgrading that lead to better jobs with higher wages.

Technological innovations and servicification are leading to changes in GVCs. Servicification refers to two recent trends: i) The use of services, particularly advanced business services, in the production of goods; and ii) the incorporation of services as part of the actual product offering in manufactures. The increasing use of advanced technologies such as big data, the Internet of Things, and autonomous robotics in the 2010s led to a convergence of new practices known as Supply Chain 4.0. Supply Chain 4.0 can be viewed as a specialized outgrowth of servicification particular to the management of global value chains. It replaces a linear flow of information among designers, producers, distributors, and retailers with a “supply chain control tower” system that allows all parts of the supply chain to be seen at once.

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Chapter 2

Turkey in GVCs



- Turkey has long been active in several major GVCs and has recently become associated with more advanced manufacturing functions.
- GVC participation has gone hand-in-hand with growth in domestic value-added from exports.
- But notwithstanding recent growth, several indicators suggest that Turkey can improve further.
- Turkey's GVC participation remains low relative to benchmarks. The unit values of Turkey's exports and innovation-based earnings are also relatively low, while business service, especially foreign, use is very low.

Turkey is an active participant in GVCs

Turkey’s export growth over the past decade has been at least as good as the global average. After recovering from the decline experienced during the Great Recession, Turkey’s export growth (in current US dollars) tracked global trends quite closely (Figure 2.1). In fact, Turkey’s share of worldwide exports of goods and services rose from around 0.8 percent in 2010 to 1.0 percent by 2019 (Figure 2.2). Turkey’s export growth in volume terms (constant U.S. dollars) has been more impressive, outperforming the global average by a factor of two over the past 10 years and indicating resilience to the post-crisis slowdown in global trade volume.²⁰ By 2019, Turkey’s export values and volumes were, respectively, one third and one half larger than the corresponding levels in 2011, after having tripled and doubled, respectively, during the much more dynamic pre-crisis period of the 2000s. Turkey’s merchandise export bundle is currently diverse, reflecting a gradual move that took place in the 2000s, away from apparel and textile and towards motor vehicles, metals, machinery, and other manufacturing. In the past 10 years, motor vehicles stood out as the fastest-growing sector, while the EU and MENA remained the key export destinations (Figure 2.3 and Figure 2.4).²¹

Figure 2.1: Turkey’s export growth has outperformed the global average

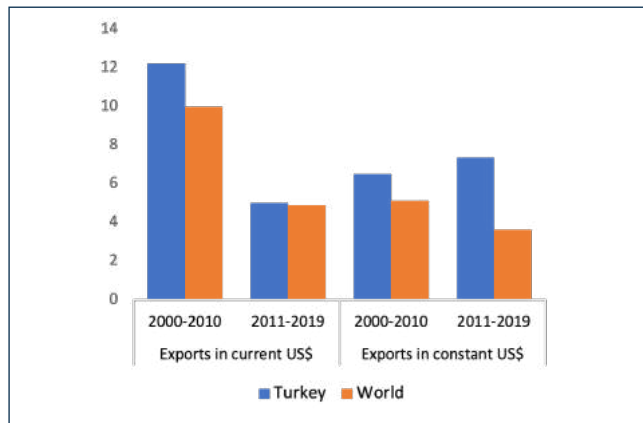
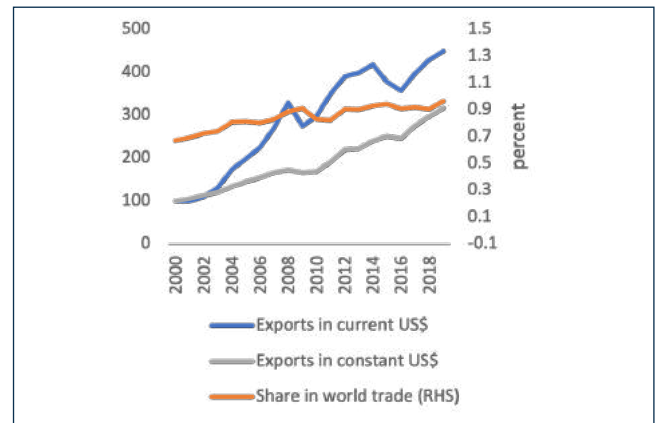


Figure 2.2: Turkey’s exports of goods and services



Sources: staff calculation using data from World Bank World Development Indicators (WDI) and UN Comtrade
Notes: Share in world trade based on Turkey’s share in world trade in current prices

Figure 2.3: Vehicle exports have expanded

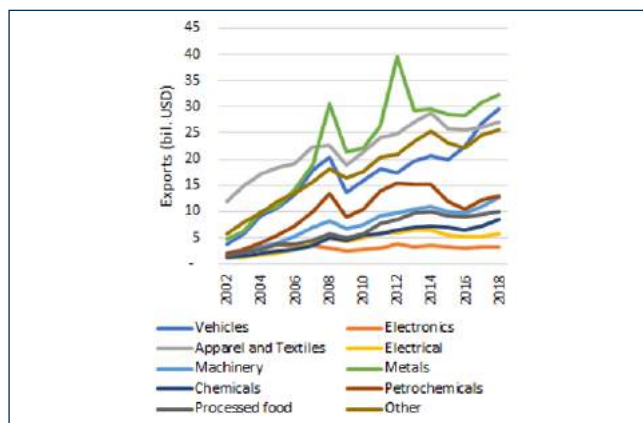
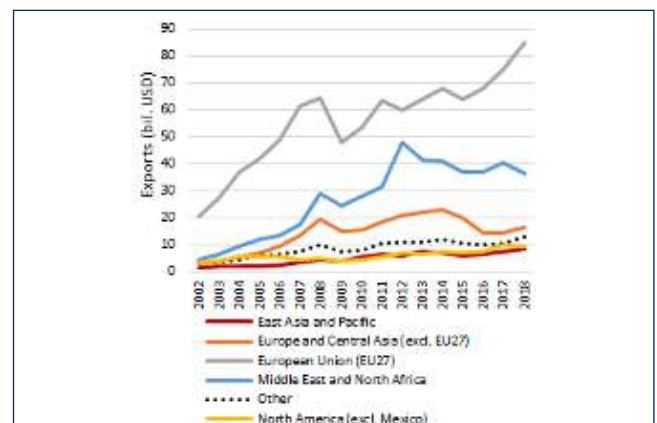


Figure 2.4: The EU and MENA are the main export destinations



Sources: staff calculation using data from World Bank World Development Indicators (WDI) and UN Comtrade

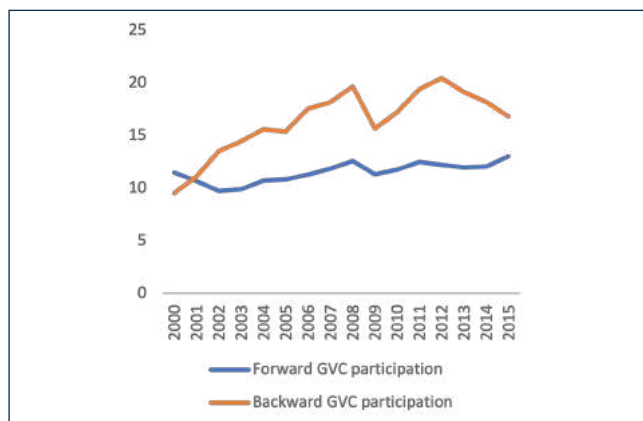
²⁰ The wedge between the performance of export values and volumes reflects price and exchange rate dynamics, notably, the global drop in oil and commodity prices during 2014-2016, and the depreciation of the Turkish Lira.

²¹ Please refer to the annex to this chapter for a more detailed trade diagnostic.

A substantial portion of Turkey's international trade is carried out in the context of GVCs. GVCs are associated with goods and services whose production involves multiple countries and is organized by a network of firms (lead firms, suppliers, customers). While hard to estimate empirically with full accuracy, the share of Turkey's trade carried out in a GVC context is deemed to be substantial. This is because of the presence of three widely recognized indicators of GVC participation in Turkey's trade and production patterns: Strong linkages between Turkish firms in various sectors and global lead firms; Turkey's strong backward and forward linkages with foreign suppliers (proxied, respectively, as explained in Box 2.1, by the share of foreign value-added in Turkey's gross exports and the share in Turkey's gross exports of domestic value-added embodied in other countries' exports), and the important role in the Turkish economy of sectors known globally for their organization of production in GVCs.

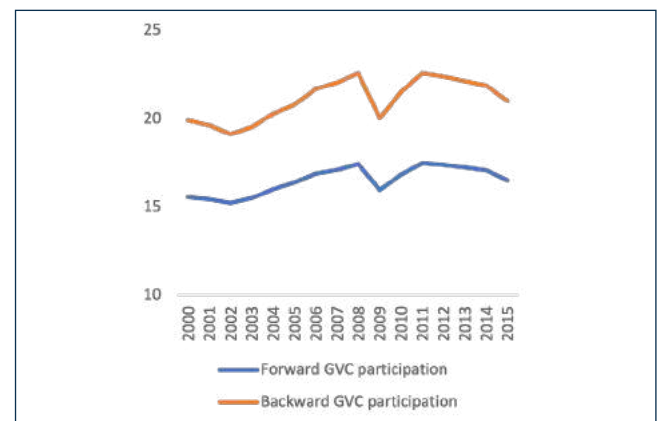
Backward and forward GVC linkages with other countries account for a third of Turkey's gross exports. Through backward linkages, Turkey uses inputs or intermediates from other countries to produce output that is in part exported. Through forward linkages, Turkey's exported inputs are used by Turkey's direct partners to produce their own exports. Such trade flows are inextricably linked to GVCs because they capture the back and forth movement of intermediates among GVC firms located in different countries and specialized in specific stages rather than the entire process of a good's production (UNCTAD, 2013). As of 2015, Turkey's backward and forward linkages with its trading partners accounted together for 30 percent of gross exports, slightly down from about 33 percent in 2012 but well above the level in 2000 (Figure 2.5). Backward GVC participation amounted to almost 17 percent of gross exports in 2015, down from 20 percent right before the Great Recession and up from 10 percent in 2000. Turkey's forward GVC participation accounted for 13 percent of gross exports in 2015, having been gradually increasing in recent years. The slight decline in backward GVC intensity (i.e. share in gross exports) since the Great Recession is consistent with global trends and reflects in part the maturation of GVCs, whereby already built networks continue to function, but the pace of creating new ones subsides (Figure 2.6). In contrast, Turkey's remarkable dynamism in backward participation during the 2000s suggests that Turkish firms were actively joining new GVCs networks at that time.

Figure 2.5: Both backward and forward linkages have trended up over the past 15 years



Sources: UN Comtrade, TIVA 2018.

Figure 2.6: ...with backward linkage in particular growing faster than world average



Turkey’s foreign backward linkages in manufacturing are in part the reason why Turkey has been designated an “advanced manufacturing and services” country in the GVC taxonomy of the WDR 2020 (World Bank, 2020). The classification uses the GVC backward participation of manufacturing as a criterion, alongside Turkey’s export structure, which emphasizes manufacturing over commodities. Turkey’s backward participation in manufacturing closely mimics overall merchandise backward participation and amounted in 2015 to 19 percent of gross exports. Further improvement in Turkey’s R&D and intellectual property (IP) intensities would allow Turkey to graduate to “innovative activities”, the top group of the GVC taxonomy, joined relatively recently by one of Turkey’s aspirational peers, the Czech Republic.

Box 2.1: GVC participation indicators derived using inter-country input-output data

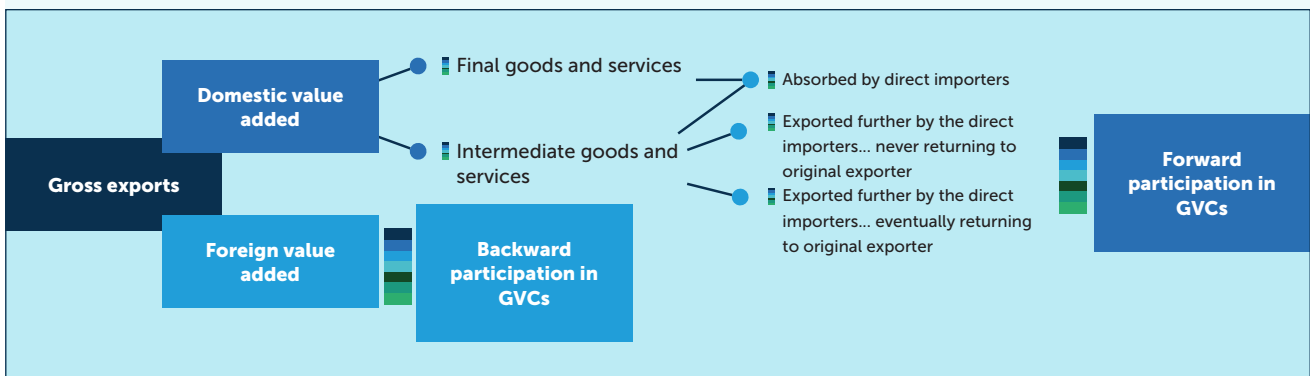
We rely on two foreign linkage measures, namely, backward and forward participation, to identify GVC activity based on macroeconomic and trade data. Both measures are components of gross exports (Figure 2.7). Backward participation captures the foreign value-added embodied in a country’s or sector’s gross exports. Forward participation captures the domestic value-added embodied in a country’s or sector’s gross exports that direct partners use in their own exports*. When expressed as a share of gross exports, the two metrics give the intensity of backward and forward participation in GVCs, respectively.

While foreign linkage measures are an important sign of GVC participation in international trade, they underestimate the full extent of overall GVC-related trade. This is because GVC-related trade also encompasses exports of final and intermediate goods absorbed by the direct partner but produced or sold in a GVC context, i.e., using part of the foreign inputs embodied in gross exports and/or in close collaboration with global lead firms. These exports cannot be identified from inter-country input-output table data. They are substantial in the case of Turkey, which tends to specialize in producing final goods within GVCs.

The foreign linkage indicators also have other caveats. First, in the case of commodity exporters, forward participation in GVCs tends to overstate the actual engagement in GVCs. This is because the domestic value added in the exports of commodity and especially fuel producers is routinely embodied in the exports of the direct trading partners, irrespective of whether these are produced or traded in a GVCs context. Second, GVC participation may not necessarily manifest itself as increased foreign inputs or reexported domestic value in exports. The apparel sector, for example, does not excel in either the backward or forward participation measure, yet is known for its deep participation in GVCs, reflected by strong FDI links and relation specificity across firms.

The backward and forward indicators used in this chapter are obtained from the WDR2020 database. They were derived by Borin and Mancini (2019) based on the 2018 version of the OECD’s inter-country input-output tables (ICIOs). ICIOs, whether produced by the OECD or other agencies, combine data from multiple countries’ national input-output tables with bilateral trade flows among those countries using a set of simplifying assumptions. As a result, CIOs convey information about the origin and destination of sectoral transactions across countries. This information is critical in the calculation of foreign linkage indicators but lacking in international statistics.

Figure 2.7: Gross export decomposition by origin of value-added and location of absorption



* Forward participation has also been defined as the domestic value-added of a country or from a specific sector that is embodied in all (not just direct) trading partners’ exports. Hummels et al. 2001 who mentioned it, first labeled it VS1. At the bilateral level, VS1 is the mirror image of backward participation. In other words, the backward participation of a country relative to another is equivalent to VS1 from the partner country’s perspective. Hence, when aggregated at the world level, VS1 equals backward participation. At the sectoral level, VS1 can exceed gross exports.

Sectors that are deeply integrated into GVCs at a global level have been growing and account together for more than half of Turkey's gross exports. Aggregating over well-known 'archetypal' GVCs (see Box 2.2) shows that both Turkey's overall trade in and exports of, these sectors has been outperforming the global trend (Figure 2.8 and Figure 2.9). Sectors such as motor vehicles, metals, apparel, machinery and electrical equipment, but also coke and refined petroleum collectively represented over 60 percent of Turkey's gross exports in 2018 (Figure 2.3, Appendix Table 1). Most of these sectors rank highly compared to other sectors with respect to either the backward or forward GVC-intensity in global trade (Figure 2.10 and Figure 2.11). Furthermore, textiles and apparel together with motor vehicles are included in the core set of "archetypal GVCs sectors", labeled as such by Ferrantino and Schmidt (2018) and identified originally by Sturgeon and Memedovic (2011) based on the general perception that they are "at the forefront of global economic integration" (Box 2.2).

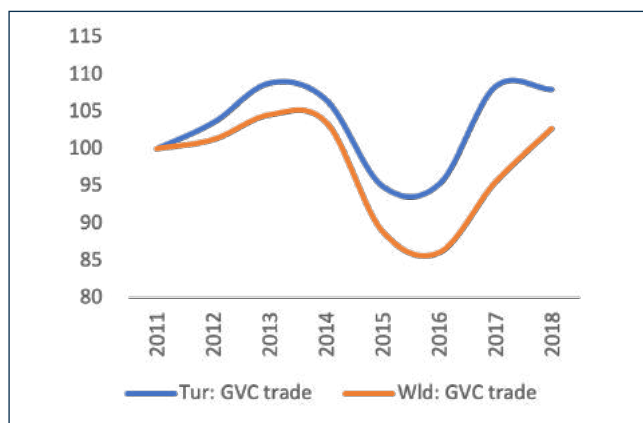
Box 2.2: Archetypal GVCs

The most widely used sources for macroeconomic GVC analysis are world input-output tables such as the OECD's Trade in Value-added database that is used extensively in this report. Such sources, based on amalgamated sectoral input-output tables for many countries, have distinct advantages in revealing the cross-border flows in value-added. However, such a complicated data gathering exercise takes time to complete, and therefore, these sources are often some years lagged.

An alternative way of analyzing GVCs is to identify specific types of goods that are known to be traded along specific GVCs and to use merchandise trade to track the flows of these goods. This mapping of trade data has been done for several major, "archetypal" GVCs, starting with Ferrantino & Schmidt (2018). This approach has the advantage of using more up-to-date merchandise trade data. This paper and subsequent extension have produced mappings for the apparel/textile/footwear, motor vehicle and parts, electronics, electrical components, machinery, processed food, metals, chemicals, and petrochemicals GVCs. This section refers to this group of 'archetypal GVCs' for recent GVC analysis.

Source: Ferrantino and Schmidt (2018); Sturgeon and Memedovic (2011)

Figure 2.8: Turkey's trade in archetypal GVCs has grown faster than the world average



Sources: WB Staff Estimates based on UN Comtrade

Notes: Trade refers to the sum of imports and exports

Figure 2.9: ...particularly for exports

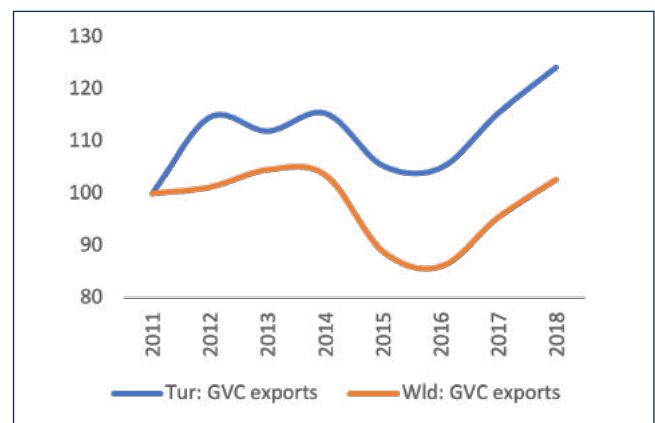
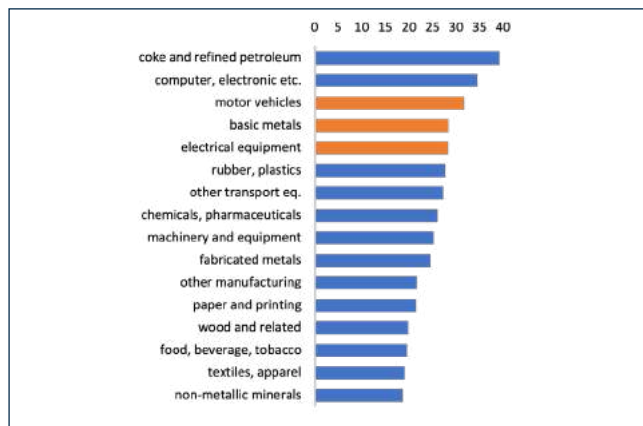


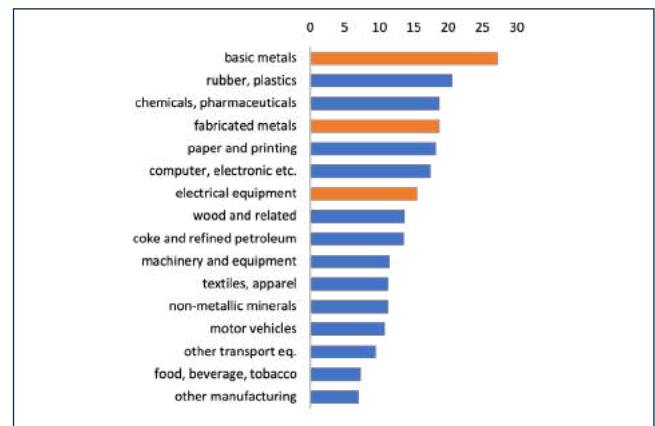
Figure 2.10: Turkey's targeted GVCs have amongst the highest backwards participation globally



Sources: OECD TIVA 2015

Notes: Data presented are global averages. Orange indicates sectors that are targeted under the Turkish Government's current Export Masterplan.

Figure 2.11: ...and have relatively high forward participation



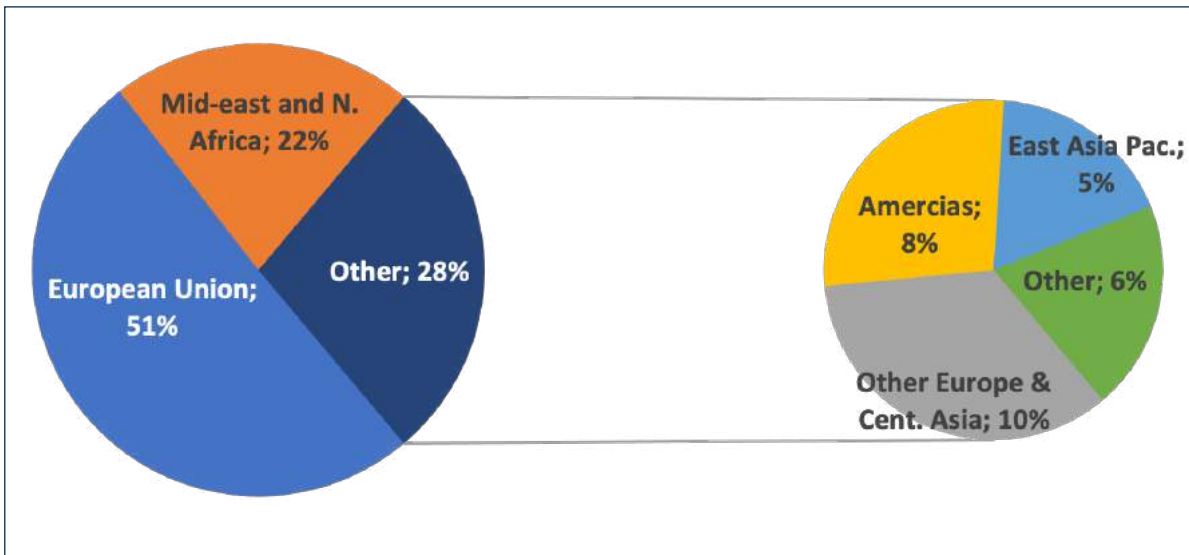
Turkey's firms in multiple sectors continue to have strong links with global lead firms. As noted in World Bank (2019), GVCs incentivize firms from different countries to establish strong and durable relationships with each other, often under the close supervision of a global lead firm. This coordination ensures that the tasks in which each firm specializes are delivered on time and at the required quality and that ultimately, the final product for which a specific GVCs is set up meets the optimal parameters of production and distribution. Turkish domestic firms in various sectors engage in durable relationships with foreign firms. Turkey's automotive industry, in particular, abounds of decade-long links with global lead firms (e.g., Renault, Ford, Mercedes-Benz, and Honda, to name but a few). In consumer electronics and home appliances, Vestel has links with Japan's Toyota and Sharp. The findings from firm interviews conducted as part of the preparation for this report shed more light on these linkages.²² Whether the lead firm establishes a direct commercial presence in Turkish domestic companies, sells Turkish firm products under its brand, or chooses other concrete modalities of collaboration, the existence and strength of this collaboration provide tangible proof of GVCs participation.

Turkey's GVC trade is geographically diversified, and Turkey is substantially engaged in at least two regional value chains

Turkey's geographical proximity to, as well as good trade links with, the European Union – especially the EU-Turkey Customs Union – make it Turkey's largest destination market for GVC exports. This is the case both for both intermediate and final GVC goods. However, the EU makes up half of Turkey's total GVC exports (Figure 2.12). GVC trade has been growing rapidly with the Middle East and North Africa (MENA) region, which now makes up 22 percent of the total, up from 15 percent in 2006. Then, Turkey also has non-negligible shipments to three other regions – 10 percent to non-EU Europe and Central Asia (ECA), 8 percent to the Americas, and 5 percent to East Asia and the Pacific (EAP). In contrast to most countries whose GVC exports are concentrated in one region, this indicates that Turkey has a diversified GVC basket and the potential to reach a wide range of destination markets around the world.

²² A key finding of the survey is that many of the Turkish GVC firms produce final products of high complexity, and that they specialize in tasks that contribute to the product's sophistication. Such tasks exceed by far the simple assembly of parts.

Figure 2.12: Turkey’s archetypal exports are focused on the EU

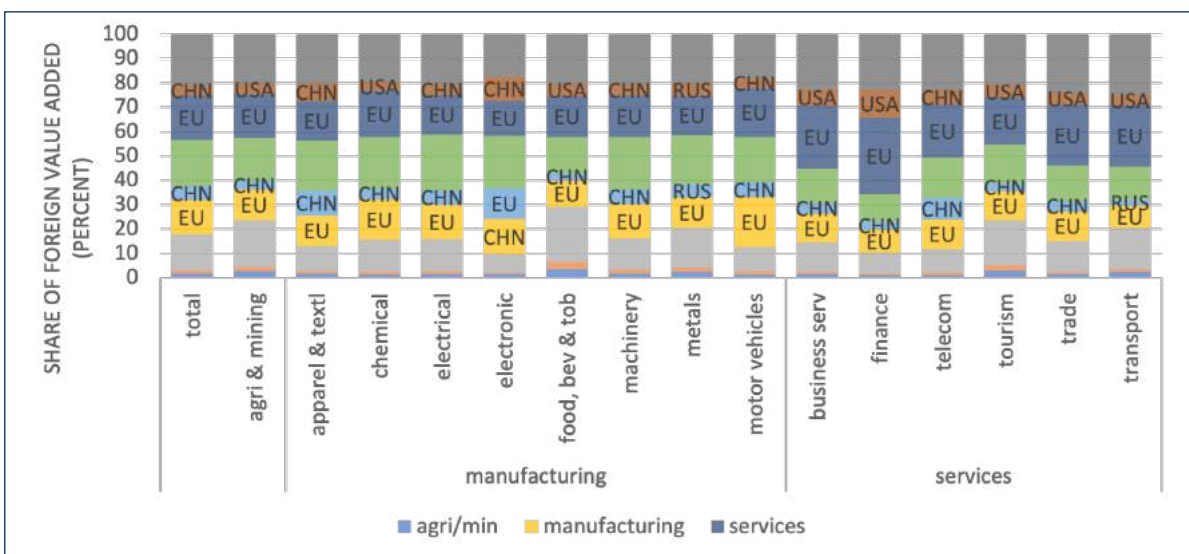


Sources: WB Staff Estimates based on UN Comtrade
 Notes: Data are based on 2018.

Some GVC product categories are focused on certain regions. For instance, 80 percent of Turkey’s vehicle shipments, both final and intermediate, go to the EU. Half of Turkey’s unprocessed chemical and metal shipments are to EAP. MENA is the biggest destination for Turkey’s processed foods and is also a heavy user of Turkish metals.

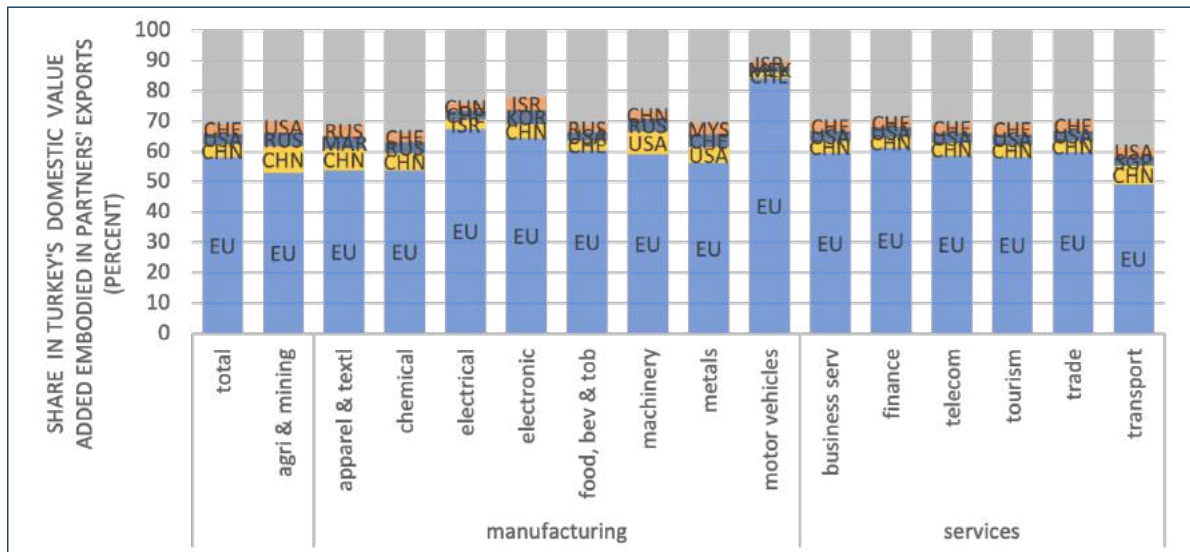
Turkey’s participation in GVCs has a pronounced EU focus, particularly as it relates to forward linkages. Irrespective of the sector, about 30 percent of the foreign value added in Turkey’s gross exports comes from the EU (Figure 2.13). The share of the EU in Turkey’s domestic value-added embodied in direct partner’s exports is even larger, at about 60 percent for most sectors and over 80 percent in motor vehicles (Figure 2.14). This raises the question as to whether Turkey has sub-optimal levels of integration in GVCs with some regions.

Figure 2.13: The EU is the largest single source of foreign value added in all sectors



Sources: OECD TIVA 2018
 Notes: Foreign value added in Turkey’s gross exports by exporting sector, source sector, and source country

Figure 2.14: ...and almost all forward linkages are to the EU



Sources: OECD TIVA 2018

Notes: Turkey's domestic value-added embodied in other partners' exports, by source sector and exporting country

National policy, long focused on export-led growth, has prioritized domestic factors more recently

In analyzing Turkey's positioning in GVCs, it is important to consider how policy frameworks may have played a role. This section sets out a brief review of current and past policy frameworks related to global integration and global value chains in Turkey. While not an evaluation of these measures, it aims to provide contextual information to the interpretation of trends in GVCs and integration in Turkey over the past four decades.

Trade and integration have long been recognized by policymakers as important, and successive national development plans have sought to raise exports. Policy frameworks conducive to Turkey's integration into GVCs were progressively put in place with economic liberalization and trade reforms implemented over the 1980s and 1990s. Since adopting a flexible exchange rate regime in 1980, Turkey progressively implemented major reforms that liberalized capital markets, reduced trade barriers, provided support to exporters, and encouraged FDI. Turkey has been a member of the General Agreement on Tariffs and Trade since 1951 and a member of the World Trade Organization since 1995. A major watershed was reached in the mid-1990s when Turkey entered into a customs union with the European Union. As a result, trade barriers fell rapidly and set the stage for rapid economic integration into the 2000s.

Integration policy was a major ingredient in Turkey's phenomenal growth experience since the first decade of the new millennium. Further structural reforms and a new focus on exports in the early 2000s triggered a rapid influx of foreign investment and growth in trade. Emerging from economic crisis in 2001, Turkey strengthened fiscal and monetary policy frameworks and established a new, robust financial regulator. The early 2000s also saw an increased focus on export policy frameworks, with the first Export Strategy Plan launched in 2004. This plan focused on increasing the availability of imports, building world-class infrastructure, striking new trade agreements, and raising logistics efficiency. A series of programs were

brought in to facilitate exports, including the TURQUALITY program, which supported the establishment of strong, international brands. Inward and outward processing regimes were announced to raise the competitiveness of exports. The new export strategy expanded target markets from primarily the EU to a diversified range of destinations, which included Central Asia, the Balkans, Eastern Europe, Africa, Asia-Pacific, and the USA.

In more recent years, the focus has been placed on higher value-added sectors, target sectors, and import substitution. Policy makers began to identify import dependency as a problem in the late 2000s. The 9th development plan (2007-13) introduced targets for raising value-added and incentive schemes for target areas like high-tech manufacturing and the film and TV industries. The new export strategic plan of the time set out the primary pillars of its strategy as: i) promotion and marketing; human resources and institutions; iii) foreign trade policies, and iv) macroeconomic policies. Over this period, the authorities introduced a new legal and incentive framework for research and development (R&D), including a Technology Development Park (or ‘teknopark’) policy. The export plan also identified the need to reduce import dependency.

Following the Global Financial Crisis, policy was geared towards access to new markets, with demand lower in existing export destinations, while continuing the theme of import substitution. With the 10-year Export Strategic Plan published in 2012, Turkey aimed to mirror the EU’s growing set of Free Trade Agreements (FTAs) and improve access to major markets such as the US, Russia, China, India, Brazil, Canada, Poland, Nigeria, Indonesia, Japan, South Africa and MENA, and to expand the existing customs union with the EU to cover other sectors. The plan also launched a significant new incentive program labeled the New Incentive Scheme (NIS). The NIS, which was introduced in 2012, aimed to support the development of viable clusters of production of intermediate inputs to priority sectors, which aimed to reduce import dependency in these sectors, and in 2011, introduced the Input Procurement System (GITES) which, like NIS, aimed to develop clusters and ecosystems for specific industries. (See Chapter 6 for further discussion of the NIS and related incentive schemes).

The 10th Development Plan (2014-18) went further in targeting sectors and promoting domestic alternatives to intermediate imports. This plan identified 25 priority sectors that were to be the drivers of Turkey’s transition to high-income levels, and policy was focused on addressing multiple constraints in targeted sectors and maximizing productivity and value-added from them. While also supporting localization of production was deemed feasible, the government also prioritized FDI in other sectors and reduced VAT on machinery imports from 18 percent to 0 percent across the board.

Current plans include a focus on integration into higher-value-added parts of GVCs, targeting specific product and country markets, and raising export values to US\$227bn by 2023. The 11th Development Plan and Export Masterplan, both launched in 2019, continue to focus on both export market development and domestic value chain development. The 2023 Export Masterplan identifies key focus areas for destination diversification, product diversification, and technology upgrading. Prime means of achieving this include pursuing new FTAs, as well as updating the EU Customs Unions agreement, developing a new high-technology free trade zone model, and supporting enhanced digital infrastructure for exporters. A new model of Overseas Logistic Center was established in 2020, intended to consist of areas offering storage, loading and unloading, handling, shipping, cargo combination, separation, and distribution services for Turkish export products. The new Logistics Masterplan (2020-2053) also sets out in some detail plans to raise to the very highest standards the efficiency of Turkey’s logistics infrastructure, with an increased focus on rail logistics, as well as further investments in sea, air, and road transportation. The currently in-force national development plan also maintains a focus on the development of domestic industries that can both substitute for important consumers goods and imported intermediate goods.

Turkey's GVC participation has gone hand in hand with rising domestic value-added

Turkey's deep participation in GVCs helped boost the country's value-added exports over time. The association between growth in value-added exports and growth in backward and forward participation is unmistakable at both the aggregate and sectoral levels.²³ At the aggregate level, the years of expansion in Turkey's backward and forward linkages have also been years of rapid growth in Turkey's total value-added exports. (Figure 2.15). At the sectoral level, faster GVC participation corresponds clearly to higher growth in value-added exports (Figure 2.16).

Furthermore, Turkey's growth in value-added exports appears to be in line with predictions based on cross-country correlations with GVC participation. That growth in GVC participation goes hand in hand with growth in value-added exports is indeed visible at a cross-country level. The exported domestic value-added grows faster in countries with faster GVC participation (Figure 2.17). Relative to other countries, growth in Turkey's value-added exports from 2005 to 2015 is close to what growth in GVC participation would predict, but less than for countries such as Romania and Poland, which have similar growth in GVC participation to Turkey.

Figure 2.15: Composition of Turkey's gross exports of goods and services, 1995-2015

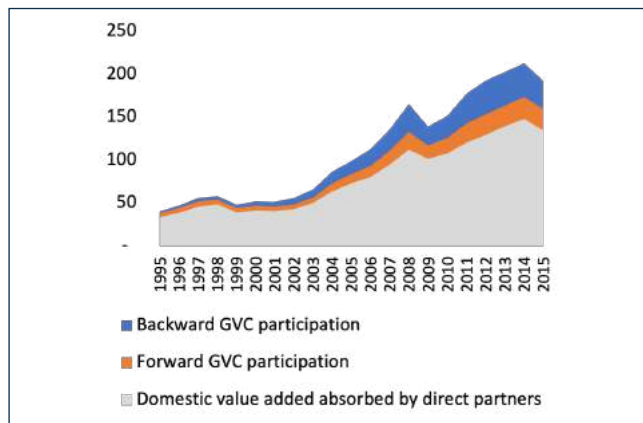


Figure 2.16: Exported value-added and GVC participation in Turkey, by sector

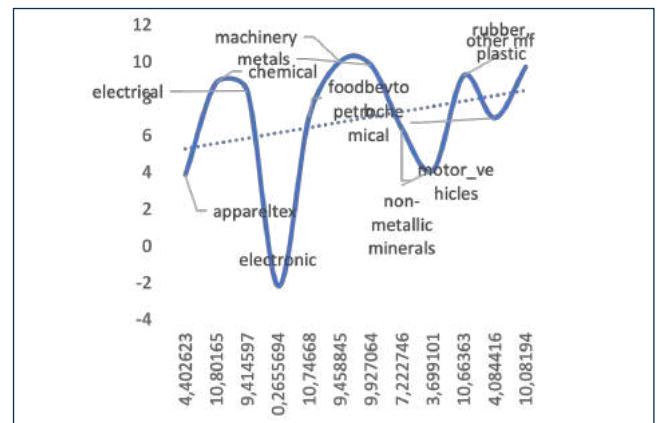
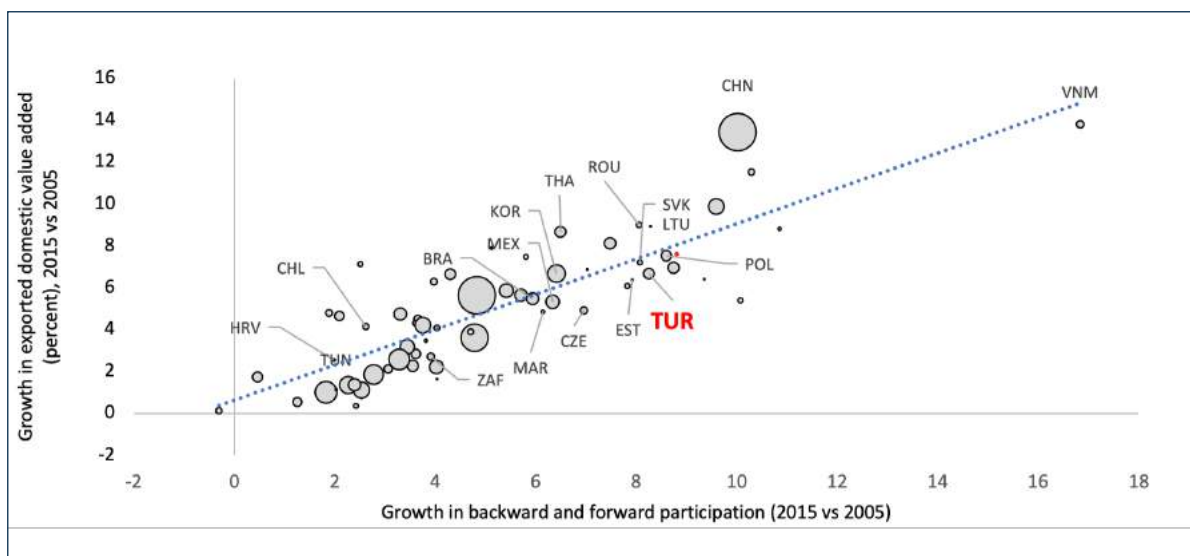


Figure 2.17: Exported value-added and GVC participation by country, 2005-2015



Sources: UN Comtrade, TiVA 2018. Note: In figures b and c, the size of the plotted points indicates the level of exported domestic value-added in 2015.

²³ Two reasons underlie the strong correlations observed between the GVC participation measures and gross and value-added exports. First, backward and forward participation contribute directly to the growth in gross exports, because they are measured as components of the latter. Similarly, forward participation is a portion of the exported domestic value added, and therefore translates directly into growth of the latter. Second, the foreign value added embodied in exports is associated with the part of the exported domestic value added that it helped produce, and which may include value added embodied in final and intermediate exports that are absorbed by the direct partner (hence not associated with forward participation).

But Turkey has further to go to enhance GVC participation and upgrade

While Turkey's GVC participation has advanced, it remains well below comparator countries. Although Turkey's backward participation has been improving (Figure 2.18), it remains well below comparators (Figure 2.19). Furthermore, forward participation, which tends to rise as countries progress towards high-income status, is also below some peers, with respect to both the level and change over time.

Figure 2.18: Change in GVC participation

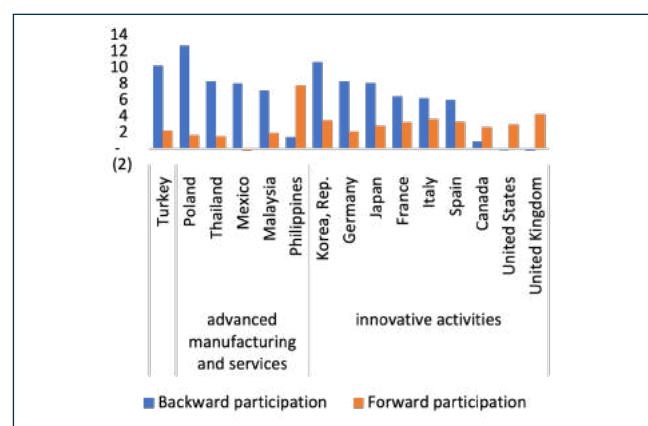
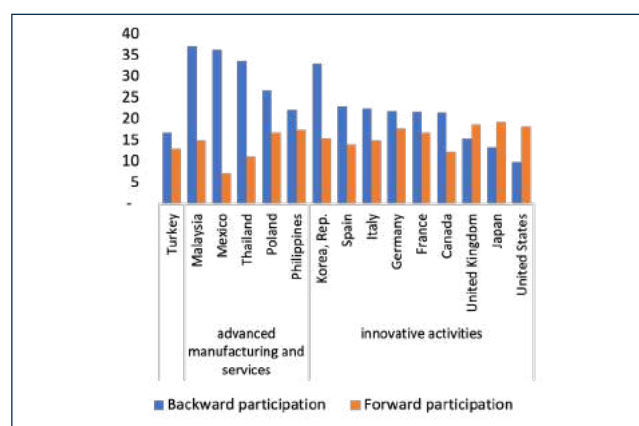


Figure 2.19: GVC participation



Sources: WB staff calculations using World Bank (2020) indices based on OECD inter-country input-output tables, 2018.

Notes: Backward participation is the foreign value-added embodied in gross exports, while forward participation is the domestic value-added embodied in the exports of a country's direct trading partners. Peer countries selected within groupings are of a range of population sizes around that of Turkey.

Two other metrics suggest there is significant scope for improvement in Turkey's value-added exports. First, on a per capita basis, domestic value-added in Turkey's exports is still below the levels of aspirational peers (Figure 2.20). Second, the unit values of Turkey's exports to the European Union (Turkey's main export destination) remain below those of other EU import sources. This is illustrated using the top 40 sources of the European Union's recent imports in four sectors of significance to Turkey's economy (Figure 2.21, Appendix Table A1). The unit value for Turkey (depicted as the red circle) is systematically lower than the median for the 40 countries in the sample, and the difference from the median varies by sector. For instance, in the case of transportation equipment and apparel, Turkey's unit values are closer to the median and higher than the unit values of many countries. In the case of electrical machinery, however, Turkey's unit value is significantly lower than the median and the unit values of most plotted countries.

Turkey's engagement in GVCs can serve as an effective engine of growth to high-income status if it can further boost domestic value-added. This can be achieved via extensive and intensive channels. The extensive channel refers to incentivizing more firms from various sectors to join existing or new GVCs networks either as exporters or suppliers of GVCs participants. For example, while Turkey's automotive industry is deeply integrated into the GVCs, the Turkish sector with the slowest pace of GVC participation growth since 2005, namely computers/electronics, has yet to reap the benefits of integration and more broadly, as discussed above, Turkey's GVC intensity (both backward and forward) can be increased. The intensive channel to boost value-added exports entails upgrading the role of Turkish firms that already participate in GVCs, whereby they specialize in tasks that generate more value-added. Both channels can benefit from policy measures that remove bottlenecks to GVC participation.

Figure 2.20: Per capita exported domestic value (Turkey and peers)

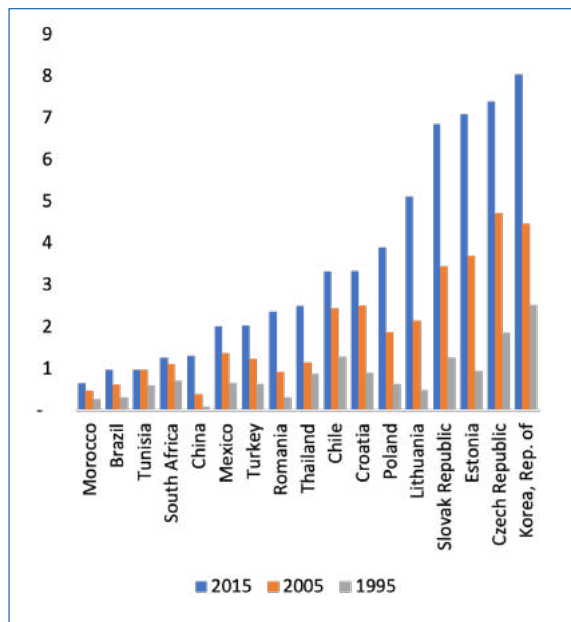
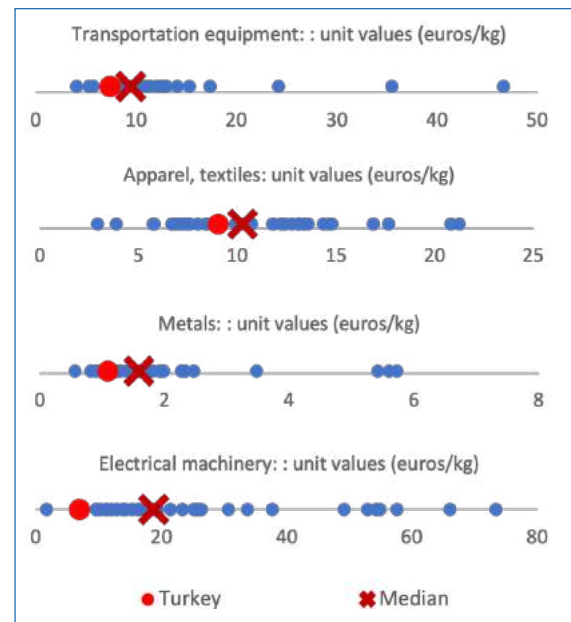


Figure 2.21: Unit values of EU27 imports in selected sectors, by source (Euros per kg)



Sources: OECD TiVA 2018 for and Eurostat.

Notes: Each blue point denotes one of the top 40 EU importers in each sector from 2017 to 2019.

Several factors may limit greater benefits from GVCs for Turkey that might merit attention from a policy perspective. First, Turkey tends to specialize in final products of quality that still lag those of most peers and which typically embody a lower content of inputs from business services compared to peers. Innovation receipts in Turkey are lagging relative to other countries with advanced manufacturing and services participation in GVCs. Boosting innovation and removing barriers to trade in services could help Turkey reduce the gaps and extract more value-added benefits from GVC participation. Second, Turkey’s FDI concentration in several geographical areas within Turkey suggests that GVC participation too may be tied to those areas. Diffusing participation more evenly nationwide would boost the benefits to growth that are associated with GVC participation. Finally, extending goods trade liberalization to more trading partners (e.g., by improving the terms of the EU Customs Union and signing bilateral agreements) would foster GVCs networks with countries with which there is unrealized potential to trade.

The product sophistication of Turkey’s exports is relatively low

Turkey tends to specialize in producing final goods within GVCs. Turkey’s share of final goods in goods and services exports (both total and of GVC-intensive sectors) is relatively larger than those of most peers (Figure 2.22, Appendix Table A1). This raises questions as to whether Turkey focuses predominantly on downstream activities and whether the country’s benefits from GVCs are at the optimal level or not.²⁴

Despite the focus on final exports, existing evidence suggests that Turkey has a far more complex role in GVCs than that of simple assembly, but that there is scope for improvement. Thus, recent surveys indicate that many Turkish firms specialize in final goods of high complexity for which they perform stages of production at the frontier of technology. International trade data, too, indicates that the sophistication of Turkey’s overall goods exports - measured by the exprely index (defined in Box 2.2) - has improved over time.²⁵ However, it has done so at a slower rate compared to some countries that started at a similar level (e.g., Romania) - and remains below the level for most peers (Figure 2.23). Furthermore, the improvement was driven primarily by composition effects, specifically the shift in exports from apparel and textiles to motor vehicles. Last but not least, as discussed in the previous section, the unit values of Turkish exports to key partners in key sectors remains below those of peers (Figure 2.21).

²⁴ World Bank (2014) noted Turkey’s specialization in standardized labor-intensive segments of the value chain and its position as a preferred destination for final assembly platforms, but also the opportunities to upgrade due to GVC participation in sectors with long value chains.

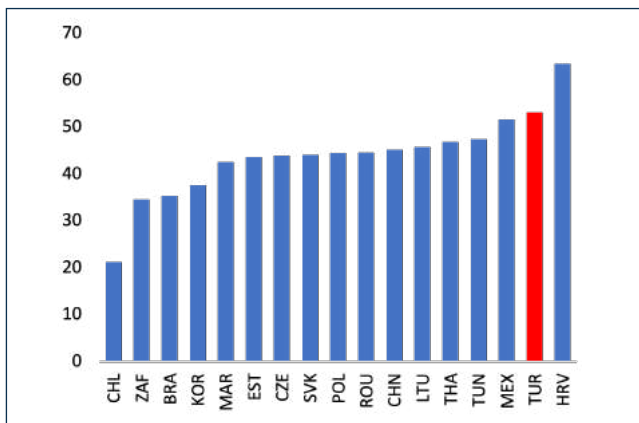
²⁵ Past examinations of unit prices have also indicated improvement in the relative quality of Turkish exports (World Bank 2014).

Box 2.3: The Exprely index: a measure of export sophistication

The *exprely* index is an indicator of sophistication proposed by Deason and Ferrantino (2011). It quantifies the presence in a country/sector's export basket of products that tend to be exported mostly by high-income countries. The higher the *exprely*, the higher the incidence of such products in the export basket, and hence the higher the latter's sophistication.

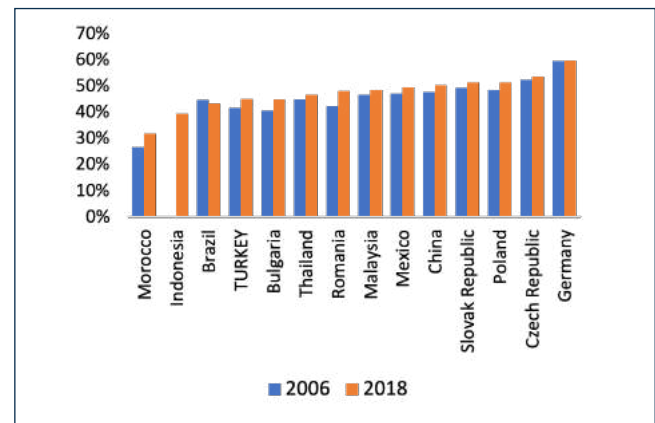
For a specific country/sector, *exprely* is computed in two steps. The first step consists of obtaining for each product the GDP normalized version of the PRODY index defined by Hausmann, Hwang, and Rodrik (2007). Thus, the adjusted PRODY of a specific product in year t is the weighted average of the ratio between the GDP of all countries that export the product, normalized by the U.S. GDP (both in constant U.S. dollars and from a fixed year T), with the weights given by the exporting countries' revealed comparative advantage in the product in question in year t . In the second step, the adjusted PRODY indices of all the products exported by a specific country/sector are averaged using the products' export values as weights.

Figure 2.22: Share of final goods in gross exports of goods and services, 2015



Source: OECD TIVA 2018

Figure 2.23: Export sophistication of goods exports



Source: UN Comtrade

Turkey as yet derives little international income from intellectual property

While Turkey still has some way to go to deepen its engagement in advanced manufacturing and services, innovation will become increasingly important. Turkey's immediate development challenge can be focused on the 'here and now' of extending and deepening its current engagement in advanced manufacturing and services GVCs. At this stage, knowledge flows through firm-to-firm relationships play the key role in productivity growth, but innovation becomes an increasingly important margin by which firms add value and drive further GVC upgrading. Even while the prospect of moving into the 'innovative activities' grouping remains some way off, as we will see later in this report, innovation policy will support continued progression towards this level.

According to data on which the WDR2020's GVC taxonomy is based, Turkey belongs to the advanced manufacturing and services group and is still relatively far from the innovative group. Turkey's export structure and its backward participation in manufacturing (measured as the share of foreign value-added in manufacturing exports) position the country in the group of advanced manufacturing and services economies. Limited manufacturing is in Turkey's past and innovation in its future. Graduation to the innovative activities group is contingent on Turkey's Research & Development (R&D) expenses and Intellectual Property (IP) receipts passing the thresholds of 1 and 0.01 percent of GDP, respectively. Turkey is close to meeting the requirement for R&D expenses, but its IP receipts as a share of GDP, as captured by the Balance of Payments statistics, are still very low (Figure 2.24 and Figure 2.25).

Figure 2.24: R&D & IP intensity of the advanced and innovative group countries

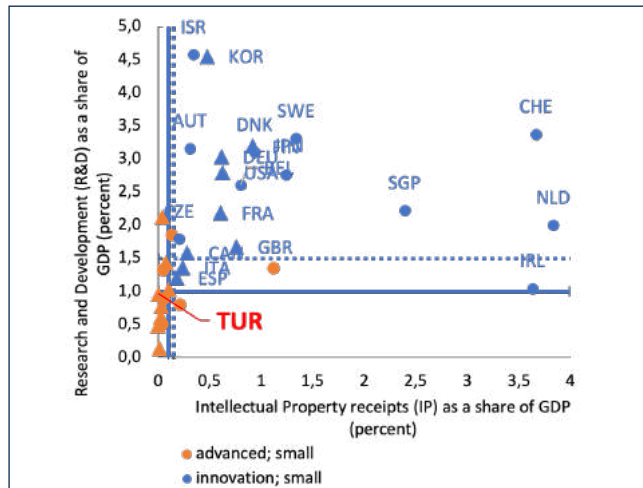
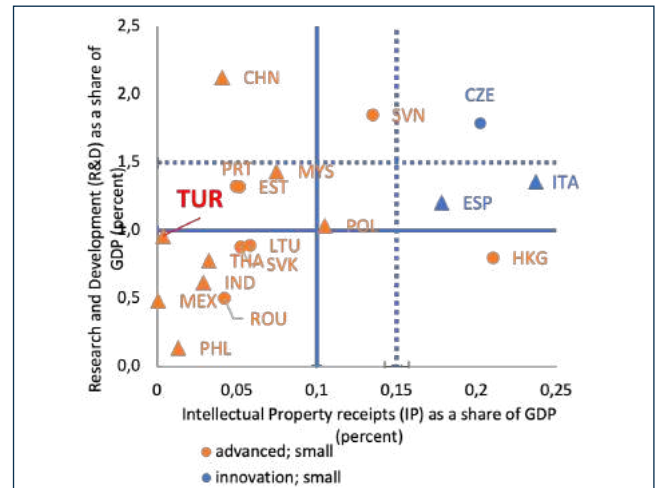


Figure 2.25: Zoom in on Turkey



Sources: World Bank (2020) and World Bank’s WDI

Notes: All countries in the advanced and innovative groups as of 2015. Solid vertical and horizontal lines indicated thresholds to innovation for economies with a population of or above 20 million; dotted lines indicate the same for small economies (population below 20 million).

The low level of IP receipts as a share of GDP seems to be at odds with firm survey results, which suggest that Turkish firms are at the frontier of technology. Yet, the two findings need not be mutually exclusive. Rather, they could indicate, on the one hand, that many technologically advanced Turkish firms may still rely on foreign rather than Turkish patents, acting as subordinates to foreign lead firms, instead of assuming lead roles in the GVCs. On the other hand, the two findings may indicate a lack of optimal correspondence between research and development expenses and innovation. This can happen, for example, if publicly subsidized research and development expenses focus mostly on quality control, the testing of products, and other such activities that firms would carry out even in the absence of subsidies. On a positive note, however, patents applications have been increasing rapidly in Turkey, and should this grow, also bringing increased commercialization, Turkey may be able to close the IP receipts gap.²⁶

Business services are relatively underutilized in Turkey

Services are an increasingly important element of more advanced GVCs. While services, logistics, and transportation, are part of almost all value chains, more advanced functions demand increasingly advanced services, as discussed in Chapter 1 (see also Box 4.7). Increasingly, services are becoming the main delivery modality of final goods for a wide range of products. Finally, the same logic applies for services as it does for goods in GVCs. To be the best, firms need unrestricted access to the world’s best inputs. As a result, the restrictiveness of services trade is now a key consideration to support GVCs and upgrading.

The content of business services in Turkey’s manufacturing exports is relatively low. Services content is a proxy for knowledge-intensive manufacturing products, and inputs that are high in services content have strong associations with per capita GDP growth (World Bank, 2020). Turkey’s manufacturing exports have substantial services content, of 37 percent of gross manufacturing exports in 2015, higher than for many peers, including Eastern European countries (Figure 2.26). Yet a closer look reveals that the bulk of services inputs in Turkey’s manufacturing exports is represented by traditional services like transport, travel, and utilities, while the share of business services is below 20 percent and less than the shares of most peers, particularly Eastern European ones. Moreover, in Turkey, the share of foreign as opposed to domestically sourced business services is lower not only relative to most peers but also to most countries in the OECD TiVA sample (Figure 2.27).

²⁶ <https://www.aa.com.tr/en/science-technology/turkey-ranks-1st-in-rise-of-intl-patent-applications/1798477>

Figure 2.26: Servicification in manufacturing, 2015

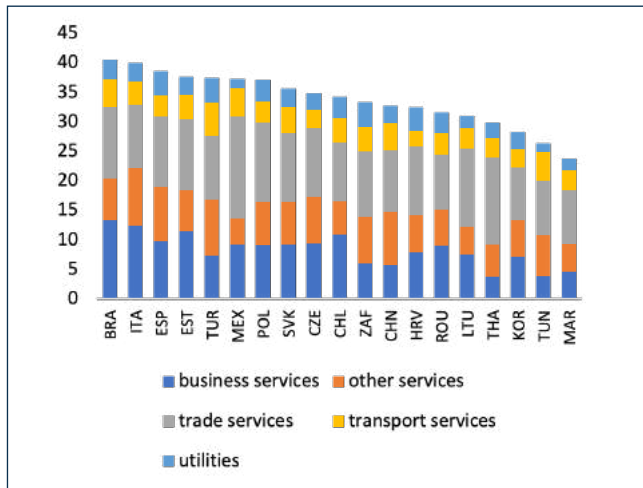
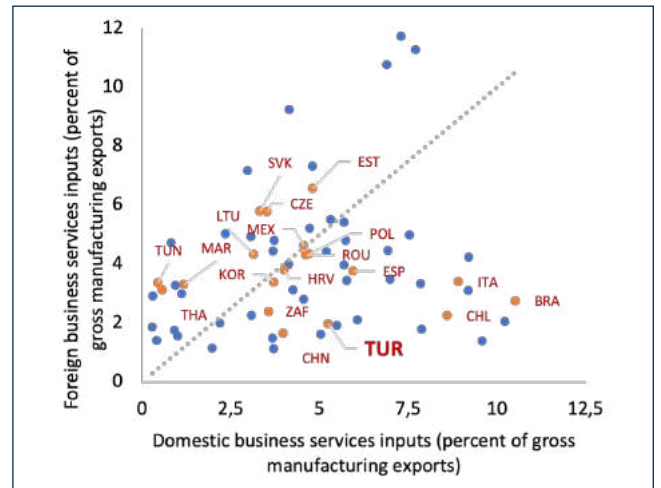


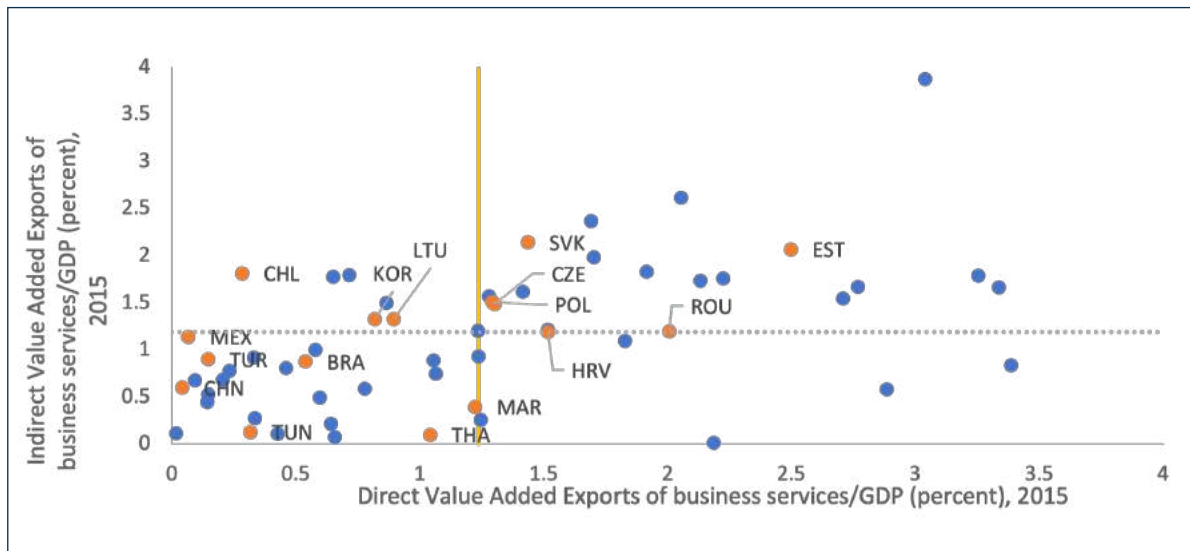
Figure 2.27: Foreign versus domestically provided business services



Source: OECD TiVA

Data on business services exports does suggest that Turkey is lagging in terms of competitiveness. This is illustrated in Figure 2.28, which plots, for the countries in the OECD TiVA 2018 sample, the GDP shares of the direct value-added exports of business services and the indirect domestic value-added exports of services (i.e., the value-added exports of services embodied in exports of goods).²⁷ Both direct and indirect exports of business services were low for Turkey as of 2015, reflecting the relative weakness of the sector potentially due to existing barriers to trade. Furthermore, the significantly lower direct exports of business services relative to indirect exports points to business services not being sufficiently competitive to export directly, consequently relying more on the indirect channel.

Figure 2.28: Direct versus indirect services exports by country, 2015



Sources: [World Bank Service Trade Restrictions Database](#) (Borchert et al. 2012), OECD TiVA
 Notes: Data based on observations for 2011

²⁷ Constantinescu et al. (2018)

Conclusion

Turkey has substantial trade in multiple GVCs. Turkey accounts for around one percent of all global exports, and a substantial portion of Turkey's international trade is carried out in the context of GVCs. Backwards and forwards linkages – measures of imports and exports that cross more than one border - account for a third of Turkey's gross exports. Meanwhile, exports in established GVC sectors (such as motor vehicles, metals, apparel, machinery, electrical equipment) account for 60 percent of exports.

In a difficult global context, Turkey's recent GVC performance has been strong. Globally, trade and GVC participation has been stagnant since the last decade. Yet over this period, Turkey's export growth (in volume terms) has been impressive, outperforming the global average by a factor of two, indicating resilience to the post-GFC slowdown in global trade volume. In the past 10 years, motor vehicles have stood out as the fastest-growing sector for Turkey's exports, while the European Union (EU) and the Middle East and North Africa (MENA) region remained the most important export destinations.

In recent decades, Turkey has upgraded into advanced manufacturing. Turkey's rising backward participation and continued strong manufacturing orientation of exports means that over the past decade, it has advanced from being classified as a "basic manufacturing" country to an "advanced manufacturing and services" country in the World Bank's taxonomy of GVC engagement.

Turkey's strong GVC performance was underpinned by decades of supportive policy. Trade and integration have long been prioritized by Turkish policymakers, and successive national development plans have sought to raise exports. Turkey's integration into modern GVCs started with economic liberalization and trade reforms over the 1980s and 1990s, including a flexible exchange rate regime, liberalized capital markets, and reduced trade barriers, which provided support to exporters and FDI promotion. A watershed point was reached when Turkey entered into a customs union with the European Union in 1995. As a result, trade barriers fell rapidly and set the stage for swift economic integration in the 2000s.

Despite substantial engagement in GVCs, Turkey has some way to go to continue to raise its GVC participation, as well as the innovative content and the value-added of its GVC trade. Turkey's engagement in GVCs can serve as an effective engine of growth by boosting domestic value-added. Towards this goal, Turkey's current GVC engagement needs to be deepened and more progress made on upgrading, which is likely to entail the more intensive use of advanced services in GVCs.

These findings, along with firm-level analysis presented in the next chapter, will form the basis of a policy agenda to spur growth via GVCs. As explored above, major policy reform agendas have played an important role in Turkey's impressive post-2000 growth story, especially over the decade from 2002. As policy attention has become more focused on domestically led growth and even import substitution, there is the opportunity to restart GVC-led productivity growth and expansion with a new and impactful policy program.

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Appendix

Table 1: Turkey's merchandise exports and imports, by type of products; 2018 vs. 2002

Turkey	EXPORTS						IMPORTS					
	2018			2002			2018			2002		
	Million U.S. dollars	Share (percent)	Exprely index	Million U.S. dollars	Share (percent)	Exprely index	Million U.S. dollars	Share (percent)	Exprely index	Million U.S. dollars	Share (percent)	Exprely index
TOTAL	168,023	100%	0.452	35,762	100%	0.388	223,039	100%	0.526	51,270	100%	0.526
of which:												
TOTAL Exports of focus	142,472	85%		29,980	84%		170,362	76%		42,011	82%	
of which:												
Vehicles	29,639	18%		3,771	11%		26,708	12%		4,174	8%	
Final Vehicles	21,217	72%	0.494	2,446	65%	0.479	7,417	28%	0.548	1,221	29%	0.532
Intermediate Vehicles	8,421	28%	0.523	1,325	35%	0.528	19,290	72%	0.520	2,953	71%	0.515
Electronics	3,339	2%		1,740	5%		14,426	6%		4,607	9%	
Final Electronics	3,109	93%	0.527	1,668	96%	0.371	11,097	77%	0.625	3,021	66%	0.617
Intermediate Electronics	231	7%	0.589	72	4%	0.559	3,330	23%	0.576	1,586	34%	0.414
Electrical equipment	5,862	3%		1,185	3%		7,360	3%		1,734	3%	
Final Electrical equipment	2,064	35%	0.469	464	39%	0.462	3,130	43%	0.602	808	47%	0.539
Intermediate Electrical equipment	3,799	65%	0.414	722	61%	0.385	4,231	57%	0.525	926	53%	0.515
Machinery	12,750	8%		1,572	4%		17,448	8%		6,009	12%	
Final Machinery	9,247	73%	0.536	1,090	69%	0.496	11,551	66%	0.620	4,222	70%	0.620
Intermediate Machinery	3,504	27%	0.664	482	31%	0.651	5,896	34%	0.688	1,786	30%	0.670
Processed food	9,950	6%		1,490	4%		4,991	2%		894	2%	
Final processed food	7,315	74%	0.426	1,198	80%	0.419	1,976	40%	0.495	303	34%	0.479
Intermediate processed food	2,635	26%	0.310	292	20%	0.340	3,015	60%	0.336	591	66%	0.292
Apparel/Footwear/Textiles	27,111	16%		12,011	34%		7,473	3%		2,924	6%	
Final Apparel/Footwear/Textiles	21,495	79%	0.262	10,022	83%	0.246	2,938	39%	0.325	688	24%	0.355
Intermediate Apparel and Footwear	5,615	21%	0.347	1,988	17%	0.336	4,535	61%	0.356	2,236	76%	0.354
Metals	32,350	19%		4,829	14%		35,974	16%		5,682	11%	
Final Metals	27,012	83%	0.509	4,023	83%	0.477	14,540	40%	0.593	2,873	51%	0.558
Intermediate Metals	3,887	12%	0.381	681	14%	0.418	19,997	56%	0.399	2,598	46%	0.470
Raw Metals	1,451	4%	0.239	126	3%	0.275	1,436	4%	0.476	211	4%	0.501
Chemicals	8,430	5%		1,308	4%		23,380	10%		6,321	12%	
Final Chemicals	2,043	24%	0.589	357	27%	0.561	4,326	19%	0.670	1,612	25%	0.684
Intermediate Chemicals	4,418	52%	0.500	751	57%	0.416	13,589	58%	0.627	3,764	60%	0.644
Raw Chemicals	1,970	23%	0.313	199	15%	0.389	5,465	23%	0.514	945	15%	0.486
Petrochemicals	13,041	8%		2,073	6%		32,602	15%		9,665	19%	
Final Petrochemicals	11,324	87%	0.495	1,839	89%	0.466	18,734	57%	0.479	2,587	27%	0.522
Intermediate Petrochemicals	1,705	13%	0.563	230	11%	0.531	13,868	43%	0.531	2,818	29%	0.505
Raw Petrochemicals	12	0%	0.369	4	0%	0.420	0	0%	0.375	4,261	44%	0.426
Other Exports	25,551	15%		5,782	16%		52,677	24%		9,259	18%	
of which:												
nonGVC_01-05 Animal	1,130	1%		167	0%		1,939	1%		59	0%	
nonGVC_06-15 Vegetable	5,586	3%		1,659	5%		5,058	2%		766	1%	
nonGVC_16-24 Foodstuffs	1,016	1%		385	1%		856	0%		278	1%	
nonGVC_25-27 Minerals	100	0%		16	0%		57	0%		128	0%	
nonGVC_28-38 Chemicals	0	0%		-	0%		-	0%		-	0%	
nonGVC_41-43 Hides, Skins	565	0%		255	1%		533	0%		786	2%	
nonGVC_44-49 Wood	3,397	2%		454	1%		4,887	2%		1,364	3%	
nonGVC_50-63 Textiles, Clothing	1,501	1%		386	1%		3,673	2%		1,305	3%	
nonGVC_64-67 Footwear	12	0%		2	0%		50	0%		14	0%	
nonGVC_68-71 Stone / Glass	3,341	2%		1,108	3%		1,573	1%		371	1%	
nonGVC_86-89 Transportation	2,349	1%		479	1%		3,927	2%		864	2%	
nonGVC_90-97 Miscellaneous	3,988	2%		457	1%		4,251	2%		1,098	2%	
99	2,566	2%		415	1%		25,873	12%		2,225	4%	
Memo - composition of TOTAL Exports of focus:												
.....												
.....												

Annex: Turkey's exports of goods and services: a brief look at trends and characteristics

In the past decade, the growth in Turkey's exports in current U.S. dollars has slowed compared to the 2000s yet remained in line with the growth of average global exports. In contrast, Turkey's export volumes (in constant currency) were resilient relative to the pre-crisis period and have also grown faster than average global exports. Albeit Turkey is exporting its products to a large number of countries, half of the export value remains directed to the European Union. Turkey's merchandise export bundle is currently diverse, reflecting a gradual move that took place in the 2000s, away from apparel and textile and towards motor vehicles, metals, machinery, and other manufacturing. The sophistication of Turkey's export bundle has increased over time, with Turkey shifting from low tech into medium-tech products, but not significantly further up so far.

Since the Great Financial Crisis, Turkey's goods and services export values in current U.S. dollars have grown at a considerably slower pace than in the previous decade, albeit in line with global exports, maintaining their share in the latter. By 2011, Turkey's exports in current U.S. dollars had fully recovered from the sharp drop experienced during the Great Financial Crisis. Since then, however, growth has averaged only 5 percent per year, i.e., less than half the 12 percent average yearly rate experienced in the 2000s (Figure 1a). Turkey's export values have shared the dynamic of global trade value, particularly over the past decade. Indeed, on average, Turkey's exports grew slightly faster than global trade during the 2000s and at the same pace since 2011. Yet, in the recent decade, Turkey's average export growth has trailed behind certain peers with close income levels, notably China, Thailand, Mexico, Poland, and Romania (Figure 1b). Turkey's share in global exports had reached 0.96 percent by 2019, up from 0.67 in 2000, reflecting rapid growth during the 2000s, a decline, and recovery at the time of the GFC, and sluggishness since 2012 (Figure 1c).²⁸

In contrast to export values expressed in current U.S. dollars, Turkey's export volumes were resilient across the pre and post-crisis periods and relative to global trade volumes. Since the GFC, the growth in Turkey's exports in current US dollars slowed by more than half compared to the period before, while growth in exported volumes, i.e., exports in constant U.S. dollars, held up at about 7 percent pre and post-crisis (Figure 1d). During the past decade, Turkey's export volumes have also fared slightly better than global trade volumes. Turkey's exports in constant U.S. dollars have grown faster than global trade volumes since 2011, mainly due to robust performance in 2011, 2014, and 2017-2019, which defied the marked and persistent sluggishness in global trade volumes, which characterized the years since the Great Financial Crisis (Figure 1f).²⁹ Moreover, Turkey's export volumes have also grown faster than most peers over the past decade, the exceptions being Poland and Romania (Figure 1g).

²⁸ The sluggishness in exports expressed in U.S. dollars since 2010.

²⁹ This sluggishness, dubbed "the recent trade slowdown" has been examined closely by researchers who sought to understand its cyclical and structural causes (Hoekman, 2015). The cyclical causes included the prolonged sluggish investment demand that followed the GFC, the Euro crisis in the 2012-13, China's economic rebalancing, the 2014 fall in commodity prices and the weakness in developing countries that ensued. The structural causes included the maturation of Global Value Chains and slower pace of trade policy liberalization (Constantinescu et al. 2018). The effects of the "the recent trade slowdown" have been compounded most recently by U.S. trade tensions.

Exchange rate and price dynamics help explain the observed differences among the growth rates of the exported values and volumes, pre and post-crisis. On the one hand, the depreciation of the Turkish Lira during the 2010s (Figure 1e) may have supported export volumes by increasing competitiveness while depressing export values expressed in current U.S. dollars (due to the purely nominal phenomenon of converting into a dollar, i.e., is stronger than in the baseline period). Furthermore, the growth in U.S. dollar exports slowed compared to that of volumes during the period of 2014-2015 due to the global drop in oil and commodity prices. On the other hand, U.S. dollar export values grew faster than volumes in the second half of the 2000s, likely reflecting strong external demand and possibly the shift in export composition, from lower-priced low-tech goods to higher-priced medium-tech goods (as will be seen below).

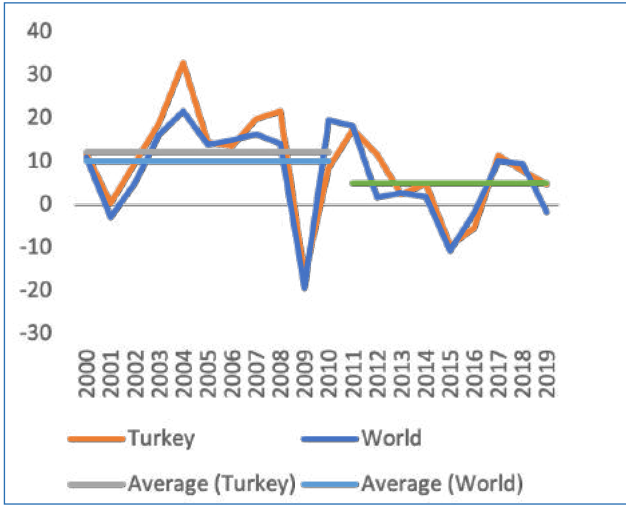
While Turkey's goods exports reach an impressive number of partner countries, half of the export value is absorbed by the European Union, with MENA, the runner-up, more than 20 percentage points behind, despite a steady rise in the 2000s. As noted in World Bank (2019), Turkey's goods exports reached 220 destinations in 2016, up from already over 200 in 2002. This places Turkey on par with countries such as South Korea and Malaysia with respect to export diversification. Yet, the bulk of exports is still being directed to European Union countries. The share of the European Union declined from close to 60 percent in 2002 to 40 percent in 2012, in favor of MENA, which during the same period grew in importance from slightly above 10 percent in 2002 to about 30 percent in 2012 (Figure 2d). Since 2012, however, the share of the European Union has increased, with 2018 seeing half of Turkey's goods exports directed to the bloc.

Both merchandise and services are important for Turkey's total exports. Although the bulk of the latter is represented by merchandise, Turkey's services exports accounted for 26 percent of Turkey's exports in 2018, minimally changed since 2005 (Figure 2a). Like other middle-income countries and as observed in Haven and van der Marel (2018), Turkey specializes in transport and travel services, with less focus on modern services such as financial, IT, and professional services. Indeed, transport and travel services have accounted for over 80 percent of the commercial services exports for the past 15 years, despite this share trending mildly downwards over time.

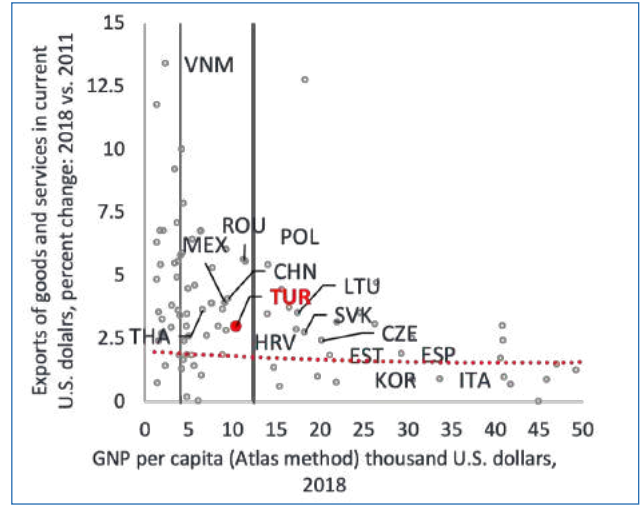
Turkey's merchandise exports are diversified in terms of products. As of 2018, metals, motor vehicles, and apparel, and textiles were each accounting for 15 to 20 percent of Turkey's goods exports, followed by petrochemicals, machinery, and processed foods with shares of between 5 and 10 percent (Figure 2b). Turkey's export structure has changed markedly since the early 2000s, with the share of apparel and textiles declining rapidly in favor of motor vehicles.

Figure 2A1. Turkey's exports of goods and services: aggregate trends, 2000-2019

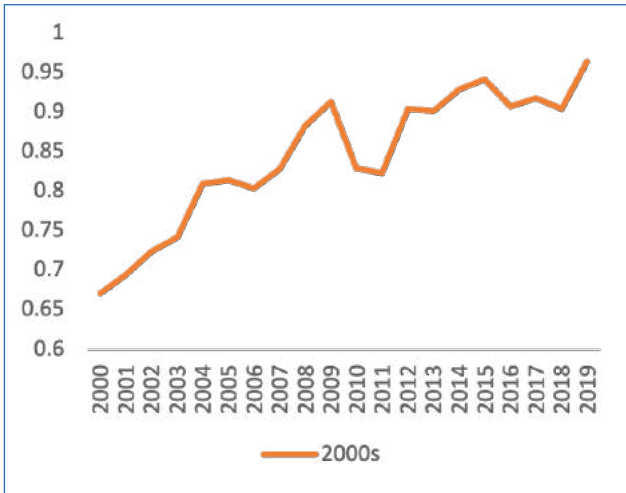
Turkey vs. World in export values, 2000-2019



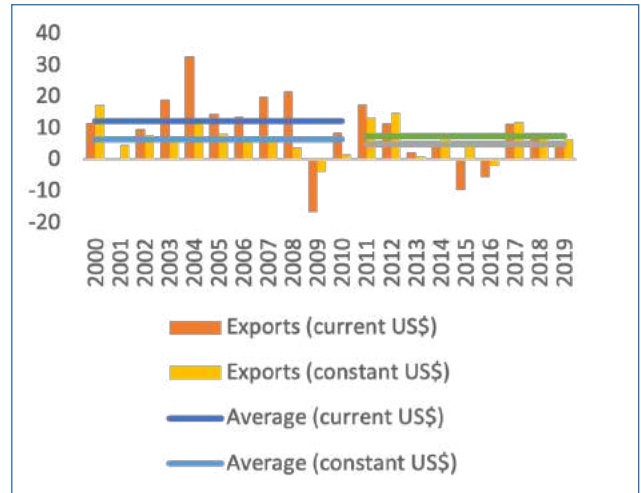
Turkey's export values relative to peers



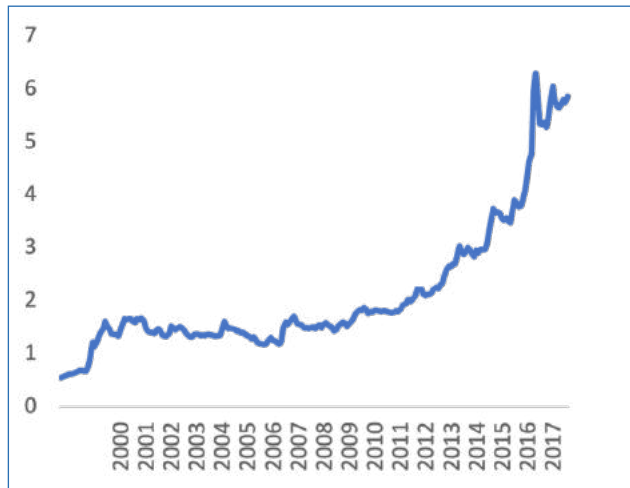
Share of Turkey in world exports, 2000-2019



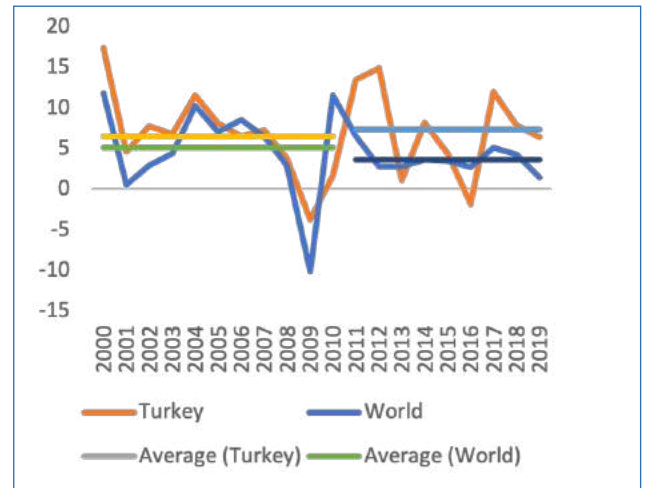
Turkey's exports values vs. volumes



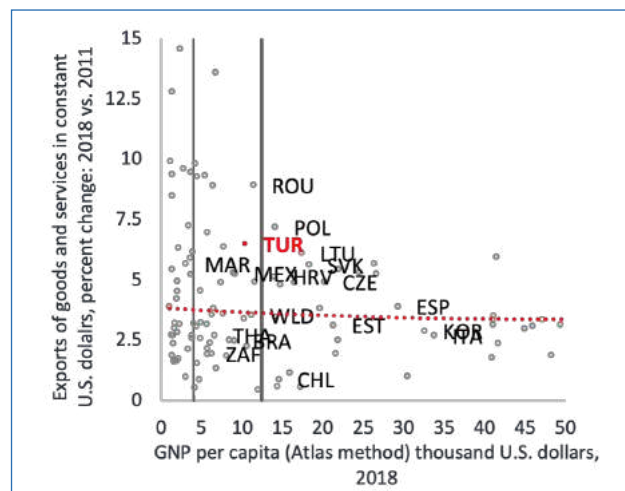
Exchange rate, 2000-2019



Turkey vs. World: export volumes, 2000-2019



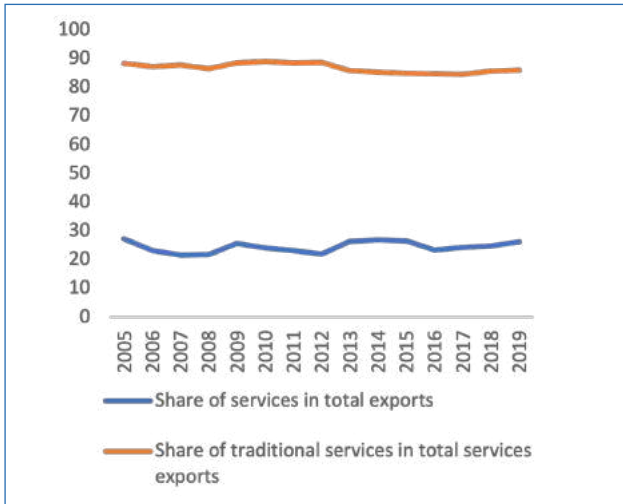
Turkey's export volumes relative to peers



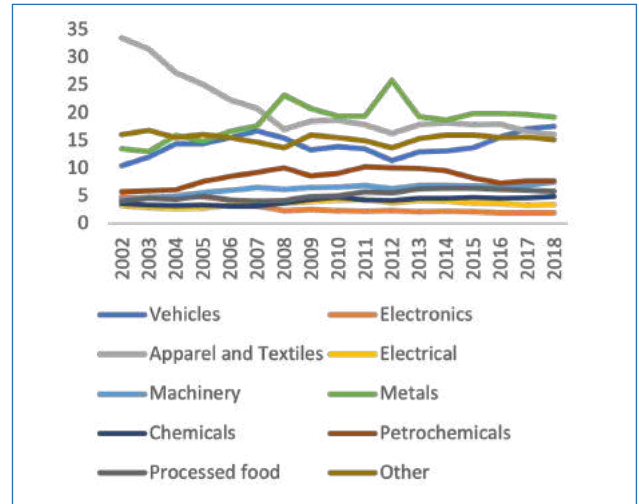
Sources: World Bank World Development Indicators (WDI), World Bank's Global Economic Monitor.
 Note: Y-axis of Panel b is restricted to start at 0 (countries with negative values not shown).

Figure 2A2. Composition and direction of Turkey's exports of goods and services, 2000-2019

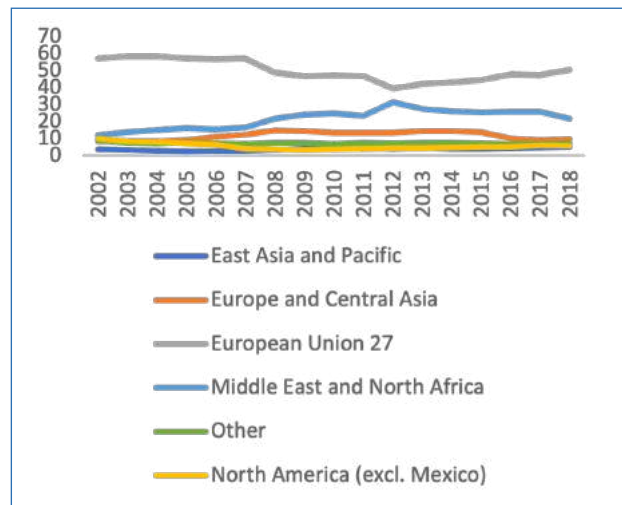
Goods vs. services exports



Turkey's goods exports, by product group



Destination of Turkey's goods exports



Sources: World Trade Organization, UN Comtrade.

Chapter 3

Understanding GVCs in Turkey from the firm up



- There are a relatively small number of GVC exporting firms in Turkey, but they are responsible for a larger amount of output, are large employers, and are highly productive
- There is a substantial pool of domestic firms that supply GVC exporters, with more than 3 domestic firms with significant direct sales to them.
- GVC firms are skills, import, and innovation-intensive and pay workers far more than other types of firm on average.
- GVC activity has been growing, led by a few large sectors. Most growth is from incumbents, while GVC suppliers have a higher probability than other firms of becoming a GVC exporter.
- Most growth in the GVC sector has come from scaling-up, especially of employment, rather than productivity growth.

What do GVC firms look like?

Macroeconomic and trade analysis can be enriched by analysis at the firm level to more fully understand how GVCs contribute to the economy. The firm – and the relationships it establishes with other firms – is the central focus of GVC analysis, and much of the development benefits that can flow through GVCs critically depend on firms’ capabilities and behavior. That is why it is especially relevant to complement more aggregate analysis with analysis of the firm.

This chapter presents findings from analysis from a large database of information on firms. This chapter will present facts and findings that are derived from novel large-scale firm-level GVC analysis. This analysis is an example of a new and growing body of literature (see Box 3.1) that can provide rich information on how GVCs work at a firm-level in Turkey. This analysis is based on the Enterprise Information System, a database that consists of linked administrative, census, and trade data on all multi-employee firms in Turkey over a period of more than 10 years.³⁰

Box 3.1: Firm-level analysis of GVCs

GVC analysis has often been centered on a thorough understanding of firm decision-making processes and mapping of specific value chains (Frederick, 2019) rather than being based on larger-scale quantitative data. Such studies capture bespoke and often highly informative information on firms’ decisions and characteristics, but surveys are limited in their scope and breadth. Firm-level data can offer new ways to measure trade and GVC participation. In measurement terms, firm-level data can provide more accurate and direct measures of GVC activity. For example, macroeconomic (input-output) data assumes domestic sales and exports have the same value-added content and input mix (Ahmad, Araujo, lo Turco, & Maggioni, 2013; Antras, 2020). To the extent that participants in global value chains have different value-added and input contents, firm-level data offers the potential to identify and study these differences.

This chapter will present findings from novel firm-level GVC analysis conducted for the purpose of this report. Such analysis is as yet relatively rare in developing countries as it relies on administrative, linked firm-level data, which is not widely available outside of advanced economies. This work, to the knowledge of the authors, represents the first such detailed analysis of GVCs on a firm basis, although several other valuable and related firm-level analyses on Turkey have been carried out; see Ahmad, Araujo, lo Turco, & Maggioni (2013), Cebeci & Fernandes (2015), Javorcik, lo Turco & Maggioni (2017), Erbahar (2019), World Bank Group (2019).

Examples of large-scale GVC firm-level analysis from other developing countries include Kee & Tang (2016), who study the trend in domestic value-added of exports from China, de Gortari (2019), who used Mexican linked firm-level data to re-estimate the US input content of Mexican exports to the US, and Lu Y, Lu, Xie, & Yu (2019) using firm-level linked data to evaluate the impact of GVC integration on wages in China. Studies such as Del Prete & Rungi (2017) have even made use of data comprising firms in multiple countries, in this case, EU member states, to trace cross-border transactions and conduct rich micro-founded GVC analysis.

Source: World Bank Staff

³⁰ This dataset offers a rich resource to analyze subsets of firms over time, with the data covering the period of 2006 to 2018 at the time of analysis. The data includes all firms in Turkey with the following exceptions: i) It excludes ‘sole proprietorships’ or firms with only one employee; ii) It excludes financial sector firms; iii) it excludes public entities. The database records on average around 2.7 million firms each year. However, a smaller number contain balance sheet information (1 million) and income statement data (500,000), which are utilized for aspects of the analysis in this chapter. Data are cleaned of outliers based on standard methods.

GVC exporters are large firms concentrated in the manufacturing sector

GVC exporters are a small, but growing, sub-set of companies in Turkey. There are relatively few firms in Turkey that trade intensively along GVCs – defined as a firm that imports at least 10 percent of its intermediates and that exports at least 10 percent of its output. In 2006, when available data began, there were 2,650 such firms. The number of these GVC exporting firms has been increasing since then at about 4 percent per year, or cumulatively by 60 percent over the period (Figure 3.1), with 4,280 GVC exporting firms by 2018. Still, this constitutes just under one percent of all firms in Turkey and indeed is only a fraction of the nearly 30,000 firms which export intensively.

Figure 3.1: GVC exporting firms have been growing...

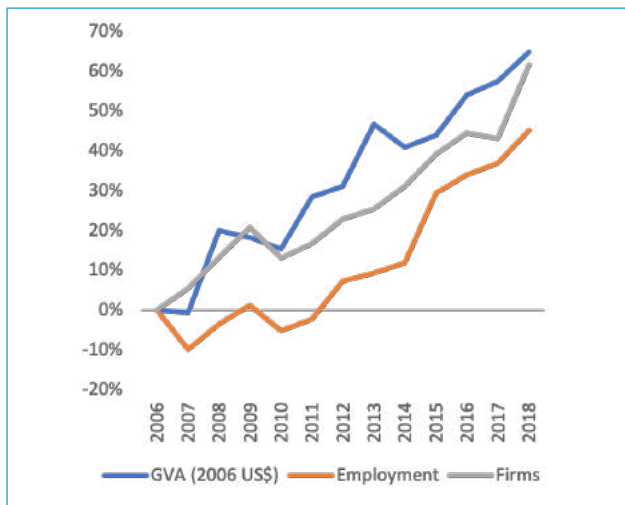
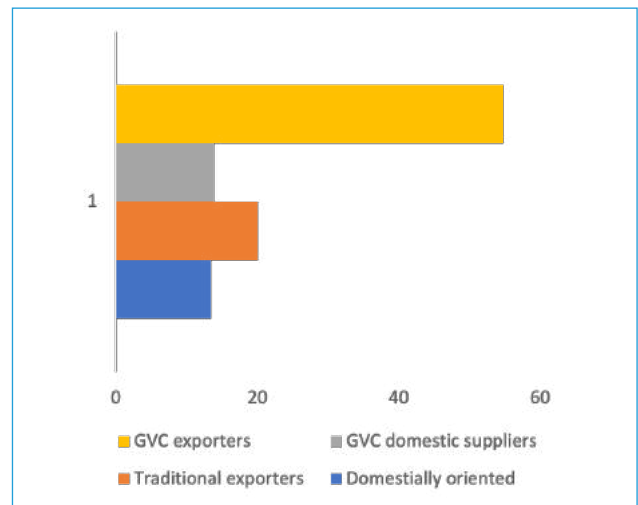


Figure 3.2: ...and are far larger than other firms



Sources: World Bank Staff estimates based on Enterprise Information System data

Notes: GVA is Gross Value Added, the value of output less the value of intermediate consumption. It is equivalent to a component of GDP from a particular sub-section of economic activity. GVA is presented here in constant 2006, US\$ values.

GVC exporters are much larger than other firms. GVC exporting firms employ, on average, four times more workers³¹ than a typical domestically oriented firm and nearly three times as many workers as traditional exporting firms (Figure 3.2). The average value-added a GVC exporter produces is about 8 times greater than a domestic firm and four times more than a traditional exporter.³²

³¹ Definitions of employment are on a full-time equivalent basis throughout this chapter.

³² Note that, unless stated, results do not control for differences in sectoral composition between firm types. Therefore, part of the observed differences may be attributable to sectoral differences.

Box 3.2: Defining GVC firms

This chapter draws largely on new analysis using data on firms in Turkey. The database used, developed by the Government of Turkey, is the Enterprise Information System (EIS). The EIS contains linked administrative data. This anonymized data is accessible through a secure “datalab” environment housed in the offices of the Ministry of Industry and Technology in Ankara, Turkey. The dataset includes all businesses in Turkey. At the time of preparation, data was available for the period of 2006 to 2018. The database comprises a series of linked datasets. Linked to company registration information is information on the firms’ balance sheet, income statements, and customs data that records merchandise imports and exports at a transaction level, as well as employment and several other datasets. In addition, a separate database, which records all transactions between domestic firms above a certain threshold (5,000 Turkish Lira), can be linked to the firm-level data based on firm identifiers. A sub-firm census of establishments is also linked, which provides basic information about each business site of a firm registered in Turkey.

Consistent with the majority of the literature on quantitative GVC analysis, we start by identifying GVC activity and GVC firms based on firm import and export activity. An internationally-trading GVC firm is defined as one that imports a significant³³ amount of its intermediate inputs and exports a significant amount of its output. Our data do not allow us to observe the volume of domestic inputs or production, and so total inputs and total production are captured using the monetary value of these items reported in a firm’s income statement.

However, firms that are part of a GVC do not necessarily need to be directly trading internationally but may be a domestic supplier in a GVC. Making use of the domestic transaction dataset, we identify all those firms where sales to a GVC firm (as defined above) constitute at least 10 percent of their total turnover, and these firms are accordingly also classified as GVC-active firms. In case a firm meets both criteria – directly exporting along GVCs and domestically supplying GVCs, it is classified as a GVC exporter.

In addition to this set of GVC-active firms, we divide the remainder of firms into two different groups. First are other firms which have significant exports but are not intensive users of intermediate imports, and which we term simply as “exporters” or “traditional exporters” to differentiate them from GVC exporters.

Because the analysis in this chapter is focused on the firm level, aggregated results are not directly comparable with data on economic flows, such as exports, presented in the preceding chapter. For instance, GVC exporting and traditionally exporting firms are those that have relatively intense export activity, although other groups of firms also account for part of total exports. Also, the use of NACE sectoral classifications, which are made at the firm level, are different from the HS categories by which exports are defined, such that some goods may appear in differently-labeled grouping in the firm-level data and the trade data. An example might be plastic or rubber components for use in motor vehicles. Such items may be recorded as being ‘motor vehicle components’ in trade data. However, if they are produced by a firm that specializes in rubber or plastic products, their classification at a firm-level would be captured under this title.

Source: World Bank Staff

Most GVC exporter firms are in the manufacturing sector. Even though our definitions of GVCs include the possibility of earnings from services provided overseas and income remitted from overseas subsidiaries, GVC exporting firms are still overwhelmingly active in the manufacturing rather than services sector. A proportion of 86 percent of these firms is in manufacturing, while the rest are in the retail and wholesale sector (Figure 3.3), which are likely to primarily be companies that specialize in importation and export³⁴. Within manufacturing, GVC activity is concentrated in the textiles, apparel, chemicals, rubber and plastics, machinery, and fabricated metal sub-sectors, which together make up more than half of the total GVC exporter value added (Figure 3.4). A further five sectors that are relatively large, each making up 5 percent or more of total GVC exporter value-added, are: Motor vehicles; chemicals; non-metallic minerals; electrical equipment, and pharmaceuticals. GVC firms are most common in the chemicals, rubber and plastics, motor vehicles, electric equipment and computers, and electronics sectors (Figure 3.5).

³³ When determining whether a firm, overall, is classified as a GVC-active firm based on its GVC-related activity, we follow (Winkler & Rocha, 2019), which is also reflected in (World Bank Group, 2020) in setting an intensity threshold of 10 percent. So, if, for instance, at least 10 percent of a firm’s production or turnover is due to GVC activity, that firm is considered to be a GVC firm.

³⁴ There are substantial numbers of ‘import-export’ firms in Turkey that specialize in international trade of goods, and that serve Turkish businesses to meet the need for imported goods and convey export shipments.

Figure 3.3: GVC exporting firms are almost all in manufacturing, while their suppliers range across manufacturing and services

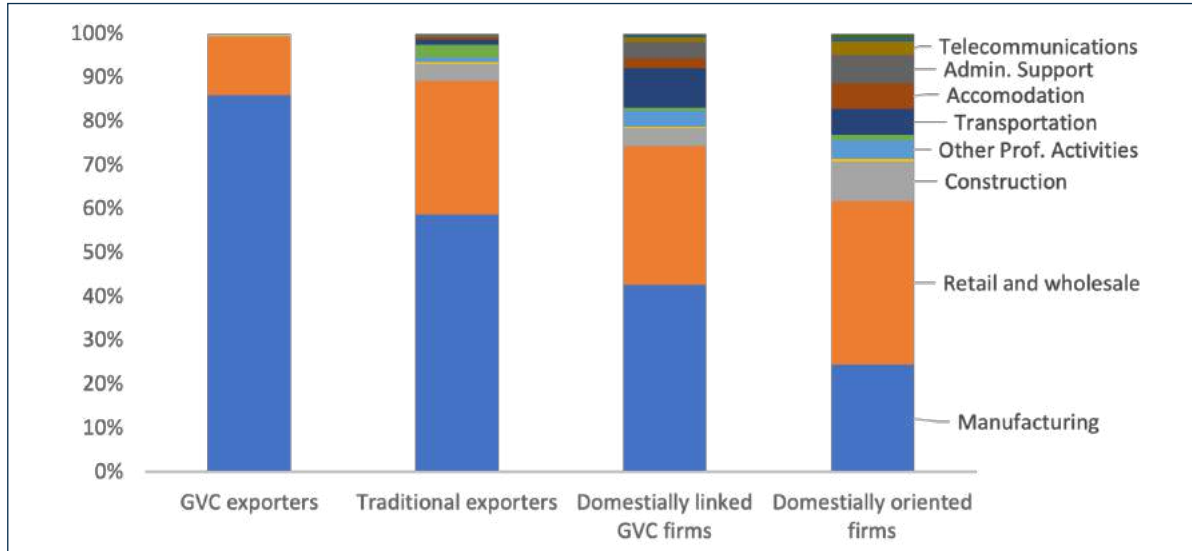


Figure 3.4: Most GVC exporting firms are concentrated in five manufacturing sub-sectors

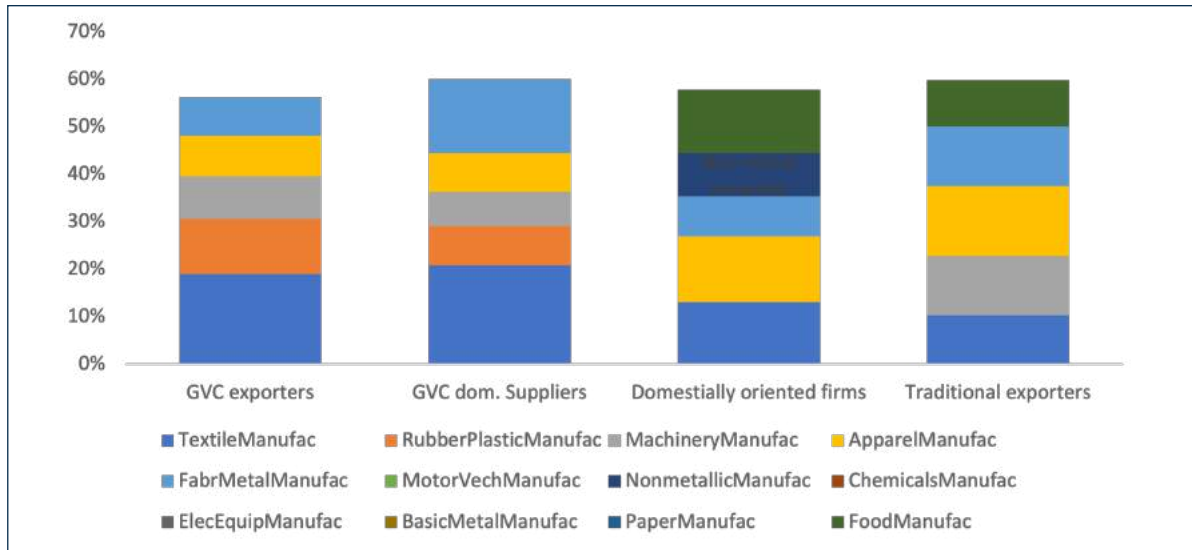
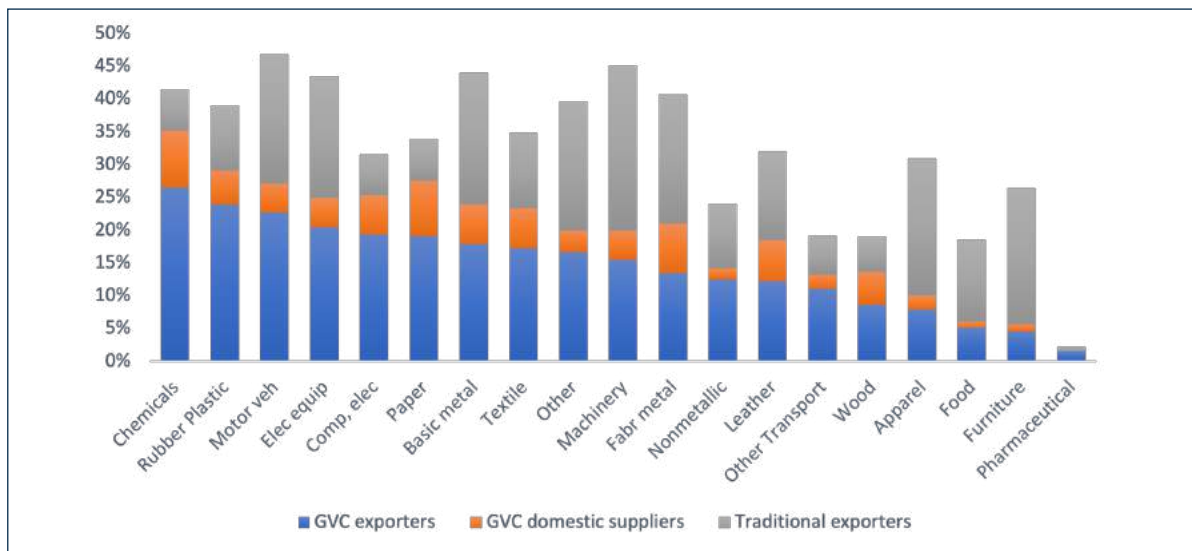


Figure 3.5: GVC firms constitute at least a quarter of several manufacturing sub-sectors



Sources: World Bank Staff estimates based on Enterprise Information System data

GVCs have substantial linkages to the domestic economy

Domestic supply chains encompass many more firms and have grown rapidly. Using bilateral transaction data, we can identify those firms that are substantial suppliers to GVC exporters to analyze GVC domestic linkages in greater detail. These firms, which constitute the second stage of GVC supply in Turkey, are defined as being those that generate at least 10 percent of their sales from GVC exporting firms. The number of such firms has more than doubled since 2006 (Figure 3.6) to reach over 15,000 firms – around 3 percent of the total. This rapid growth has been due to a combination of a growing number of GVC exporters, as well as deepening domestic supplier networks. The average number of domestic suppliers per GVC exporting firm increased over the period from 2.8 in 2006 to 3.6 in 2018 (Figure 3.7). Real value-added and employment accounted for by domestic suppliers of GVCs have both grown by around 60 percent over the 12-year period (Figure 3.6).

Driven by external demand, GVCs can have significant positive impacts on domestic incomes. In addition to the direct impact the GVC firms have, they also have broader impacts via their domestic supplier chains and other firms of the multiplier effect of external demand. The firms directly captured in the analysis thus far constitute only the first level of suppliers to GVC exporters. Those firms themselves will have domestic suppliers and so on such that the aggregate economic impact of external demand through GVCs is greater. A simple way of estimating this is to apply a ‘multiplier’, which is the inverse of import leakage at each stage of production.³⁵ This estimate suggests that the overall impact that GVCs had on economic output was around US\$40bn in 2018 or around 5 percent.

Figure 3.6: Domestic suppliers of GVCs have also grown...

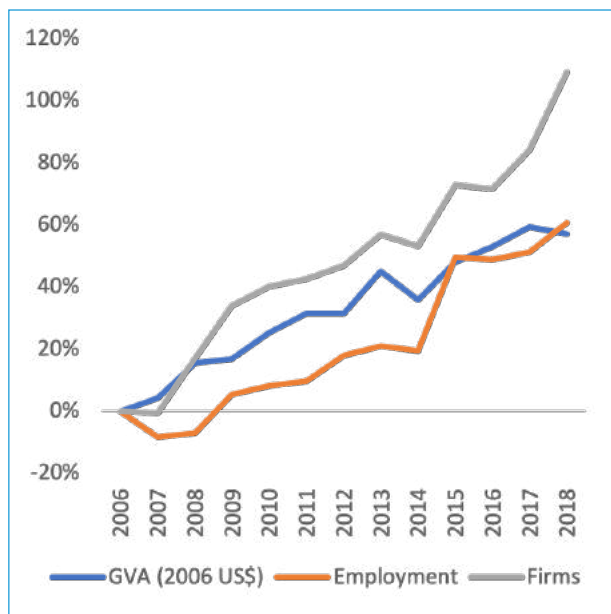
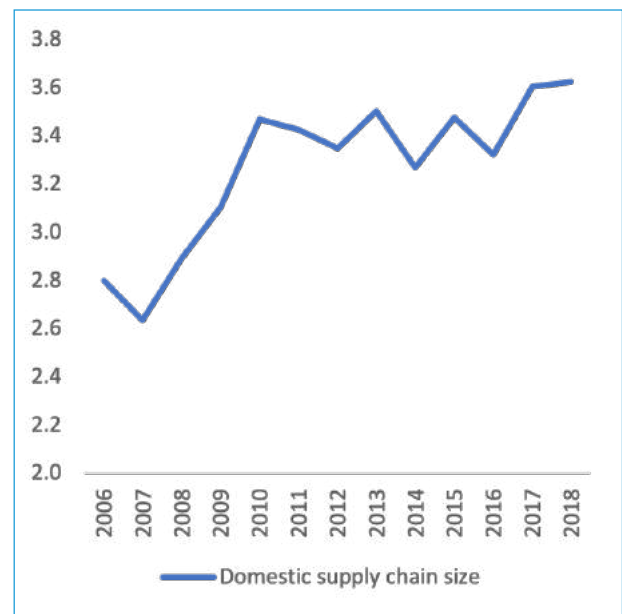


Figure 3.7: ...as the size of domestic supply chains has increased



Sources: World Bank Staff estimates based on Enterprise Information System data

Domestic suppliers provide both goods and services across a broad range of activities. As Figure 3.3 above shows, the sectoral composition of GVC suppliers is markedly less concentrated in manufacturing, with less than half of domestic supply activity active in it. While the biggest single services sub-sector is wholesale trade, close to a tenth of all domestic supply firms are in transport and logistics. There are also sizable shares of GVC suppliers in construction, professional services, and administrative support.

³⁵ Calculated by applying the national marginal propensity to import (MPI) of GVC firms, of around 30% in 2018, to the value-added of GVC firms, of around US\$9bn in 2018 as $GVA / MPI = \text{Reduced form income effect}$ and added to the first round value-added yields US\$38bn.

The majority of GVC supply is direct. International evidence indicates that the benefits from GVCs are most fully realized when buyers and sellers have direct relationships rather than through an intermediary. The use of wholesale and retail firms for supply can be considered to be an ‘indirect’ supply of GVCs in this case since goods are not procured from the supplier. Such indirect suppliers only make up a quarter of the total by value-added, so the majority of domestic GVC suppliers are direct suppliers. It is also interesting to note that, as Figure 3.4 shows, GVC exporters and suppliers are concentrated in the same manufacturing sub-sectors. This is likely to reflect the fact that suppliers provide intermediate inputs just a step or two earlier in the production chain, and such products will more than likely still be in the same industrial classification.

GVC firms contribute disproportionately to jobs, exports, and value-added

GVC firms account for a disproportionately large share of value-added, employment, and exports. Taking both types of GVC firms together, they constitute only about four percent of all firms in Turkey. However, they make up about 6 percent of total employment and 9 percent of total value added (Figure 3.8). Despite there being around six times fewer GVC exporting firms than exporters not linked to GVCs, GVC firms have a considerably higher export value per firm and make up 23 percent of total exports (Figure 3.9).

Figure 3.8: GVC firms account for a disproportionately large share of value-added...

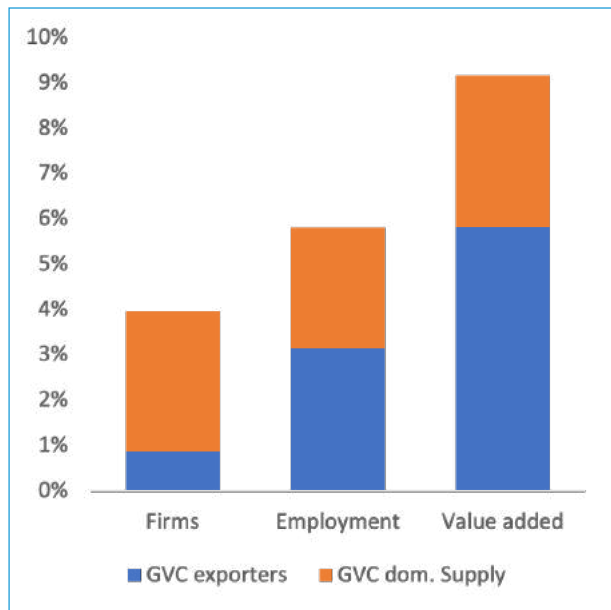
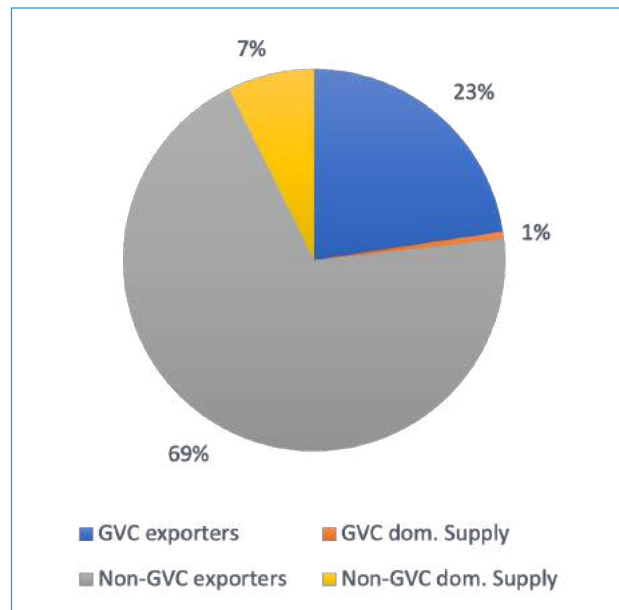


Figure 3.9: ...and exports



Sources: World Bank Staff estimates based on Enterprise Information System data

Box 3.3: As the world has endured productivity stagnation, GVC firms have bucked the trend.

The world, and Turkey, have seen productivity stagnation since the Global Financial Crisis. Labor productivity growth has fallen in advanced and EMDE countries alike since the Global Financial Crisis. In EMDEs, the decline has been the longest and most broad-based since the 1980s. The sharpest fall in productivity growth has been in the Europe and Central Asia (ECA) region, while commodity exporters have been more severely affected than commodity importers. In EMDEs, this decline is explained, in roughly equal measure, by a slowdown in capital deepening and a slowdown in total factor productivity, while human capital growth has remained stable. In Turkey, productivity growth fell, although more of this fall was reflected in lower TFP, while capital deepening continued at a similar rate.

International firms are consistently shown to be amongst the most productive and competitive. The literature on exporters shows that high-productivity firms self-select into producing for international markets, whereas less productive firms keep producing for their domestic market or are forced to close (Melitz 2003). Only the most productive firms are able to overcome the costs, both tangible (such as production requirements, tariffs, and transportation) and intangible (such as host-country market information), necessary to compete abroad or to locate and produce abroad (Helpman, Melitz, and Yeaple 2004). Comparing the outcomes between different forms of globalized firms and non-globalized firms in Japan, Tomiura (2007) finds that firms engaged in FDI or multiple modes of globalization are the most productive, followed by exporters and firms that outsource. Finally, domestic firms are found to be least productive.

Sources: World Bank Group, 2020, Global Productivity: Trends, Drivers and Policies, World Bank: Washington DC and World Bank Group, 2019, Turkey Country Economic Memorandum of Productivity, World Bank: Washington DC

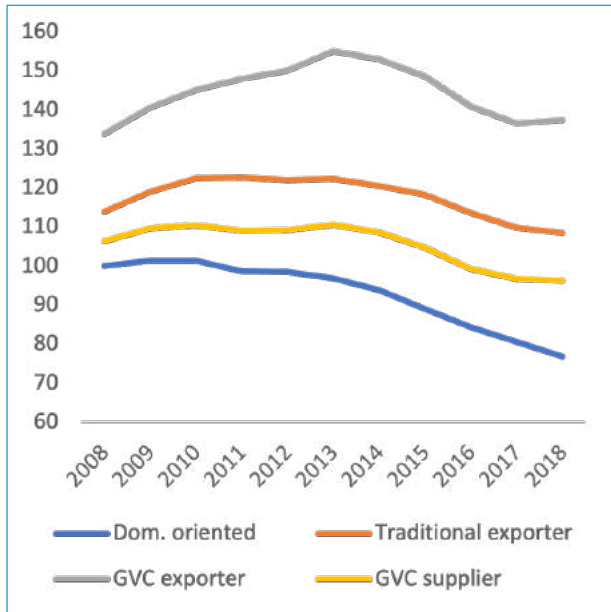
GVC exporters are far more productive

In both labor and total factor productivity terms, GVC exporters are more productive. The amount of value-added created per full-time equivalent worker in a GVC exporting firm is well above the level of other non-GVC firms. Compared to other exporters, workers in GVC exporting firms are about 30 percent more productive³⁶. They are twice as productive as domestically oriented firms, and GVC exporter labor productivity has been rising compared to other firms over time (Figure 3.10). In terms of total factor productivity, which also accounts for capital inputs, GVC exporters are also more productive - 8 percent more than domestic firms, a productivity premium that has been increasing over time, and 4 percent more than other exporters (Figure 3.11).³⁷

³⁶ As the data do not include informal employment, and non-GVC firms tend to be more informal, the productivity gap might be even larger.

³⁷ Labor productivity is measured as value-added in constant US\$ prices per full-time equivalent worker. Estimation of TFP in this study utilizes the Cobb-Douglas production function of the form $Y = AL^\alpha K^\beta$, where Y is output, L reflects labor, K reflects capital and A is the measure of total factor productivity. α and β capture the output elasticities of capital and labor, respectively. Capital is obtained directly from a firm's balance sheet, while social security allows for the tracking of the number of employees hired by a firm in a given year, both contained in the linked EIS dataset. TFP is estimated as the residual of this equation. To overcome the identification issues with the usage of both labor and intermediates simultaneously, estimation of a firm's total factor productivity follows the correction methodology proposed by Akerberg, Caves, and Frazer (2015).

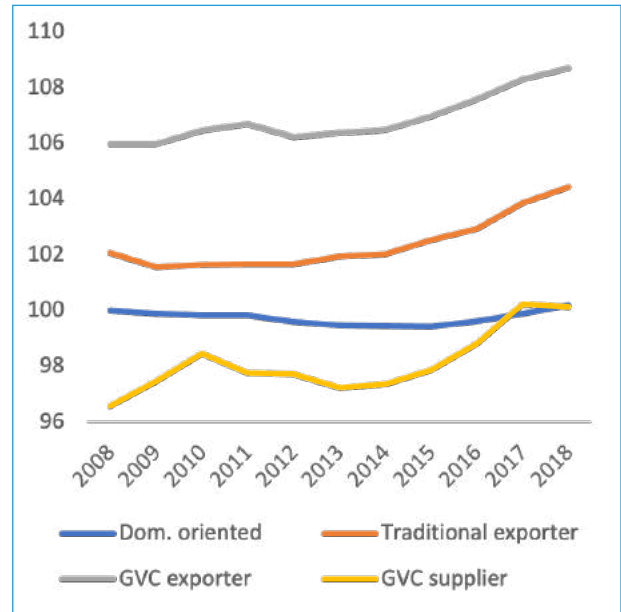
Figure 3.10: Labor productivity is double that of other firms...



Source: World Bank Staff estimates based on Enterprise Information System data

Note: Labor productivity measured as value-added in constant prices per FTE worker.

Figure 3.11: ...and total factor productivity is also higher



Note: TFP measured as the residual of an estimated production function as described in the annex.

GVC firms are not more productive because of the sectors they are in; their productivity is explained by firm characteristics and the fact they are part of GVCs. The vast majority of GVC exporting firms are manufacturers, while other types of firms have a higher representation in service sectors. Could it be that GVC firms seem to be more productive just because they are more heavily concentrated in certain, higher-productivity sectors? Comparing the productivity of GVC and non-GVC firms in the same sectors helps to answer this question. In fact, the productivity premium of GVC firms compared to domestically-oriented firms is higher in retail and trade than in manufacturing (Figure 3.12), whereby GVC exporters in both manufacturing and services are more productive. Looking at the manufacturing sub-sectors, GVC firms are strongly represented in higher productivity sub-sectors such as electricals, automobiles, and machinery. However, in all but one (pharmaceuticals) manufacturing sub-sector, GVC exporters are more productive within sectors, and the productivity premium is generally the highest in sectors where they constitute the largest share of the market (Figure 3.13).

Figure 3.12: GVC firms are associated with productivity premia in both services...

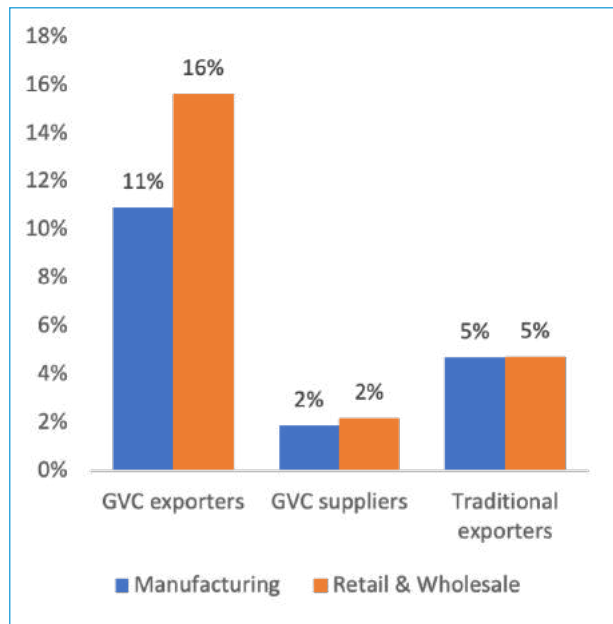
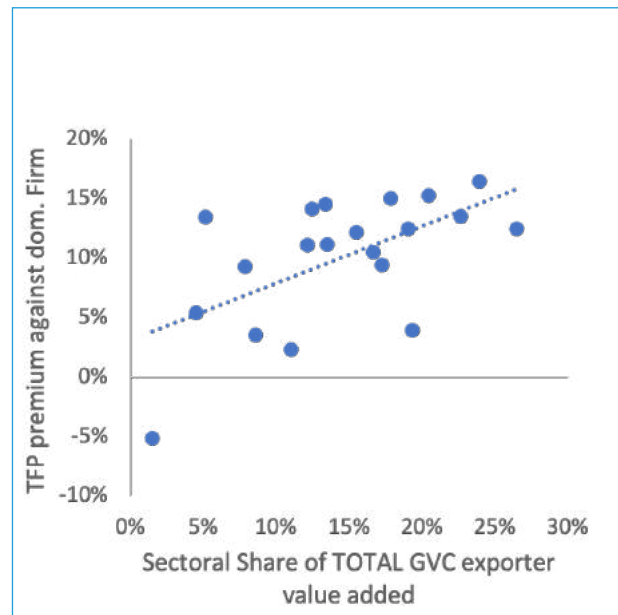


Figure 3.13: ...and manufacturing sectors



Sources: World Bank Staff estimates based on Enterprise Information System data

Notes: Pharmaceutical manufacturing is the only manufacturing sub-sector where domestically-oriented firms have a higher TFP than GVC exporters. However, excluding it does not substantially change the relationship presented in the figure.

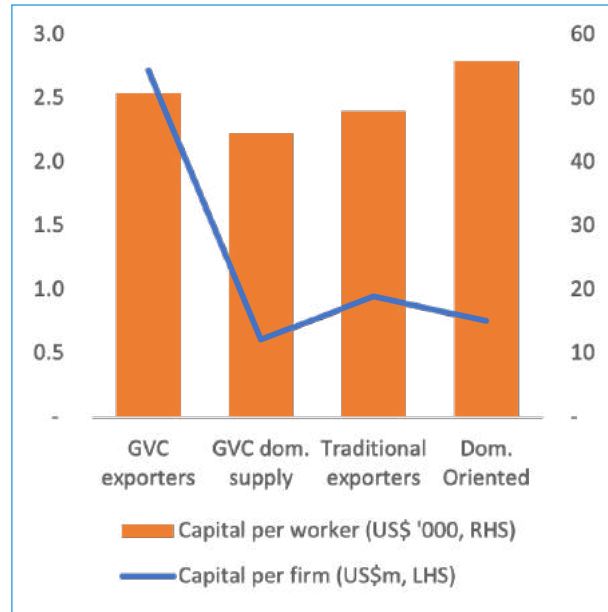
Domestic GVC suppliers have seen the greatest productivity gains. Domestic suppliers of GVCs, compared to domestically oriented firms, have around 35 percent higher labor productivity as of the end of the period. Their labor productivity relative to other firms, like GVC exporters, has also been growing quickly over the period. Unlike GVC exporters, though, domestic suppliers of GVCs do not have higher total factor productivity, on average, than domestically oriented firms. Their TFP is approximately the same, although it is noteworthy that this has improved considerably over the past decade, at the beginning of which their TFP levels were 5 percent lower.

What makes GVC firms different?

GVC firms are skill, import, and innovation-intensive

GVC firms use capital more efficiently than other firms in Turkey. While GVC exporting firms easily have the largest capital stock on average of any type of firm (over US\$2.5m per firm, compared to less than US\$1.0m for other firm types), this is because they are much larger in scale. In fact, the amount of capital invested per worker is only slightly higher than that of traditional exporters and GVC suppliers, and in fact, is 10 percent lower than domestically oriented firms (Figure 3.14). This confirms that GVC firms’ much higher labor productivity, as shown in Figure 3.10 is not just driven by higher capital, as also indicated in Figure 3.11, but that firms use both labor and capital more efficiently to produce value.

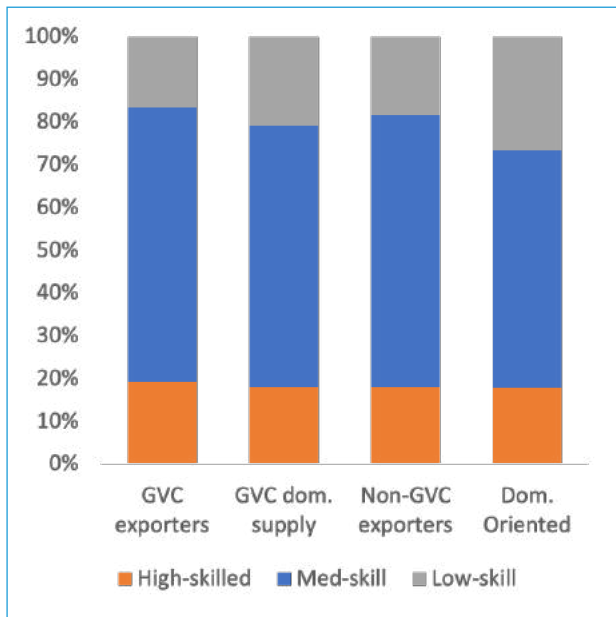
Figure 3.14: GVC firm capital intensity is not markedly higher than others



Sources: World Bank Staff estimates based on Enterprise Information System data

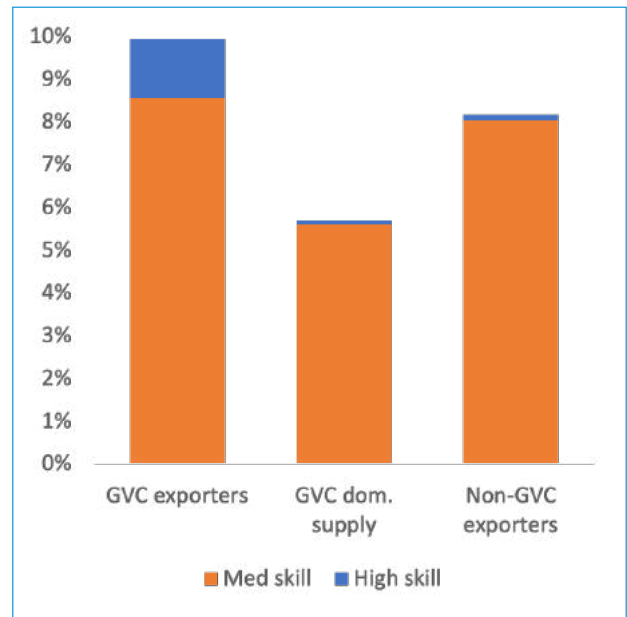
GVC firms are more skill-intensive than any other type of firm. Relative to domestically oriented firms, all other firms tend to have a higher proportion of mid-level skills (Figure 3.16), with GVC firms having an 8-percentage point higher share of ‘skilled’ workers. However, only GVC exporters also have a substantially greater proportion of highly skilled employees – 19.2 percent compared to 17.8 percent of all employment (Figure 3.15) - meaning that overall, GVC exporters are far more skill-intensive.

Figure 3.15: But they rely more on skills



Source: World Bank Staff estimates based on Enterprise Information System data

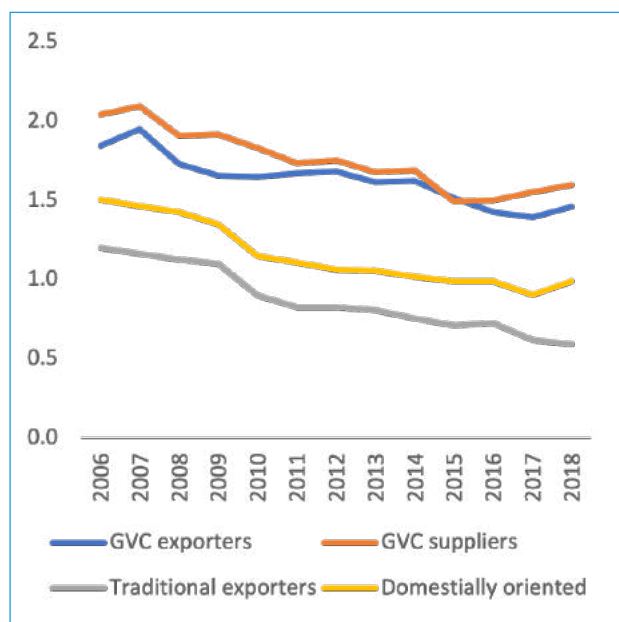
Figure 3.16: And are the most skill-intensive firm type



GVC firms are highly reliant on globally sourced inputs. As inherent in the nature of GVCs, both exporting and domestically linked GVC firms use intermediate imports intensively. GVC firms rely on globally sourced inputs to attain the highest-quality and best value inputs worldwide to be competitive in a global market. While such products may be available domestically, the complexity of products such as automobiles and electronics, and laws of comparative advantage, mean that it will be most efficient to source many goods from other countries. GVC exporters’ business is imported-input intensive, and for every dollar of value-added they produce, they use 1.2 dollars of imported inputs (Figure 3.17). Domestic GVC suppliers also have a high ratio of imported inputs to value-added, of around 0.8. As we have seen, this high intensity of intermediate imports goes hand-in-hand with higher productivity and domestic value-added. While all firms have seen a gradual decline in import intensity, GVC linked firms have remained notably more import intensive.

GVC exporters have far more innovation outputs per firm than most other types of firms. GVC exporting firms have, by orders of magnitude, the largest number of designs and patents per firm (Figure 3.18). Traditional exporters also have relatively high levels of innovation outputs; their average number of models per firm is not much lower than GVC firms, but on all other counts, their innovation outputs are much below GVC firms. Firms that supply GVC exporters have far fewer innovation outputs than both types of exporters and are broadly on par with domestically oriented firms. GVC firms also have the largest range of trademarks. These dramatic differences suggest that a considerable amount of the higher value-added and productivity from GVC exporting firms may be derived from their much greater levels of intellectual capital.

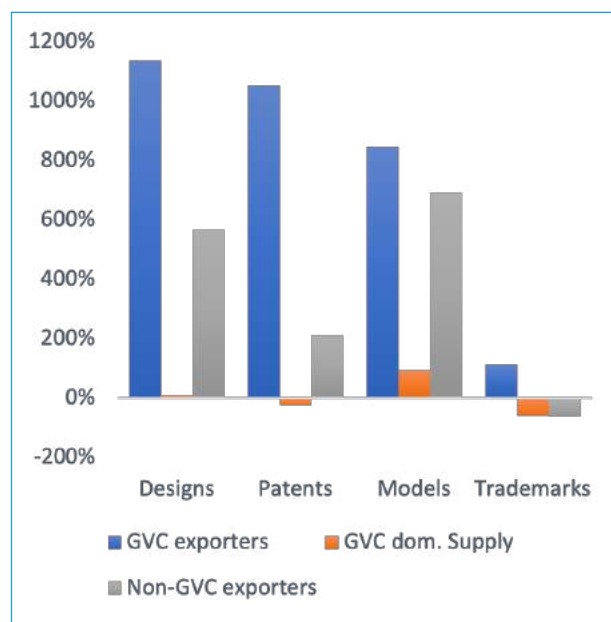
Figure 3.17: GVC firms are more import intensive



Source: World Bank Staff estimates based on Enterprise Information System data

Notes: Imports of goods and services

Figure 3.18: GVC exporters have more intellectual property



Notes: “Designs” is the number of industrial design applications; “models” is the number of utility models; “trademarks”, also known as “brands” and “patents,” are aligned with the International Patent Classification system.

GVC exporters pay far higher wages at all skill levels

Figure 3.19: GVC firms pay large wage premia...

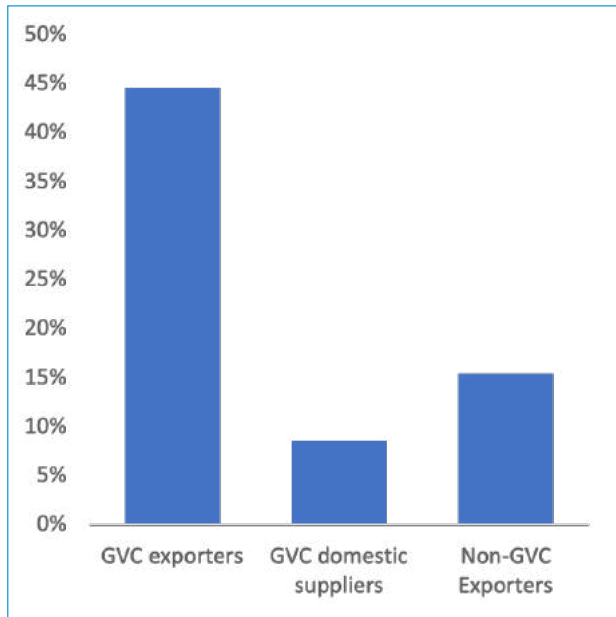
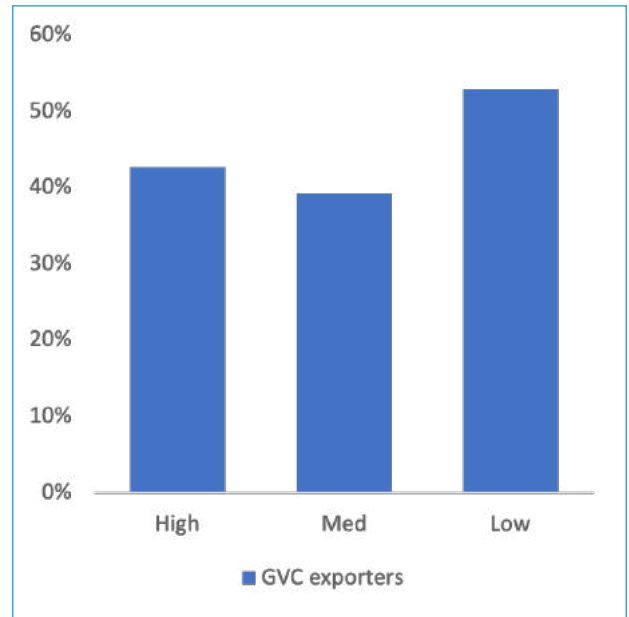


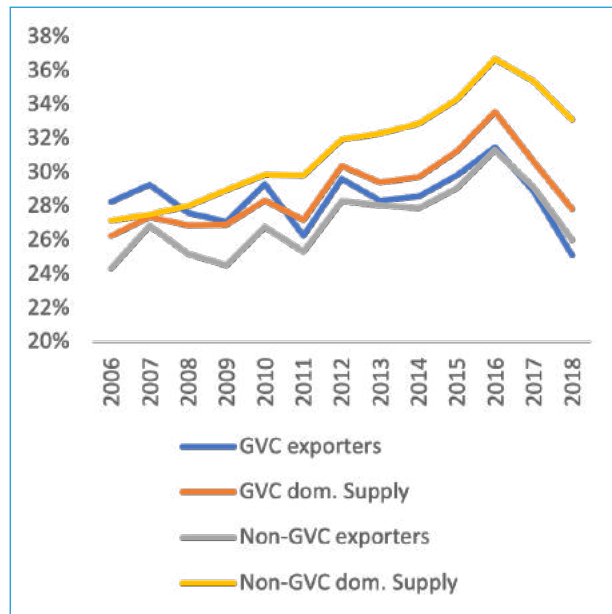
Figure 3.20: ...at all skill levels



Source: World Bank Staff estimates based on Enterprise Information System data

GVC firms offer much higher wages across all skills levels. GVC firms offer a dramatically higher wage, on a full-time equivalent (FTE) basis, nearly 50 percent above the average wage in domestically-oriented firms and also a good deal higher than wages in other non-GVC exporting firms (Figure 3.19). This difference is also not driven by their higher skills composition, and in fact, employees of all skills levels earn more, with the lowest-skill workers in GVC firms benefiting from the largest premium compared to wages for equivalent skills in the domestic sector (Figure 3.20).

Figure 3.21: GVC firms' wages are nevertheless small relative to output



Source: World Bank Staff estimates based on Enterprise Information System data

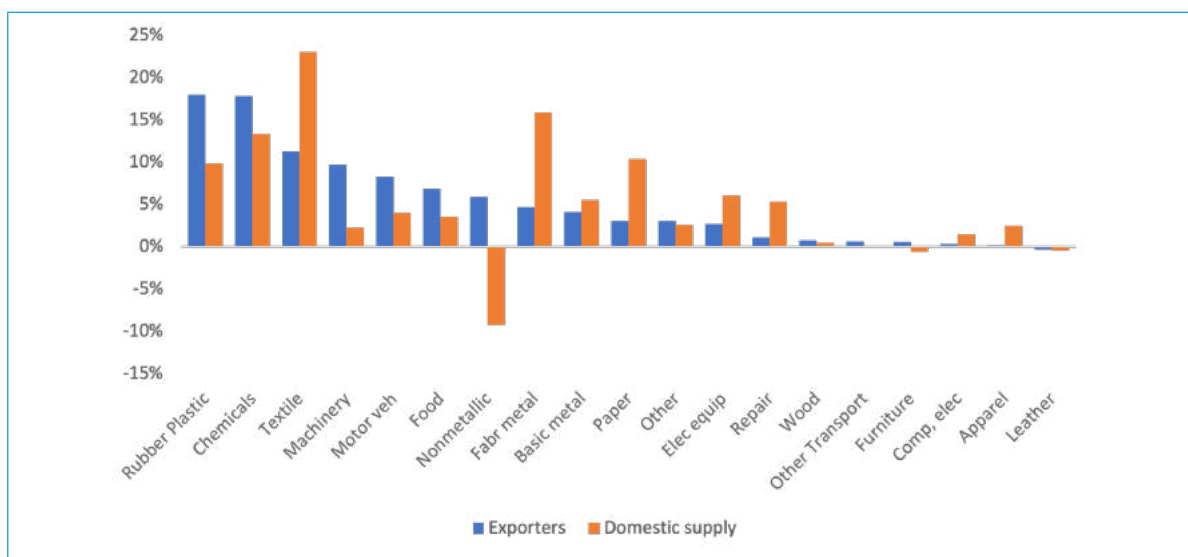
GVC firms’ productivity means that despite higher wages and lower capital intensity, their workers are still more cost-competitive. As we have seen, GVC firms pay workers close to 50 percent more than domestically oriented firms and also rely on less capital per worker. Even so, the high productivity of these workers means that the unit wage of GVC firms – or the wage cost per unit of output produced is the lowest amongst all firm types (Figure 3.21). The ability for GVC firms to pay workers more and have them cost the firm less on an output-adjusted basis is the basis of these firms’ productivity and competitiveness.

How has the landscape been changing in Turkey?

GVC activity has been growing, led by a few big manufacturing sectors

GVC growth has been driven by a few large manufacturing sub-sectors. The population of GVC firms has been growing in Turkey – there are about 60 percent more GVC exporters and double the number of domestic suppliers than there were in 2006. This has led to the value-added of GVC firms doubling over the period – approximately the same rate of growth as that of domestically-oriented firms. Two-thirds of the growth of GVC exporter value-added in manufacturing has come from five big sectors (Figure 3.22): Rubber and plastics (18 percent); chemicals (18 percent); textiles (11 percent); machinery (10 percent), and motor vehicle (8 percent). Textiles, chemicals, and rubber, and plastics were in the top five growing manufacturing sectors for GVC domestic suppliers, but they also saw a large share of growth in the fabricated metals (16 percent) and paper (10 percent) sectors.

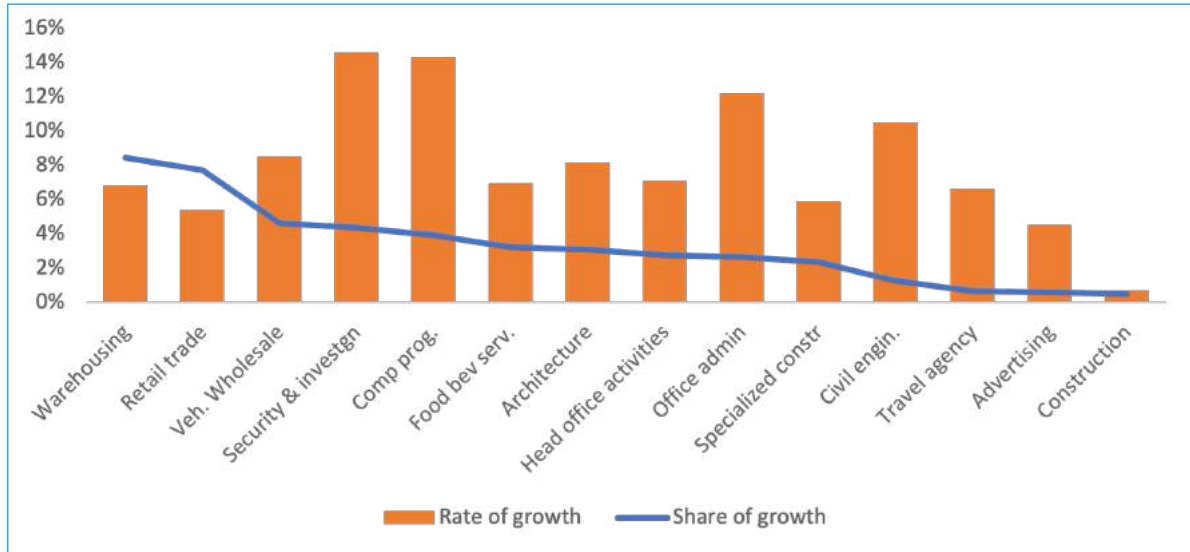
Figure 3.22: Growth across a range of manufacturing sectors



Source: World Bank Staff estimates based on Enterprise Information System data

Certain service sectors are growing rapidly as suppliers of GVC. While wholesale trade continues to be the largest contributor to growth (54 percent) of GVC domestic suppliers, a range of other sectors are growing rapidly (Figure 3.23). One of the fastest-growing sub-sectors as a supplier to GVCs is computer programming, which grew at an annualized rate of over 14 percent a year and accounted for 4 percent of total growth. Security and investigation services, office administration, and civil engineering also grew rapidly, although, for most, the base was very small.

Figure 3.23: Certain GVC service suppliers have been growing rapidly

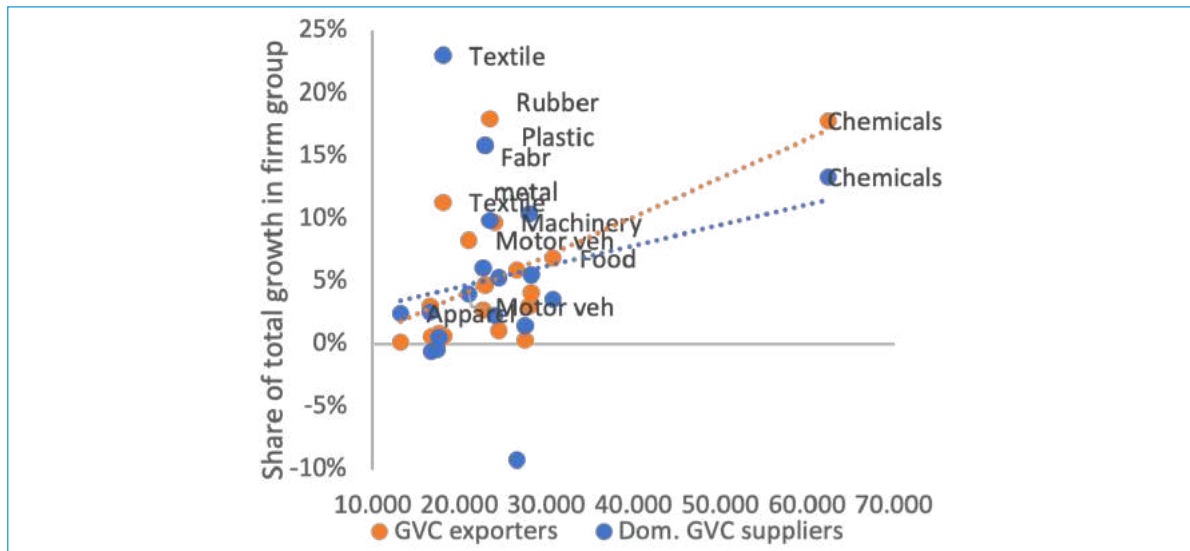


Source: World Bank Staff estimates based on Enterprise Information System data

Notes: Wholesale trade, not included in the figure, has a 54 percent share of growth and grew at an annual average rate of 7.3 percent.

GVC growth has been positively biased towards more productive sectors. GVC growth has been biased towards sectors of greater productivity – both based on labor productivity and TFP (Figure 3.24 and Figure 3.26), which has not been the case for other firms (Figure 3.25). For GVC exporters, this trend is most marked, with some of the most productive sectors – chemicals and rubber and plastic – seeing the strongest growth. Amongst domestic GVC suppliers, although weaker, there is still a trend towards growth in more productive sectors, although sectors that are labor-intensive and less productive – notably textiles – grew strongly as well.

Figure 3.24: Higher productivity GVC sectors growing faster



Sources: World Bank Staff estimates based on Enterprise Information System data

Notes: Labor productivity measured as value-added (current US\$) per FTE worker

Figure 3.25: But the same cannot be said for non-GVC sectors

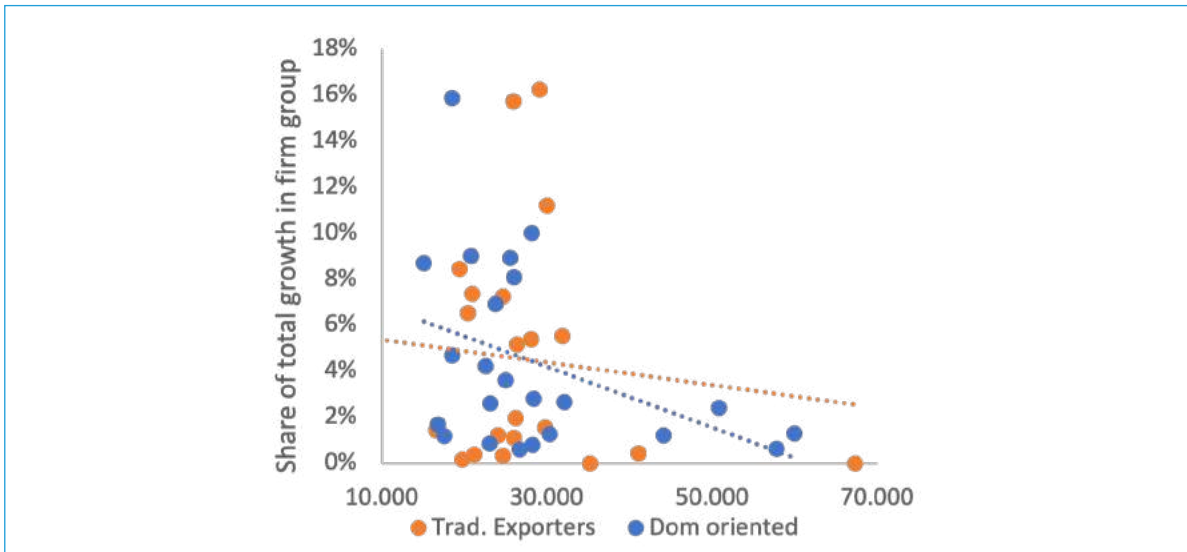
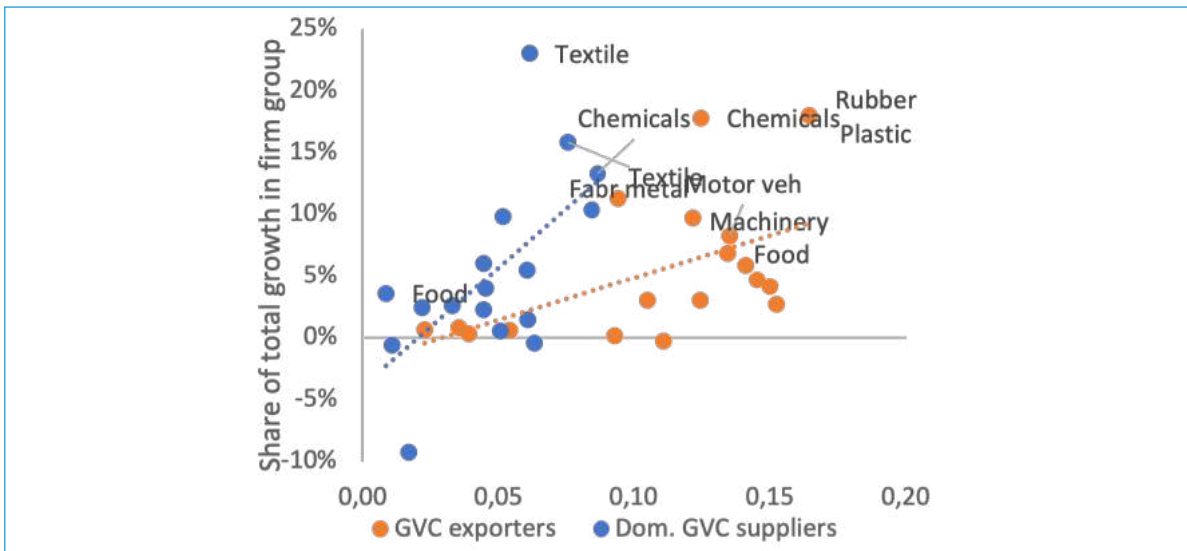


Figure 3.26: And GVC sectors with higher TFP INSERT "are" also growing faster



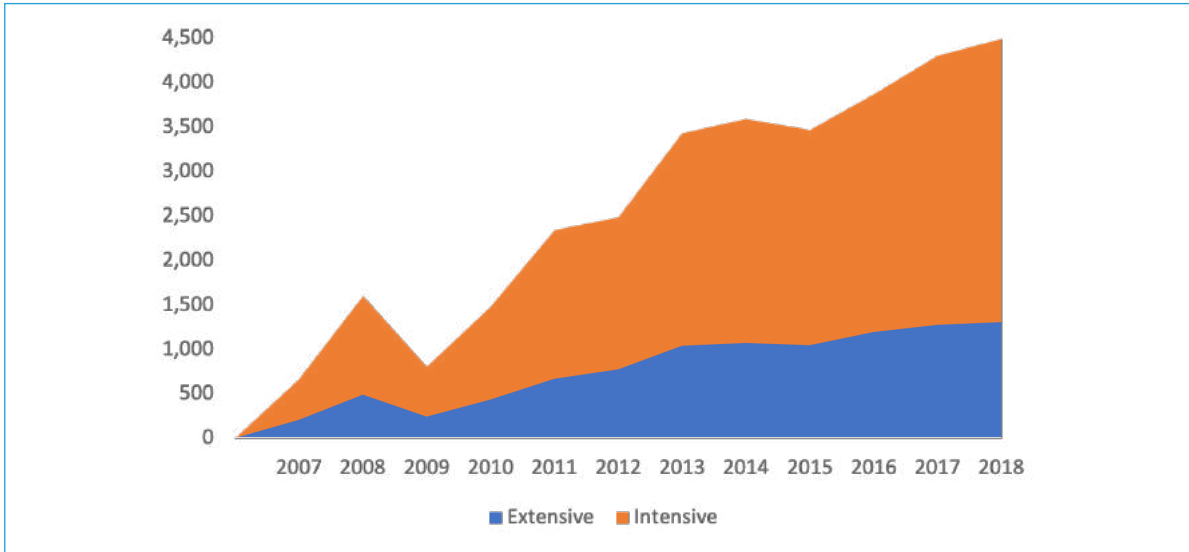
Sources: World Bank Staff estimates based on Enterprise Information System data

Note: TFP measured as the residual of an estimated production function as described in footnote Error! Bookmark not defined..

GVC growth is split between incumbents and new entrants

Most growth is derived from existing GVC firms, but there is a notable margin from new entrants. A relatively stable share of 70 percent of new value-added created from GVCs came from firms already part of GVCs at the start of the period (Figure 3.27). However, there was still a substantial margin arising from new entrants to GVCs – both exporters and GVC suppliers – showing that there is an element of dynamism in GVCs over the period.

Figure 3.27: Most GVC growth has been from expansion of existing firms

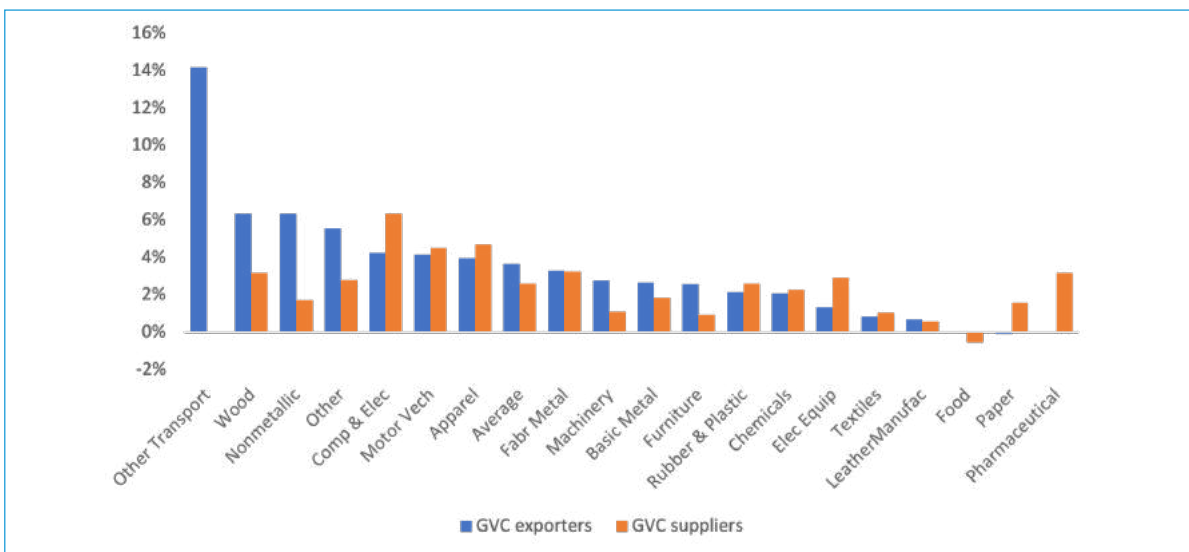


Sources: World Bank Staff estimates based on Enterprise Information System data
Notes: Growth is considered to be 'intensive' if it arises from a firm that was classed as a GVC firm in the previous period and continues to be so, while 'extensive' growth arises from a firm that is newly classified as a GVC firm in that year.

In consumer electronics, GVC growth has been associated with employment expansion and, to a lesser extent, TFP gains

Growth in value-added from the GVC sector can arise from intensification of use of factors, increasing within-sector productivity, or inter-sectoral upgrading. The GVC literature sets out various ways by which firms can raise their productivity – by upgrading processes and technology, by upgrading their products, or by upgrading the sector they are in. We use data available to consider whether GVC firms in recent years have been driven by expansion, or such types of upgrading, which are considered as productivity gains together. Inter-sectoral upgrading can also be considered as the productivity change by relative changes in labor allocations between different GVC sectors, and resources as measured by increased use of labor, holding productivity constant.

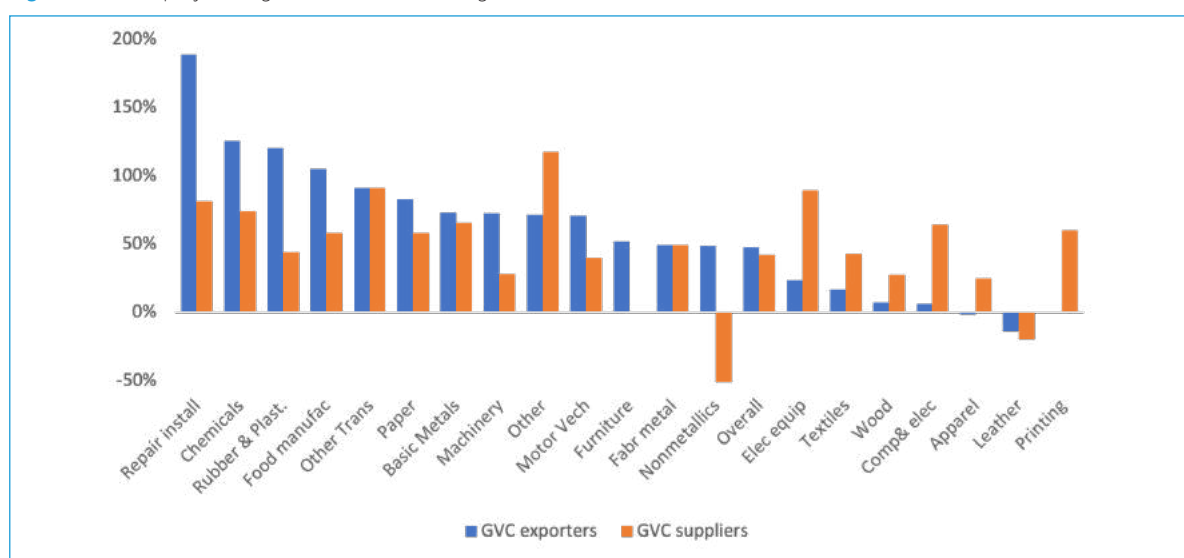
Figure 3.28: Most GVC sectors have seen modest TFP gains



Sources: World Bank Staff estimates based on Enterprise Information System data

Most GVC sectors have seen modest gains in total factor productivity. Averaged over all GVC exporters, TFP has increased by just under 4 percent over the past decade. Some major sectors, namely motor vehicles and other transport, and apparel, performed above average, as did computers and electronics, while TFP growth was relatively weaker in machinery, chemicals, rubber and plastic, and metals (Figure 3.28). Average TFP growth, at 3 percent, was lower for GVC suppliers, with three sectors seeing the strongest productivity growth: Motor vehicles, apparel, and computers, and electronics.

Figure 3.29: Employment growth has been strong

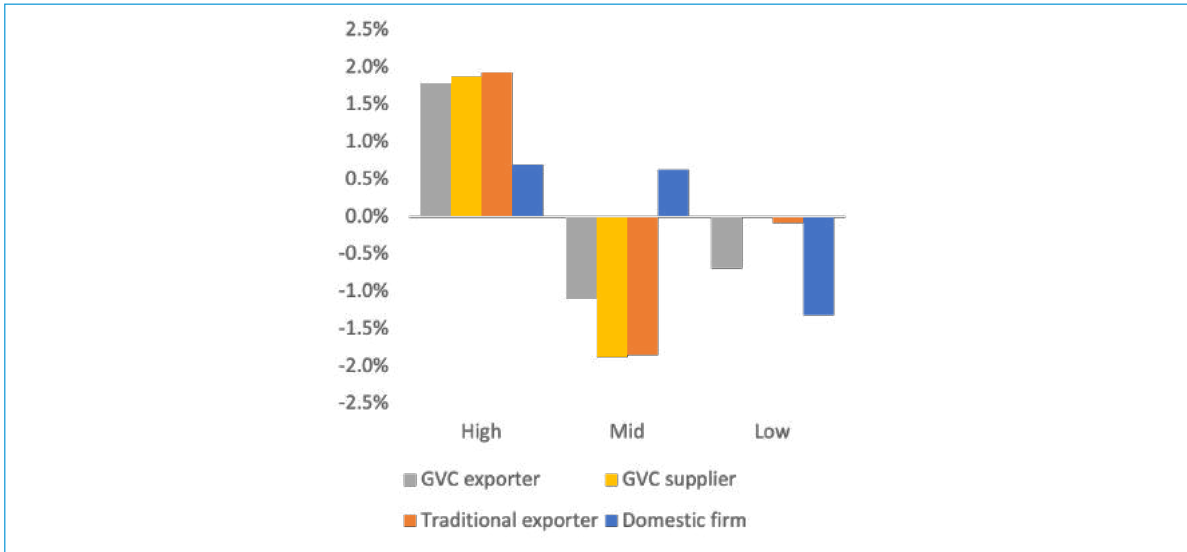


Sources: World Bank Staff estimates based on Enterprise Information System data

The bulk of GVC growth has been driven by employment expansion. As noted above, GVC exporters and GVC suppliers have seen strong employment growth, and this has been across a broad range of sectors (Figure 3.29). Major sectors that have seen relatively low growth are textiles and apparel, while employment in the GVC leather sector has declined. Considering the period from 2014, for which we have data on the skill level of employees, high skill employment has been growing the most rapidly for all firm types, but especially for internationally linked firms (Figure 3.30). This reflects a broader global trend towards an increase in skills intensity over the period. For domestically oriented firms, employment growth has been more balanced between high and mid-level skills.

Capital per worker has fallen. Capital per worker, measured in constant price US dollars, has fallen for all firm types since 2013. For GVC exporters, capital per worker, which stood at US\$60,000 in 2013 (2006 constant prices), had declined to US\$35,000 by 2018. Over the same period, total capital in the GVC exporter sector rose by nearly 50 percent and by 5 percent on average per firm. GVC suppliers saw even greater overall capita growth, of 120 percent and 25 percent per firm. Nevertheless, employment growth outstripped this growth, leading to a decline in capital per worker.

Figure 3.30: All firm types have increased their high-skill share of jobs



Sources: World Bank Staff estimates based on Enterprise Information System data

A fall in capital intensity per worker is associated with lower productivity growth for GVC exporters. Using the increase in the labor share of income as a proxy for labor intensity, we note that most GVC sectors have seen an increase in labor intensity over the period. For GVC exporters, this has been associated with weaker productivity growth (both labor and total factor), as shown in Figure 3.31 and Figure 3.32. For GVC suppliers, there is no such apparent relationship. There may be several reasons for such a relationship. However, GVC exporting firms have, as we have seen, very high levels of productivity. These productivity premia are related to technological advancements embedded in capital and highly effective managerial and institutional management of firms, in addition to intellectual capital and skills. It is possible that by increasing the labor intensity of GVC functions, the productivity effects per worker become somewhat diluted – for instance, workers may have less intensive use of technology and rely more on less productive, labor-intensive functions. In any case, it should be noted that the small decline in productivity per worker is far less important than the large increase in productivity that arises from workers entering the GVC sector.

Figure 3.31: Rising labor intensity associated with weaker labor productivity growth for GVC exporters

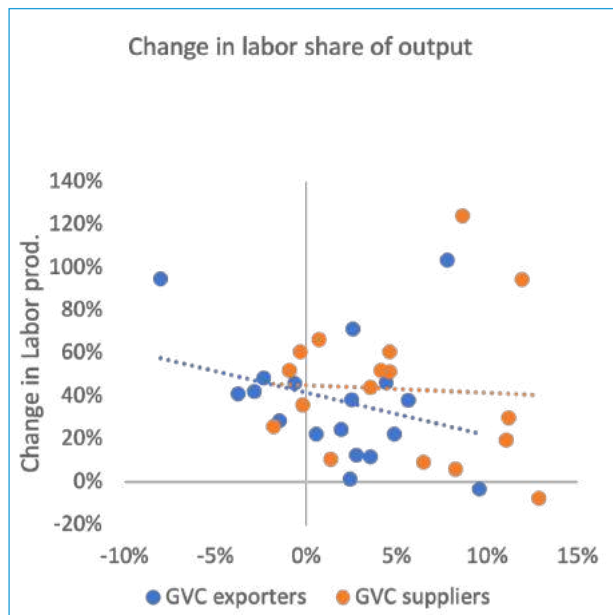
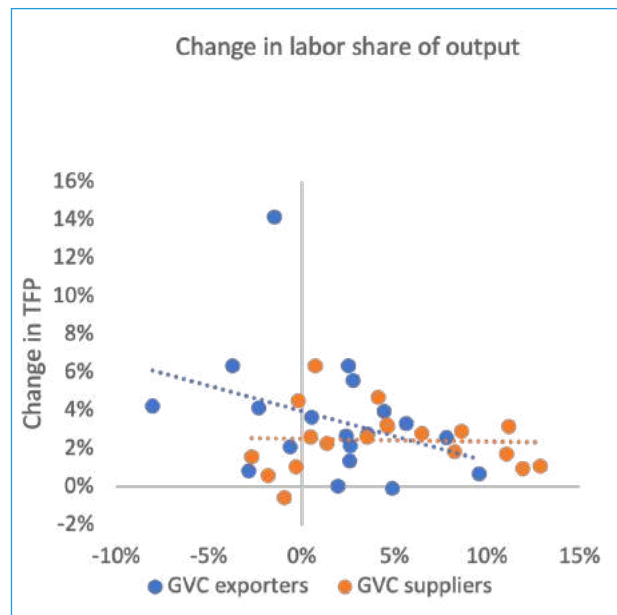


Figure 3.32: ...and falling TFP growth



Sources: World Bank Staff estimates based on Enterprise Information System data

An income growth decomposition shows that most growth can be attributed to labor expansion. We have seen that GVC exporters employ workers much more productively and, as a result, offer them higher wages. Over the past decade, the increase in labor has been what has driven all growth amongst GVC firms. This has dominated other possible sources of growth, such as from labor moving from one GVC sector to another to a more productive one or from labor productivity growth in GVC firms. These results are similar for both GVC exporters and GVC suppliers. This result points to the comparative advantage that Turkey has been enjoying in GVCs. By deploying more workers, GVC firms can expand their production and compete globally.

What happens to firms when they join GVCs?

Non-GVC exporters and GVC domestic suppliers are considerably more likely to become GVC exporters than domestically oriented firms. Over the past thirteen years, there has been significant movement of domestic firms transitioning into GVCs. Since they are already exposed to international markets, it is not surprising that the most common transition is for traditional exporters to become GVC exporters, with nearly 3 percent of exporters making this jump each year (Figure 3.33). However, while less frequent, domestic suppliers to GVC firms have also seen upward mobility, with 0.75 percent of this relatively larger group of firms becoming GVC exporters each year. They are more than four times more likely to become a GVC exporter than a firm that has hitherto been focused mainly on domestic markets. Domestically oriented firms do, however, have a relatively high chance of becoming a GVC supplier, with 1.5 percent of these firms transitioning into this role, which then puts them in a better position to move into a GVC exporting position in future.

Figure 3.33: Existing exporters most likely to become GVC exporters

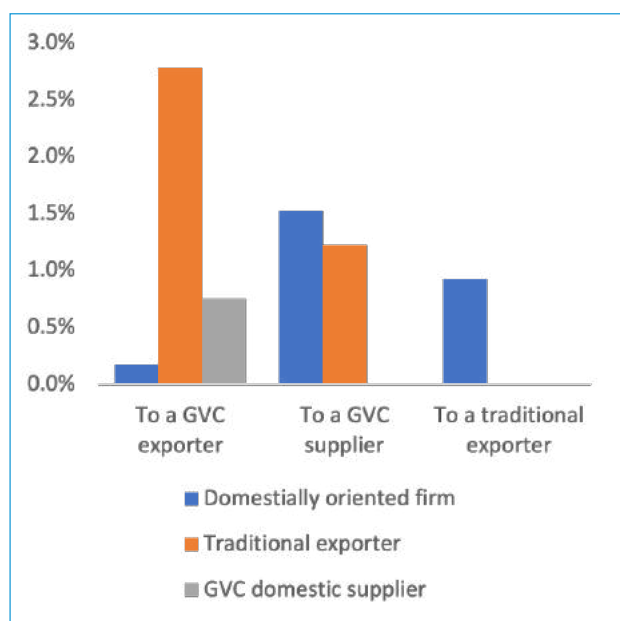
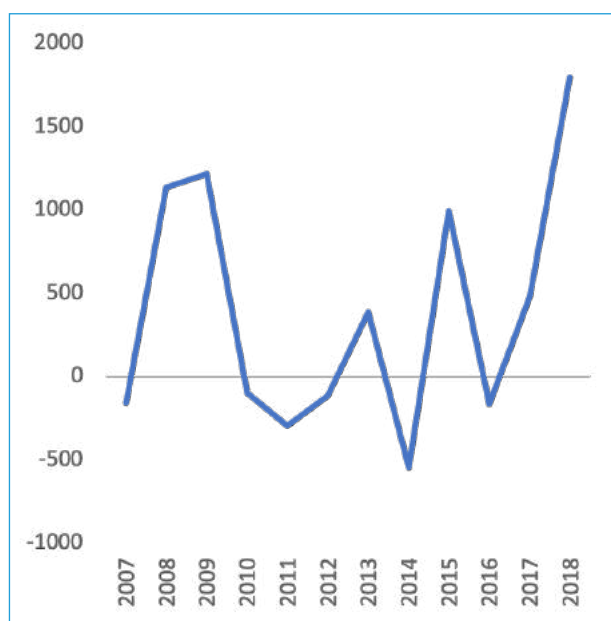


Figure 3.34: New GVC firm entries have increased in recent years



Sources: World Bank Staff estimates based on Enterprise Information System data

Notes: Figure presents the probability of upward transitions based on observed transitions between 2006 to 2018

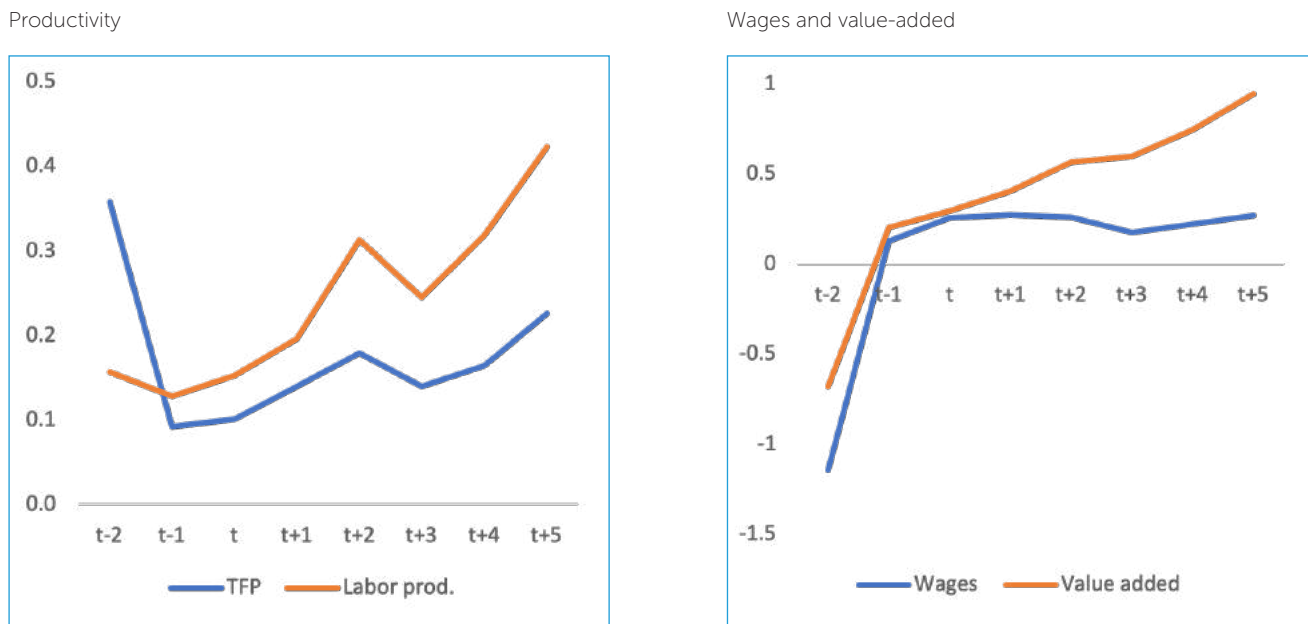
Econometric analysis can shed light on the impact of firms joining GVCs on productivity (both labor and total factor), value-added, and wages. The annex to this chapter describes an econometric event study in which we consider the impact on firms' metrics of joining GVCs, with results summarized in Figure 3.35. There is evidence of impacts of GVC transformation beginning in $t-1$ and $t-2$, which, as discussed below, are likely to be related to the transformation itself. Other than that, productivity levels are not systematically different from comparators before the transformation. Wages and value-added, on the other hand, are lower than comparator firms before the transformation, which also does not support the case that firms that are already larger are more likely to become GVC firms. The reason why firms tend to be smaller is not evident, but it may be related to the fact that such firms are more likely to be specialized, and therefore more focused on, specific inputs required by GVCs, whereas comparator firms which serve domestic markets may be more diversified and larger.

The results show that firms that join GVCs have significantly higher and increasing productivity. Firms that join GVCs already have higher productivity than other firms before joining, and after joining, there is evidence that productivity rises. In the case of TFP, it spikes two years before the transformation and remains higher even five years after the change. Labor productivity follows a smoother trend of increasing over time as the firm is part of a GVC. These findings are similar to the 2019 Productivity CEM, which found that exporters are more productive in the first place, but that their productivity further increases after entering the export market (World Bank Group, 2019).

There are large-scale effects. Based on both value-added and wages, firms that join GVCs experience a very sharp increase one year prior to becoming labeled as a GVC firm. Firms that join GVCs begin with lower value-added and wages than comparator firms, but they experience a sharp increase in both just before joining. While wages remain similar over time as the firm remains in a GVCs, in line with labor productivity trends, value-added continues to increase.

Pre-event effects may be driven by a combination of endogenous firm selection and GVC indicator definition. These results clearly show that there is a sharp change in firms joining GVCs, but that it begins one to two years before the changed status is captured in the data. This is in line with literature such as the Melitz (Melitz, 2003) model, which shows that productivity change happens before exporting because a threshold level of productivity is necessary to become an exporter, and this result may also apply to a threshold level of productivity necessary to join GVCs. There may also be factors related to the measurement of firm-level GVC participation that means that the indicator slightly lags a firm's real transition date. Firms that achieve GVC status, which is measured as substantial export or domestic supply to GVCs, will need to have already scaled up their production to meet that goal and may have been planning for such a change for some time. Therefore, scale-up starting the year before is likely driven by the lag between production commencing and sales, while productivity effects starting in $t-2$ may be related to other factors playing a role in enabling this change. For instance, firms may reach agreements with GVC lead firms in advance, which may help them gain advantageous capacity, technology, or management capacities.

Figure 3.35: Transition profiles of firms entering GVCs



Sources: World Bank Staff estimates based on Enterprise Information System data

Notes: Figures present the coefficient estimates from the event-study. Event is demonstrated as the first-time global value chain transformation of traditionally exporting and domestic firms. Regressions include firm and 4-digit industry x year fixed effects.

Conclusion

Firm-level data confirms that GVC firms are productivity leaders and large employers. New firm-level analysis shows that firms that export and import intensively, meeting the definitions of GVC participation, are large, employing more than four times the number of employees of a typical domestic firm and more than double that of non-GVC exporters. These GVC firms also have much higher labor and total factor productivity than other firms. GVC firms also rely more on skilled and highly skilled workers.

Because of their higher productivity, GVC firms pay much higher wages to workers at all levels. Firm-level analysis reveals a stark difference in average wage levels between GVC and other firms. The average wage at GVC firms is 45 percent higher than for domestic firms and higher than non-GVC exporters. This wage premium is not driven by different composition of skills: GVC firms pay at least 40 percent more across all broad skill groupings of workers: low skilled, skilled, and highly skilled.

GVCs extend beyond the lead firm, and domestic supply chains have been expanding. Although GVC exporters have a significant level of intermediate imports, they also source goods and services domestically and have increasingly done so over the recent decade. On average, there are now 3.6 domestic firms for every GVC exporter that depend on GVCs for a large share of their turnover, up from 2.8 in 2006.

The firm-level analysis confirms that GVC firms are of high value to Turkey, and policy should aim to relax constraints on their growth. While the GVC sector has grown in recent years, it remains small relative to the domestic sector, and the latter has grown more rapidly over the past decade. Further growth of GVC firms, whether by international firms locating in Turkey, domestic firms internationalizing, expansion of existing firms, or further growth of domestic linkages, will be effective in creating high-productivity, well-paid employment. The challenge for policymakers is to address constraints that may be holding back such growth, which is the topic of the rest of this report.

Annex: Econometric estimation of the impact of GVC transition on firms

The descriptive analysis of GVC firms in Turkey has shown that they are markedly different from other firms, with higher productivity in the case of GVC exporters and rising productivity for domestic suppliers of GVCs. Other analytical methods can help inform us about the effect joining a GVC has on a firm. Are firms that join GVCs already more productive, or do they become more productive after joining? In order to better understand the effect on a firm of joining a GVC, we carried out an estimation of the premia associated with it while controlling for possible selection bias, i.e., that higher-performing firms, to begin with, are more likely to join GVCs. This analysis is based on an event-study design:

$$y_{i,t,h} = \alpha_i + \theta_{h,t} + \sum_{\tau=-5}^{\tau=5} \beta_{\tau} \text{GVCtransformation}_{i,h,t} + \epsilon_{i,t}$$

where $y_{i,t,h}$ is the variable of interest for firm i at the year t , α_i is the firm fixed-effect, $\theta_{h,t}$ is the 4-digit industry h year t fixed-effect, $\text{GVCtransformation}_{i,h,t}$ is the event-time dummy, which takes value 1 when firm i joins a GVC in year t . This variable captures transformations of any firm that is not a GVC exporter or supplier becoming one. τ takes the value of 0 in the year of the transformation and is in the range $[-5,5]$. $\epsilon_{i,t}$ is the error term.

The sample covers firms that transform into GVCs, both as exporters and domestic suppliers, for the first time during the period covered, and firms that were never part of GVCs between 2006 and 2018. The sample excludes firms that are classified as GVCs at the beginning of the estimation period. As a result, firms joining GVCs are compared with non-GVC firms operating in the same four-digit industrial sector. This provides a basis for understanding the extent to which differentials in variables of interest are explained by the transformation event, with β_{τ} showing the effect.

Table 3.1: Regression results: Impacts of GVC entry

	Log TFP (1)	Log Wages (2)	Log Value Added (3)	Log Labor Prod. (4)
5 years before event	0.360 (0.286)	-1.012*** (0.000)	-0.706*** (0.000)	0.08755 (0.518)
4 years before event	0.443 (0.189)	-1.088*** (0.000)	-0.712*** (0.000)	0.0768 (0.513)
3 years before event	0.103 (0.591)	-1.058*** (0.000)	-0.713*** (0.000)	-0.00832 (0.909)
2 years before event	0.358** (0.001)	-1.143*** (0.000)	-0.679*** (0.000)	0.157** (0.002)
1 year before event	0.0926*** (0.000)	0.127*** (0.000)	0.203*** (0.000)	0.128*** (0.000)
Year of Event	0.101*** (0.000)	0.258*** (0.000)	0.296*** (0.000)	0.153*** (0.000)
1 year after event	0.140*** (0.000)	0.273*** (0.000)	0.405*** (0.000)	0.196*** (0.000)
2 year after event	0.179*** (0.000)	0.260*** (0.000)	0.567*** (0.000)	0.313*** (0.000)
3 year after event	0.140*** (0.000)	0.176*** (0.000)	0.599*** (0.000)	0.245*** (0.000)
4 year after event	0.164*** (0.000)	0.222*** (0.000)	0.745*** (0.000)	0.318*** (0.000)
5 year after event	0.226*** (0.000)	0.270*** (0.000)	0.943*** (0.000)	0.423*** (0.000)
Firm FE	Yes	Yes	Yes	Yes
Industry-Year FE	Yes	Yes	Yes	Yes
Obs.	2192226	4453039	4343904	4343904
Adjusted R-Squared	0.156	0.107	0.131	0.081

Notes: This table presents the results of the GVC event-study specification for the dependent variables as the logarithm of total factor productivity, the logarithm of total wages paid by the firm, the logarithm of value-added, and the logarithm of labor productivity. The event is defined as the firm's first-time classification as a GVC. The specification includes firm and four-digit NACE x year fixed effects. Regressions specified in columns include first-time GVCs and the domestic firms that were never classified as GVCs between 2006 and 2018. These regressions do not include those that have been classified as GVCs at the beginning of the estimation period. p-values reported in the parentheses, *, **, and *** denote the significance of the coefficients at 10%, 5%, and 1%, respectively.

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Chapter 4

Shrinking the world, growing the market

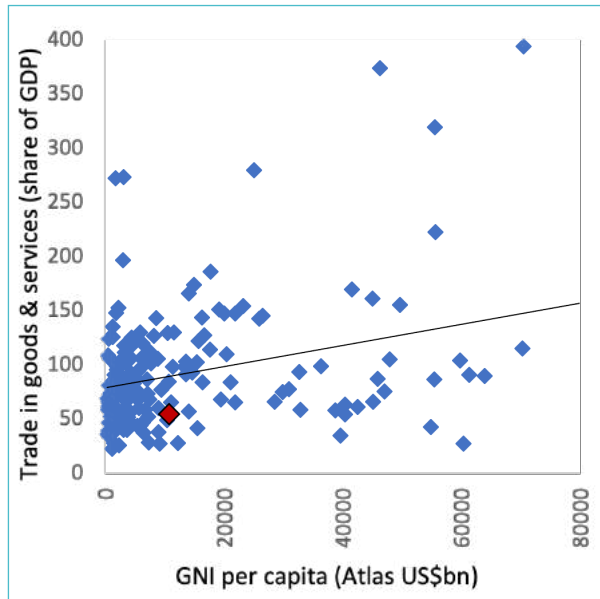


- Turkey has a high potential for exports and GVCs.
- Even though it has sizable exports, it is not making full use of that potential.
- To facilitate GVC growth, Turkey needs to improve market access and increase integration with major partners such as the EU, especially by reducing barriers to trade in services.

Turkey has significant potential to intensify trade through GVCs

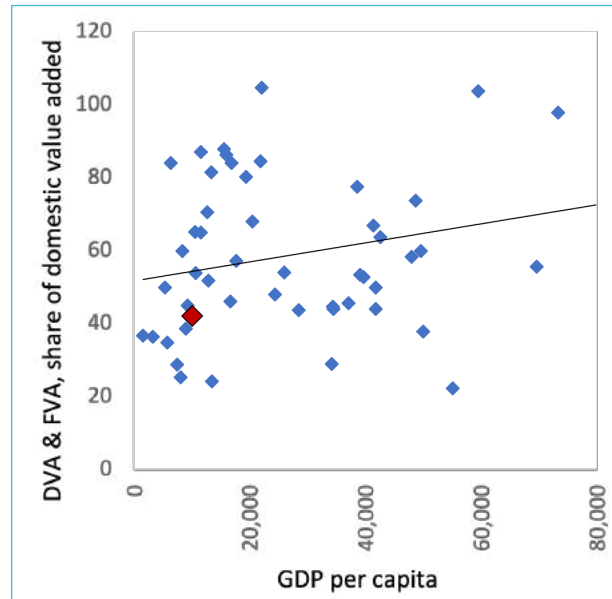
While Turkey is a large country, and in absolute terms, its trade flows are significant, it nevertheless trades less both overall and along GVCs, than countries of a similar income level. Trade openness, measured as the sum of gross exports and imports of goods and services, is one broad metric of how effectively a country engages with external markets. Turkey’s openness has averaged 54 percent of GDP in recent years, which is significantly below the level that would be predicted based on its per capital income level (Figure 4.1). The same is true when looking at value-added GVC flows amongst the group of OECD countries (Figure 4.2). Here, the sum of forwards and backwards participation amounts to just over 40 percent of GDP, which is, again, considerably lower than predicted based on income levels amongst this group of comparator countries.

Figure 4.1: Trade openness and incomes per capita



Source: World Bank WDI, 2015-19 averages

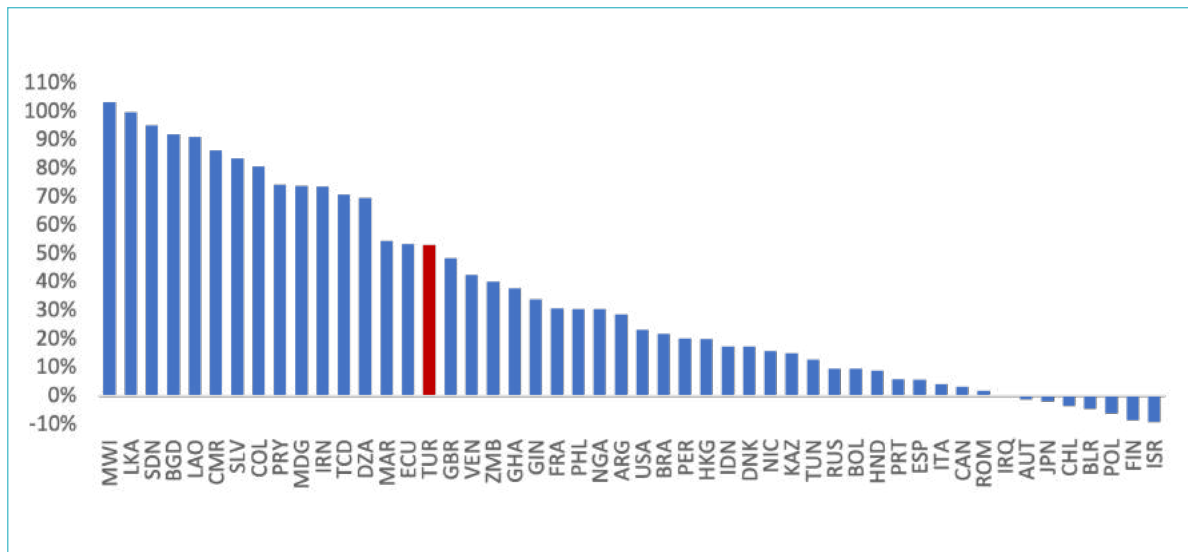
Figure 4.2: GVC intensity and incomes per capita



Source: OECD TIVA, 2015

Technical analysis shows Turkey’s merchandise exports are estimated to have been around 50 percent below potential in recent years. Based on a global gravity model using trade data over the period of 2010 to 2017, we estimate Turkey’s export potential, at an aggregate level, with specific partners, and in particular GVC-oriented sectors (for more detail on the methodology, see Box 4.2 or the technical annex to this chapter for full results). The model estimates that Turkey’s exports are around 50 percent below its export potential. This is a similar degree of under-exporting as, for instance, the UK, Venezuela, and Morocco, while many other countries are even further below their potential (Figure 4.3).

Figure 4.3: Export potential for countries



Source: World Bank staff estimates.

Notes: Interquartile range of estimates (top and bottom 25% of estimates excluded)

Box 4.1: Gravity modelling

The gravity model has become a workhorse tool for empirical analysis of international trade. Such a model has been widely used to estimate the impact of geography and institutions on trade flows since the first application by Tinbergen (1962). In its simplest form, which is derived from the physical gravity equation, trade increases proportionally with the exporter's and importer's economic size and decreases with physical distance. In other words, countries tend to trade more intensively with large and nearby trading partners. Over time several other determinants that impede or promote trade among countries have emerged. These include policy variables such as the presence of trade agreements or historical characteristics such as colonial history that determine bilateral trade frictions.

The gravity model can be used to assess how much each country-pair is expected to be trading based on their observable characteristics. Using information on actual exports and comparing them to predicted flows obtained from a gravity regression can be used to evaluate countries' export performance and to quantify the amount of missing exports. These results should be interpreted with caution as countries' performance depends on which variables are included in the gravity regression. For instance, two countries may have high values of missing trade because of political reasons and were we to include in the model controls for political tension, this missing trade would disappear. In other words, the gravity model provides an empirical benchmark based on the variables that are included in the regression, which assumes that countries behave as the "average" country in the sample.

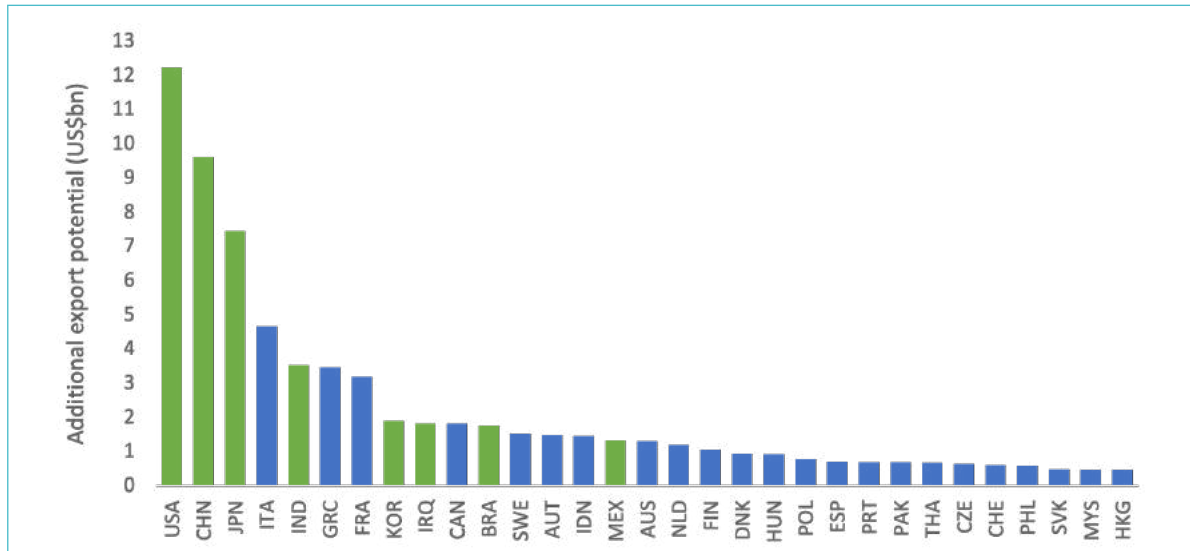
To assess Turkey's export potential, we estimate a gravity equation using data for 105 countries over the 2000-2017 period. Bilateral exports are modeled as a function of exporter's and importer's nominal gross domestic products (GDPs), factor endowments, economic development (GDP per capita), and remoteness indexes. Trade costs are proxied by policy variables such as the level of applied tariff duties and presence of trade agreements in addition to distance and controls for sharing a common border, language, or colonial ties.

The estimates suggest that Turkey is moderately under-exporting relative to other countries. Countries with the highest export potential are Nepal, Burundi, and Rwanda. During the 2010-2017 period, Turkey had on average 12 billion dollars of missing exports to the United States. This missing trade value is 30 percent higher than the current level of Turkish exports to the United States. Other important untapped destination markets are China and Japan, with 10 billion dollars (3 times higher than the current level of exports) and 7 billion (14 times higher than the current level of exports) dollars, respectively. Finally, industry-level results suggest that Turkey has high export potential in the electronics and chemical industries.

Sources: World Bank Staff

There is high potential to increase Turkey’s exports across several countries, many of which are already target markets in government plans. The destinations offering the greatest potential in absolute terms are all countries that are targeted in Turkey’s Export Masterplan – the United States, China, and Japan. Modeling indicates that these three markets offer US\$30bn in potential additional exports (Figure 4.4). There are other countries, both targeted and untargeted, that also have high export potential. Italy, India, Greece and France, South Korea, Iraq, Canada, Brazil, and Sweden all have an export potential greater than US\$1.5 billion. See Box 4.3 for a discussion of trade potential in the context of one country, Canada.

Figure 4.4: Turkey’s export potential by destination market



Source: World Bank Staff estimates.

Notes: All destination markets with potential additional exports of greater than US\$0.5bn, with destination markets targeted in the Export Masterplan are shaded in green. Please refer to the annex for technical details of export potential modeling.

Various targeted and untargeted sectors are shown to have high export potential. The same gravity model is re-estimated on a sectoral basis. This yields results showing that in absolute terms, the electronics and chemicals sectors have the highest export potential, at over US\$10bn for each sector. The machinery, food, and minerals sectors also have high export potential, of greater than US\$5bn apiece. All of these, save for minerals, are strategic sectors already identified by the government in its current Export Masterplan. Other strategic sectors of electrics and automobiles also have the potential for greater export values.

Box 4.2: Canada case study

Canada is a large economy, in 2019, it was ranked 10th in terms of nominal GDP, according to World Bank national accounts data, with a relatively high potential for Turkish exporters. Gravity estimates suggest that Turkey had an average of around US\$1.8bln of “missing” exports to Canada per year over the 2010-2017 period, which makes it the most important non-targeted country in Turkey’s Export Masterplan outside of the European Union.

Sector level analysis suggests that Turkey is already competitive in Canada in several sectors, exporting more than predicted by the model in metals, vegetables, clothing, and textiles. The industries with the highest value of missing exports are electronics, chemicals, and machinery—industries in which Turkey is under-exporting to other countries as well—followed by the automotive industry. The gravity analysis suggests that overall, Turkey’s automotive industry is competitive in international markets. This implies that there already world-class exporters that could potentially expand their operations in Canada.

The top aggregate “over exporters” to Canada are China, Mexico, and Germany. In terms of the automotive industry, the countries that exported more than the gravity model predicts are Mexico, Japan, and Germany. Other competitive exporting firms are located in Korea, the United Kingdom, Slovakia, China, and South Africa. Important automotive producers, other than Turkey that are under-exporting to Canada are the United States, Italy, Spain, and Brazil.

Canada and the EU signed a free trade agreement named the Comprehensive Economic and Trade Agreement (CETA) in September 2017 after several years of negotiations. CETA is the broadest trade negotiation ever undertaken by Canada, covering a significant range of issues that include tariffs, non-tariff barriers, services and investments, financial services, and government procurement. Canada is one of the countries that the EU has a free trade agreement with, but Turkey does not.

Turkey has taken certain steps to deepen its trade relationship with Canada over the past decade. Turkey and Canada completed exploratory negotiations for an FTA in 2013. In June 2019, Canada and Turkey signed a Memorandum of Understanding establishing a Joint Economic and Trade Committee (JETCO), with a view to holding annual meetings between Canadian and Turkish officials and businesses to expand bilateral trade and investment opportunities. The first meeting took place in November 2019 in Istanbul, Turkey. During the meeting, it was agreed that technical delegations would hold meetings to share information on anti-dumping and countervailing duties and certain issues, including taxation and technology transfer, to boost trade between the two countries. Continuation of these meetings on a regular basis would help to assess the existing challenges to and possible solutions for Canada’s market and improve trade relations between these two countries.

One of the main challenges for Turkish exporters in Canada’s market is logistics.³⁸ Currently, there is no direct maritime line between Turkey and Canada. Air cargo is intensively used for transportation, but it is relatively expensive. Transport connectivity is a crucial determinant of bilateral exports. Empirical investigations show that lacking a direct maritime connection with a trade partner is associated with lower export value. Going forward, efforts towards improving connectivity between the two countries would help Turkey to increase its exports to Canada.

Turkey recently set up a trade center in Chicago to expand Turkish exporters’ network and to ensure products exist in target countries with their name, brand, and quality. Turkey currently has no trade center in Canada. However, any success in terms of promotion of Turkish products in the U.S. market is likely to create positive spillover impacts on exports to Canada, considering the dominance of the U.S. in Canada’s trade. In addition to efforts on export promotion activities to increase the visibility and quality awareness of Turkish goods in the Canadian market, ensuring effective coordination and collaboration among Turkish exporters to the US and Canada through this trade center is important going forward.

Sources: Ministry of Trade of the Republic of Turkey, World Bank Staff interviews.

Box 4.3: Arçelik – market expansion

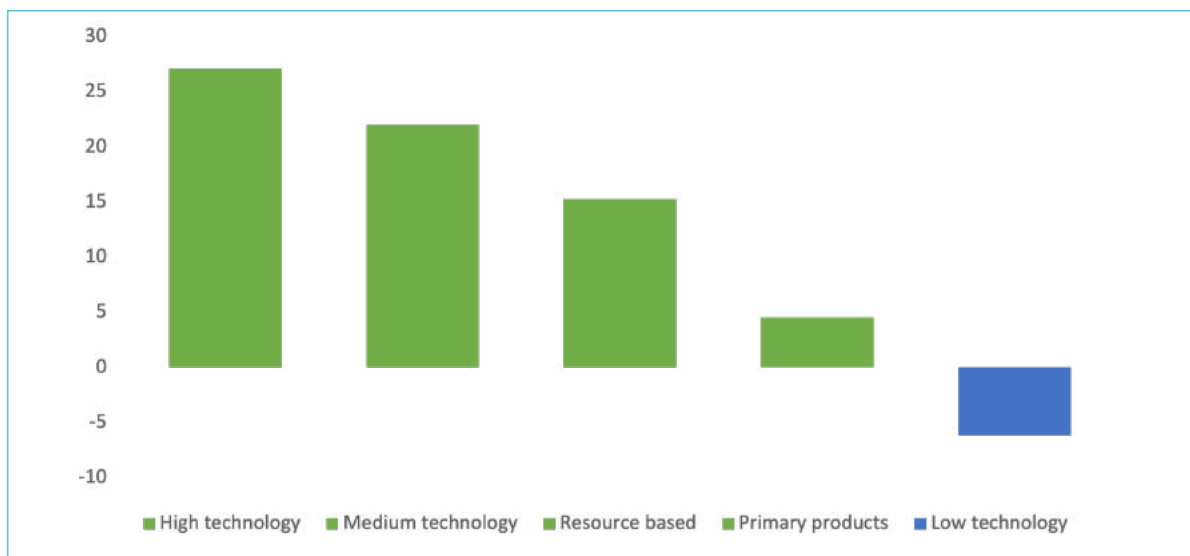
Arçelik, established in 1955, is a large electronics and consumer goods firm, which is part of the Turkish Koç Holdings Group. Arçelik is a large, international business with manufacturing facilities in seven countries and a physical presence in 33 countries around the world. Across these locations, Arçelik employs over 30,000 people and has a consolidated turnover of over US\$5bn (in 2016).

Since the 2000s, Arçelik has been pursuing a strategy of expanding its business by reaching new markets worldwide. Over this period, it has scaled up its production capacity and has production facilities in Russia, Thailand, Romania, South Africa, and Pakistan, in addition to Turkey. These overseas production facilities not only enable Arçelik to access the respective local markets efficiently but can also provide tariff-free access to markets where products from Turkey would otherwise face relatively high barriers. For example, products from Malaysia can access many parts of South-East Asia and Australasia under preferential agreements.

Sources: World Bank Staff interviews, January and February 2020.

Turkey has high potential in more sophisticated products while, given its characteristics, it over-exports low-technology products. Using a product level classification based on technology intensity (Lall, 2000), the gravity analysis predicts that Turkey should be exporting US\$27bn more of high technology products and US\$6bn less of low technology ones (Figure 4.5). Exports of high technology products tend to grow faster and have positive learning and spillover effects, which can also benefit other industries. Examples of high technology products are telecommunications equipment, televisions, transistors, pharmaceuticals, and aircraft. Turkey’s exports are concentrated in low technology industries such as textile, which in the past have grown the slowest.

Figure 4.5: Export potential by technology intensity

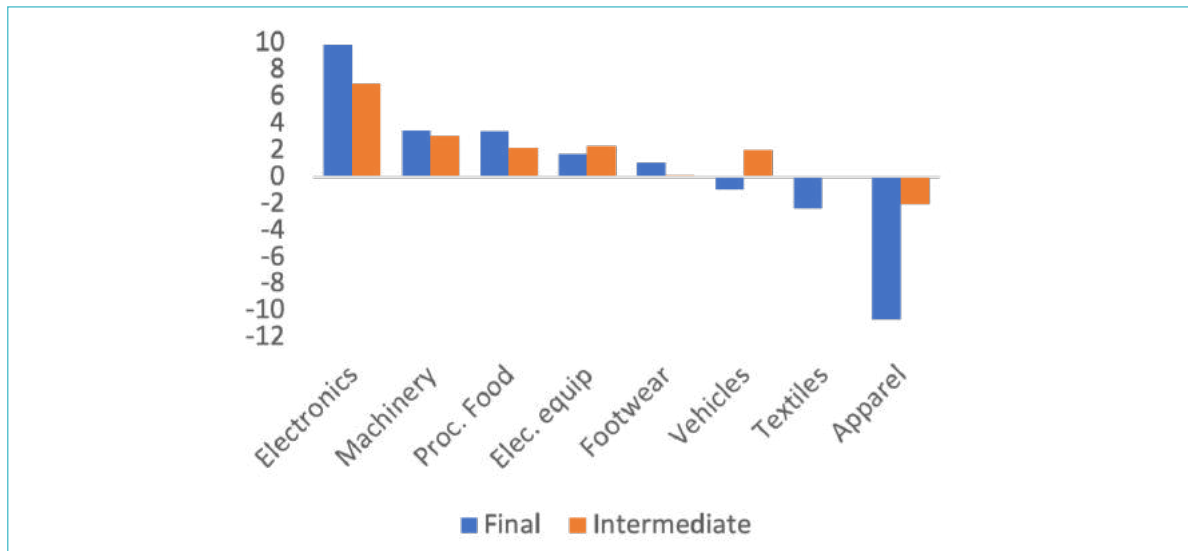


Source: World Bank Staff estimates.

Notes: Please refer to the annex for technical details of export potential modeling.

Certain GVC sectors seem to have especially high trade potential. Most of the sectors identified as having trade potential are major GVCs. Applying a different sectoral classification based on archetypal GVCs (discussed in Box 4.1), GVC trade in electronics, machinery, food, electrical equipment, and vehicles all have potential to grow, as does – to a lesser extent – footwear (Figure 4.6). Export potential is further split within GVCs by shipments of intermediates versus final goods. While potential is by and large evenly split, Turkey seems to have a higher potential overall in final goods, particularly Electronics and Food. This mirrors existing trade patterns, where demand for final consumer goods is high from the very large consumer market of the EU, while foodstuffs are prominent in trade with the MENA region.

Figure 4.6: Export potential in archetypal GVC sectors



Source: World Bank Staff estimates.

Policy action can help realize trade and GVC potential. While the analysis presented above indicates potential, it is also critical to understand how that potential can be realized. Box 4.5 presents the case of Vietnam, which is an example of a country that has done especially well in raising GVC trade, and the policy ingredients, while Box 4.3 above provides some policy-relevant facts that could improve trade between Turkey and Canada. The remainder of this chapter will consider policy frameworks and present recommendations aimed at realizing this potential.

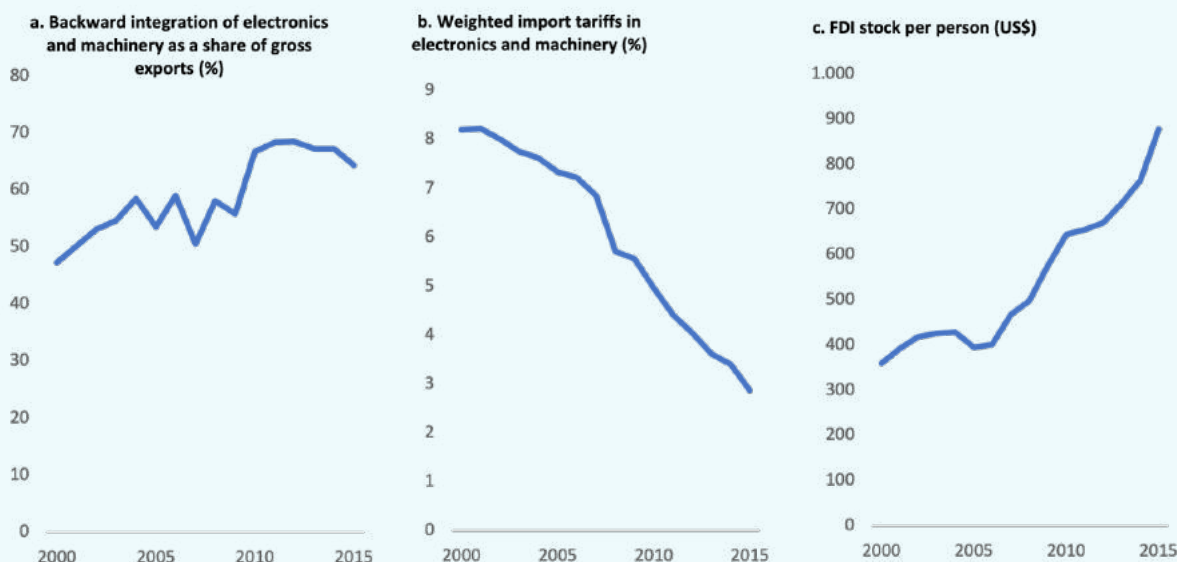
Box 4.4: Vietnam’s Integration in the electronics GVC

Today, Vietnam is the world’s second-largest smartphone exporter, producing 40 percent of Samsung’s global mobile phone products and employing 35 percent of its global staff. Vietnam’s backward participation in electronics GVCs increased from 47 percent in 2000 to 67 percent in 2010 and then declined slightly after 2012 (Fig. 4.12, panel a). Import tariffs in the sector dropped from about 8 percent in 2000 to less than 3 percent by 2015 (4.12, panel b).

Vietnam has been a member of the Association of Southeast Asian Nations (ASEAN) since 1995, and after entering the World Trade Organization in 2007, the country’s number of preferential trade partners had increased from 10 to 16 by 2014. Most free trade agreements were between ASEAN and third countries (Australia, China, India, Japan, the Republic of Korea, and New Zealand), but some were bilateral with Chile, Japan, and the European Union. The coverage in Vietnam’s trade agreements expanded substantially from 13 core provisions in 2007 to 86 in 2014. Vietnam owes its success in the electronics sector to the following factors.

Stable investment climate. Vietnam’s foreign direct investment (FDI) stock picked up from around \$400 per person in the early 2000s to \$500 in 2008 and \$880 in 2015 (Figure 4.7, panel c). FDI inflows to the electronics sector included mostly large investments from Korea’s Samsung Group, which launched Samsung Electronics Vietnam in 2008. Samsung’s presence in Vietnam today includes the world’s largest smartphone production facility, a smartphone and tablet display assembly facility, an electromechanical assembly operation for camera modules, and the Samsung Vietnam Mobile Research and Development Center. Samsung has about 160,000 workers in Vietnam, and lead firms LG, Canon, and Panasonic, contract manufacturers Foxconn and Jabil Circuit, while platform leaders Intel and Microsoft also operate there. FDI benefited from generous incentives, including tax concessions provided by the Vietnamese government.

Figure 4.7: Vietnam’s backward GVC integration increased from 2000 to 2015 as tariffs declined and FDI expanded



Abundant low-skilled, low-cost labor. Vietnam’s large pool of low-skilled, low-cost labor was an important determinant of its attractiveness as a GVC location. Over half of the workforce in Vietnam’s population of more than 95 million was estimated to be low-skilled in 2006. The quality of education in Vietnam remains a significant barrier, and extensive training is still necessary. Samsung’s software engineers are trained at the Samsung Vietnam Mobile Research and Development Center, with 90 percent of them attaining Samsung’s global standards. The improved technological skills of the Vietnamese workforce may have actually contributed to the country’s declining share of low-skilled workers—down to less than 40 percent by 2015.

Proximity. Most of the electronic inputs imported by Vietnam are from China; Hong Kong SAR, China; Japan; Korea; Singapore; Taiwan, China; and Thailand. Although the import content of electronics exports reached two-thirds of gross exports in recent years (Figure 4.7, panel a), the reliance on imported inputs declined slightly as the role of local suppliers increased. Samsung’s local suppliers include not only foreign-owned suppliers that co-located with Samsung in Vietnam but also 29 domestic suppliers (such as in display making and plastic molding) in 2016, up from just four in 2014, all trained by Samsung to meet quality standards.

Connectivity. Vietnam reduced the average time to import by two days—to roughly three weeks over 2006–15—and yet this is still one week longer than in the Philippines or Thailand, which have been involved in manufacturing GVCs for much longer. Meanwhile, Vietnam’s Internet usage shot up from 17 percent of the population in 2006 to 43 percent in 2015—above the 27 percent of the Philippines and 25 percent of Thailand—reflecting an effort to dominate the information and communication technology GVC, not only in hardware, but also in business services.

Sources: WDR 2020; Nikkei Asian Review (2018); Sturgeon and Zylberberg (2016); Viet Nam News (2015)

Turkey's trade policy and facilitation framework present hurdles for cross-border trade

Turkey's applied MFN tariffs are relatively high in agriculture and set according to the EU Common External Tariff for manufactured goods. In 2019, Turkey's simple average of most-favored-nation (MFN) tariffs stood at 10.0 percent and at 4.5 percent on a trade-weighted basis (latest, 2018). According to the WTO's 2020 World Tariff Profiles report, Turkey's simple-average MFN tariff rate put it in the mid-range of all countries around the world (at 79th out of 138 countries). 7.2 percent of tariff lines are more than triple the average rate (of 10 percent), and Turkey is amongst 25 countries in the world with the highest number of peaks in its tariff profile. Agricultural goods, which are not included in the Customs Union with the EU, face the highest incidence of tariff peaks, with dairy and animal products facing average MFN tariffs in excess of 100 percent and sugars and confectionary, 94 percent. Relatively frequent, unilateral changes to tariff and non-tariff policy also present a problem. Turkey's WTO bound rates are set far above its average tariff rates, and there are quite frequent variations in tariffs, such as on many tariff lines in 2020 and periodically on agricultural products. In most non-agricultural areas, Turkey applies the EU Common External Tariff, under which certain manufactured commodities, such as certain transport equipment, also face high import tariffs.

Turkey has two special policy regimes for import processing which lessen their burden on GVCs.³⁹ Under the suspension regime, raw materials intended for manufacturing and export may enter the country free of import duties. Under the drawback system, import duties and VAT for goods other than raw materials can be reimbursed as long as the goods are used in manufacturing goods for export. Reimbursement may be claimed at the time of export. However, if the imported goods enter into general circulation in Turkey, import duties and VAT are still due.

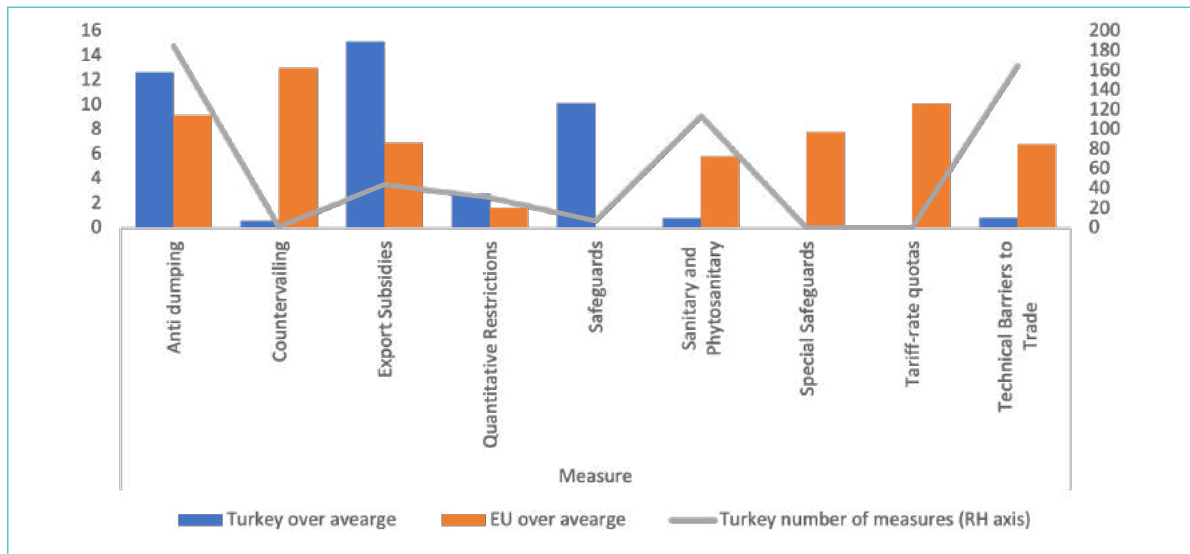
Turkey has a relatively high level of non-tariff measures (NTMs). Based on the latest year available (2016), the World Integrated Trade Statistics database shows that 68 percent of imports are subject to NTBs, the 12th highest frequency of NTMs in the world. The frequency of NTBs on exports is much lower, at 19 percent. The main aim of NTMs is to protect public health or the environment, but sometimes NTMs are more restrictive than necessary to fulfill their legitimate objectives. A high frequency of these measures is associated with higher barriers to trade.

Data from the Integrated Trade Intelligence Portal (I-TIP) shows that Turkey had initiated or notified the WTO regarding 547 non-tariff measures.⁴⁰ Figure 4.8 shows that most of the regulatory measures are related to antidumping (185), technical barriers to trade (165), and sanitary and phytosanitary standards (114). However, when we compare different measures to the average of the 148 countries, among those that reported to the WTO, we find that Turkey intensively uses export subsidies, anti-dumping, and safeguards. Safeguards are temporary measures used to protect domestic industries from an increase in imports. These measures usually restrict imports through changes in import duties and, if implemented often, they increase uncertainty for firms participating in GVCs as these firms rely disproportionately on imported inputs.

³⁹ <https://www.tariff-tr.com/InwardProcessingRegime.aspx>

⁴⁰ As of June 2021.

Figure 4.8: Distribution of non-tariff measures (NTMs)



Source: Data from Integrated Trade Intelligence Portal (I-TIP).

Notes: Bars plot the number of non-tariff measures for Turkey or the EU over the average number of non-tariff measures across all countries.

WTO members raised 18 specific concerns about Turkey’s measures at the TBT and SPS committee meetings. Some of these concerns are related to inspection measures that other WTO member countries find to be unjustified or excessively burdensome. For instance, Canada and the United States complained about duplicative testing on toy shipments destined for the Turkish market (WTO 2016; IMS ID 473). At the 36th meeting of the EU-Turkey Customs Union Joint Committee (CUJC), several issues were identified (EC, 2020). Similar to the United States and Canada, the European Commission (EC) also raised concerns over Turkey’s surveillance measures and certification and testing requirements for imported goods. With respect to certification and testing, the EC noted there were issues related to excessive documentation checks for imported goods from third countries. For instance, EU companies complained that when importing through Turkey, they were required to re-test the imported products in Turkish laboratories as test results from accredited EU laboratories were not accepted.⁴¹ These issues concern, among others, toys, machinery, footwear, telecom, and electrical equipment sectors.

Imports of a significant number of products from third countries pay “additional duties” over and above the applied MFN rate. As these products would ordinarily be in free circulation in the EU, the EU argues that these duties deviate from the principle of the Customs Union. A World Bank analysis finds that the simple average of the additional duties across tariff lines is 16.8 percent, ranging from 0 to 30 percent. According to the current tariff schedule, these are to be applied until September 30, 2021, and lowered by 10 percentage points thereafter. The additional duties cover an estimated 9 percent of Turkey’s 2019 imports and do not apply to imports from countries that Turkey has a free trade agreement with (e.g., EU, EFTA, Singapore, and South Korea). On a commodity basis, the additional duties cover 42 percent of textiles, clothing, and footwear imports, 10 percent of other manufactured imports, and about 0.2 percent of food imports. On a geographical basis, they fall most heavily on imports from South Asia (39 percent) and East Asia (31 percent). The additional duties effectively reverse most of the “Everything but Arms” duty-free treatment that Turkey would otherwise be compelled to grant to such countries as Bangladesh, Cambodia, Myanmar, Nepal, and Pakistan. By estimated dollar value of 2019 imports, additional duties fall most widely on imports from China (\$8.2 billion), India (\$2.7 billion), the United States (\$1.4 billion), and Japan (\$1.3 billion).

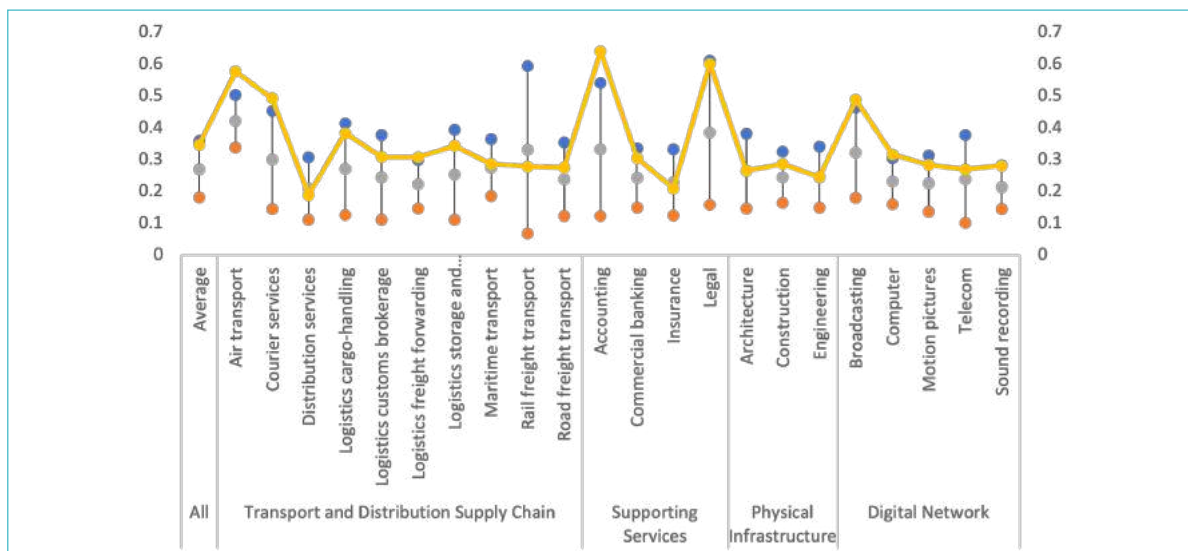
⁴¹ The list of key trade barriers was downloaded, in June 2020, from the Access2Markets database. <https://trade.ec.europa.eu/access-to-markets/en/home/>

Bringing down barriers and improving predictability will encourage the expansion of GVCs in Turkey. Firm-level analysis conducted for the Productivity CEM (World Bank Group, 2019) shows that reductions in trade costs upstream lead to increases in productivity for firms downstream in Turkey. GVC integration requires precision and quality in production and supply chain management. While domestic firms can also play an important role, as we will see in the next chapter, to be effective, firms need unrestricted access to the intermediate inputs, both goods, and services, which are often imported, and access to imports has been shown to raise export performance⁴². This calls for a refocusing on ease of trading, either multilaterally applied or via bilateral or regional trade agreements. While the EU CU means that Turkey is not at liberty to unilaterally reduce tariffs on manufactured goods, it can address barriers in services, non-tariff barriers on goods and seek to increase its network of trade agreements in line with those of the EU.

Restrictions in services sectors may be limiting GVC growth

The level of restrictiveness on Turkey's services trade is higher than that of many of its peers. As noted in Chapter two, while services are increasingly important in GVCs, in Turkey, the use of more advanced services, especially foreign, is much less than for comparators. Indeed, Turkey has relatively high average barriers in services compared to other countries (Figure 4.9). Turkey is the eighth country with the highest overall STRI amongst 46 countries. Air transport, courier services, logistics cargo handling, and freight forwarding are among the most restrictive sectors within the transport and distribution supply chain category. For instance, in courier services, the state-owned designated postal operator has a monopoly on the delivery of letters, newspapers, and small parcels, which closes the letter segment to private competitors (OECD, 2021). In logistics and cargo handling services, there are barriers to competition, such as price and fee regulations, contracts awarded without competitive bidding processes, and minimal capital requirements (World Bank, 2019). Turkey's restrictiveness in business services such as accounting and legal services is well above the average. Even more striking, according to the World Bank's Services Trade Restrictions Database, Turkey is the most restrictive country in the sample with respect to professional services (Figure 4.10), while the general STRI of Turkey is higher than that of many peers in this dataset (Figure 4.11).

Figure 4.9: Services Trade Restrictiveness Index (STRI), 2020



Source: OECD

Note: Services Trade Restrictiveness Index (STRI) indices take values between zero and one, one being the most restrictive.

⁴² Halpern et al (2015). "Imported inputs and productivity". *American Economic Review* Vol 105(12). P.3660-3703. Amiti & Konings (2007). "Trade liberalization, intermediate inputs, and productivity: Evidence from Indonesia". *American Economic Review* Vol.97 (5). p.1611-1638.; Pierola et al (2018). "The role of imports for exporter performance in Peru". *The World Economy* Vol.41 (2). pp. 550-572. 2018; World Bank (2020), "Chapter 7: Policies to enhance participation" in *Trading in the Age of Global Value Chains*. World Bank: Washington DC.

Figure 4.10: STRI of professional services

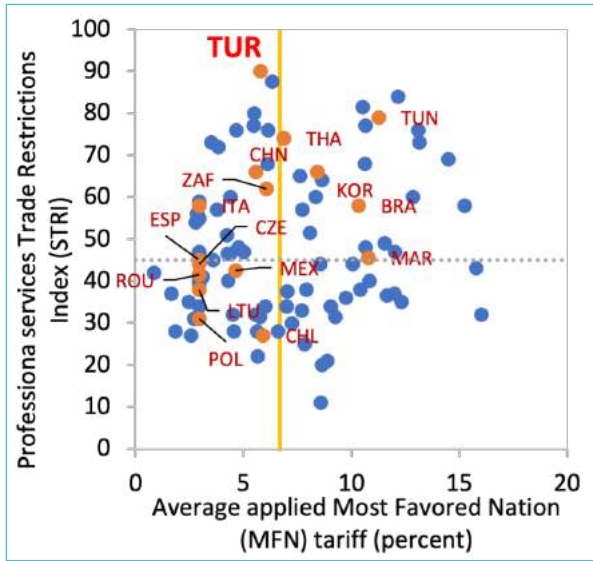
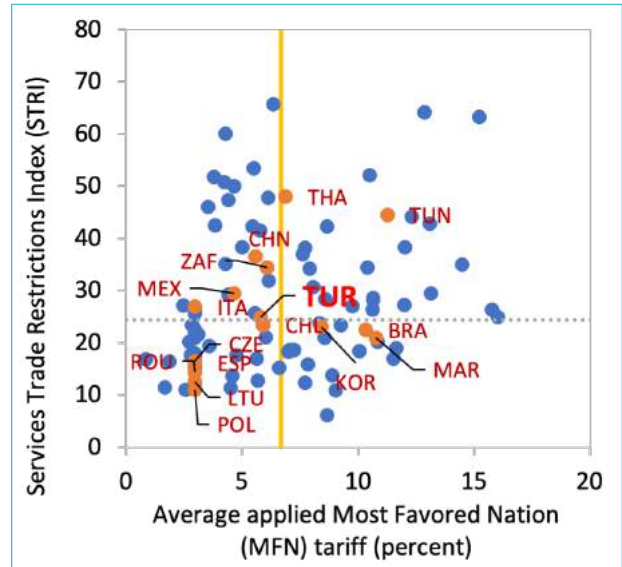


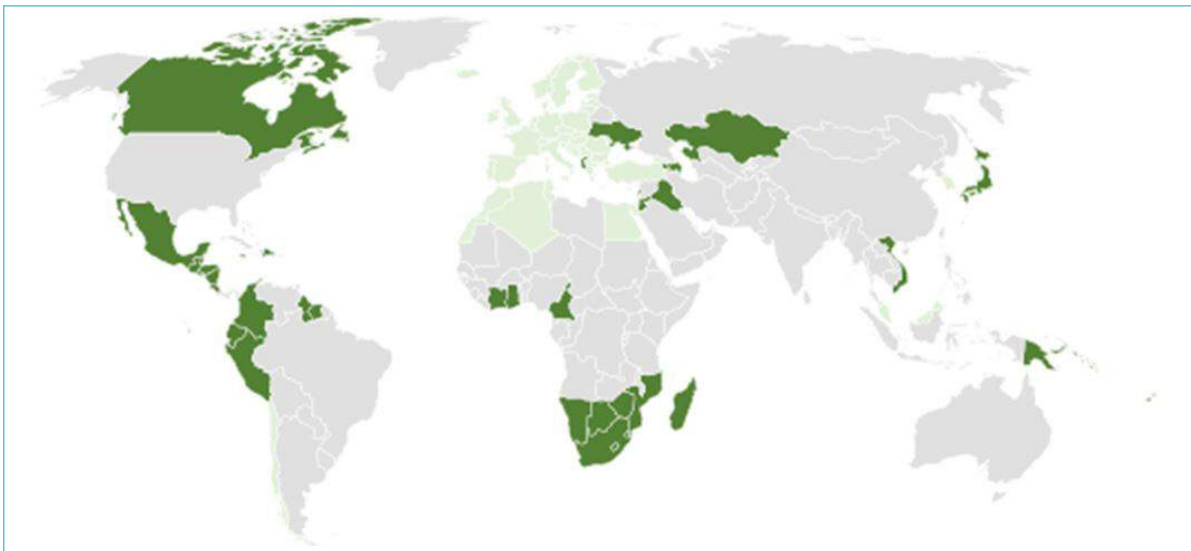
Figure 4.11: Overall STRI



Turkey should continue to broaden its network of Preferential Trade Agreements

Reductions in bilateral tariffs, and especially bilateral trade agreements, can provide a major boost to exports. Findings from the gravity modeling exercise indicate that a one percent reduction in bilateral tariffs is associated with between 1.6 to 2.5 percent higher exports. The presence of a trade agreement with a partner country is estimated to increase exports by 15 to 21 percent.

Figure 4.12: Turkey and the EU's preferential trade agreements in force



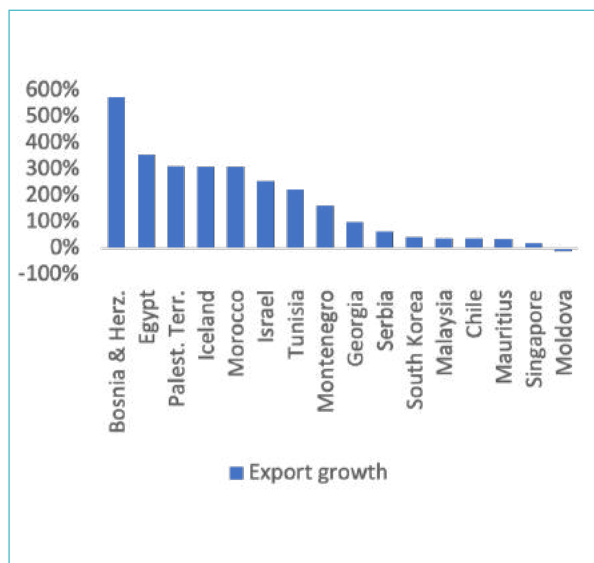
Source: World Trade Organization, Turkish Ministry of Trade

Note: Light green denotes where Turkey has a PTA in force, dark green where the EU has a PTA in force, but Turkey does not.

Turkey has developed a network of PTAs, which seem to have had a major positive impact on exports. Currently, Turkey has 20 preferential trade agreements (PTAs) in force, including the EU Customs Union and the European Free Trade Agreement, which cover multiple European countries (Figure 4.12). Turkish firms have in the past shown a high level of dynamism in building business in new markets, as in the case of Arçelik (Box 4.4). An inspection of trends in merchandise exports in the five years before a PTA comes into force, compared to the five years after, suggests trade agreements have a major impact on exports, raising exports on average by 180 percent (Figure 4.13). This is much greater than the results of a similar exercise for new EU PTAs, which show an increase of 28 percent.

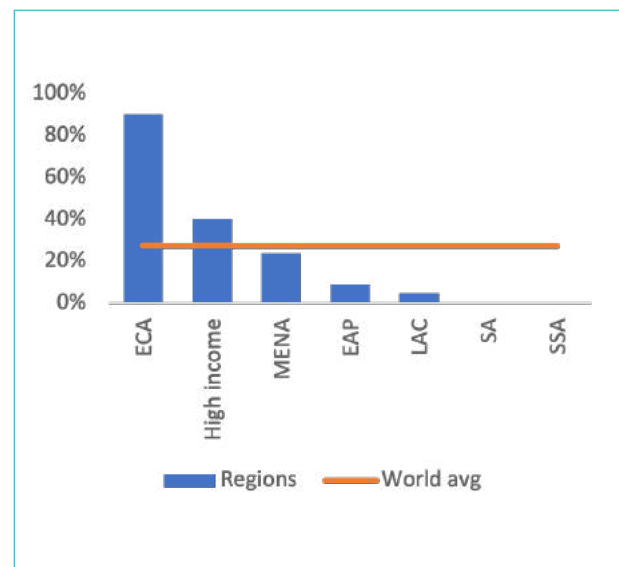
However, Turkey's PTAs still only cover a fraction of global economic activity and lag well behind the EU's network of PTAs. In addition to those already in force, a further five agreements have been agreed between Turkey and other countries and are going through a ratification process. Turkey is also engaged in the negotiation of new agreements as well as in negotiations aimed at extending the scope of its current agreements. While these agreements are of great importance to Turkey's integration into GVCs, especially with Europe, many parts of the world that Turkey already trades with – including North America and MENA –and may have the potential to trade more with, are not covered by PTAs. In fact, in GDP terms, Turkey's FTAs cover only 27 percent of global GDP, with the vast majority of that being Europe (Figure 4.14). This compares to the EU, which has PTAs with 75 countries and thereby has agreements with more than 50 countries with which Turkey does not, including many in the ECA and MENA regions, as well as larger countries around the world such as Canada, Mexico, South Africa, Vietnam, and Colombia.

Figure 4.13: Growth in Turkey's exports after PTA



Source: World Bank WDI, WB Staff Estimates

Figure 4.14: Coverage of PTAs by share of GDP



Source: World Bank WITs, Turkish Ministry of Trade

Box 4.5: HİDROMEK – competing in remote markets

Hidromek is a globally known manufacturer of construction machinery that was founded in Ankara, Turkey, in 1978. HİDROMEK was the first Turkish firm to produce a construction machine domestically in 1989. Today, HİDROMEK manufactures backhoe loaders, hydraulic excavators, wheel loaders, motor graders and soil compactors in its five production facilities in Turkey and one in Thailand and has around 2000 employees. After beginning in the domestic market, HİDROMEK moved into export markets in the late 1990s and has successfully built up an international brand. It currently has active exports to more than 80 countries – not only in Europe, Central Asia, Middle East, and North Africa regions, but also in the Americas and East Asia, and is one of the 50 largest manufacturers of construction vehicles in the world. In 2013, HİDROMEK acquired the motor grader business of Mitsubishi Heavy Industries in Thailand, which enabled it not only to establish a cost-effective production location to serve the East Asian market but also to improve its designs, especially to cater for the specifics of the market. HİDROMEK continues to innovate in its vehicle designs and technology as well as seek out new market access opportunities.

Sources: Team interviews, Jan-Feb 2020

Turkey’s ability to engage in PTAs is limited by the provisions of the EU-Turkey Customs Union. The EU currently has PTAs with nearly 50 partners, many more than Turkey has. Since each of those PTAs modifies the external tariff of the Customs Union, they grant third countries duty-free market access to Turkey without Turkey receiving market access in return. Once the EU has negotiated such an agreement, there is little incentive for third countries to grant market access to Turkey in exchange for market access they have already received (World Bank 2014). In addition, Turkey’s membership of the Customs Union limits the effectiveness of the use of trade defense instruments (i.e., antidumping, safeguards, and countervailing duties). Given the limited coordination between the EU and Turkey in the use of these instruments, imports subject to these measures may be able to avoid higher duties by entering the Customs Union through a different country. However, modern PTAs address issues that go beyond tariffs, such as barriers in services trade, which Turkey can leverage to improve its market access in these countries. Also, the Customs Union with the EU does not limit Turkey’s ability to modernize its existing PTAs in areas not related to tariffs, such as government procurement or state aid.

A lack of barrier-free market access with many parts of the world hinders the ability of firms in Turkey to expand and diversify their integration into GVCs. While preferential trade access coverage is very good in the ECA region, which has undoubtedly been important in enabling Turkey to integrate into global value chains, it is considerably harder for firms to take advantage of the potential to engage in other regional value chains due to much higher tariff barriers. Most of Turkey’s highest potential markets, like the USA, Japan, China, and Indonesia – all face tariffs greater than the world average, hindering Turkish exporters’ ability to compete in these markets (Figure 4.15). But more generally, with the exception of certain EU countries, almost all potential markets for Turkey’s exports are associated with higher than world-average tariffs (Figure 4.16).

Increasing the depth of both existing and new trade agreements will be important

Lowering tariffs on merchandise trade is important, but alone is not enough to facilitate greater trade, especially in sophisticated GVCs that are associated with higher income status. Deeper trade agreements that reduce the costs of trade in services and flows of income and that healthy support competition, as well stable regulatory frameworks and secure property rights, more fully facilitate the development of value chains. This is illustrated by the fact that trade is substantially under potential in certain EU countries such as Italy, Greece, and France, despite the presence of a customs union.

To take advantage of near-shoring trends, Turkey needs to be close – geographically but also in institutional terms – to major lead firms. As we will see in Chapter 5, location decisions of multinational enterprises that play a key role in enhancing the flow of benefits via GVCs are sensitive to institutional factors as well as market size. The initial establishment of the Customs Union triggered a substantial inflow of foreign direct investment by not only reducing merchandise trade barriers with the EU, but also signaling a move towards greater economic and regulatory integration. Further steps to reduce the regulatory gap between Turkey and home countries of foreign lead firms – often advanced economies – will help to take best advantage of Turkey’s existing, advantageous position regarding multiple regional value chains.

Figure 4.15: Turkey’s export potential and simple average tariffs faced

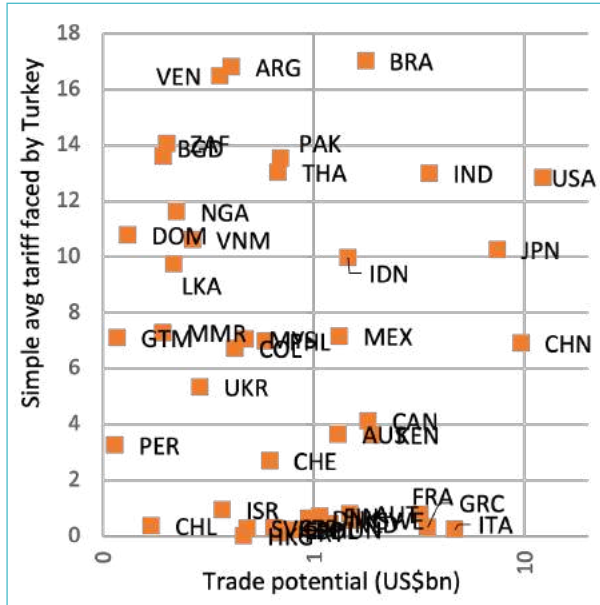
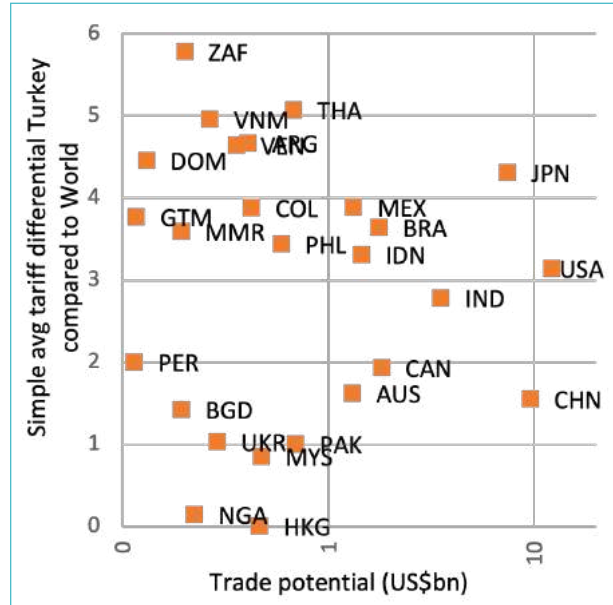


Figure 4.16: Turkey’s export potential and differential in simple average tariffs faced, compared to the World



Source: World Bank WITS, WB Staff Estimates

Box 4.6: Measuring the depth of trade agreements

Preferential trade agreements can and do cover far more than just tariff reductions but can extend to a wide range of measures that facilitate more seamless and beneficial economic integration between the parties to the agreement. Horn et al. (2009) began an exercise to comprehensively record and categorize the provisions in deep trade agreements (DTAs), which they define as commitments that go beyond those made as part of the World Trade Organization. These are classified as either:

- “WTO plus”: Commitments building on those already agreed to at the multilateral level, e.g., a further reduction in tariffs.
- “WTO extra”: Commitments dealing with issues going beyond the current WTO mandate altogether, e.g., on labor standards.

These authors and others following them have presented a categorization of the issues covered by these DTA provisions. WTO-plus measures are categorized as below:

- FTA industrial/agriculture: Tariff liberalization and elimination of non-tariff measures.
- Customs: Provision of information, Internet publication of new laws and regulations, training.
- Export taxes: Elimination of export taxes.
- SPS/TBT: Affirmation of rights/obligations under WTO agreements on sanitary and phytosanitary and technical barriers to trade agreements, harmonization, transparency.
- State trading enterprises (STE): Establishment of an independent competition authority, non-discrimination regarding production and marketing, transparency, affirmation of Article XVII GATT provisions.
- Anti-dumping (AD): Retention of Antidumping rights and obligations under WTO (Art. VI GATT).
- Countervailing measures (CVM): Retention of Countervailing measures rights/ obligations under WTO (Art VI GATT).
- State aid: Assessment of anticompetitive behavior; reporting on state aid given; transparency.
- Public procurement: Progressive liberalization; national treatment and/or non-discrimination principle; Internet publication of laws and regulations.
- Trade-related investment measures (TRIMs): Provisions concerning requirements for local content and export performance of FDI.
- General Agreement on Trade in Services (GATS): Liberalization of trade in services.
- Trade-related Intellectual Property Rights (TRIPs): Harmonization of standards; enforcement; national treatment, most-favored-nation treatment.

WTO-extra measures cover a broad range of topics which go beyond trade-related measures and are categorized as follows: Anti-corruption; competition policy; environment; intellectual property rights; investment; labor market regulation; capital movement; consumer protection; data protection; agricultural reform; audio-visual; civil protection; innovation policies; cultural cooperation; economic policy dialogue; education and training; energy; financial assistance; health, human rights; illegal immigration; illicit drugs; industrial cooperation; information society; mining; money laundering; nuclear safety; political dialogue; public administration; regional cooperation; research and technology; SMEs; social matters; statistics; taxation; terrorism; visa and asylum, and approximation of, usually EU, legislation.

These aspects of DTAs have been recorded in the World Bank’s “Deep Trade Agreements 1.0” database, which covers agreements notified to the WTO between 1958 and 2015. The data identifies whether PTAs contain these DTA aspects. The World Bank’s “Deep Trade Agreements 2.0” database covers a sub-set of 17 of the DTA areas in more detail, as well as the assessment objective, commitments, and other aspects set out under these provisions in the DTAs.

Sources: Horn et al. (2010); WTO (2011); Mulabdic and Yasar (2020); Hofman et al (2019)

Turkey’s PTAs are relatively shallow and tend to cover areas already agreed to at the multilateral level. Figure 4.17 provides information on the content of Turkey’s agreements. The World Bank’s “Content of Deep Trade Agreements” database covers 18 trade agreements of which Turkey is a member country: 17 FTAs and the customs union with the EU. The most extensive agreement in terms of coverage of policy areas is the agreement with Morocco, which covers 13 policy areas, while the agreements with Egypt and Jordan cover only 8 areas. To put these numbers in perspective, the Peru-Chile FTA includes 11 legally enforceable provisions, the United States-Korea Free Trade Agreement (KORUS FTA) signed in 2007 includes 15 provisions, and the EU, which comprises eight agreements—i.e., the Treaty of Rome and successive EU enlargements—cover 43 legally enforceable provisions.

Figure 4.17: Coverage of PTAs by deep trade agreement categories

	Morocco	Albania	EFTA	EU	Bosnia and Herzegovina	Chile	Montenegro	Republic of Korea	Palestinian Authority
	2006	2008	1992	1996	2003	2011	2010	2013	2005
	FTA	FTA	FTA	CU	FTA	FTA	FTA	FTA	FTA
WTO plus	FTA Industrial	✓	✓	✓	✓	✓	✓	✓	✓
	FTA Agriculture	✓	✓	✓	✓	✓	✓	✓	✓
	Customs	✓	✗	✓	✓	✗	✓	✓	✓
	Export Taxes	✓	✓	✓	✗	✓	✓	✓	✓
	Sanitary and phytosanitary (SPS)	✓	✓	✗	✗	✓	✓	✗	✓
	Technical barriers to trade (TBT)	✓	✓	✗	✓	✓	✓	✓	✓
	State trading enterprises (STE)	✓	✓	✓	✓	✓	✗	✗	✓
	Antidumping (AD)	✓	✓	✓	✓	✓	✗	✗	✓
	Countervailing measures (CVM)	✓	✓	✓	✓	✗	✗	✗	✗
	State Aid	✓	✓	✓	✓	✓	✓	✗	✓
	Public Procurement	✓	✓	✓	✗	✗	✓	✗	✗
	Trade in services agreement (GATS)	✗	✗	✗	✗	✗	✗	✗	✗
	Trade-related intellectual property rights (TRIPs)	✓	✓	✓	✓	✓	✓	✓	✓
	Competition Policy	✓	✓	✓	✓	✓	✗	✓	✓
WTO extra	Intellectual Property Rights (IPR)	✗	✗	✓	✗	✗	✗	✓	✗
	Movement of Capital	✗	✗	✓	✗	✗	✓	✓	✗
	Agriculture	✗	✗	✗	✗	✓	✗	✗	✗
	Approximation of Legislation	✗	✗	✗	✓	✗	✗	✗	✗
	Israel	Mauritius	Serbia	Syria	Georgia	North Macedonia	Tunisia	Egypt	Jordan
	1997	2013	2010	2007	2008	2000	2005	2007	2011
	FTA	FTA	FTA	FTA	FTA	FTA	FTA	FTA	FTA
WTO plus	FTA Industrial	✓	✓	✓	✓	✓	✓	✓	✓
	FTA Agriculture	✓	✓	✓	✓	✓	✓	✓	✓
	Customs	✓	✓	✓	✓	✓	✗	✓	✓
	Export Taxes	✓	✓	✓	✓	✓	✓	✓	✓
	Sanitary and phytosanitary (SPS)	✗	✓	✗	✗	✗	✗	✓	✗
	Technical barriers to trade (TBT)	✗	✓	✗	✗	✓	✓	✗	✓
	State trading enterprises (STE)	✓	✗	✓	✓	✓	✓	✓	✗
	Antidumping (AD)	✓	✓	✗	✓	✗	✗	✗	✗
	Countervailing measures (CVM)	✗	✓	✗	✗	✗	✗	✗	✓
	State Aid	✓	✗	✓	✓	✓	✓	✗	✓
	Public Procurement	✗	✗	✓	✗	✗	✗	✗	✗
	Trade in services agreement (GATS)	✓	✓	✗	✗	✗	✗	✗	✗
	Trade-related intellectual property rights (TRIPs)	✗	✓	✓	✓	✓	✗	✓	✗
	Competition Policy	✓	✗	✓	✓	✓	✓	✓	✓
WTO extra	Intellectual Property Rights (IPR)	✗	✗	✗	✗	✗	✗	✗	✗
	Movement of Capital	✓	✓	✓	✓	✗	✗	✗	✗
	Agriculture	✗	✗	✗	✗	✗	✗	✗	✗
	Approximation of Legislation	✗	✗	✗	✗	✗	✗	✗	✗

Source: World Bank Content of Deep Trade Agreement 1.0 database.

Notes: The table includes only PTAs notified to the WTO prior to December 2015 and provisions that were included in at least in one of Turkey’s trade agreements.

Turkey’s PTAs could be deepened by expanding their coverage to facilitate the movement of capital, promote investment, and strengthen intellectual property rights. Figure 4.18 provides a comparison between Turkey’s and the EU’s trade agreements with third countries. This illustrates that Turkey’s level of integration with most of the Western Balkan countries is comparable to that of the EU. While some of Turkey’s agreements are more comprehensive than those of the EU—i.e., the agreement with Mauritius and Syria—they tend to exclude important “WTO Extra” provisions. In general, we find that Turkey’s agreements focus disproportionately more on technical barriers to trade (TBT), sanitary and phytosanitary measures (SPS), and export taxes, while the EU’s agreements include provisions relating to the movement of capital, investment, and intellectual property.

Figure 4.18: Turkey's PTAs cover relatively more "WTO Plus" areas, while EU agreements focus on "WTO Extra" areas

	Morocco		Albania		EFTA/EEA		Bosnia and Herzegovina		Chile		Montenegro		Republic of Korea		Palestinian Authority		Israel	
	Turkey	EU	Turkey	EU	Turkey	EU	Turkey	EU	Turkey	EU	Turkey	EU	Turkey	EU	Turkey	EU	Turkey	EU
	2006	2000	2008	2006	1992	1994	2003	2008	2011	2003	2010	2008	2013	2011	2005	1997	1997	2000
Type	FTA	FTA	FTA	FTA & EIA	FTA	EIA	FTA	FTA	FTA	FTA & EIA	FTA	FTA & EIA	FTA	FTA & EIA	FTA	FTA	FTA	FTA
WTO Plus	FTA Industrial	!	!	!	!	!	!	!	!	!	!	!	!	!	!	!	!	!
	FTA Agriculture	!	!	!	!	!	!	!	!	!	!	!	!	!	!	!	!	!
	Customs	!	!	!	!	!	!	!	!	!	!	!	!	!	!	!	!	!
	Export Taxes	!	!	!	!	!	!	!	!	!	!	!	!	!	!	!	!	!
	Sanitary and phytosanitary (SPS)	✓	✓	✓	✓	✗	✗	✓	✓	!	!	!	!	!	!	!	!	!
	Technical barriers to trade (TBT)	✓	✓	✓	✓	✗	✗	✓	✓	!	!	!	!	!	!	!	!	!
	State trading enterprises (STE)	!	!	!	!	!	!	!	!	!	!	!	!	!	!	!	!	!
	Antidumping (AD)	!	!	!	!	!	!	!	!	!	!	!	!	!	!	!	!	!
	Countervailing measures (CVM)	!	!	!	!	!	!	!	!	!	!	!	!	!	!	!	!	!
	State Aid	!	!	!	!	!	!	!	!	!	!	!	!	!	!	!	!	!
Public Procurement	✓	!	!	!	!	!	!	!	!	!	!	!	!	!	!	!	!	
Trade in services agreement (GATS)	!	!	!	!	!	!	!	!	!	!	!	!	!	!	!	!	!	
Trade-related intellectual property rights (TRIPs)	!	!	!	!	!	!	!	!	!	!	!	!	!	!	!	!	!	
WTO Extra	Competition Policy	!	!	!	!	!	!	!	!	!	!	!	!	!	!	!	!	!
	Intellectual Property Rights (IPR)	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗
	Movement of Capital	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗
	Investment	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗
	Social Matters	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗
		✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗

	Mauritius/ EPA		Serbia		Syria		Georgia		North Macedonia		Tunisia		Egypt		Jordan	
	Turkey	EU	Turkey	EU	Turkey	EU	Turkey	EU	Turkey	EU	Turkey	EU	Turkey	EU	Turkey	EU
	2013	2012	2010	2010	2007	1977	2008	2014	2000	2001	2005	1998	2007	2004	2011	2002
Type	FTA	FTA	FTA	FTA & EIA	FTA	FTA	FTA	FTA & EIA	FTA	FTA & EIA	FTA	FTA	FTA	FTA	FTA	FTA
WTO Plus	FTA Industrial	!	!	!	!	!	!	!	!	!	!	!	!	!	!	!
	FTA Agriculture	!	!	!	!	!	!	!	!	!	!	!	!	!	!	!
	Customs	!	!	!	!	!	!	!	!	!	!	!	!	!	!	!
	Export Taxes	!	!	!	!	!	!	!	!	!	!	!	!	!	!	!
	Sanitary and phytosanitary (SPS)	✓	✓	✓	✓	!	!	✗	✗	!	!	!	!	!	!	!
	Technical barriers to trade (TBT)	✓	✓	✓	✓	!	!	!	!	!	!	!	!	!	!	!
	State trading enterprises (STE)	!	!	!	!	!	!	!	!	!	!	!	!	!	!	!
	Antidumping (AD)	✓	✓	!	!	!	!	!	!	!	!	!	!	!	!	!
	Countervailing measures (CVM)	✓	✓	✗	✗	!	!	!	!	!	!	!	!	!	!	!
	State Aid	!	!	!	!	!	!	!	!	!	!	!	!	!	!	!
Public Procurement	!	!	!	!	!	!	!	!	!	!	!	!	!	!	!	
Trade in services agreement (GATS)	!	!	!	!	!	!	!	!	!	!	!	!	!	!	!	
Trade-related intellectual property rights (TRIPs)	✓	!	!	!	!	!	!	!	!	!	!	!	!	!	!	
WTO Extra	Competition Policy	!	!	!	!	!	!	!	!	!	!	!	!	!	!	!
	Intellectual Property Rights (IPR)	!	!	✗	✗	!	!	✗	✗	✗	✗	✗	✗	✗	✗	✗
	Movement of Capital	✓	!	!	!	!	!	!	!	!	!	!	!	!	!	!
	Investment	!	!	!	!	!	!	!	!	!	!	!	!	!	!	!
	Social Matters	!	!	!	!	!	!	!	!	!	!	!	!	!	!	!
		!	!	!	!	!	!	!	!	!	!	!	!	!	!	!

Source: World Bank Content of Deep Trade Agreement 1.0 database.
Notes: The table includes only PTAs notified to the WTO prior to December 2015 and provisions that were included in at least five agreements.
Legend: ! provision included in both the EU's and Turkey's agreements; ✗ provision included in the EU's agreement, but excluded from Turkey's; ✓ provision included in Turkey's agreement, but excluded from the EU's.

Modeling suggests that Turkey's exports stand to benefit from the deepening of existing agreements by close to 10 percent. We use gravity modeling that incorporates data on the content of deep trade agreements to develop a measure of trade policy potential. An important aspect of deepening trade agreements is the reduction of barriers to trade in services, which are very important for higher value GVCs (see Box 4.7). The results also indicate that Turkey's exports respond more positively to an increase in trade depth than the average for other countries and are also more responsive than imports. Using these results, scenarios in which Turkey deepens its existing trade agreements indicate that total exports could rise by 2 percent (if less-than-average depth PTAs are brought up to average), 4 percent (if all PTA depth is brought up to the deepest of Turkey's current PTAs, or 9 percent (if all PTAs include all provisions that have been included in any of Turkey's PTAs to date). To achieve this,

Box 4.7: Services and global value chains

Quantitative GVC analysis has tended to focus on merchandise trade or cross-border flows of goods and services, in large part because there is much more granular data available for this. However, the criticality of services in GVCs – both as an input to GVCs, an output, or as entire service-based GVCs, is increasingly recognized. There are several reasons why services in GVCs call for special consideration, such as those summarized by Heuser and Mattoo (2017) below:

1. Definitions of GVCs should encompass not only trade across borders of goods and services but also trade between national and international entities within a country, given the fact that foreign service providers will often have a local presence established. For services, focusing only on cross-border flows overlooks the large majority of international services transactions.
2. As with imported intermediate goods, there is a growing body of evidence which shows that having good quality and affordable services available, such as professional and other business services, finance, communications, and transport, improves firm competitiveness, performance, and upgrading potential. And as with intermediate goods, the availability of foreign entities to supply services, particularly in emerging and developing economy contexts, improves the offerings and the competitiveness of GVCs.
3. Improving the availability of service inputs to GVCs generally calls for a quite different set of policies than for trade. As we have shown, in comparison to goods, trade in services in Turkey remains considerably more restricted. Instead of tariffs, behind-the-border regulatory measures are much more important for services and can be addressed either through inclusion in bilateral agreements or reform of restrictions on foreign service providers and/or foreign investment. These issues are discussed as part of ‘deep trade agreements’ in this chapter and regulatory reform in the subsequent chapter.

Although relatively recent, the empirical literature is emerging on the positive impact of services on GVCs. In a firm-level analysis of the impact of service liberalization in India, Arnold et al. (2016) show that the reforms in banking, insurance, telecommunications, transport, and insurance sectors raised the productivity of domestic and foreign manufacturing firms to quite a substantial degree. One standard deviation for the index of service liberalization they constructed led to an increase of 11.7 percent in the productivity of domestic firms and 13.2 percent for foreign firms. Several other studies, such as in Chile and the Czech Republic, also find that improved availability of services improves manufacturing productivity. Taking a value chain perspective and using cross-country panel data, van der Marel & Saez (2016) find that service entry restrictions are a significant factor inhibiting the use of services and that lower regulatory barriers can boost value-added.

In a firm-level study in Turkey, Haven & van der Marel (2018) indeed find evidence of restrictions on services inhibiting productivity in the manufacturing sector. The analysis finds that productivity gaps appear in the same areas where services are more restricted, e.g., in post-manufacturing services. Restrictions on competition in services, particularly from foreign firms, may lead Turkish manufacturing firms to over-rely on in-house services. Professional services and transport appear particularly ripe for reform, and reforms could lead to increased firm entry, competition, growth, and productivity.

Business services, usually defined to consist of ICT-related services, research and development, engineering, technical consultancy, legal aid, and other business services, are qualitatively considered to be an important determinant in enabling higher value-added activities but have seldom been subjected to quantitative GVC analysis in their own right. However, a recent paper by Lopez Gonzalez et al. (2019) assesses the development of business service value chains. They find that the availability of business services is an important determinant in enabling countries to engage in business services’ global value chains. They associate these findings with the view, discussed further in the next two chapters, that the development of domestic capacity and capabilities is critical to upgrading in GVCs, and that the use of business services plays an important role in this development process.

Sources: Heuser, C. & A. Mattoo, “Services trade and global value chains” in World Bank Group, IDE-JETRO, OECD, UIBE, World Trade Organization, 2017, *Global Value Chain Development Report 2017: Measuring and Analyzing the Impact of GVCs on Economic Development*. Washington DC: World Bank

Turkey would need to address in its existing trade agreements issues related to customs, export taxes, technical barriers to trade (TBT), and sanitary and phytosanitary standards, as well as more complex issues related to competition policy, intellectual property rights (IPR) protection, and movement of capital.

Removing excessive barriers to foreign services trade can, on the one hand, broaden Turkish manufacturers' access to cheap and qualitatively high service inputs and, on the other hand, boost the productivity of Turkish services providers via exposure to frontier technology and best managerial practices. However, these benefits will accrue to goods-producing sectors at the cost of heightened competition for domestic service providers. This tradeoff can be addressed by careful policymaking. First, the focus could be on removing excessive rather than all trade-restrictive measures while focusing on those service sectors most likely to enhance the productivity of domestic firms. Second, it may be useful to prioritize addressing barriers to the commercial presence in Turkey (e.g., FDI-related) over barriers to the cross-border mode of supply, as commercial presence contributes directly to the creation of domestic value-added and is also more likely to foster technology transfers.”

To date, Turkey has only one trade agreement that includes provisions on services, confirming the extent to which the country has restrictions on its services sectors. As noted above, Turkey has a high services restrictiveness level, and this is clearly signaled in the contents of the trade agreements it signs. Out of the 22 agreements to date, Turkey has only one trade agreement that includes provisions on services, namely the Turkey-Singapore Free Trade Agreement (TRSFTA). This agreement entered into force in October 2017 and is the most comprehensive FTA that Turkey has yet signed, which also includes public procurement, investment, and intellectual property, over and above broader trade categories. Public procurement is open to both countries - Turkish companies may bid on procurement contracts from the Singaporean government, and Singapore companies have the same access to Turkish tenders. Services provisions are reasonable, encompassing retail services and business services as well as construction services.⁴³ On investment, for example, the agreement provides no foreign equity limits on foreign investors.

Revitalizing the EU-Turkey Customs Union is a must to realize the gains from trade and GVCs

The EU is not just Turkey's most important trading partner, as they are bound together in a closer arrangement of a customs union. But the Customs Union (CU) remains incomplete, and it lacks mechanisms to ensure a level playing field with third parties. The CU covers manufactured goods but not unprocessed agricultural goods, services, intellectual property, or government procurement. Without this, and with barriers in many of these areas relatively high in Turkey, firms are constrained in being able to fully utilize the opportunities of the CU. And at present, there is a lack of any effective mechanism whereby the terms of PTAs agreed by the EU with third parties are extended to cover Turkey. This creates an uneven playing field by allowing third-party goods to enter Turkey at preferential rates but without Turkish firms receiving reciprocal access. A major benefit of the CU is that goods traded within the CU do not need to comply with complex Rules of Origin (ROO) stating where they and their components originated. But without ROOs and uneven PTAs, goods from a third party may enter the EU and be embedded in goods produced in the EU. When these goods cross into Turkey, according to Turkey's customs laws, they should face a tariff, and to maintain the consistency of Turkey's customs regime, may call for differential treatment of goods from the EU and even the imposition of ROOs.

It is of utmost importance to address many of these issues, either by reforming the Customs Union or else by entering into a new, more flexible agreement. While the CU has been of great value to both the EU and Turkey, as evidenced in a number of evaluations⁴⁴, a changing world means that the CU needs to be updated to remain appropriate. This would mean a closer partnership in forging new third-party trade deals with Turkey at the table as part of the negotiations, as well as stepped-up efforts to align existing PTAs. It could also be extended to account for fuller economic integration, including a deeper agreement on services and

⁴³ Notably, the EU also has a third-party agreement with Singapore covering services sectors as well.

⁴⁴ See, for instance, World Bank (2014), *Evaluation of the EU: Turkey customs union*, World Bank: Washington DC.

reduced friction in the movement of goods and people across borders for business purposes. Finally, an enhanced dispute resolution system would be important to help ensure the smooth running of the union in future. Should it prove to be infeasible to make many of these changes within the current legal framework a new, deep trade agreement between the EU and Turkey may, in a number of respects, be a better alternative than an unreformed Customs Union.

Box 4.8: How deep is the EU-Turkey Customs Union? Analysis using the World Bank Deep Trade Agreement 2.0 database

The EU-Turkey Customs Union (CU) was a pioneering trade agreement between the EU and a third-party country when it came into force in 1996. It had been long in the making and part of a broader dialogue about the possible integration and accession of Turkey into the EU. However, little progress has been made since on Turkey's EU accession, and at this stage, it is most useful to consider the CU as a tool for trade and economic integration between the EU and a third-party country in its own right. This raises the question as to how, in its provisions, it compares with good practice Deep Trade Agreements (DTAs), and particularly those that seek to support deeper economic integration.

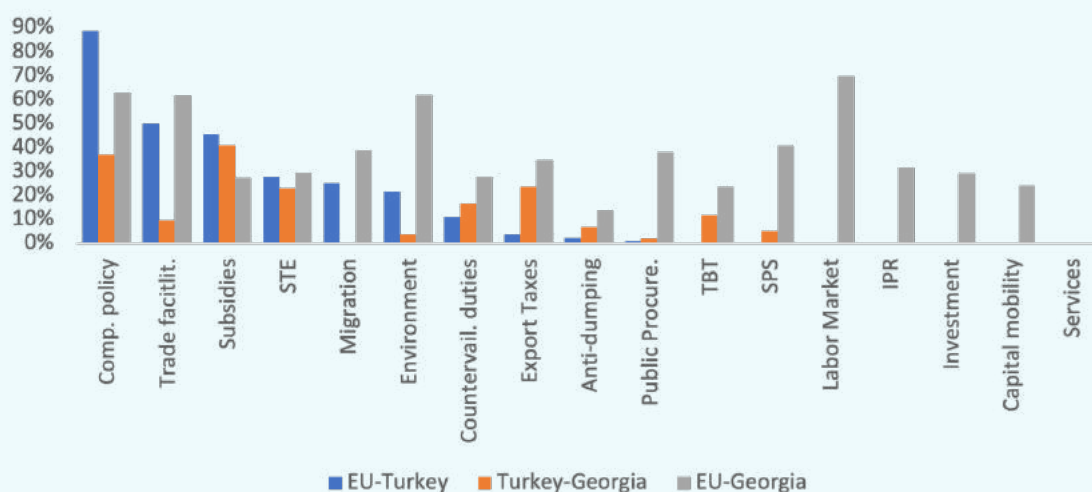
According to a recent exercise in assessing the commitments in trade and custom union agreements worldwide, the Turkey-EU CU contains 110 provisions overall, of which 40 are 'substantive' – or specific commitments and obligations on integration. Compared against all other agreements worldwide signed between 1958 and 2007, this equates to a coverage ratio of commitments of 12.2 percent and substantive commitments of 17.9 percent. In other words, the CU contains just less than a fifth of all the substantive commitments that have been seen in Deep Trade Agreements (DTAs).

There is a wide range in coverage between DTAs, but since the agreement of the CU, newer DTAs have contained a greater amount of substantive commitments. For instance, in 1996, only one new agreement had a substantive coverage ratio of greater than 25 percent. Between 2004 and 2015, eight agreements per year exceeded this level. Examples of more recent, deep trade agreements, with coverage of substantial commitment in parentheses, include: EU – Ukraine (50 percent); EU – Georgia (43 percent); and Canada – South Korea (42 percent).

Against the eighteen⁴⁵ most common policy areas, the CU is very comprehensive in terms of its coverage of commitments related to competition policy, with a coverage ratio of 89 percent. Coverage of commitments in the areas of trade facilitation, subsidies, state-trading enterprises (STE), and migration is also all substantial, with coverage ratios of 25 percent and above. The CU has limited coverage of environmental issues, export taxes, countervailing duties, anti-dumping and public procurement and is not recorded as having any commitments in seven other policy areas.

The figure below compares the CU's coverage with one third-party example, namely trade agreements between both the EU and Turkey with Georgia. This illustrates that while Turkey's PTA with Georgia has some coverage in areas the CU does not, it also has lower coverage in the areas of competition policy, trade facilitation, subsidies, and STE. However, the EU's agreement goes much deeper with substantial coverage in the majority of areas.

Figure 4.19: Comparison of CU and PTAs with Georgia in terms of deep trade agreement coverage



Sources: Mattoo, A., A. Rocha & M. Ruta (2020), *The Evolution of Deep Trade Agreements*, World Bank Policy Research Working Paper Series No. 9283

⁴⁵Note that the policy area of 'rules of origin' is excluded from this analysis as such rules are not required in a Customs Union.

The Turkey-EU CU could benefit from the inclusion of up-to-date provisions on services, investment, public procurement, and intellectual property issues, given that there is untapped trade potential in these sectors. Given the extent of trade between the two parties⁴⁶, and the added geographical proximity/near-shoring advantages, both parties stand to gain from including these provisions. Moreover, the case of the comprehensive Turkey-Singapore FTA signals that scope exists to negotiate in these areas, which many bilateral agreements of the EU already incorporate (see Box 4.9). For example, a reasonable ambition in upgrading the CU would go beyond covering the services sectors already regulated to also include those often governed by domestic law such as legal and accounting services, such that there is mutual recognition of professional qualifications by all parties.⁴⁷ These emerging trends and the evolving global economy have motivated both parties to consider an upgrade of their customs union.⁴⁸

To safeguard against unfair application, changes to the EU-Turkey CU should also ensure the creation of a well-functioning trade dispute resolution mechanism, which could be drawn from existing Free Trade Agreements, such as those the EU has with Japan and Canada. These agreements provide detailed procedures for dispute consultation, subsequent formation of an arbitration panel, and the resulting penalties. Options for dispute resolution could include the European Court of Justice (ECJ), the International Court of Justice (ICJ), or a new court or arbitration panel that could be set up by both parties involving judges from both countries, e.g., the Canada-EU dispute mechanism.

Box 4.9: Recent European Union deep trade agreements

Recent bilateral trade agreements that the EU has entered into have substantial coverage of these service sector provisions, which could inform a deepened Customs Union agreement. The most ambitious and active EU third-party agreement covering services and public procurement is the EU-Canada Comprehensive and Economic Trade Agreement (CETA) which entered into force in 2017. Services sub-sectors include legal services, accountancy, transport & telecom services as well as tourism that allows for cross-border movement of persons. Notably, exceptions exist in sensitive sectors such as audio-visual services and certain aviation services. Public procurement provisions cover the value of the goods, services, or contract involved, the customer, and the allowable goods and services. Results were immediate, and EU services exports to Canada increased by 12.3 percent between 2017 and 2018.

Another example is the EU-Ukraine Deep and Comprehensive Free Trade Agreement (DCFTA), which entered into full force in 2017 and has three notable provisions in services, access to public procurement markets, and the right of establishment. The agreement has provisions in four services sub-sectors – postal and courier services, electronic communications (e.g., telecommunications and digital), financial services, and international maritime transport – subject to two conditions: i) Ukraine to incorporate EU *acquis* into domestic law, and ii) the final say regarding disputes in regulation alignment would be by the Court of Justice of the European Union (CJEU). Ukraine has also developed a new public procurement law as a result of this agreement.

The EU-UK Trade and Cooperation Agreement approved by the European Parliament in April 2021 also includes comprehensive coverage of public procurement and services provisions, spanning all modes of services supply and investment, in almost all economic sectors, e.g., the right of regulation; temporary movement of key categories of professionals; rules on licensing and qualifications; as well as common regulatory provisions for delivery services, telecommunications services, financial services, maritime transport, and legal services. The EU-Korea agreement of 2011 also includes provisions on free capital movement, encompassing standard safeguards for both sides, with the possibility to apply measures to ensure the stability of the financial system. This agreement also contains strong provisions regarding intellectual property rights, specifically on copyright, designs, and geographical indications. These provisions complement and exceed the requirements under the 1995 Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) between members of the World Trade Organization (WTO).

Sources: https://trade.ec.europa.eu/doclib/docs/2020/november/tradoc_159042.pdf; The EU-UK Trade Agreement Explained, European Commission DG Trade https://trade.ec.europa.eu/doclib/docs/2021/january/tradoc_159266.pdf; https://trade.ec.europa.eu/doclib/docs/2009/october/tradoc_145203.pdf; EU-Turkey Customs Union Prospects for Modernization and Lessons for Brexit - Briefing December 2018 Europe Programme <https://www.chathamhouse.org/sites/default/files/publications/research/2018-12-12-eu-turkey-customs-union-hakura.pdf>

⁴⁶ See previous sections on trade flows between Turkey and EU.

⁴⁷ <https://www.chathamhouse.org/sites/default/files/publications/research/2018-12-12-eu-turkey-customs-union-hakura.pdf>

⁴⁸ The European Commission's roadmap for updating the CU states that the upgrade will be 'in line with current ambitious liberalization efforts of the EU with third countries, such as on services, public procurement, agricultural trade and SPS (sanitary and phytosanitary) measures, and other economic areas'.

Conclusion

GVCs are built on cross-border flows, and a renewed agenda to expand market access and bring down barriers to trade in goods and services can yield large returns. Bringing down barriers and strengthening cross-border regulatory frameworks will encourage the support of GVCs in Turkey. GVC integration requires precision and quality in production and supply chain management. While domestic firms can also play an important role, to be effective, firms need unrestricted access to the imported intermediate inputs, whether goods or services. This calls for a refocusing on ease of trading, either multilaterally applied or via bilateral or regional trade agreements.

Turkey is less open to trade than its peers and has potential for trade growth. Although Turkey's export earnings are large in absolute terms, given Turkey's large size and upper-middle-income levels, its trade in goods and services relative to GDP is lower than other countries, suggesting a role for increased trade to support income growth. Detailed gravity modeling confirms that Turkey has significant potential to expand exports, and GVC exports, especially in higher technology sectors and to destination markets where high trade barriers are prevalent. GVC trade potential is highest in electronics, but there is also export potential in machinery, processed food, electrical equipment, and intermediate vehicle GVCs.

Barriers to trade in goods and service restrictions are sizeable. Turkey's simple average tariff rates are not especially low but in the mid-range of all countries around the world. Trade-weighted average tariffs are lower, driven by the Turkey-EU Customs Union, while imports of some products from non-EU countries transiting through the EU pay "additional duties" over and above the applied MFN rate. Non-tariff barriers (NTBs) for goods are prevalent, with Turkey having the 12th highest frequency of NTBs on imports worldwide. And Turkey's restrictions on services are high. Amongst OECD countries, Turkey has the fourth-highest level of restrictions overall.

Reductions in bilateral tariffs and new trade agreements can provide a major boost to exports. While Turkish firms enjoy excellent market access to the Europe and Central Asia region, it is considerably harder for firms to access other markets. Most of Turkey's highest potential markets, like the USA, Japan, China, and Indonesia – all face tariffs greater than the world average, hindering Turkish exporters' ability to compete. And experience shows what a positive impact new trade agreements can have. On average, Turkey's merchandise exports with a partner country increased by 180 percent in the five years after a trade agreement came into force compared to the period prior. While Turkey is limited in agreeing third party agreements where the EU does not also negotiate one, there are scores of countries where the EU and third parties have a PTA where Turkey is free to and should seek to strike its own agreements. World Bank analytical work underway on the economic impacts of Customs Union and trade agreement reform will provide further quantitative estimates of the impact of new trade agreements for Turkey.

The use of additional duties should be either eliminated or restricted to a smaller set of cases. The government states that these duties are imposed because of Turkey's exclusion from the EU tariff-making process and that they are consistent with Turkey's WTO commitments. This is technically true. However, 49.5 percent of Turkey's tariff lines are unbound at the WTO, and the other tariffs are bound at rates that are in general much higher than the applied rate. This means, in effect, that Turkey can raise tariffs on almost any product at any time and claim WTO consistency.

Additional duties make the tariff both less predictable and less transparent to traders, especially as compared to countries with stricter WTO commitments. For example, the EU itself has 100 percent binding and binds almost all of its rates at the MFN applied rate, whereby firms shipping to the EU face much more predictability and transparency than they do with Turkey.

Deeper trade agreements are also needed as Turkey seeks to upgrade further. Turkey's trade agreements are relatively shallow and tend to cover areas already agreed to at the multilateral level. In particular, they could be deepened to facilitate the movement of capital, promote investment, and strengthen intellectual property rights. Modeling suggests that Turkey's exports could rise by around 10 percent from a deepening of existing agreements and that Turkey's exports respond more positively to an increase in trade depth than the average for other countries and are also more responsive than imports.

Revitalizing the EU-Turkey Customs Union is a must to realize the gains from trade and GVCs. The Turkey-EU Customs Union (CU) is Turkey's single most important agreement to facilitate trade and GVCs. Deepening and improving its functioning is therefore of utmost priority. Such reforms could aim to address asymmetries in third-party trade agreements, restrictions on services, and frictions in the movement of goods and people across borders for business purposes. An enhanced dispute resolution system would also be important to help ensure the smooth running of the union in future.

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Annex: Technical details of the export potential modeling⁴⁹

This annex provides technical details on the empirical methodology, data sources, and measurement of the variables and empirical model used to estimate Turkey's export potential.

Trade data, reported imports, at the HS 6-digit (HS 1988/1992) are from the World Bank's World Integrated Trade Solution (WITS). The data cover 105 countries across all geographic regions for the 2000-2018 period and account for 82 percent of world trade.⁵⁰ The sample is restricted to countries with a population greater than 5 million in the year 2000. Population data are from the World Development Indicators (WDI) database.

To empirically assess if Turkey is under exporting, we estimate a simple gravity model, which is widely used in the trade literature to assess the effects of trade policy changes on trade flows (Head and Mayer, 2014). As it is standard in the trade literature, we use a Poisson Pseudo Maximum Likelihood (PPML) estimator to estimate the following gravity equation:

$$\begin{aligned}
 X_{ijt} = & \exp(\beta_1 \ln(1 + \text{tariff}_{ijt}) + \beta_2 \text{RTA}_{ijt} + \beta_3 \ln(\text{Dist}_{ij}) + \beta_4 \text{Contig}_{ij} + \beta_5 \text{Lang}_{ij} \\
 & + \beta_6 \text{Colony}_{ij} + \beta_7 \ln(\text{GDP}_{it}) + \beta_8 \ln(\text{GDP}_{jt}) + \beta_9 \text{Resource Rich}_i \\
 & + \beta_{10} \text{Resource Rich}_j + \beta_{11} \ln(\text{Rem Exp}_{it}) + \beta_{12} \ln(\text{Rem Exp}_{jt}) \\
 & + \beta_{13} \ln\left(\frac{K_{it}}{L_{it}}\right) + \beta_{14} \ln\left(\frac{K_{jt}}{L_{jt}}\right) + \beta_{15} \ln(\text{GDPpc}_{it}) + \beta_{16} \ln(\text{GDPpc}_{jt}) + \varepsilon_{ijt}
 \end{aligned} \tag{1}$$

where X_{ij} is the bilateral trade flow from country i to country j , tariff_{ijt} are bilateral applied tariff duties, RTA_{ijt} comes from Mario Larch's Regional Trade Agreements Database from Egger and Larch (2008) and is an indicator variable that takes a value of 1 if i and j have a trade agreement in year t , Dist_{ij} is the geographical distance between i and j , Contig_{ij} is a variable that takes a value of 1 for country-pairs that share a border, Lang_{ij} is a binary variable equal to 1 if i and j share the same language and Colony_{ij} captures the presence of any colonial ties. Bilateral tariff duties are from the Market Access Map (MACMap) database, while all other variables come from CEPII's gravity database. We proxy for total production and expenditure with exporter's and importer's nominal gross domestic products (GDPs) from the World Bank's World Development Indicators (WDI).

⁴⁹ This annex is based on Mulabdic and Yasar (2021).

⁵⁰ Specifications which include controls for capital stock per worker from the Penn World Tables 9.1 are restricted to the 2000-2017 period due to lack of data.

Additional controls, including exporters' and importers' GDPs, as well as per capita GDPs, to account for the level of development that can affect the composition of imports and exports and their quality as well, are from the World Bank's World Development Indicators (WDI). Finally, we include additional controls for factor endowments: natural resources and capital per worker (Chor, 2010; Romalis, 2004). First, to control for the presence of resource-rich countries, we use data from the World Bank to construct variables equal to 1 if average rents from oil, coal, and mineral exceed 10 percent of GDP for the 2000-2018 period. Second, we follow Levchenko and Zhang (2014) and construct variables for capital stock per worker based on data from the Penn World Tables 9.1.

To control for the unobservable multilateral resistance terms, we construct "remoteness indexes" (Baier and Bergstrand, 2007; Wei, 1996).⁵¹ A popular alternative to this method requires the inclusion of exporter-year and importer-year fixed effects. Fixed effects account for multilateral resistance terms as well as any country-specific time determinants of trade. However, in a PPML model, fixed effects impose a perfect fit in terms of total exports and total imports for each country, which implies that countries' total exports would always be perfectly predicted and never departing from their potential.

Finally, we include additional controls for factor endowments: natural resources and capital per worker (Chor, 2010; Romalis, 2004). First, to control for the presence of resource-rich countries, we use data from the World Bank to construct variables equal to 1 if average rents from oil, coal, and mineral exceed 10 percent of GDP for the 2000-2018 period. Second, we follow Levchenko and Zhang (2014) and construct variables for capital stock per worker based on data from the Penn World Tables 9.1. In addition, we also include exporters' and importers' GDP per capita from the WDI to account for the level of development, which can affect the composition of imports and exports and their quality as well.

Table 4.1 reports the PPML estimates from the gravity Equation (1). Results are in line with the trade gravity literature in terms of signs and magnitude of the coefficients. First, the results point to a significant effect of trade policy variables. RTAs are estimated to increase trade between 16 and 24 percent. The RTA coefficients are lower in Columns 2, 4, and 6 as tariff liberalizations are accounted for by the $\ln(\text{tariff} + 1)$ variable. Thus, in those specifications, the RTA variable only captures reductions in non-tariff barriers. A one percent reduction in bilateral tariffs is estimated to increase trade by between 1.6 and 2.5 percent. Distance is estimated to reduce bilateral trade while sharing a border and speaking the same language has a positive impact on trade flows. The coefficients on the remoteness indexes suggest that larger and more remote countries trade more intensively among themselves. Finally, more developed countries tend to export less, while importers' economic development and colonial ties are not statistically significant.

⁵¹ See Mulabdic and Yasar (2021) for details.

Table 4.1: PPML Gravity Estimates

VARIABLES	(1) Trade	(2) Trade	(3) Trade	(4) Trade	(5) Trade	(6) Trade
RTA	0.211*** (0.057)	0.171** (0.066)	0.215*** (0.059)	0.154** (0.067)	0.209*** (0.059)	0.148** (0.067)
ln(distance)	-0.728*** (0.031)	-0.714*** (0.034)	-0.763*** (0.037)	-0.755*** (0.038)	-0.766*** (0.037)	-0.758*** (0.038)
Border	0.454*** (0.086)	0.452*** (0.086)	0.423*** (0.088)	0.405*** (0.087)	0.412*** (0.088)	0.396*** (0.087)
Language	0.201** (0.097)	0.194** (0.096)	0.242*** (0.094)	0.250*** (0.093)	0.273*** (0.093)	0.280*** (0.093)
Colony	-0.124 (0.106)	-0.125 (0.106)	-0.112 (0.100)	-0.111 (0.098)	-0.135 (0.102)	-0.134 (0.100)
ln(GDP exp.)	0.849*** (0.021)	0.852*** (0.022)	0.892*** (0.034)	0.899*** (0.035)	0.889*** (0.034)	0.896*** (0.035)
ln(GDP imp.)	0.824*** (0.030)	0.818*** (0.030)	0.828*** (0.032)	0.836*** (0.031)	0.830*** (0.031)	0.837*** (0.031)
Mineral-rich exp.	0.023*** (0.003)	0.022*** (0.003)	0.021*** (0.003)	0.020*** (0.003)	0.020*** (0.004)	0.019*** (0.004)
Mineral-rich imp.	-0.010** (0.005)	-0.007* (0.004)	-0.009** (0.004)	-0.008** (0.004)	-0.011** (0.004)	-0.010** (0.004)
ln(Remoteness exp.)	0.548*** (0.086)	0.555*** (0.086)	0.516*** (0.090)	0.522*** (0.090)	0.559*** (0.100)	0.566*** (0.100)
ln(Remoteness imp.)	0.554*** (0.098)	0.545*** (0.096)	0.533*** (0.096)	0.504*** (0.095)	0.651*** (0.114)	0.615*** (0.113)
ln(GDPpc exp.)			-0.126** (0.050)	-0.127** (0.050)	-0.177*** (0.049)	-0.183*** (0.049)
ln(GDPpc imp.)			0.005 (0.032)	-0.048 (0.030)	-0.189*** (0.054)	-0.228*** (0.053)
ln(K/L exp.)					0.074 (0.065)	0.081 (0.064)
ln(K/L imp.)					0.280*** (0.086)	0.261*** (0.083)
ln(tariff+1)		-1.591* (0.870)		-2.449*** (0.891)		-2.419*** (0.900)
Observations	168,581	168,581	166,908	166,908	152,515	152,515

Notes: Robust standard errors, clustered at the country-pair level, are in parentheses.
 *** p<0.01, ** p<0.05, * p<0.1

Does Turkey under export given its observable characteristics? To answer this question, we implement a two-step procedure based on estimates from Table 4.1. In a first step, we use the coefficients from Table 4.1 to predict bilateral trade flows based on countries’ observable characteristics. In a second step, we aggregate exports at the country level (A) or analyze bilateral flows (B) to calculate the different export potential indexes which are defined as follows:

1 st Step	$\begin{aligned} \hat{X}_{ijt} = & \exp(\hat{\beta}_1 \ln(1 + \text{tariff}_{ijt}) + \hat{\beta}_2 \text{RTA}_{ijt} + \hat{\beta}_3 \ln(\text{Dist}_{-ij}) + \hat{\beta}_4 \text{Contig}_{ij} \\ & + \hat{\beta}_5 \text{Lang}_{ij} + \hat{\beta}_6 \text{Colony}_{ij} + \hat{\beta}_7 \ln(\text{GDP}_{it}) + \hat{\beta}_8 \ln(\text{GDP}_{jt}) \\ & + \beta_9 \text{Resource Rich}_i + \beta_{10} \text{Resource Rich}_j + \beta_{11} \ln(\text{Rem Exp}_{it}) \\ & + \beta_{12} \ln(\text{Rem Exp}_{jt}) + \beta_{13} \ln \left(\frac{K_{it}}{L_{it}} \right) + \beta_{14} \ln \left(\frac{K_{jt}}{L_{jt}} \right) + \beta_{15} \ln(\text{GDPpc}_{it}) \\ & + \beta_{16} \ln(\text{GDPpc}_{jt}) \end{aligned}$	2
A 2 nd Step	$\text{Export Potential Index}_{i,t} = \left(\frac{\sum_j \hat{X}_{ij,t} - \sum_j X_{ij,t}}{\sum_j \hat{X}_{ij,t} + \sum_j X_{ij,t}} \right) * 100$	3
B 2 nd Step	$\text{Export Potential Index}_{\text{TUR},j,t} = \left(\frac{\hat{X}_{\text{TUR}ij,t} - X_{\text{TUR}ij,t}}{\hat{X}_{\text{TUR}ij,t} + X_{\text{TUR}ij,t}} \right) * 100$	4

Finally, in order to analyze industries that are of strategic interest to Turkey, we aggregate the HS 6-digit trade flows to obtain a new classification that covers 20 industries and estimate the gravity at the industry level. The Turkish Ministry of Trade identified 6 strategic sectors for which the goal is to expand Turkey's global share. The sector "1-24 Food" covers all processed products in HS chapters 1-24, "28-38 Chemical" includes the sum of all 767 products in HS chapters 28-38, "84-85 Electronics" are all the electronics products under chapters 84-85, "84 Machinery" includes machinery and mechanical appliances in chapter 84, "85 Electrical" covers electrical machinery and equipment in chapter 85, and "86-89 Automotive" are all the products in chapters 86-89. To calculate Turkey's industry-level export potential, we extend the gravity model in Equation (1) and estimate the following equation:

$$\begin{aligned}
 X_{ijt}^k = \exp & \left(\beta_1^k \ln(1 + \text{tariff}_{ijt}^k) + \beta_2 \text{RTA}_{ijt}^k + \beta_3^k \ln(\text{Dist}_{ij}) + \beta_4^k \text{Contig}_{ij} + \beta_5^k \text{Lang}_{ij} \right. \\
 & + \beta_6^k \text{Colony}_{ij} + \beta_7^k \ln(\text{GDP}_{it}) + \beta_8^k \ln(\text{GDP}_{jt}) + \beta_9^k \text{Resource Rich}_i \\
 & + \beta_{10}^k \text{Resource Rich}_j + \beta_{11}^k \ln(\text{Rem Exp}_{it}) + \beta_{12}^k \ln(\text{Rem Exp}_{jt}) \\
 & \left. + \beta_{13}^k \ln\left(\frac{K_{it}}{L_{it}}\right) + \beta_{14}^k \ln\left(\frac{K_{jt}}{L_{jt}}\right) + \beta_{15}^k \ln(\text{GDPpc}_{it}) + \beta_{16}^k \ln(\text{GDPpc}_{jt}) \right) + \varepsilon_{ijt}
 \end{aligned}$$

where X_{ijt}^k is the bilateral trade flow from country i to country j at time t in industry k . We estimate Equation (5) for each industry k allowing each explanatory variable to have an industry-specific impact. For instance, the impact on trade of speaking the same language, β_5^k , for the automotive industry may differ from the impact language has on trade in vegetables.

The table presents the industry-level estimates from a PPML model. The estimates are qualitatively similar to the aggregate results, but there is substantial heterogeneity in terms of magnitudes across industries.⁵² The coefficient on the RTA indicator variable varies between 0.064 for electronics to 0.602 for the automotive industry, which translates to an increase in exports of 7 and 83 percent, respectively. The results show that trade in the automotive industry is less sensitive with respect to distance, conditional on the fact of its being concentrated among neighboring countries – i.e., the coefficient on the border indicator variable is the largest for the automotive industry. Finally, the results suggest that countries with relatively high capital per worker tend to export more electronics and products in the automotive industry.

Similarly to the aggregate analysis, we use the industry-level estimates to calculate industry-level export potentials as outlined in Equations (3) and (4). For each industry, we construct industry-level export potential indexes and calculate the difference between predicted and observed export flows to obtain the dollar figures for missing exports.

⁵² See Mulabdic and Yasar (2021) Table A2 for industry level estimates for non-targeted industries.

Table 4.2: Industry Level PPML Gravity Estimates Targeted Sectors

	(1)	(2)	(3)	(4)	(5)	(6)
	Food	Chemicals	Machinery	Electronics	Electrical	Automotive
VARIABLES	1-24	28-38	84	84-85	85	86-89
RTA	0.438*** (0.090)	0.108 (0.084)	0.137* (0.082)	0.064 (0.160)	0.075 (0.130)	0.602*** (0.134)
ln(distance)	-0.623*** (0.057)	-0.864*** (0.039)	-0.702*** (0.043)	-0.856*** (0.111)	-0.859*** (0.073)	-0.619*** (0.060)
Border	0.598*** (0.107)	0.184** (0.080)	0.383*** (0.110)	0.003 (0.323)	0.487*** (0.177)	0.620*** (0.164)
Language	0.293*** (0.087)	0.424*** (0.081)	0.017 (0.088)	0.411 (0.327)	0.016 (0.228)	-0.123 (0.151)
Colony	0.099 (0.124)	-0.079 (0.103)	0.112 (0.122)	-0.692*** (0.202)	-0.222 (0.170)	-0.282 (0.182)
ln(GDP exp.)	0.681*** (0.025)	0.921*** (0.023)	1.019*** (0.028)	1.048*** (0.080)	1.056*** (0.054)	0.907*** (0.038)
ln(GDP imp.)	0.718*** (0.030)	0.765*** (0.023)	0.798*** (0.029)	0.825*** (0.102)	0.756*** (0.064)	0.895*** (0.045)
ln(tariff+1)	-1.838*** (0.369)	3.120** (1.395)	-0.899 (1.295)	0.426 (2.945)	-0.030 (1.225)	-2.852** (1.407)
ln(GDPpc exp.)	-0.226*** (0.070)	0.254*** (0.066)	-0.101 (0.072)	-0.693*** (0.115)	-0.477*** (0.091)	-0.306*** (0.099)
ln(GDPpc imp.)	-0.110* (0.059)	-0.202*** (0.049)	-0.126** (0.053)	-0.286** (0.140)	-0.267*** (0.092)	0.029 (0.093)
Mineral-rich imp.	0.175* (0.103)	-0.301*** (0.086)	0.296*** (0.099)	-0.920*** (0.228)	-0.251* (0.133)	0.516*** (0.135)
Mineral-rich exp.	-0.877*** (0.175)	-0.302** (0.122)	-2.219*** (0.277)	-4.080*** (0.278)	-2.761*** (0.323)	-2.350*** (0.270)
ln(Remoteness exp.)	0.719*** (0.125)	-0.491*** (0.137)	-0.075 (0.174)	1.704*** (0.283)	0.525** (0.243)	0.924*** (0.263)
ln(Remoteness imp.)	0.102 (0.129)	0.977*** (0.121)	0.886*** (0.120)	0.642** (0.295)	0.953*** (0.222)	0.632*** (0.191)
ln(K/L exp.)	0.278*** (0.079)	-0.062 (0.077)	0.277*** (0.100)	0.347** (0.172)	0.229* (0.137)	0.815*** (0.137)
ln(K/L imp.)	0.188*** (0.071)	0.277*** (0.062)	0.075 (0.067)	0.490* (0.297)	0.428** (0.175)	0.061 (0.105)
Observations	152,515	152,515	152,515	152,515	152,515	152,515

Notes: Robust standard errors, clustered at the country-pair level, are in parentheses.

*** p<0.01, ** p<0.05, * p<0.1

Chapter 5

Reaching the horizon: Scaling up GVC participation for upgrading



- **Increasing GVC participation will help drive productivity improvements and increased value-added**
- **GVC firms, often the product of GVC-linked FDI, are key to accelerate this upgrading of economic activity**
- **But FDI is far below the level needed**
- **Entrenching economic and regulatory stability, combined with a committed and consultative approach to dialogue with business, expected to drive new GVC-linked investments**
- **National systems to support innovation and skills are also important pillars of upgrading**

Increasing GVC participation can drive economic upgrading in GVCs

While Turkey's GVC participation has progressed to more advanced functions recently, there remains considerable scope to further upgrade and increase the value from GVCs. As we have seen in Chapters 1 through 3, Turkey has increased its engagement in GVCs over the past two decades. But Turkey's level of GVC participation is still well below the average of countries in this grouping, export sophistication is relatively low, and it lacks the level of intellectual capital and advanced GVC services common in the most advanced GVC countries. Turkey's increase in GVC participation has gone hand-in-hand with economic upgrading. Domestic value added of exports increased apace, and Turkey joined the advanced manufacturing and services GVC grouping of countries (see, for instance, Figure 2.16 and Figure 2.17). The intuition for this relationship is intrinsic to the value of GVCs overall – increased GVC participation implies more and more intense, cross-border relationships amongst firms, which are the primary means through which productivity enhancement, or economic upgrading, takes place. Therefore, raising GVC participation is closely associated with economic upgrading, and the cross-country literature on the determinants of GVC participation can provide important clues as to how to support further increases in participation.

Multinational lead firms in GVCs are key enablers of both participation and upgrading. GVC lead firms are found to be the most productive worldwide and in Turkey. Upgrading can mean bringing in more of these high-productivity firms or raising the capabilities of local firms. But even to upgrade local firms, it takes two to tango. Increasing the population of GVC lead firms in Turkey is one of the most important drivers of broader economic upgrading. Upgrading to a higher level of GVC participation was especially common in East Asia and Europe (e.g., China, Estonia, India, Lithuania, Philippines, Poland, Portugal, Romania, Thailand), where countries were heavily engaged in manufacturing sectors most amenable to GVCs, such as electronics, transport equipment, and machinery (World Bank 2020a). Turkey's manufacturing sector attracted significant shares of FDI in the 2000s that established major new lead firms in Turkey, which helped increase productivity and transitioning to the advanced manufacturing and services level of the GVC taxonomy. For emerging economies already integrated into international markets such as Turkey, this form of technological catch-up can often present the fastest, most efficient means to drive economic upgrading and productivity. See for examples Box 5.2 on Metyx Composites. But homegrown innovation can also be important in upgrading, to both develop and adapt knowledge to apply for use in markets.

Box 5.1: Metyx Composites – from knitting textiles to weaving fibers for wind turbine blades

Metyx Composites was founded in 2003 as a division of Telateks A.S., a leading textile manufacturing company in Turkey since 1940. From the beginning, Metyx Composites built on its experience in knitting fabrics and garments to develop and produce high-performance technical textiles using glass, carbon, and aramid fibers and custom-made multiaxial reinforcements. Such composite materials are high in demand in industry, including by wind energy – its main market sector, marine, automotive, transportation, infrastructure, building and construction, and sports and leisure equipment producers.

For the company founders, entering technical textiles was a natural progression from the long-established family's textile company, building on its core process capacities of knitting and weaving. Metyx has gradually launched and certified new products serving different industries since 2003, including, for example, composite material for marine in 2005, new reinforcement products in 2006, certification for wind turbines in 2008, and the launch of the multiaxial carbon fabric range in 2010, etc. This product and process upgrading has enabled the original family business to diversify and venture into new business sectors and markets of the future. Metyx today also offers knitting, tooling, consultancy services and customer training.

With company growth, Metyx gradually internationalized by linking up with international customers and markets. Today, Metyx runs state-of-the-art production facilities in Istanbul and Manisa. In 2013, it opened its first plant outside Turkey in Kaposvar, Hungary, to directly supply customers in the EU market from this central location, and in 2018 started production in North Carolina, USA, to serve all of North America. The success of Metyx also benefits investment in Turkey. The company recently discussed a joint venture with German Armacell – a global leader in flexible foams for insulation. Armacell will install a new production line in Turkey close to the Metyx facility in Manisa and the two companies will join forces in knitting operations and distribution, jointly serving the Turkish composite manufacturing market. Armacell is known for its innovative and environmentally friendly PET foam solutions and will introduce its patented processing technology using 100% recycled PET to its site in Turkey.

Sources: www.metyx.com, <https://www.armacell.com/news/armacell-and-metyx-pursue-joint-business-opportunities-turkey> (all accessed 15 May 2021).

Weaker policy frameworks, high volatility and low FDI are holding Turkey back in GVCs

Cross-country empirical work provides solid evidence on factors which affect GVC growth. A substantial body of literature has studied the determinants of GVC participation⁵³ yielding a set of country-level indicators which are associated with GVC participation based on cross-country evidence (see Box 5.2 for more information). Comparison of Turkey's performance in these areas relative to its GVC peer group can help to identify areas to improve, which are likely to enable continued progression in GVCs and economic upgrading. This section summarizes the results of a benchmarking exercise that draws on the existing literature, particularly as summarized in the GVCs WDR, and compares Turkey's performance on the GVC determinants against comparator groups. For more information about this and further econometric work, refer to the annex to this Chapter.

⁵³ Cross country analysis more often uses GVC participation as the outcome variable of interest. While this is not a direct measure of economic upgrading, as discussed earlier, there is a strong relationship between rising GVC participation and rising domestic value added from GVCs, and data availability means that other measures of upgrading, such as GVC sector productivity, are not available.

Box 5.2: Empirical evidence on cross-country determinants of GVC participation

There is significant literature on global value chains, their impacts, and what factors at the national level, or ‘environmental’ factors, are associated with GVC activity. Such evidence can be of great relevance to policymakers who seek to encourage GVC activity by providing at least an indication of which policy levers may be effective in support of GVC-led growth. The 2020 World Development Report, *Trading for Development in the Age of Global Value Chains* (World Bank Group, 2020), provides a high-level summarization of the findings of the literature on the drivers of GVC participation. This categorization is guided by econometric analysis set out in Fernandes, Kee, and Winkler (2020), which tests the impact of variables groups in these four thematic areas on measures of GVC participation, using a panel of around 120 countries over time, utilizing approaches to control for potential endogeneity between some variables. The WDR presents determinants thematically as:

- Factor endowments matter as removing restrictions in factor markets enables countries to improve their comparative advantage.
- Market size matters as liberalized trade increases access to markets and inputs.
- Geography matters but improved connectivity and lowered trade costs can help reduce remoteness.
- Institutional quality matters, and it can be improved through strengthening contract enforcement, protecting IP rights, and improving standards regimes.

Figure 5.1: Policy priorities to transitioning to more sophisticated participation in GVCs

	Commodities to limited manufacturing	Limited manufacturing to advanced manufacturing and services	Advanced manufacturing and services to innovative activities
Fundamentals	Policy priorities		
Endowments	Foreign direct investment: adopt supportive investment policy and improve the business climate		
Market size	Finance: improve access to banks	Finance: improve access to equity finance	
Location	Labor costs: avoid rigid regulation and exchange rate misalignment	Technical and managerial skills: educate, train, and open to foreign skills	Advanced skills: educate for innovation and open to foreign talent
Institutions	Access to inputs: reduce tariffs and NTMs; reform services	Standardization: harmonize or mutually accept standards	
	Market access: pursue trade agreements	Market access: deepen trade agreements to cover investment and services	
	Trade infrastructure: reform customs; liberalize transport services; invest in ports and roads	Advanced logistics services: invest in multimodal transport infrastructure	
	Basic ICT connectivity: liberalize ICT services; invest in ICT infrastructure	Advanced ICT services: expand high-speed broadband	
	Governance: promote political stability	Governance: improve policy predictability; pursue deep trade agreements	
	Standards certification: establish conformity assessment regime	Contracts: enhance enforcement	Intellectual property rights: ensure protection

Without attempting to exhaustively cover this research, some important findings of the cross-country GVC determinants literature include the following. Banerjee and Zeman (2020) find country size and FDI openness important, but also that a higher real exchange rate lowers integration into GVCs. An analysis by OECD (2015) seeks to explain GVC participation in terms of: i) structural factors (market size, level of development, industrial structure, location); and ii) policy factors (trade policy, FDI openness, intellectual property, logistics performance, infrastructure, institutions). The authors surmise that the influence of both structural and policy drivers varies significantly by sector and the level of development. This work also finds evidence that logistics performance, intellectual property rights, and quality of infrastructure affect GVC participation. Badr (2019) focuses on GVC participation amongst UMICs and finds logistics, education, and innovation, business environment factors important. Skabic (2019), focusing on EU countries, also finds broadly consistent results yet sees a positive relationship with R&D spending, consistent with the idea that most EU countries focus on R&D-intensive innovative activities. Taglioni et al. (2016) find access to knowledge (distance to knowledge hubs) significant for GVC linkages and at the sectoral level, and the existence of export processing zones, quality of domestic value chains, and services infrastructure, amongst others, drivers of GVC participation.

A number of papers support the view that institutions matter for GVCs and more so for more advanced GVCs. Dollar et al. (2020) and Dollar et al. (2016) find support for the importance of institutions at a cross-country level. They use Chinese firm-level data to show that the quality of local institutions is associated with firm decisions to participate in GVCs. The impact of institutional quality is found to be variable between industries. Kiddler and Dollar (2017) show that institutional quality is positively correlated with participating in more complex GVCs. Dollar, Ge, and Yu (2016) also find that GVC participation is associated with institutional quality at the industry level. In a similar vein, Nunn (2007) shows higher technology industries that produce more sophisticated products are more sensitive to institutional quality given their contract-intensive nature.

Source: Atas, E. & D. Knight, “Country-level determinants of GVC participation: Evidence and application to Turkey”, background paper to the Turkey GVCs CEM; World Bank Group, *Trading for Development in the Age of Global Value Chains*. 2020. World Bank: Washington DC.

Turkey is well behind GVC peers in several areas, especially macroeconomic stability, policy stability, regulatory frameworks, and FDI. Figure 5.2 presents the comparison of Turkey against the advanced manufacturing and services country grouping in areas shown to be important for GVC participation. On certain measures, such as distance to GVC hubs, logistics performance, and financial development, Turkey scores better than average for countries that are part of advanced manufacturing and services, while it is the median country for FDI restrictiveness and enabling trade. On the other hand, there are several areas where Turkey is below average. Turkey scores far worse than the average on political stability, macroeconomic stability, human capital, and FDI inflows. Overall, with Turkey scoring below the median for more than half the indicators, the comparisons yield a variety of possible reasons why Turkey lags behind the group in its GVC participation and hints at a reform program to support growth in GVCs.

Figure 5.2: Turkey rates below the average of adv. manufacturing and services countries for most factors associated with VC participation

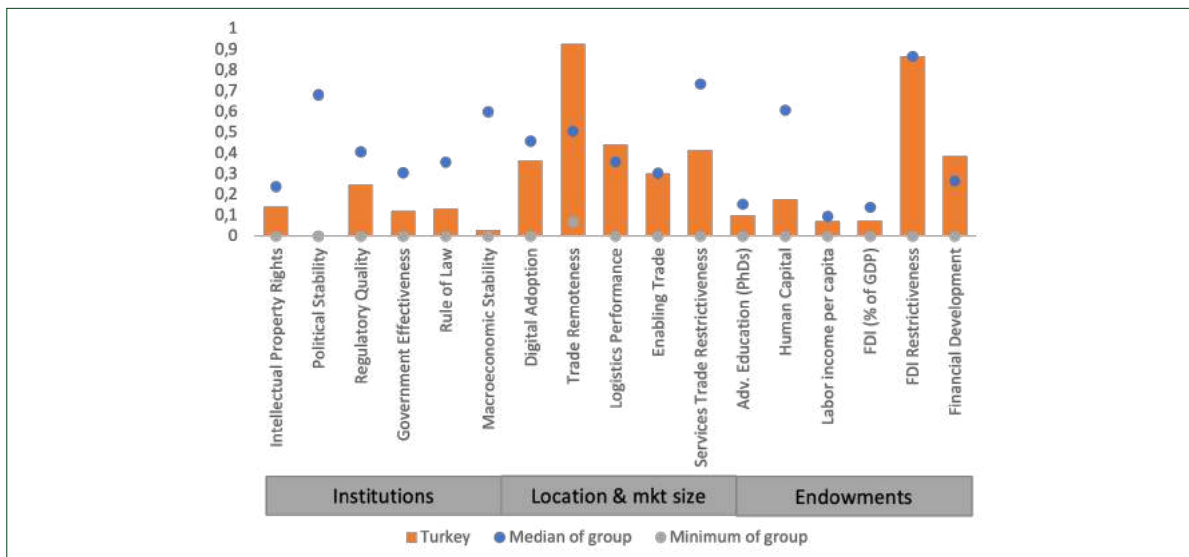
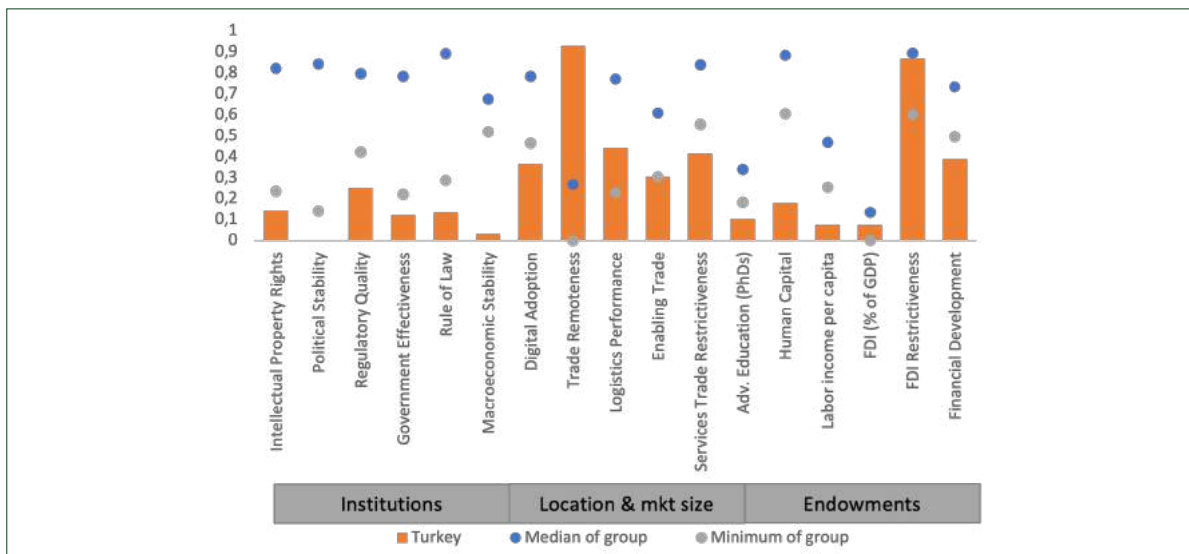


Figure 5.3: Turkey rates less well than the minimum in the innovative activities group on most factors associated with GVC participation



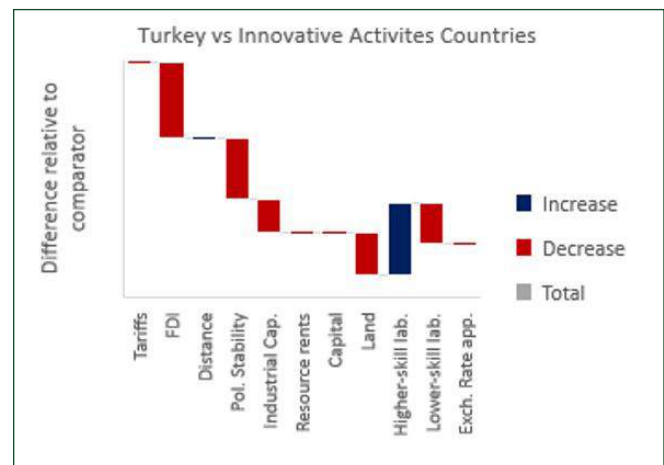
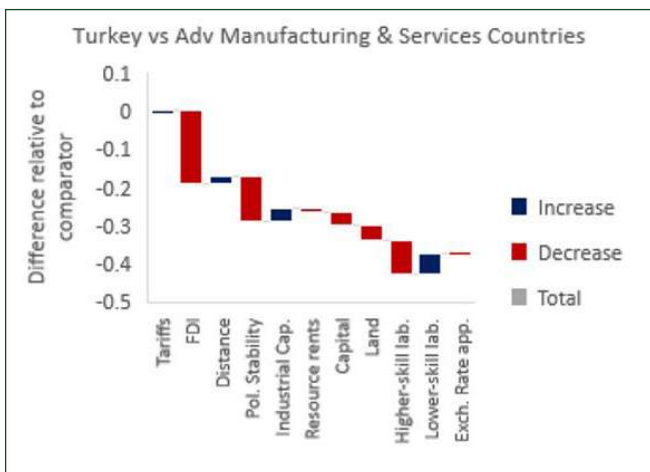
Source: World Bank World Governance Indicators; TURKSTAT; CBRT; Digital Adoption Index; Human Capital Index; Logistics Performance Index; International Monetary Fund; Penn World Tables, OECD.

Note: Indicators in this figure are all normalized to between 0 (lowest scoring of any advanced manufacturing or innovative services country) to 1 (highest score of any country in that group). Macroeconomic stability is measured as an equally weighted index of: i) average annual inflation over a five-year period; average annual exchange rate depreciation over a five-year period; average annual real GDP growth over a five-year period.

Turkey’s policy and endowments fall well short of innovative activity countries, suggesting there is some way to go to progress to this level. Turkey aspires to progress into more innovative GVC activities, whereby it is also relevant to compare its policy and endowments to this group (Figure 5.3). The fact that Turkey falls below the minimum for the grouping in almost all areas means that there is no precedent based on the current membership of this group for a country such as Turkey to advance to this level without first improving across a wide range of these areas. In other words, it seems clear that Turkey is indeed not yet at a stage to progress to this grouping and points to many areas that could be improved towards reaching it. Relative to innovative activities countries, Turkey compares well on trade remoteness and reasonably well on logistics performance and FDI restrictiveness. But for the majority of indicators (13 out of 17), Turkey’s score is lower than any country within the group. In other words, there is currently no example of a country that has established itself as an innovative activity hub first and only subsequently improved its status in each of the areas that are marked as red in figure 5.

Figure 5.4: Turkey’s lower GVC participation than adv. Manufacturing & services countries driven mostly by lower FDI and weaker political stability

Figure 5.5: ...while similar factors explain the gap with innovative activities countries



Source: Atas, E. & D. Knight, “Country-level determinants of GVC participation: Evidence and application to Turkey”, background paper to the Turkey GVCs CEM; World Bank Group, Trading for Development in the Age of Global Value Chains. 2020. World Bank: Washington DC.

Econometric analysis points to the importance of improving FDI and indicators of stability to progress in GVCs. As already noted, Turkey has considerably lower backwards GVC participation than the average for countries at relatively advanced levels of GVC integration – both the innovative services group and the advanced manufacturing and services group it is part of. Turkey’s backwards participation is similarly lower than the average for both high-income and UMIC countries. For the purposes of this report, an analytical model developed for the 2020 WDR on GVCs was re-estimated for countries at or above Turkey’s level of GVC development (see the annex to this chapter for more details)⁵⁴. The outputs of this econometric model provide estimates of the marginal effect that changes in these variables have on GVC participation. Applying these coefficients to country data produces the predicted values of participation. Finally, comparing the relative impact of the different elements of the predicated values between Turkey and comparators provides a quantitative estimate of the determinants of Turkey’s low participation. The results of this exercise are shown in Figure 5.4 and Figure 5.5. Turkey’s relatively good distance to market, the industrial capital, and stock of lower-skilled workers act slightly in favor of higher GVC participation. However, Turkey’s low level of FDI relative to comparators pulls down its participation sharply, while low rankings for political stability and low levels of higher-skilled works are also relatively important factors in explaining lower backwards participation compared to peers. The main findings are similar across both comparator groups.

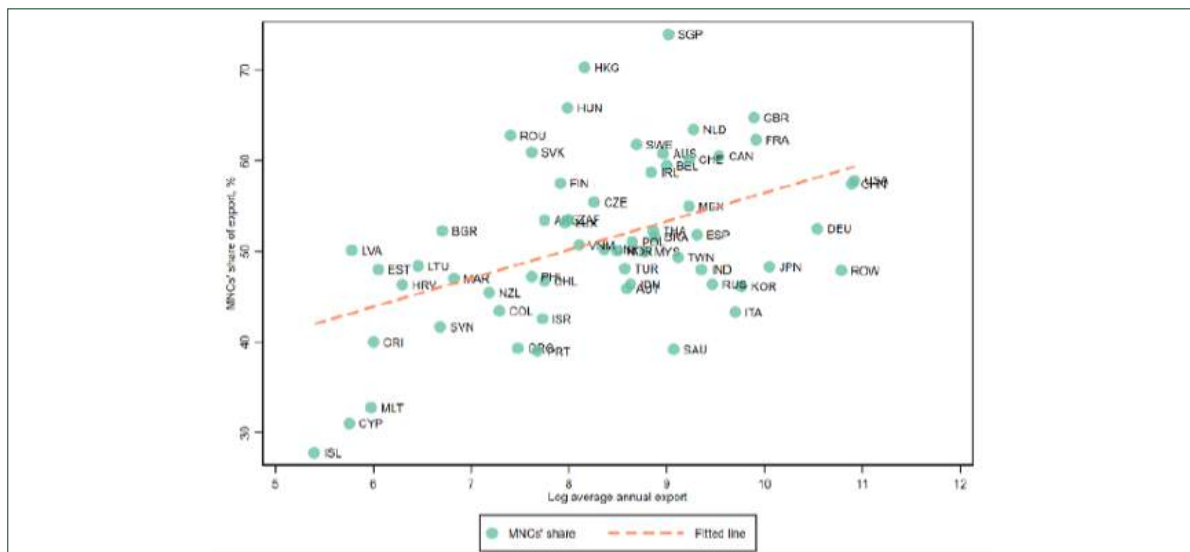
⁵⁴ Based on Fernandes et al (2020), summarized in the 2020 WDR. Fewer variables are presented in this analysis than above, as it is based on only those variables which have a statistically significant relationship with GVC participation in a common econometric specification. Regressions have been re-estimated based on innovative and advanced manufacturing services countries along and using OECD TIVA data to improve the granularity of the analysis for Turkey.

Turkey can raise the gains through GVCs by increasing FDI

Foreign direct investment, and similar forms of durable, cross-border flows are important means by which the productivity benefits of GVCs flow. Foreign Direct Investment (FDI) is closely linked to GVC participation and is one of the most common means through which developing countries integrate in GVCs. The Productivity CEM showed, based on firm-level analysis of vertical productivity spillovers, that increased FDI in ‘upstream’ sectors led to increased productivity in larger firms in downstream sectors. Javorcik et al. (2017) show that “Turkish firms in sectors and regions more likely to supply foreign affiliates tend to introduce more complex products”.⁵⁵ A higher intensity of multinational enterprises (MNEs) is associated with higher exports (Figure 5.6). Recent research confirms that manufacturing FDI in Turkey, measured by MNE presence in manufacturing sectors, increased formal employment and wage income. It also finds evidence of MNEs’ skill premium, meaning that higher-skilled workers have experienced larger increases in Turkey (World Bank 2021).

Turkey’s FDI inflows are well below the average for countries in similar or more advanced GVC positions. Turkey experienced a peak in inward FDI from 2005-08. These inflows are often associated with rising productivity and growth over that period. However, FDI inflows relative to GDP have remained relatively limited in Turkey, especially when compared to countries that are integrated into more advanced GVCs. Consistently over the past three decades, Turkey’s inward FDI has been far lower than the average of other advanced manufacturing and services countries, as well as countries integrated into innovative services GVCs, both existing (old innovators in Figure 5.7) and those that have progressed to this level since 1990 (new innovators). This is not driven by the relatively large size of Turkey’s economy as many similar or larger economies, including ones that have similarly progressed to the advanced manufacturing and services group, like China, have seen greater FDI inflows as a share of GDP.

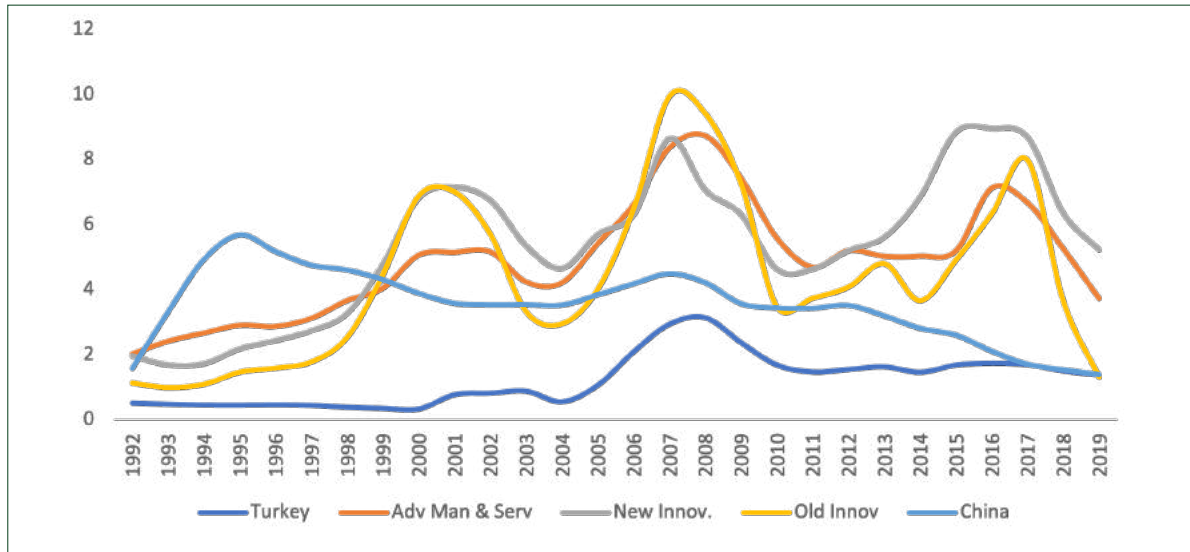
Figure 5.6: Higher multi-national export share associated with higher national exporters overall



Source: World Bank, 2019, GVCs: An investment perspective, World Bank: Washington DC.

⁵⁵ Also, Atiyas and Bakis (2015) find that foreign firms in Turkey are larger, more productive and more engaged in innovative activities, while Yasar and Morrison Paul (2007) show that in Turkey firms with international linkages are more productive, and productivity is most closely related to foreign ownership.

Figure 5.7: Turkey's Foreign Direct Investment inflows well below comparators, even during peak



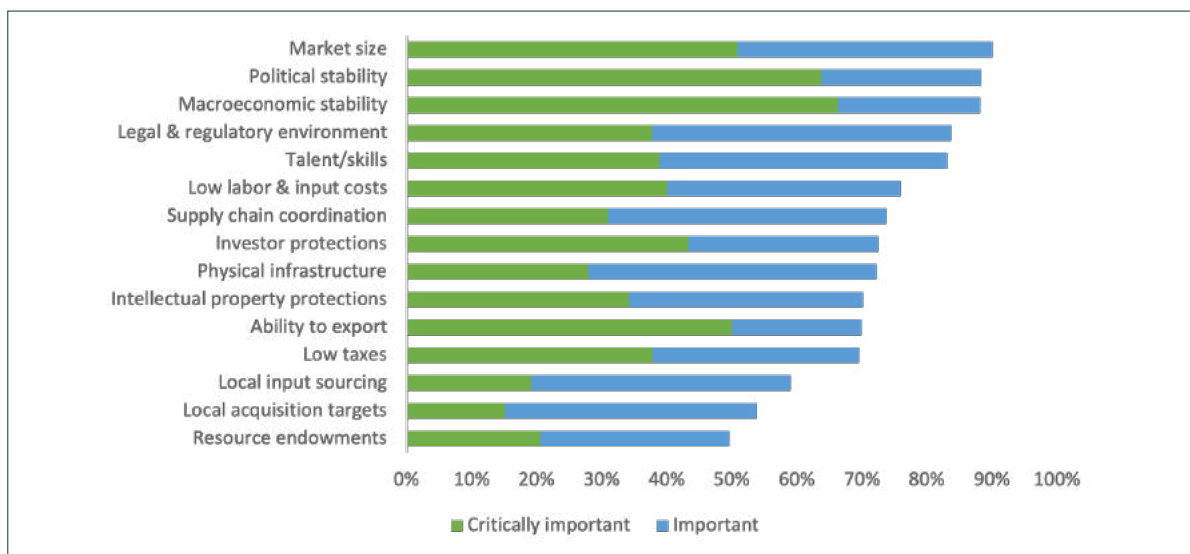
Source: World Bank World Development indicators

Notes: GVC typology drawn from the 2020 WDR. Figures presented are simple averages over countries in groups. Advanced manufacturing countries are: CHN; EST; HKG; HUN; IND; LTU; MEX; MYS; PHL; POL; PRT; ROU; SVK; SVN. New innovative activities countries are: AUT; CAN; CZE; ESP; FIN; IRL; ISR; ITA; KOR; SGP Old innovative activities countries are: CHE; DEU; DEN; FRA; GBR; JPN; NLD; SWE; USA.

Lowering inflation and exchange rate volatility are key to improving the investment outlook

Macroeconomic stability is cited as a key consideration by potential foreign direct investors. The World Bank’s Global Investment Competitiveness Report, 2019-2020 shows, based on a global survey of FDI investors in developing countries that stability factors are two of the three most important considerations in choosing a location to invest. The vast majority, 85 percent of respondents, said ‘macroeconomic stability’ was a critically important or important factor and 84 percent said ‘political stability’ was similarly critically important or important (Figure 5.8). Similarly, in Turkey, in a recent survey conducted by PWC in 2020, CEOs cited exchange rate volatility (69 percent), policy uncertainty (52 percent), and geopolitical uncertainty (45 percent) as the main factors reducing confidence.

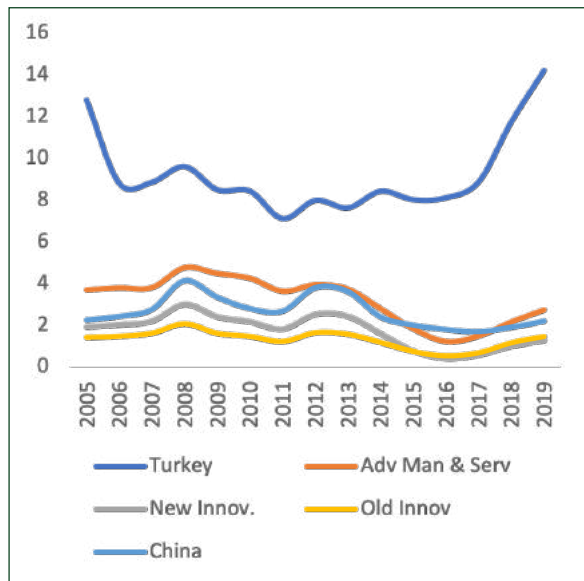
Figure 5.8: Macroeconomic, regulatory and political factors are amongst top determinants of FDI



Source: Computation based on the 2019 GIC Survey (World Bank 2020b)

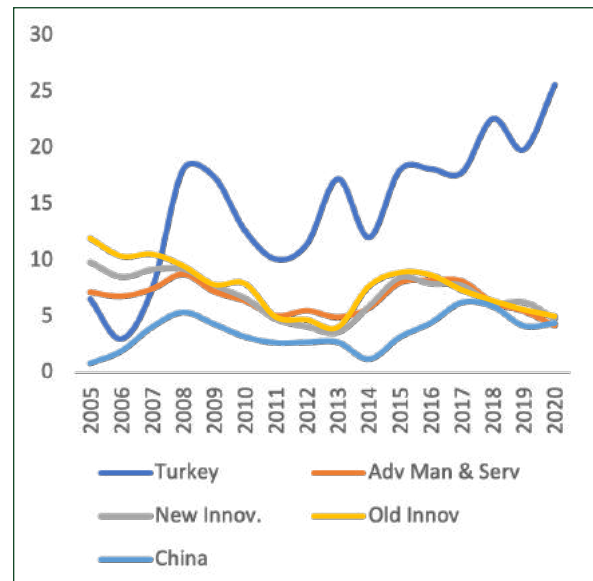
Headline indicators like inflation and exchange rate volatility indeed set Turkey apart from comparators. Inflation and exchange rates are frequently cited as the main indicators investors used to gauge macroeconomic stability, and indeed, sizable frequent variations can disrupt business planning and increase costs. Compared to other countries at or above Turkey’s level of GVC development, Turkey does indeed stand out as having much higher inflation and exchange rate volatility (measured as year-on-year consumer price index inflation and the absolute percentage change in the year-end exchange rate against the US dollar). Figure 5.9 and Figure 5.10 show Turkey is well above the average for different groups. Prior to 2005 and after 2017, Turkey also exhibits the highest volatility amongst all countries covered here.

Figure 5.9: Turkey’s CPI well above comparators and further diverging



Source: World Bank, World Development Indicators

Figure 5.10: ...while exchange rate volatility presents a similar picture



Source: World Bank, World Development Indicators and Haver

A renewed, government-wide commitment to limit inflation and to build international reserves will help address this key constraint on Turkey’s potential. Reversing a trend of high inflation and exchange rate volatility requires substantial, sustained effort over the medium term, but the payoffs are large. As noted, this is one of the single biggest constraints to investment in Turkey, and turning around perceptions could unleash a surge of high-value investment. A set of monetary, financial, and fiscal policies that are coordinated to bring inflation back to its target level (of 5 percent) will be far more effective than monetary authorities working alone. With gross international reserves well below levels recommended by the Assessing Reserve Adequacy (ARA) metric of the IMF, there are limited resources to buffer excess volatility, while market concerns over limited reserves can themselves trigger volatility. Major policy reforms have had similar impacts in Turkey in the past. Using cross-country analysis (Kalemli-Ozcan et al., 2016) showed that the jump in FDI inflows from 2005-08 was significantly helped by positive reform steps related to EU integration, reforms to liberalize the legal framework⁵⁶, and improved macroeconomic and political stability. The agenda for continued advancement towards innovative series would extend to more advanced human capital, digital adoption, further improvements in the enabling trade environment, and financial development.

⁵⁶ In 2003, the new FDI Law 4875 was legislated to promote FDI inflows into the country. It removed FDI restrictions in sectors as well as the minimum capital limit. It allows foreigners to own any property with no barriers, it does not require any performance limit to invest in Turkey, takes into account foreign investors’ right to international arbitration, and provides foreign investors with full convertibility in their transfers of capital and earnings. (Polat 2017)

Actual and perceived policy and regulatory volatility also reduces investment

A lack of stable regulatory frameworks deters potential and existing investors. Measures such as ‘political volatility and lack of transparency of regulatory frameworks frequently top lists of key factors for potential investors, including in the evidence presented above. This is also confirmed in existing literature⁵⁷, the econometric evidence presented above, and recent surveys (see Fig. 5.13). In fact, approximately 25 percent of investment globally is withdrawn or canceled due to political risk, including adverse regulatory changes, breach of contract, transfer and convertibility restrictions, and expropriation (WBG 2019). In particular, the negative impact of frequent and adverse regulatory changes has been rising significantly, of which delays in government permits and approvals, lack of transparency and predictability, and sudden changes in laws and regulations all – in order of importance – lead to significant delays, cancellations of planned investment, or withdrawal of existing investment in about 50 percent of cases (WBG 2018). Finally, Hebous, Kher, and Tran (2019) show that high regulatory risk is associated with lower FDI inflows.⁵⁸

Figure 5.11: Approvals, restrictions, and investment limits are top obstacles for investors in Turkey

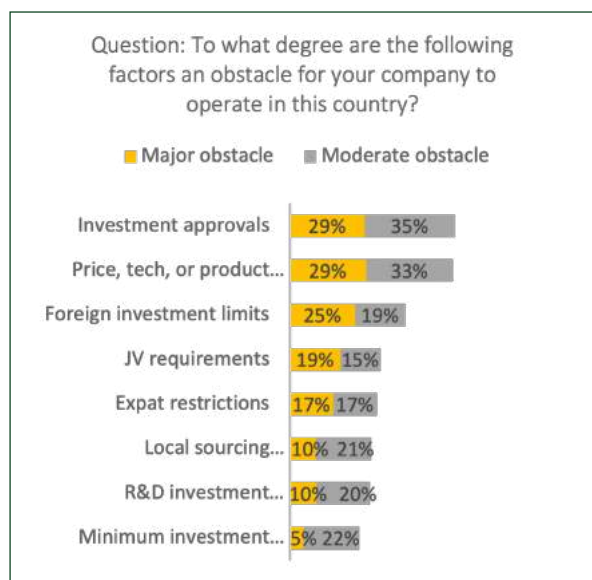
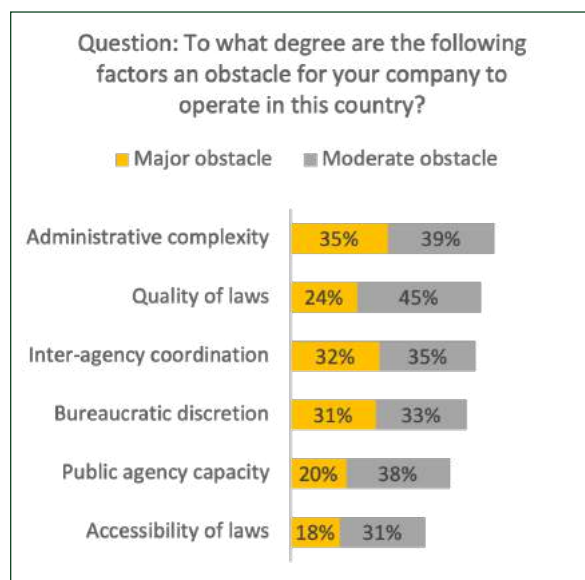


Figure 5.12: Most investors in Turkey are constrained by the application and implementation of laws



Source: World Bank Staff estimates based on the 2019 Global Investment Competitiveness Survey

Turkey has an open FDI regime, but foreign investors are concerned over government conduct. As highlighted in the policy benchmarking above (Figure 5.2 and Figure 5.3), Turkey is at par with current and aspirational peer groups relating to FDI restrictiveness. Indeed, most economic sectors are open to FDI and have little to no other statutory entry barriers as measured by the index (foreign equity ceilings, screening mechanisms, restrictions on foreign managerial personnel or Board members). There appears to be a gap, however, between the attractive legal regime ‘on the books’ and the application and implementation of laws in practice, linked with the unpredictability of changes. Cumbersome investment approvals and restrictions on price, technology, and/or products, as well as foreign investment limits, are cited as main obstacles to foreign investors (Figure 5.11). Improvements to the legal and regulatory environment should involve both changes in the laws and their implementation (Figure 5.12).

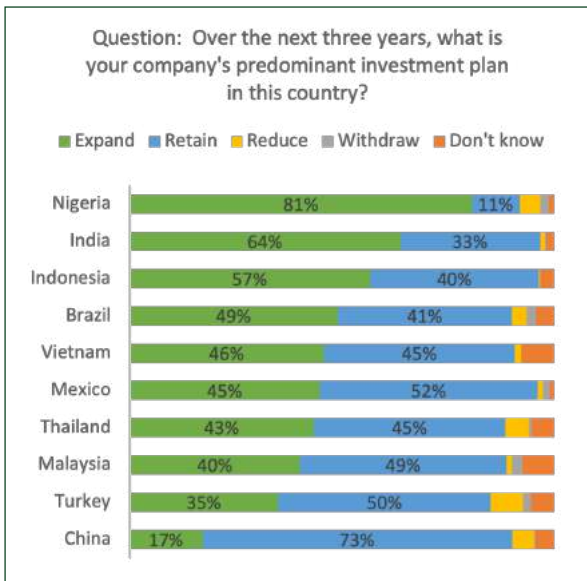
⁵⁷ See Kobrin 1979, Bernanke 1983, Schneider and Frey 1985, and Nigh 1985.

⁵⁸ On average, a 1 percent reduction in regulatory risk increases the likelihood of an investor entering or expanding by between 0.5 to 2 percentage points. To put this result in further perspective, in the same model, the explanatory power of the regulatory risk measure on investment decision is comparable in magnitude to trade openness.

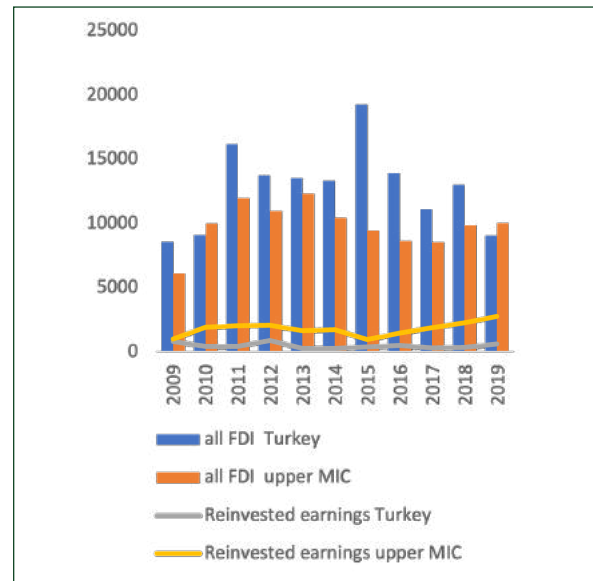
Foreign investors in Turkey are very sensitive to political and regulatory risk and adopt a wait-and-see approach to expanding their investment. Lack of confidence in the investment climate not only deters new investors but also discourages existing investors from expanding their operations in the country. Over the past decade, reinvested earnings (often used as a proxy for expansion) have made up around 30 percent of global FDI inflows (WBG and EU 2019). Comparing this category for Turkey with the average for the UMIC income group shows that despite higher absolute FDI inflows, reinvested earnings are much lower in Turkey, averaging at 4 percent over the past decade compared to nearly 20 percent for the peer group (Figure 5.14). Political and regulatory risk - whether actual or perceived - is difficult to manage and deters investors by tilting their risk-return calculations. Recent survey results show that only about a third of existing foreign investors in Turkey plan to expand investments over the next three years, while around 10 percent plan to reduce or withdraw their investments, some of the least positive results amongst the 10 MIC surveyed countries (Figure 5.13). However, MNEs focused on exports are relatively more likely to expand investments over the next three years. Given that foreign investors in Turkey are more sensitive to policy uncertainty and political risk than in any other country of the survey sample and that, in 2019, 70 percent of respondents had already experienced a decline in either jobs, productivity, or investment due to this risk, it is critical to change this trajectory.

Figure 5.13: Only a third of foreign investors in Turkey plan to expand

Figure 5.14: Reinvested earnings much lower than average in UMICs (US\$ m)



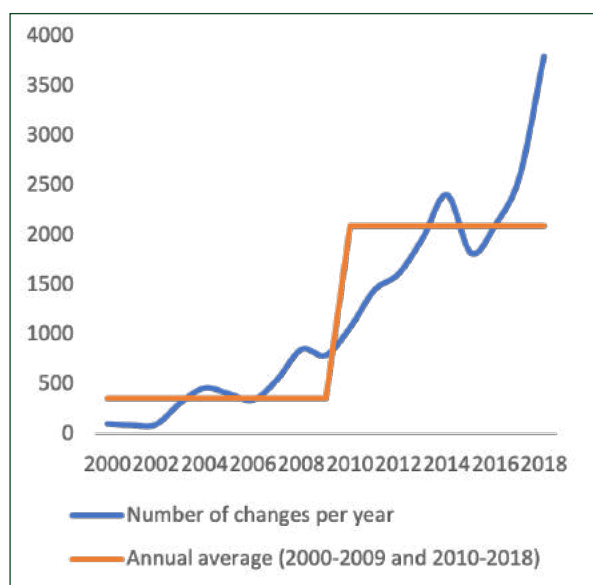
Source: World Bank Staff estimates, 2019 GIC Survey



Source: IMF Balance of Payments data

Turkey’s regulatory volatility has been rising, and costs and perceived risks are high. Frequent changes to regulation and laws relating to business activity can be a serious hindrance to business activity. Quantitative analysis of legislative changes in Turkey confirms that there has been a sharp increase in such changes over time (Figure 5.15), which confirms reports from industry that it is increasingly difficult to comply with changing rules and procedures. And the pricing by major global insurance companies of risks to FDI in Turkey are well above benchmark averages (Figure 5.16). This does not mean that regulatory frameworks should not be improved – they should. But the volume of change should be minimized by, for instance, comprehensively carrying out more reforms at once, which are also supported by consultation and awareness raising.

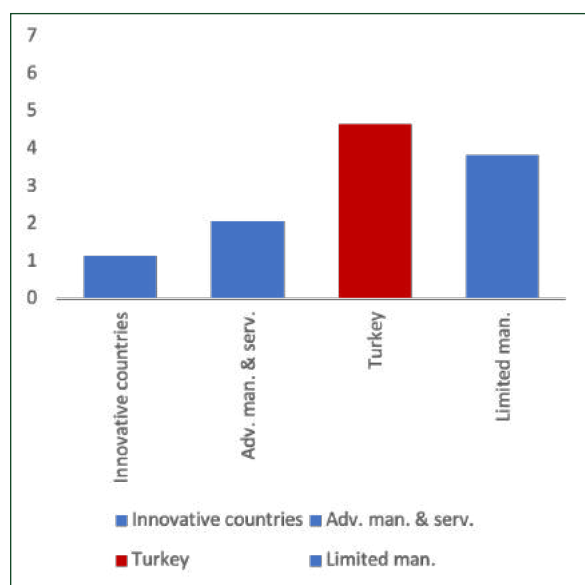
Figure 5.15: Legislative volatility has risen sharply in Turkey in recent years



Source: World Bank Staff estimates based on Official Gazette of the Republic of Turkey.

Note: Business regulations covered include those related to tax, construction, labor, administrative procedures, e-state, finance, intellectual property, land title, infrastructure, company, consumer protection, environment, insolvency, public procurement, SMEs, and trade fields. Instruments include codes and statutes, statutory decrees, presidential decrees, by-laws, cabinet decisions, presidential decisions, regulations (cabinet, presidential, institutions), communiques, and presidential circulars for the 2000-2018 period.

Figure 5.16: Costs of insuring FDI are much higher in Turkey than elsewhere



Source: Credendo, Country Risk Assessment.

Notes: Risk presented is the average of FDI risk components: Political violence risk; Expropriation and government action risk; currency inconvertibility, and transfer restriction risk.

Improving processes of consultative, evidence-based policymaking can both improve policy frameworks and lower volatility. Most advanced countries around the world implement standard processes of regulatory impact assessment (RIA) when considering new rules that affect business, with the aim of ensuring regulatory changes have been carefully considered. Turkey already has a system of RIA, although it is not in widespread use and could be strengthened. In addition to a careful consideration of options, including non-regulatory measures, an important part of the process is consultation. Box 5.3 provides some more detail on RIA and a good practice example from the UK.

Box 5.3: Regulatory Impact Assessment

Regulatory Impact Assessment (RIA) is a means of systematically assessing the positive and negative effects of regulatory changes and non-regulatory measures. Since their creation in the 1970s, RIA methods have been adopted by an increasing number of countries, with the vast majority of OECD countries now using them in some form. Turkey established a legal framework for RIA in 2006, but according to OECD assessment, RIA is not routinely used, there is little consultation, and its framework for RIA, as well as consultation and ex-post evaluation of regulations, falls short of the OECD standard. The following is an example of one well-established RIA framework, that of the UK Government.

The UK operates a clear and established system for identification, appraisal, and formation of regulatory policy as part of its “Better Regulation” framework. The policy formulation and appraisal process is described in the figure and is based around a regulatory impact assessment and consultation.

Policy development

- Identify a rationale for government intervention (such as a market failure);
- Consider several options, including alternatives to statutory regulation, such as industry-led approaches;
- Appraise option, referring to international evidence, and including a special focus on SMEs.

Impact assessment

- Pre-consultation stage RIA, presenting shortlist of options, their initial appraisal and identifying knowledge gaps;
- Consultation;
- Final stage RIA, building on consultative evidence, using cost-benefit analysis and presenting a net present social value, net present value to business, and equivalent annual net direct cost to business;
- Post-implementation RIA, considering whether the measure achieved its aims, any unintended negative impacts, and recommendations on whether the measure should be renewed, amended or repealed.

In the UK framework, the methodology and objectives for policy appraisal are clearly set out in a guidance document entitled “Central Government Guidance on Appraisal and Evaluation” published by Her Majesty’s Treasury and commonly referred to as the Green Book.

The RIA process requires a clear identification for a rationale for public intervention, an assessment of various policy options including cooperative or industry-led options where relevant, consultation of stakeholders, and use of the consultative findings in the preparation of detailed quantitative appraisal, which sets out both the net benefits to society of a change, as well as the costs and benefits to business. RIA includes a focus on SMEs, with a Small and Micro Business Assessment – or SaMBA.

The RIA process promotes transparent and inclusive policymaking, with the pre-consultation impact assessment made publicly available ahead of the consultations.

Sources: <https://www.degruyter.com/document/doi/10.1515/ldr-2014-0030/html>; https://www.oecd-ilibrary.org/sites/9789264303072-47-en/index.html?itemId=/content/component/9789264303072-47-en&_ga=2.88837272.2023299279.1622816510-1109166791.1593435132
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Identifying and tackling investor-state grievances early on can be effective in reducing its impact on investment retention and expansion. Adverse regulatory conduct seems to be the most common type of grievance, placing investment at risk (WBG 2019). Turkey, as most countries around the world, dedicates considerable resources to attracting FDI, yet it does not focus sufficiently on providing an enabling environment once invested, to ensure that business can operate productively and profitably, thereby encouraging investors to further expand and nurture long-term relationships that are also important for capturing FDI spillover effects, increase linkages, and diversify into connected sectors (see Chapter 6). In this context, the recent announcement in the new Economic Reform Plan to introduce a new investment dispute mechanism and strengthen investor protection is welcome. A timely resolution of ‘disputed issues’ and proactively addressing investor grievances supports the retention of investment and encourages existing investors to expand operations. Introducing a mechanism to identify, track, and resolve investor-state grievances further helps to avoid that problems escalate and become proper legal disputes that need to be settled via cumbersome and expensive investor-state dispute settlement procedures. Box 5.4 provides some good practices in the development of such a mechanism. With the global decline in FDI and challenges posed by the COVID-19 crisis, investment retention has gained increasing importance in utilizing FDI to upgrade in GVCs.

Box 5.4: Practical guidance for introducing an effective investor-state grievance mechanism (IGM)

The implementation of an IGM entails the empowerment of a reform-oriented Lead Agency, the task of which is to influence other agencies’ actions to effectively reduce political risk at its source. This Lead Agency brings to the attention of higher levels of government, problems affecting investments to address them before they escalate further. Operationally, the IGM focuses on the following aspects:

- *To identify specific patterns and origin of government conduct generating political risks;*
- *To measure affected investment as “evidence” to advocate for timely resolutions; and*
- *To strengthen capacity in relevant institutions to minimize the recurrence of these events.*

The concrete features of the Mechanism are designed to respond to the specific political economy realities of each country. Despite their differences, an assessment of successful IGMs identifies several common elements to consider in implementation:

- *Empowerment of a Lead Agency: There should be a government agency with power and attributions conferred by regulation that is responsible for implementing the IGM. The Lead Agency should coordinate the diffusion of relevant information to national, subnational, and sector-specific agencies more likely to generate or become involved in investment grievances.*
- *Early Alert Mechanism & Tracking Tool: The early alert mechanism enables the Lead Agency to learn about the existence of problems as soon as they arise. The Lead Agency’s response can be proactive (e.g., Lead Agency visits the private sector) or reactive (e.g., private sector communicates with the Lead Agency). Once a problem is identified, it is captured by the tracking tool that also monitors the investment at risk due to the problem. It monitors whether the problem is resolved and how much investment is retained and expanded as a result of resolving the problem.*
- *Problem Solving Methods: Based on the political economy of the country, the IGM would empower the Lead Agency to use different problem-solving methods to directly address and negotiate a solution with the agencies involved in the problem. These methods range from simple exchanges of information to mechanisms of peer pressure or legal advisory opinions.*
- *Political Decision Making: Often the Lead Agency may not have the political authority to discipline another peer agency. In this case, the problem is elevated to higher political levels, such as the Ministerial Cabinet and, in some countries, special Ministerial Councils chaired by the President or Prime Minister. Once a decision is taken at this higher level, the Lead Agency monitors and tracks the resolution, positive or negative, and the impact on investments.*

Source: World Bank Group 2019

A committed and full-service investment promotion agency can also yield returns

Proactive investment promotion agencies (IPAs) can play a critical role in FDI attraction and facilitation. They are the governments' key interlocutors with foreign businesses. Empirical evidence shows that IPAs can help increase FDI inflows and attract higher-quality FDI⁵⁹, link to GVCs, and stimulate economic upgrading and transformation. While successfully attracting more high-value FDI in Turkey will require improved macroeconomic policy stability and reduction of policy uncertainty and political risk, this objective can further be supported by well-targeted investment promotion activities.⁶⁰ Countries such as Costa Rica, Malaysia, and Morocco, for instance, have been able to attract transformative GVC investments by large MNEs with the use of successful investment promotion strategies (Freund et al., 2015). IPAs should target their promotion efforts on a few GVC-segments in which their country is competitive, which can be identified by GVC mapping. In Malaysia, for example, the government adopted an “ecosystem approach” in 2012, under which it continuously mapped and analyzed the ecosystem of the Malaysian electrical and electronics industry. Based on these analyses, the agency focused on promoting specific high-value activities that corresponded to Malaysia's comparative advantage, such as integrated circuit design.⁶¹

Turkey's Investment Office embodies good institutional characteristics important to maximizing FDI potential in GVC upgrading. It enjoys high-level government support, including strong strategic alignment and a clear and uncontested mandate, allowing it to function with a high degree of institutional autonomy and flexibility. Moreover, it is well resourced, operating in a number of international locations (including Germany, Italy, Japan, Qatar, USA, Singapore, South Korea, Spain, the UAE, and the UK) as well as an extensive network of subnational investment desks in various regions of Turkey. Evidence suggests that IPAs which are governed by a strong Board of Directors with active private sector representation also tend to be more successful, and Turkey may want to consider establishing a similar arrangement for the Investment Office.

However, aftercare and advocacy services could be strengthened. The services offered by the Investment Office focus on marketing, information provision, and assistance for the attraction, entry, and establishment of foreign investors. These are all core functions of a well-performing IPA and should be sustained. In light of the critical role that political and regulatory risks and uncertainties play in the investment decision in Turkey, as described in the section above, the Investment Office should bolster its advocacy services and focus more on aftercare for existing investors. Strengthening a two-way communication between the IPA and investors is likely to be an important means of maximizing responsiveness and effectiveness, thereby increasing the ability to tackle problems early on or facilitate expansions. This will also be important in order to perform its advocacy function well. Advocacy in investment promotion means (i) understanding the issues investors face, (ii) advocating on investors' behalf, and (iii) influencing stakeholders to improve the investment climate so investors can operate more efficiently and smoothly.⁶² Investors greatly value advocacy, even more so the weaker the investment climate is (Harding and Javorcik, 2011). By assuming a stronger role in advocating and prioritizing necessary investment climate reforms in the areas outlined above, the Investment Office could sustainably improve Turkey's competitiveness as an investment location. Turkey's recently published “Foreign Direct Investment Strategy (2021-2023)”⁶³ presents an articulate vision for the agency and a comprehensive offering of investor services. This includes concrete actions to bolster its focus on aftercare and advocacy. While it is too early to see the initiative's results, it is a timely one and would benefit from swift implementation.

⁵⁹ Charlton and Davis 2007; Freund and Moran 2017; Harding and Javorcik 2012; Moran et al. 2018; Morisset and Andrews-Johnson 2004; Wells and Wint 2000.

⁶⁰ Heilbron and Kronfol 2020

⁶¹ Case study in WBG 2021

⁶² Heilbron and Aranda-Larrey (2020)

⁶³ For accessing the strategy, see website of the Investment Office (<https://www.invest.gov.tr/en/library/publications/lists/investpublications/turkey-foreign-direct-investment-strategy-2021-2023.pdf>, last accessed on 13 September 2021).

Investment incentives may support GVC upgrading if correctly targeted and implemented, but effectiveness is mixed, and the cost is high. Turkey, like many governments, offers incentive packages to steer investment into preferred sectors, specific regions or to enhance the investment’s development (James 2014). Tax incentives are used very frequently even though they carry a significant cost in the form of foregone revenues, and thus, their benefit in the form of creating positive externalities to outweigh their social cost should be ensured. Distinguished by objective, there are two types of tax incentives (Figure 5.17): (i) locational incentives hope to attract MNEs that will provide new GVC opportunities and – via spillovers – raise the competitiveness of domestic firms and sectors. This is the most widely used form. And (ii) behavioral incentives that aim to stimulate specific behavior from firms and by providing temporary support improve their productivity such that they are able to survive without the incentive in the long run and that the benefits created compensate for the cost incurred. The effectiveness of incentives is highly country-specific.⁶⁴ It also depends on the quality of design, including setting appropriate targets and understanding costs and benefits, transparency, and the administration of the incentive. Importantly, handing out generous tax reductions has not been able to compensate for a weak or unattractive investment climate (Goendoer and Nistor 2012). In fact, tax incentives have been shown to be eight times more effective in attracting FDI in countries with good investment climates than in those with weaker ones (James 2014).

Figure 5.17: Locational and behavioral incentives have different aims and expected benefits

Objectives	Attract new investment	Grow strategic sectors	Create jobs	Promote R&D and innovation	Promote exports
Objective type	Locational objectives (Attract new firms)		Behavioral objectives (Shift firm behavior)		
Incentive aim	Raise firms expected profitability <ul style="list-style-type: none"> • Effect on tax risks (transparency) • Effect on profits 		Lower user cost of specific behavior <ul style="list-style-type: none"> • Effect on input cost • Effect on output cost 		
Incentive success	New firms locate in the country or region as a result of incentives		Firms use inputs more or produce more output as a result of incentives		
Incentive failure	Firms receiving incentives would have located there anyway		Firms receiving incentives do not change behavior or would have changed their behavior anyway		

Source: Kronfol and Steenbergen 2020

In conclusion, attracting quality investors for GVC upgrading requires a quality investment climate. Because GVCs thrive on the flexible formation of networks of firms, attention needs to be paid to factors that ensure these networks are stable and predictable. This includes the ability to enforce contracts and to protect intellectual property rights, especially for the more innovative and complex value chains. The key barriers, especially for foreign investors, have been discussed above. In addition, strengthening national certification and testing capacity to ensure compliance with international standards can also facilitate GVC participation. Competition from a large informal sector that faces lower regulatory and labor costs is a major obstacle to doing business in Turkey, creating an uneven playing field. To drive competitiveness up, it is important that the investment climate support the exit of weak firms while strong firms are encouraged to grow. Resolving insolvency is particularly hard in Turkey⁶⁵, which stands in contrast to encouraging entrepreneurial risk-taking and developing a dynamic private sector ready to jump on new business opportunities, especially in foreign markets.

⁶⁴ See WBG 2021 for a summary of factors and their impact on effectiveness.

⁶⁵ Turkey ranks 120th on this Doing Business Indicator (2020) compared to an overall rank of 33rd, by far the weakest area for Turkey, which otherwise has a strong score in the Doing Business Survey.

Turkey can put its innovation potential to work in GVCs

analyses (Mulabdic and Yasar 2020, Coskun et al. 2018) and industry consultations confirm that Turkey has the potential to upgrade and expand in GVCs and has already seen a promising pattern of growth in high and moderate complexity exports. But fierce competition in GVCs means that firms must be at, or pushing forward, the technology frontier to remain competitive. The Industry 4.0 technological revolution is just the latest example and is likely to have a significant impact on the GVCs Turkey participates in. Whether increased automation in the production of electronics, the rise of digital functionalities and AI for cars, or the trend towards customization for footwear, to name a few, firms will need to adopt new technology and innovate to maintain and grow their market share. Turkey can take advantage of its existing know-how and GVC integration to push technological upgrading and strengthen innovative activities in GVC participation, which will require increased R&D spending, a higher revenue conversion ratio from innovation, and the development of domestic intellectual property.

R&D in Turkey has risen in recent years, but its conversion into commercially valuable intellectual property remains limited. The authorities have prioritized research and development in recent years, which has helped to scale up the level of activity since the early 2000s. As shown in chapter two, Turkey's spending on research and development is relatively higher, putting it close to the level that is associated with entry to the innovative activities GVC group. R&D has increased considerably over the last decade. However, the other determinant for entry into this grouping is the value of intellectual property, and on this front, Turkey is much further away from entry into the group.

Turkey should continue to maintain a pool of top-quality skilled workers

Skills are often cited as the key factor in determining the location of higher-value activities. A good quality and highly skilled workforce is often the single most important determining factor for potential investors, especially those that require significant numbers of workers with more advanced skills. Highly skilled workers are amongst the least substitutable factor for firms and tend to be the least mobile, and located in areas with high-quality amenities, often in or close to large cities.

Turkey seems to have sufficient availability of skilled workers to support GVC growth. OECD skills survey data indicates that lack of skills and underqualification is not a pressing problem in Turkey overall, and indeed, the country shows a relatively high level of overqualification of workers relative to skills demand. World Bank Group and EY analysis of the attractiveness of different locations for potential investors also indicates that Turkey's availability of talent is seen as better, on average, than MENA and CEE potential investors.

But labor market mismatching is a problem that should be addressed in coordination with industry. However, aggregate skills assessments belie problems faced by employers on the ground. The same OECD data indicates a relatively high field-of-study mismatch, which means that the qualifications workers are gaining are not those that are most in-demand by employers. As we have seen in Chapter three, GVC firms have a higher demand for skills, and that there may exist gaps of misalignment for these firms, while the growth of established, higher-value-added business functions in GVCs is more likely to be constrained by a lack of awareness of the demand for skills for these jobs amongst potential employees. Finally, skills are highly concentrated in certain urban centers in Turkey, where space may be unavailable or costs higher for firms to locate. For these reasons, there is an important role for workforce development and a skills-for-future-jobs agenda, which is discussed further in the next chapter.

Conclusion

Bringing in more lead GVC firms will help spread technology and productivity gains more widely. GVC firms are found both in Turkey and worldwide to be the most productive. While such firms, both international and homegrown, operate in Turkey, there is scope to scale up their presence. Foreign direct investment (FDI) and similar forms of durable, cross-border relationships are important means by which the productivity benefits of GVCs flows. Turkey's FDI inflows are well below the average for countries in similar or more advanced GVC positions, including other large countries such as China, Germany, and the USA. Similarly, there remains considerable potential to further upgrade and increase the value from GVCs. Turkey's export sophistication is relatively low and has lagged comparators, while unit prices of exports in specific sectors to the EU market are below the median for competing countries.

Evidence indicates that low FDI and weaker policy frameworks are constraining GVC growth. Cross-country econometric analysis of the determinants of GVC participation in countries at a similar or more advanced level points to areas in which Turkey may need to improve to advance further. While some factors work in Turkey's favor, low levels of FDI, low macroeconomic and policy stability, and other regulatory and legislative factors are constraining its development, and few, if any, countries have succeeded in upgrading without first addressing these constraints.

Macroeconomic stability is a key consideration for potential foreign direct investors, for which Turkey falls short. Recent international World Bank surveys show that stability factors are the most important considerations for multi-national enterprises (MNEs) in choosing a location to invest, with 85 of respondents citing 'macroeconomic stability as a critically important or important factor. Inflation and exchange rates are frequently cited as the main indicators investors use to gauge macroeconomic stability. Compared to other countries at or above Turkey's level of GVC development, Turkey does indeed stand out as having much higher inflation and exchange rate volatility.

A renewed, government-wide commitment to lower inflation and to build international reserves will help address this key constraint on Turkey's potential. Reversing a trend of high inflation and exchange rate volatility requires substantial, sustained effort over time, but the payoffs are large. Relaxing this most critical constraint to investment in Turkey and turning around perceptions could unleash a new wave of growth-enhancing investment. A set of monetary, financial, and fiscal policies coordinated to bring inflation back to its target level will be most effective. This improved investment environment will also facilitate the rebuilding of external buffers, which, after a series of major economic shocks, stand well below levels recommended by the IMF.

A focus on ensuring predictable and fair regulatory frameworks will similarly raise the attractiveness of investing in Turkey. Issues related to regulatory and political volatility are also amongst the greatest concerns for foreign investors and are reflected, for instance, in higher costs of investing, such as insurance coverage. While Turkey does not have a high level of FDI restrictiveness, policy volatility and perceptions of policy unpredictability are high. Developing further the consultative elements of policy formulation, ensuring affected business groups have a say, and their views are considered, would support this aim. Identifying and tackling investor-state grievances early can also be effective in reducing its impact on investment retention and expansion, which the authorities' Economic Reform Plan of March 2021 has committed to addressing. A strong FDI facilitation and aftercare strategy led by the Investment Office will also support FDI. Investment promotion agencies can play a critical role in FDI attraction and facilitation. They are the government's key interlocutors with foreign businesses. Turkey's Investment Office already embodies many good practice characteristics, with high-level government support, strong strategic alignment, a clear and uncontested mandate, adequate resourcing, and country-wide representation. Turkey could build on this embedded further good practice, including private sector representation in its governance and strengthening investor aftercare and advocacy services.

The immediate challenge is to leverage Turkey's existing GVC engagement in advanced manufacturing and services, while a shift towards an innovative economy may take longer to transition to. Turkey's recent entry into more advanced GVCs puts it in good company, including many high-income countries that operate in this group. Turkey's challenge now is to deepen and entrench its position at this level and derive the full benefits of such higher-value-added functions. Manufacturing and services are important drivers of job creation and inclusive growth at all skill levels, and as such, this form of economic activity can be well suited to providing Turkey an inclusive stairway to growth.

Moving into the innovative activities grouping will require major policy and economic transformations over time. The innovative services group is populated by a select few of the highest-income countries in the world. These countries have generally all progressed through manufacturing and services and now derive a large share of income from knowledge. They are the home countries of some of the largest MNCs in the world. To join this group of economies, Turkey needs to do everything presented here and more. At this level, open, transparent, and resilient policy frameworks are even more important. So, too, are intellectual property rights protection and effective contract enforcement. A wholesale shift to a knowledge-based labor market becomes critical, with the best in innovative skills being taught and the country open to foreign talent (World Bank, 2019).

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Annex: Technical details of a cross-country analysis of GVC determinants

This annex presents analysis of cross-country GVC determinants presented in this paper, building on findings of the 2020 World Development Report on Global Value Chains.

Most studies in this area utilize global multi-region input-output (MRIO) tables, which enable the measurement of indicators of value-added in trade and GVC participation. Some of the most common are the OECD's Trade in Value-Added (TiVA) dataset, the UNCTAD-EORA dataset, and the World Input-Output Database (WIOD). The 2020 World Development Report, *Trading for Development in the Age of Global Value Chains* (World Bank Group, 2020) summarizes the findings of the literature on the drivers of GVC participation and presents a new analysis in this area. This summarization builds on a considerable literature on the determinants of GVC participation and is largely consistent with previous empirical findings. The WDR presents the factors that have been found to be determinants of GVC participation thematically as follows:

- Factor endowments matter as removing restrictions in factor markets enables countries to improve their comparative advantage.
- Market size matters as liberalized trade increases access to markets and inputs.
- Geography matters, but improved connectivity and lowered trade costs can help reduce remoteness.
- Institutional quality matters and can be improved through strengthening contract enforcement, protecting IP rights, and improving standards regimes.

The WDR also sets out a new taxonomy of countries, according to the nature and intensity of their engagement in GVCs. Importantly for country application of the findings, the WDR shows that the relative importance of determinants varies depending on how countries are engaged in GVCs. For example, for countries that are primarily engaged in commodities and limited manufacturing GVCs, most important is the improving of factor endowments through improved access to banks and low rigidity for labor costs, whereas countries specializing in innovative GVC activities tend to benefit more from improved access to equity finance and innovation education for advanced skills.

The WDR findings are based on econometric analysis set out in Fernandes, Kee, and Winkler (2020). They test the impact of variables groups in these four thematic areas on measures of GVC participation, using a panel of around 120 countries and three decadal averages. Their main specifications utilize a least-squares between-effects model and instrumental variables for variables such as FDI and tariffs. The authors find evidence that key determinants of GVC participation include land and labor endowments, geographical location, political stability, trade policy, FDI inflows, domestic industrial capacity, and natural resources.

The paper also carries out a similar analysis at a cross-country and cross-sector level⁶⁶. The analysis shows that backward GVC participation is largely driven by the manufacturing sector and services to a lesser extent. The manufacturing sub-sectoral (eight manufacturing sectors in EORA data) findings also confirm that factor endowments, trade policies, FDI, and connectivity matter for GVC participation. The findings suggest that sectors that tend to be more reliant on high-skilled labor or capital do indeed have high GVC participation and exports in countries where these factors are more abundant. Moreover, countries with better institutional quality have stronger GVC participation in sectors that are typically more contract intensive. Sectors using the internet more intensively exhibit stronger GVC participation.

⁶⁶ Agriculture, mining, manufacturing and services.

Benchmarking Turkey in relation to GVC determinants

We use the findings of the empirical literature on cross-country determinants of GVC participation to identify factors that have been shown to be positively related to it, which are summarized in table A5-1. Using a set of variables to reflect these factors, we compile a country-country panel dataset in order to illustrate where Turkey's performance against these variables standards lies relative to comparators. The comparators used are other countries in the advanced manufacturing and services group and countries in the innovative services grouping – in other words, countries that are either at or above Turkey's level of participation in GVCs. The purpose of this exercise is to highlight areas where Turkey performs relatively strongly and where it clearly falls short of other countries at the level of GVC participation that it aspires to. This may help to point towards areas of constraint that may need to be addressed to unlock further inclusive GVC growth.

Table A5-1: Summary of findings from Fernandes et al. (2020)

Endowments	Market size	Location	Institutions
Adv. Education (PhDs)	Enabling Trade Index	Digital Adoption	Intellectual Property Rights
Human Capital	Services Trade Restrictiveness	Trade Remoteness	Political Stability
Labor income per capita		Logistics Performance	Regulatory Quality
FDI (% of GDP)			Government Effectiveness
FDI Restrictiveness			Rule of Law
Financial Development			Macroeconomic Stability

Sources: World Bank World Governance Indicators; TURKSTAT; CBRT; Digital Adoption Index; Human Capital Index; Logistics Performance Index; International Monetary Fund; Penn World Tables, OECD.

Notes: Macroeconomic stability is measured as an equally weighted index of: i) average annual inflation over a five-year period; average annual exchange rate depreciation over a five-year period; average annual real GDP growth over a five-year period, all normalized to take a value from 0 to 1.

Data for all variables are normalized to between 0 (lowest scoring of any advanced manufacturing or innovative services country) to 1 (highest score of any country in that group). Turkey's normalized score is compared to both the minimum and the median of the comparator group.

Figure A5-1: Comparison of Turkey with the Advanced Manufacturing and Services GVC group

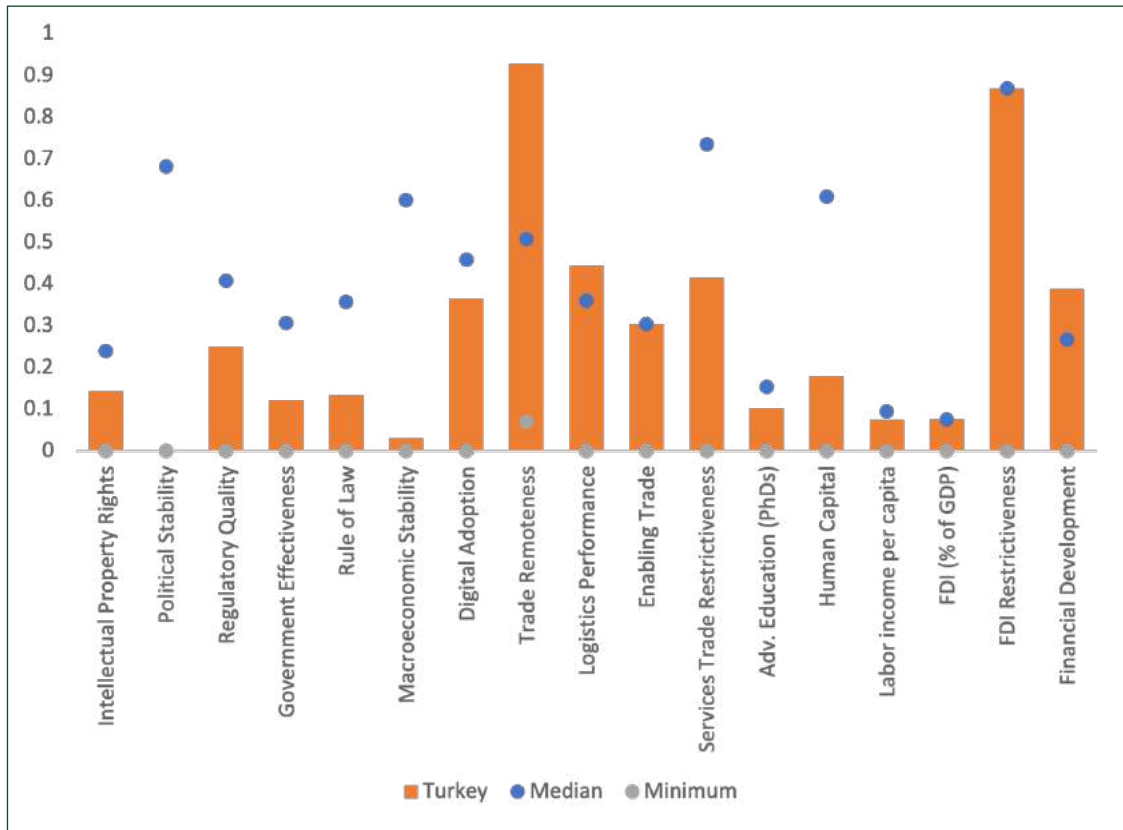
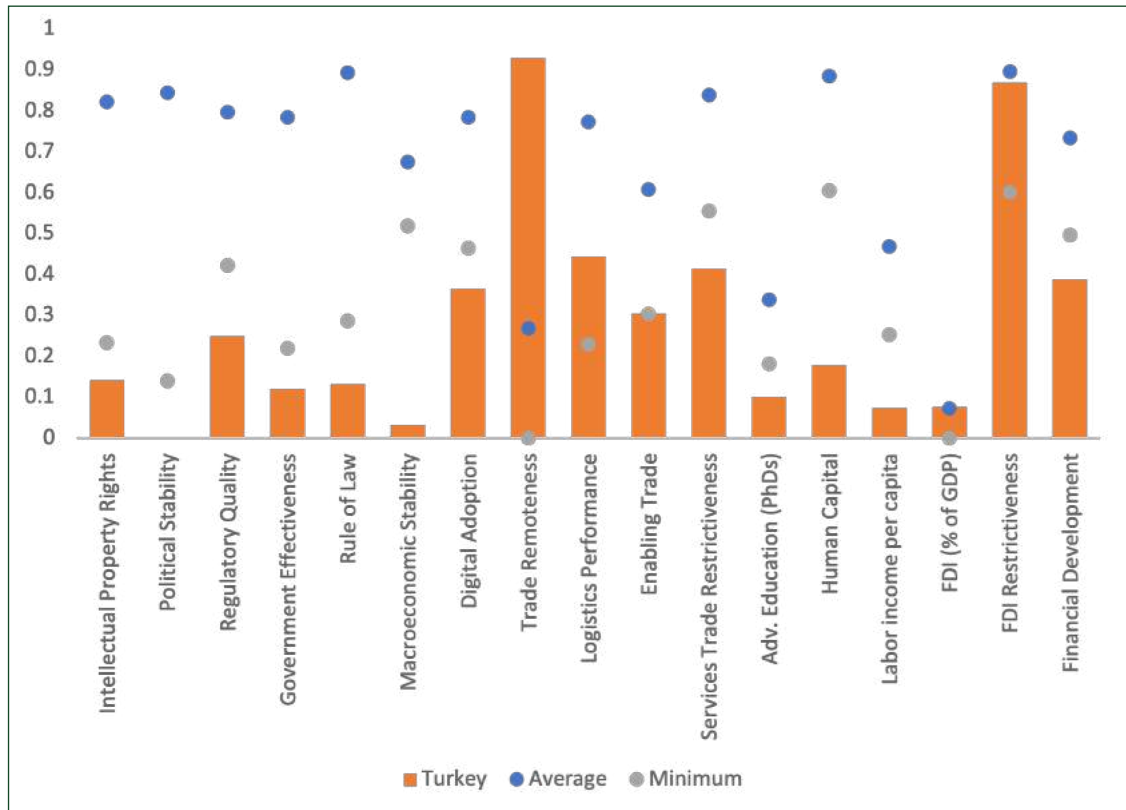


Figure A5-2 presents a comparison with the first of these two groups. The comparison shows that Turkey, on most indicators, is below the median amongst advanced manufacturing and services countries, but not the lowest for any save political stability. It is also nearly at the minimum value for macroeconomic stability and human capital. On the upside, Turkey scores better than the median country in terms of its trade remoteness, logistics performance, and financial development. It is the median country for FDI restrictiveness, FDI net flows, and enabling trade. Overall, with Turkey scoring below the median for more than half of the indicators, the results suggest a number of areas where Turkey lags its peers in this group, and where improvement may offer scope to enhance its advanced manufacturing and services participation, particularly as it relates to institutions, macroeconomic stability, and human capital.

Turkey aspires to progress into more innovative GVC activities, and so it is also pertinent to benchmark it against this group. Figure 5 compares Turkey to the countries that comprise this group. The results seem to clearly show Turkey is not part of this group. Relative to countries displaying innovative activity, Turkey compares well on trade remoteness and reasonably on logistics performance, FDI, and FDI restrictiveness. But for the vast majority of indicators (13 out of 17), Turkey’s score is lower than any country within the group. Put another way, there is currently no example of a country that has attained innovative status without first improving its status in all those areas that are marked as red in figure 5.

Figure A5-2: Comparison of Turkey with the Innovative Activities GVC group



The policy implications seem to be relatively clear – if these results are interpreted in a causal way, then to facilitate GVC growth, Turkey should first focus on improvements in the institutional and macroeconomic environment and human capital supply. The agenda for continued advancement towards innovative series would extend to more advanced human capita, digital adoption, further improvements in the trade enabling environment, and financial development. The next section will take this analysis one step further and extrapolate the results of an econometric model to estimate the impact the different factors are having on Turkey’s GVC participation at present.

Re-estimation of determinants of participation for advanced GVC countries

As noted, the literature and the WDR are clear that determinants vary depending on the level of GVC engagement of countries, with, for instance, drivers of GVC participation being quite different between commodity-intense countries, basic manufacturing, and more advanced manufacturing, services, and innovation activities. Given the focus of this work, a new exercise was conducted to re-estimate the Kee and Winkler econometric specifications for those countries at the advanced manufacturing and services and innovative activities level alone, making use of OECD TIVA data, for which coverage for these countries is good. This analysis includes 58 countries and three 5-year period averages. The results are given in the table below.

Table A5-2: Dependent variable: Backward participation (OECD TIVA)

VARIABLES	(1) IV – BE	(2) IV	(3) LS	(4) LS
Avg. tariff rate (manufacturing) (%)	0.0061720 (0.0222079)	-0.0046351 (0.0079990)	-0.0112851*** (0.0035616)	-0.0126810** (0.0049250)
FDI inflows (log)	0.2393245*** (0.0664461)	0.1999439*** (0.0339065)	0.1458381*** (0.0226644)	0.1184202*** (0.0275659)
Distance to GVC hubs (log)	-0.1524532 (0.1299053)	-0.1603825** (0.0731194)	-0.1272924* (0.0728742)	-0.1978229** (0.0793408)
Political stability index	0.1595349** (0.0648499)	0.1260810*** (0.0395873)	0.1344339*** (0.0401848)	0.1627441*** (0.0453575)
Domestic industrial capacity (log)	0.1301778*** (0.0485870)	0.1680455*** (0.0266237)	0.2074489*** (0.0204936)	0.2447271*** (0.0550311)
Resource rents / GDP (%)	0.0038066 (0.0066910)	0.0034511 (0.0052228)	0.0040681 (0.0054901)	0.0044715 (0.0060765)
Capital / GDP (log)	-0.0223209 (0.1384557)	0.0594506 (0.0787959)	0.0853826 (0.0807882)	0.0606393 (0.0816023)
Land / GDP (log)	-0.0676903** (0.0288137)	-0.0741153*** (0.0153350)	-0.0766431*** (0.0144269)	-0.0720868*** (0.0149175)
Med/High-skill labor / GDP (log)	0.3615195*** (0.1295401)	0.2642056*** (0.0913984)	0.2432246** (0.0947296)	0.2946829** (0.1243396)
Low-skill labor / GDP (log)	-0.1537096 (0.0971962)	-0.1037627 (0.0641587)	-0.0808035 (0.0583861)	-0.0740225 (0.0771925)
Exchange rate appreciation	0.0002885 (0.0002266)	0.0000703*** (0.0000217)	0.0000643*** (0.0000197)	0.0000672** (0.0000288)
Import elasticity				0.3581307 (0.7085057)
Import elasticity X Population				-0.0236963 (0.0359367)
Population (log)				0.0298423 (0.0702415)
Statutory corporate tax rate				-0.0090789** (0.0038067)
Transitional economy status				-0.1686230** (0.0780123)
Constant	2.6892307 (1.9346299)	2.2720067** (0.9970949)	1.8330527* (1.0806674)	2.5184853 (1.8056786)
Observations	143	143	143	143
R-squared		0.8493706	0.8568609	0.8682419
Number of countries	58			
Decade fixed effects	YES	NO	NO	NO

Notes: Standard errors in parentheses
 *** p<0.01, ** p<0.05, * p<0.1

These results show, using the Fernandes et al. preferred specification in column (2)⁶⁷, that FDI inflows, political stability, existing industrial capacity, land, exchange rate appreciation, and skills are all significant, positive determinants of GVC participation, while the distance from hubs is a significant negative determinant. Given that these countries rely more on services and intangibles, it is less surprising that both average tariff rates on manufacturing goods and physical distance from hubs are less important as determinants than they were found to be on average over all types of GVC countries in the original analysis.

Turkey’s GVC participation and determinants

This section utilizes the results of the regressions presented above (column 2, in line with the preferred specification in the original Fernandes et al. paper) and uses them to present the estimated impact of different determinants on the gap between Turkey’s GVC participation and that of comparators. This is done by applying the statistically significant coefficient estimates to the explanatory variables for Turkey and averages for the comparators groups to produce fitted GVC participation as estimated by the model. The difference in fitted participation between Turkey and comparators can then be decomposed by the influence of each explanatory variable pair, providing a quantitative estimate of the impact of these factors in the gap between Turkey and comparators.

Given their different interpretations, an advantage of this model is that we may consider backwards and forwards participation separately. While much activity that is situated somewhere in the middle of a global value chain will generate both backward and forward participation, countries that are natural -resource-abundant will tend to have very high forward participation and countries that are major producers of final goods and services, high backwards participation.

Backwards GVC participation

Figure A5-3: Turkey compared to advanced manufacturing and services countries

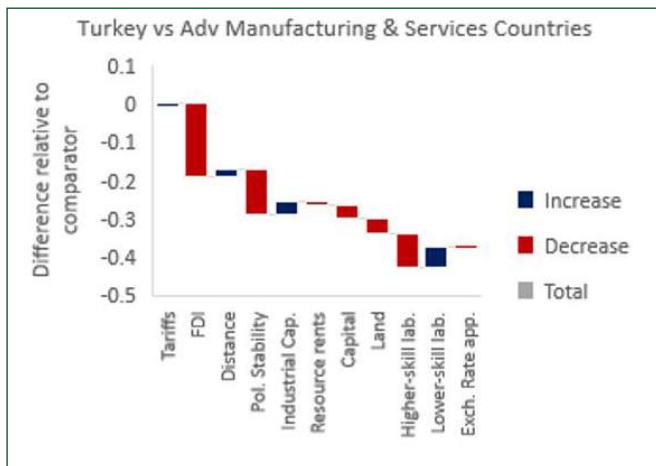
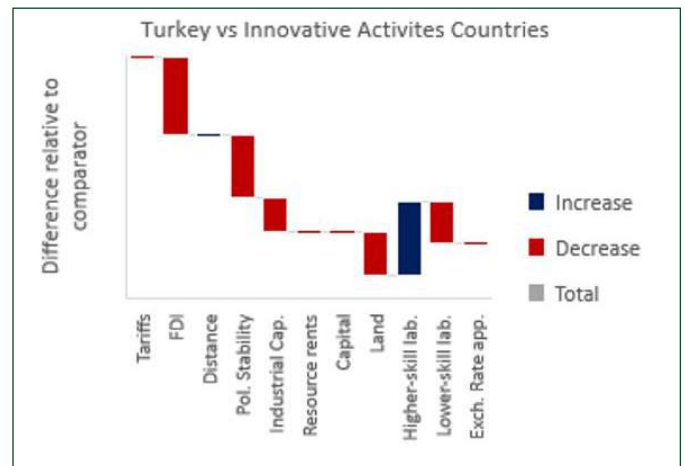


Figure A5-4: Turkey compared to the innovative activities countries



Turkey’s relatively lower level of backward participation associated with lower FDI and weaker policy indicators. Compared to a cross-section of countries’ use data for the past decade, Turkey is seen to have considerably lower backwards GVC participation levels than countries at a more advanced stage of GVC participation, such as the innovative active grouping. But it also has lower backwards participation than the average for the advanced manufacturing and services group it is part of. Decomposing these differences (Fig A5-3 and A5-4) shows that compared to both groupings, Turkey’s lower level of FDI is the biggest factor in explaining lower backwards participation. The second-largest factor is the indicator of political stability, while several other factors also play a differentiating role by group.

⁶⁷ This is equivalent to the IV estimations in Fernandes et al. 2020, Table 4 Column 2.

Chapter 6

Greening the foliage: Internationalizing domestic firms

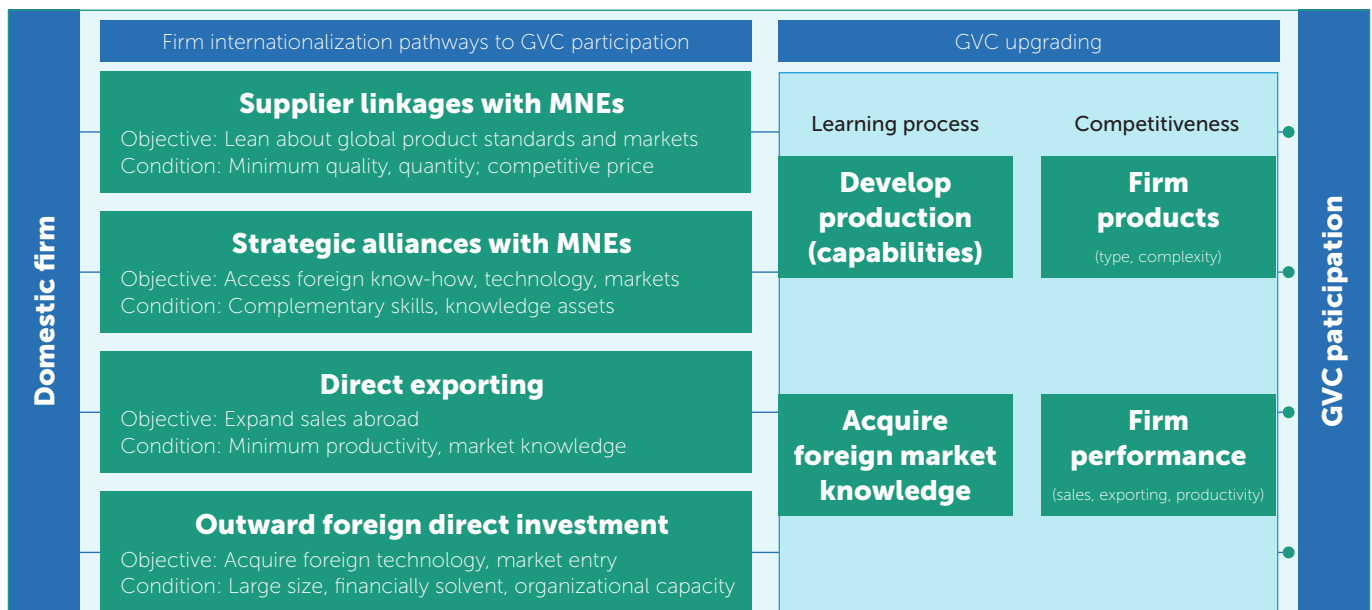


- **GVCs can extend domestically, creating more jobs and raising the productivity of local firms, which has been happening in Turkey**
- **But market failures and a lack of capabilities constrain the ability of firms to join GVCs**
- **Public measures to address market failures – sharing information on potential suppliers and buyers, supporting positive externalities in medium-term firm capability development, workforce development and developing frameworks to support access to finance – are important.**
- **But market-distorting measures like import substitution or domestic content requirements, and incentives, are less effective as Turkey moves up the value chain and may even undermine growth.**

To realize the full benefits of GVCs, it is important to maximize the potential of the ‘domestic leg’ of supply chains. This can be described as increasing domestic linkages, or ‘densifying’ GVC activity in a country. Developing domestic linkages depends on the presence of both an international partner (which could be a multinational enterprise (MNE) or a domestic exporter connected to a GVC) willing and able to source local inputs and domestic firms capable of reliably producing inputs to the appropriate production specifications at a competitive price.

GVCs provide a variety of opportunities for domestic firms to ‘internationalize’, magnifying the benefits they offer. In addition to the direct benefits of lead GVC firms operating in Turkey, there are considerable benefits to be realized by domestic firms that engage with these international firms’ GVCs. Firm internationalization can be summarized along the four pathways described in Figure 6.1. These are: i) domestic supply linkages; ii) forging strategic alliances; iii) direct exporting, and iv) outbound foreign direct investment. It is important to note that these pathways are neither mutually exclusive nor do they have to follow a specific sequence, even though Turkish firms are more likely to take certain pathways, as will be elaborated on.

Figure 6.1: Global value chain participation provides routes to firm internationalization

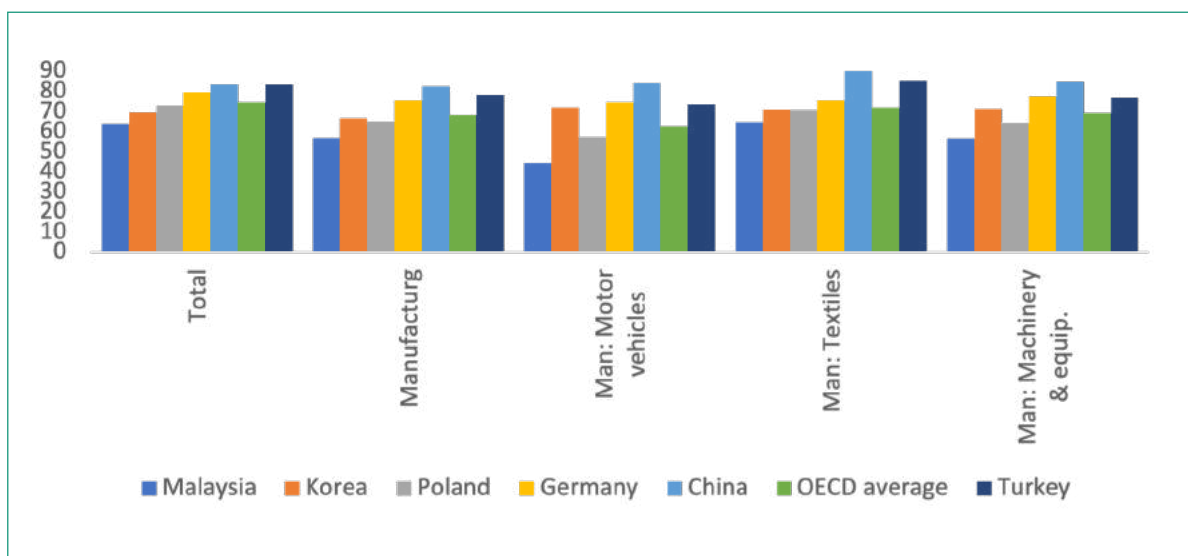


Source: Authors adapted from World Bank (2021)
 Note: GVC = global value chain; MNE = multinational enterprise

GVCs in Turkey have high levels of domestic linkages, but there is potential to raise the productivity of linked firms

Turkey retains a high share of value-added from exports and GVC trade, indicating that domestic participation is already high. The share of domestic value-added in exports corresponds to value-added less the cost of imported and domestic inputs. A common way to measure this is using global input-output tables such as the OECD's TiVA database. This data show gross export values across countries and sectors and how much has been retained in the country versus how much came from abroad, embedded in exports. The latest data shows that, overall, 83.5 percent of Turkey's export value was retained domestically (Figure 6.2). This is amongst the highest shares of domestic value-added (DVA) in the OECD, with only eight other countries having higher ratios. Notably, Turkey's share of DVA is higher than for China, Germany, Romania, Poland, Malaysia, Italy, Portugal, and France. Turkey's DVA from the manufacturing sector is at 76 percent, again ranking amongst the highest in the OECD.

Figure 6.2: Turkey's domestic value-added shares are high compared to comparators



Source: OECD TiVA and WB Staff estimates

Turkey's value-added profile in sectors like automobiles and machinery is more in line with lead nations than countries mid-way in the supply chain. Turkey retains around 74 percent of automobile export value (Figure 6.2). This is more than Korea and only slightly below Germany and the USA, which are all home to major international motor vehicle brands. The same is true for machinery, where Turkey's DVA share is only below that of Germany, the USA, China, and Japan amongst major producers. Turkey's DVA in textiles is the second-highest in the OECD, after China. This suggests that Turkey relies relatively less on imports and more on domestic inputs, either produced or else intellectual and business services. The implications of this high domestic value depend on how it affects competitiveness. GVC firms need to maintain the most efficient and quality supply chains to successfully compete globally. Market-driven high domestic value-added is usually an outcome of a maturing and efficient domestic supply chain. However, policy that distorts lead firm sourcing decisions could also play a role, which may inhibit the competitiveness and, therefore, future growth prospects of the industry.

Turkey-based firms have increasingly taken up positions in the domestic leg of global supply chains or, in other words, GVC activity in Turkey has ‘densified’. As firm-level analysis presented in chapter 3 has shown, the universe of domestic suppliers to GVCs has grown rapidly over the past decade. The number of firms that provided domestic supply to GVC exporters more than doubled. In real US\$ terms, the value-added of these firms increased by 60 percent over the period, and employment by these firms rose by a similar amount. Their growth has outpaced the nevertheless good performance of GVC exporters themselves, and the average number of direct domestic suppliers per GVC exporter has increased over the period. This growth was also more diversified. Domestic suppliers of GVCs come from a range of both manufacturing and service sectors. At the same time, led by increased linkages, GVCs show signs of expansion into more regions of Turkey. Many regions with historically less GVC activity have seen it grow rapidly in recent years with, for instance, a clear trend towards expansion out of Istanbul and into the Marmara region and a growing cluster of activity in southeast Anatolia.

Box 6.1: Defining GVC firms

This chapter makes use of firm-level definitions set out in Chapter 3. Firm-level analysis defines four different types of firm:

- *GVC exporting firms are those which have an imported input intensity of greater than 10 percent and which derive at least 10 percent of their revenues from exports of goods and services.*
- *GVC domestic supply firms are those that derive at least 10 percent of their revenue from sales to the above-mentioned GVC exporting firms.*
- *Traditional exporters are firms which derive at least 10 percent of their revenue from exports of goods and services, but do not have as high an imported input intensity as GVC exporters.*
- *Domestically-oriented firms are all other firms.*

For more detail on these definitions, please refer to Box 3.1.

Source: World Bank staff

Domestic firms need to internationalize to benefit from GVCs

The opportunities to enhance the benefits of GVCs can be viewed through the prism of the firm’s internationalization pathways. As discussed above, becoming a supplier is an important but only a first step in realizing the benefits of GVCs and firm internationalization (Fig 6.1). Often progressively, firms can then develop closer and more lasting alliances with lead firms which help to adopt leading-edge technology and management practices. With such competitive advantages, firms are then well placed to enter international markets directly and access a potentially much larger source of demand. Finally, firms can also reach international markets through outbound FDI or by investing in operations overseas, thus becoming a multinational company themselves. Box 6.2 provides an example of one Turkish firm that has progressed through GVCs in such a way.

Box 6.2: From domestic component supply to global presence

Martur Fompak is an example of a company that, starting off by supplying basic materials in a GVC, rapidly expanded and internationalized. Martur Fompak is a Turkish company that was founded in Bursa, Turkey, in 1983, which now employs over 5,000 people worldwide. The company began by producing molded foam, which was used primarily as a component for car seats in the automobile value chain in Turkey. By the 1990s, Martur Fompak had upgraded its supply within the automobile GVC and was producing other components for car seats, such as the seat structure covers. The company then further upgraded and began producing whole car seats. It also began producing its own car seat textiles, securing supply contracts with various international vehicle brands in Turkey.



The 2000s saw continued innovation and R&D as well as an expansion in overseas markets, particularly to establish R&D and sales offices. In 2008, UniCredit acquired a 20 percent stake in the company, and Martur Fompak management credit the collaboration with UniCredit for further developing its corporate governance and business management practices. Most recently, as well as international growth, Martur Fompak has been driving efficiency improvements through investments in new technology and process innovation. For instance, the introduction of robotics and automation has reduced the number of processes required to manufacture a seat from 13 to 5, and a new metal stamping factory will enable them to integrate more customized components into their production processes.

From domestic supply, Martur Fompak has been developing into an international firm with a worldwide presence. The company now sells about 50 percent of its products in overseas markets and also has production facilities in Morocco, Romania, Russia, Poland, Italy and Algeria.

Source: World Bank, industry consultations, Jan-Feb 2020

Expanding supplier linkages

Direct supply relationships with lead firms not only raise demand but can boost productivity. International evidence based on firm-level data shows that productivity spillovers are significant, particularly when there is a direct linkage and when relationships are longer-lasting and deeper⁶⁸. Productivity gains through GVCs are common and can be realized via both ‘demand’ and ‘assistance effects’⁶⁹. The demands of lead firms, which expect their suppliers to satisfy the requirements of global markets, often stimulate quality improvements, international industry certification, and increased variety of local supply. Assistance effects are the result of the intentional transfer of knowledge and technological and managerial capabilities of lead firms to assist local suppliers, such as support to ensure requirements on product standards and quality are met⁷⁰. Box 6.3 gives more details on the processes of learning-by-supplying. According to a survey⁷¹ in 25 transition countries, 42 percent of MNE suppliers were supported by the MNE to develop new products or services⁷². The corresponding figures for the Turkish sample were much higher, at 90 percent. And with the assistance of MNEs, firms can better understand the structure of external markets, helping them to build a brand recognized by international firms and benefit from MNE referrals and networks.

Box 6.3: Learning-by-supplying

Participating in a GVC can offer important learning opportunities to domestic firms since they typically have to improve their performance to withstand increased competition.⁷³ International buyers typically have stronger preferences for product quality than domestic ones, which forces GVC firms to upgrade their production and managerial practices in order to satisfy client demands (Atkin et al., 2017; Khandelwal and Teachout 2016; Newman et al. 2016). To remain competitive, firms need to learn two types of skills and knowledge. The first is essential production capabilities. Firms need to prepare themselves to compete technologically, to meet the necessary quality standards for the products they produce, and to be productive enough to compete internationally (Pedersen and Petersen 1998). The second is foreign market knowledge. Firms need to learn the specific details of the overseas markets they enter, such as their business climates, cultural patterns, market structures, and consumer characteristics (Johanson and Vahlne 1977).

Firms that manage to enter GVCs tend to become more productive and improve their competitiveness. The firms that successfully compete internationally often use their new skills and knowledge to further strengthen their performance, not least since GVC participation allows these firms to allocate their resources more efficiently and enhance productivity (Montalbano et al. 2018). GVC participation can thus help transform firms from being “opportunity-and-cost-oriented” to being “strategy-and-value-oriented,” allowing them to shape their competitive advantage (Xiao and Liu 2015).

Empirical evidence supports the positive impact of learning through supplier links on overall firm performance. Alfaro-Urena, Manelici, and Vasquez (2019) showed that becoming an MNE supplier in Costa Rica resulted in strong and persistent improvement in performance, including a 20 percent expansion of sales to non-MNE buyers, a 26 percent expansion in firms’ workforces, and a 6–9 percent increase in total factor productivity four years after becoming a supplier. Suppliers also noted that their interactions with MNEs helped them learn about new technologies and management practices, expand their production capacities, use more high-skilled workers, and produce higher-quality and more cost-effective products. Similar evidence is found by Javorcik and Spatareanu (2009) and Ivarsson and Alvstam (2005, 2011).

However, not all firms manage to enhance their productivity or internationalize via MNE-supply links. For example, firm-level studies in India and Vietnam found much weaker relationships (UNIDO 2018). Another study found that supplier links led to firms upgrading in less than 20 percent of the cases examined (Pipkin and Fuentes 2017). The absorptive capacity of local suppliers is key to their learning and upgrading process, meaning that domestic firms must possess sufficient capacity to absorb technologies and other knowledge from their foreign-owned client firms in order to benefit from spillovers. A recent study of domestic firms in 122 developing countries found that only the more economically dynamic domestic firms—as measured by relative employment growth—experienced positive backward spillovers (World Bank 2018). Other domestic firm characteristics found to have a positive effect on knowledge spillovers to suppliers include firm size, the level of human capital, the level of experience producing for international markets, and firms’ R&D intensity (Jordaan, Douw and Qiang 2020).

Source: Authors adapted from World Bank (2021)

⁶⁹ Rodriguez-Clare (1996), Giroud et al. (2012) Farole and Winkler (2014)

⁷⁰ Giroud and Scott-Kennel (2009)

⁷¹ Business Environment and Enterprise Performance Survey conducted jointly by the World Bank and the European Bank for Reconstruction and Development

⁷² Godart and Görg (2013)

⁷³ A wide set of literature emphasizes the benefits that participation in GVCs can have on the performance of firms in emerging economies (see for example, Alcacer and Oxley 2014; Gereffi et al. 2001; Gereffi, Humphrey, and Sturgeon 2005; Meyer and Sinani 2009).

Evidence for Turkish firms also points to GVC supply being associated with higher productivity. Evidence for firms in Turkey indeed suggests that those becoming GVC suppliers experience increased productivity. Domestic firms that have higher ‘absorptive capacity’ are also more likely to develop good supplier linkages with lead firms. Affiliates of MNEs often screen and test domestic firms’ skills and technological capabilities during the selection process to ensure that selected suppliers are capable of providing competitive and reliable inputs. These suppliers are more likely to be exporters themselves, to have a higher R&D capability (as measured by the number of patent applications), to be larger in size, and to be foreign-owned (Heher et al. 2019). Yesim Textiles is an example of a firm that has used its GVC supply relationships to good effect to raise its productivity (Box 6.4).

Box 6.4: Yesim Textiles – driving productivity gains through supply contracts with global brands

Yesim Textiles is a Turkish textiles manufacturer and family business that was formed in 1983, building on the more than 30 years of existing experience in the textile sector of its founding partners, Sukru Sankaya and Cavit Caglar. Yesim Textiles has around 4,000 employees at its main factory located in the city of Bursa, where it produces a wide variety of textile and apparel products under contract with foreign lead firms such as Nike, Tommy Hilfiger, Burberry, and Under Armour. Each of these international brands has its own supply chain management and development system. This included, for instance, a robust supplier audit and inspection process. Senior management of Yesim Textiles emphasize the importance of the close relationship with lead suppliers in helping to drive constant efficiency gains and technological development for their company. There are ongoing technological exchanges between Yesim Textiles’ own R&D operation, the design operations of the brand name holders, and the manufacturers of textile machinery. Optimizing the supply chain and reducing costs is the key to competitiveness.



In recent years, Yesim Textiles has been developing its capacity as an agile, Industry 4.0 supplier. Compared to 20 years ago, when large orders were placed for standard products, product orders are now much smaller, more frequent, and more customized. It is standard for Yesim Textiles to deliver on an order within four days of receiving it. In order to maintain cost-competitiveness in key markets and products, Yesim Textiles has expanded its production capacity in Turkey and invested in factories overseas, in Moldova and Egypt. This diversification of locations enables the company to specialize in certain activities per plant but also to make the most of preferential trade frameworks, such as access to the US market from Moldova.

The textiles and garment business is labor-intensive. Yesim Textiles focuses on a good working environment, with quality facilities and, for instance, on-site daycare for workers’ children. Nevertheless, management cited finding well-qualified staff, especially for higher-skill roles, as a challenge, noting that other sectors were increasingly competing for the same graduates, particularly the ICT and motor vehicle sectors.

Source: World Bank, industry consultations, Jan-Feb 2020

Strategic alliances with lead firms

GVC suppliers can foster close alliances with GVC lead firms to access know-how, technology, and markets. Much of the value firms acquire via GVC participation comes through the relationships formed and governed by GVCs. Domestic firms that are important partners for lead firms can develop even closer alliances, through which technology and productivity advancements can be significantly increased. Evidence from Turkey (Bircan 2017) indicates that foreign acquisitions increase productivity and improve the cost-effectiveness of production. The positive effect is more pronounced for foreign firms whose home country has a higher rate of R&D spending and for majority acquisitions. Similarly, Ragoussis (2020) shows that domestic firms acquired by foreign investors become more competitive and are more likely to internationalize. In his study, those domestic firms not only performed better than the average domestic firm at the time of acquisition but also improved their performance post-acquisition more rapidly. Firms acquired by foreign investors were also more likely to start exporting, innovating, and diversifying their products.

Strategic alliances rely on the complementary capacities and market knowledge of alliance partners. Alliances are built around general complementarities in firms' interests and capabilities. A lead firm may wish to partner with local firms because the latter have greater knowledge of the domestic market and are better placed to handle the local regulatory environment (Lima 2008). An alliance may lower an MNE's entry risk and capital requirements by allowing it to use the local partners' assets. MNEs tend to look for local partners that are more profitable, more productive, and larger than average, with high initial export participation and many patents (Jiang et al. 2018). Local partners, on the other hand, often seek access to new production know-how and technology to increase economies of scale or else venture into new product lines with an established international partner. Ford Otosan is an example of a very close and longstanding alliance between a global lead firm in automobiles and a major Turkish multinational (Box 6.5). The recent extension of a joint venture between Arcelik A.S. and LG highlights how such complementarities can even outweigh competition amongst partners in other product segments.⁷⁴

Direct exporting

Direct exporting can greatly increase demand, but the prerequisites for success are greater. Direct exporting requires domestic firms to have both the minimum production capabilities and sufficient overseas market knowledge to compete internationally. Firms often learn how to confront international competition in local markets before moving into export markets. This learning process requires firms to develop production capabilities to be competitive, meet the quality standards of their sector, and be sufficiently productive to compete internationally (Pedersen and Petersen 1998). In addition, these firms must learn the details of the overseas markets they wish to enter, such as their business climates, cultural patterns, market structures, and consumer characteristics (Johanson and Vahlne 1977).

⁷⁴ See <https://www.arcelikglobal.com/en/company/press-room/press-releases/arcelik-as-extends-joint-venture-agreement-with-lg-electronics-inc/> (accessed 5 February 2021).

Box 6.5: Ford Otosan – Internationalizing into a global lead firm

Ford Otosan is a joint venture between Ford Motor Company and Koç Holdings, each with a 41 percent stake, with the remaining 18 percent of company stock publicly traded. Ford has a long history of manufacturing vehicles in Turkey, where it started production in 1931. It then made the first major post-war automotive investment in 1959, when the Otosan factory in Istanbul was established to produce Ford cars under license. Across its main sites in Kocaeli, Istanbul, Eskişehir, and Sancaktepe, Ford Otosan employed more than 13,000 people and produced over 250,000 units in 2020. In 2020, Ford Otosan recorded US\$7bn in revenue and reaching more than 80 countries, Ford Otosan is Turkey's largest exporter. The company also has a substantial domestic market share in Turkey.



As a long-standing joint venture, Ford Otosan is very closely aligned with one of the largest automobile manufacturers in the world, and their linkages in all areas are broad and deep. Being part of the global Ford Motors family means that efficient distribution and marketing of their products is managed at a global level, allowing Ford Otosan to focus on production and research & development.

Ford Otosan has become fully specialized in commercial vehicles within the Ford Motors Group and has developed a strong R&D capability for these vehicles. In addition to vehicle assembly and component production, Ford Otosan also provides R&D services to Ford Motor Company and has also begun to develop co-owned and its own intellectual property. Ford Otosan, for example, recently patented an innovative new material for use in emissions systems, which was developed in collaboration with a major university in Turkey.

With the support of Ford Motor Vehicles, since 2010, Ford Otosan has become the lead firm that manages all aspects of the Ford Motor Trucks brand on behalf of the group beyond Europe. As the lead firm for this global brand, Ford Otosan has developed and grown the company's offering. Its landmark development is the F-Max Heavy Goods Vehicle. This is a newly-designed lorry developed by Otosan and launched in 2018. With its Ford Trucks, Ford Otosan currently operates in 45 countries across three continents. Ford Otosan also benefits from its linkages with Koç Holdings – one of Turkey's largest and best-performing firms. Koç Holdings, for instance, facilitates it in developing effective domestic supply chains and an extensive dealership network.

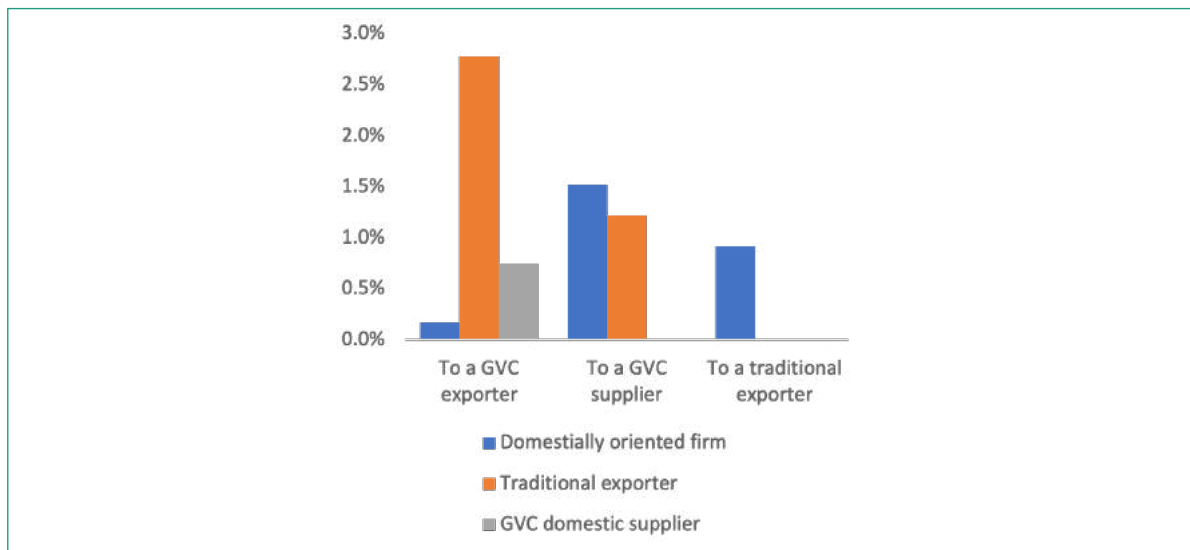
Ford Otosan's story is a striking example of the upgrading of a firm's capacities – first from the basic assembly to more diversified and complex production, then to research and development, and finally into a full lead firm in its own right. While this is thanks to successive generations of workers and managers at Ford Otosan, their accelerated development has been supported by close relationships with major lead firms.

Source: World Bank, industry consultations, Jan-Feb 2020

As a result, successful GVC exporters often transition through earlier stages of internationalization. While firms can move directly from the domestic market to exports, integrating first as domestic suppliers to GVC firms is a common route to preparing effectively for export. For example, a domestic firm may start as a supplier to a particular lead firm, which establishes an inter-firm relationship in which trust and confidence can develop. This may then, for instance, lead to the local firm licensing the lead firm’s technology, or else the two firms engaging in a joint venture (Lima 2008).

Firm-level data in Turkey shows that firms becoming GVC exporters are far more likely to be GVC suppliers or traditional exporters first. The analysis of firms’ transition between being a GVC exporter, a GVC supplier, a non-GVC exporter, or a domestically oriented firm shows how common such transitions have been over the past 12 years. Given the demands of being a GVC exporter, it is not surprising that only a very small proportion – less than 0.2 percent – of domestically-oriented firms transition directly to this status. On the other hand, firms that already supply GVC exporters are more than six times as likely to become GVC exporters (1.2 percent), while firms that are already exporting but are not yet linked to GVCs, are more than 10 times as likely to become a GVC exporter (2.8 percent) (Figure 6.3).

Figure 6.3: Exporters and GVC suppliers most likely to become GVC exporters

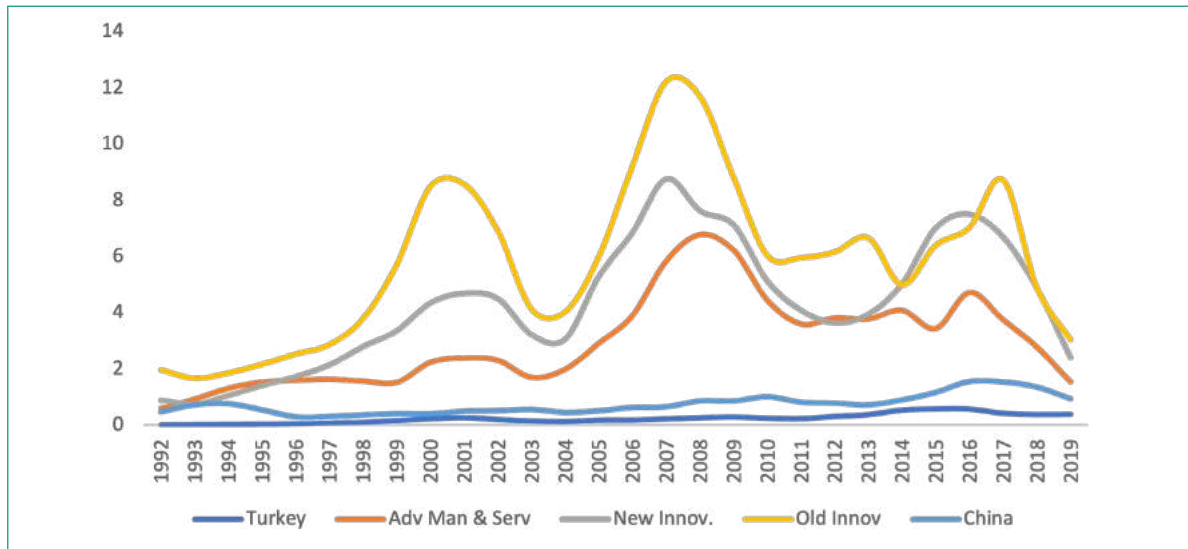


Outward foreign direct investment

Outward FDI (OFDI) is a pathway to internationalization that benefits not only recipient economies but the source economy too. OFDI can boost innovation and exports in the home economy, particularly through economies of scale, improving international competitiveness, technology acquisition,⁷⁵ and managerial capacity. Knowledge effects initially benefit only the foreign subsidiary though and need to be transferred back to the parent firm to impact the home economy (for example, through personnel exchanges, production shifting, or management rotation). Firms that engage in OFDI tend to be larger, more productive, and more R&D-intensive than firms that do not invest abroad (Thomas and Narayanan 2013). All these characteristics support OFDI- firms to have minimum financial solvency and the capacity to develop and manage outward expansion needed for this internationalization strategy.

⁷⁵ Chen, Li, and Shapiro (2012) find in examining OFDI from 20 developing countries that host market R&D intensity is a key element in generating innovation spillovers in the home economy.

Figure 6.4: Outbound FDI remains very low in Turkey



Source: World Bank World Development Indicators

Turkish firms are slowly internationalizing via OFDI but from a low starting point. In general, firms in high-growth economies have increasingly turned to OFDI since the late 1990s to realize efficiency in resource allocation and diversify risks from economic shocks (Lee, Lee, and Yeo 2016). On average, countries in the advanced manufacturing and services GVC group have averaged 3.5 percent of GDP net OFDI per year since 2000, and countries in the innovative activities group, even more. There are some significant examples of OFDI from Turkish firms (see, for example, Box 6.6). But OFDI from Turkey, which has been on an increasing trend, is still well below the levels of comparator GVC groups, averaging at only 0.3 percent since 2000, and no more than 0.8 percent in any year (Figure 6.4). The Turkish government promotes outward investment via investment promotion agencies and other platforms, and there are no restrictions on domestic investors investing abroad. Increasing the international competitiveness of home firms through enterprise reform and a better domestic regulatory investment framework can support OFDI (Liu and Lu, 2011).

Box 6.6: Turkey's household appliance industry used OFDI to drive innovation

Turkey's household appliances industry illustrates how an emerging market can use OFDI to enter foreign markets through M&A and greenfield R&D, thereby driving innovation at home and becoming an important market actor. According to the Turkish Household Appliances Suppliers Association (TURKHAS), Turkey's household appliance production ranks first compared to all EU countries (second globally), with Turkey being the fifth largest exporter in the world behind China, Mexico, Germany, and Poland.

Two of the leading Turkish firms, Arcelik and Vestel, have used the outward investment to locate R&D activities in foreign markets to increase parent firm innovation. They have acquired a number of foreign brands to enter both advanced and emerging markets over the past two decades, including in Austria, Germany, Pakistan, Romania, the Russian Federation, South Africa, and the United Kingdom. Arcelik has seven R&D centers around the world. This has allowed it to develop energy-efficient products and position itself as a green company, leapfrogging incumbent rivals. The emphasis on R&D means that in 2015 the firm had by far the most patent applications amongst all Turkish firms, with a total of 235 submitted to the World Intellectual Property Organization (WIPO) - a staggering eight times more than the second-highest Turkish firm - placing Arcelik in 78th position globally. Vestel has adopted a similar strategy of using OFDI to tap into foreign technology to boost productivity and innovation. It devotes 2% of sales revenue to R&D spending, with R&D centers in the UK and China, in addition to Turkey. As a result, Vestel has also been listed as one of the three Turkish companies among the top 1,000 companies in the world by R&D spending.

Source: Authors adapted from Perea and Stephenson 2017, World Bank 2018

Providing the right enabling environment for Turkish firms to internationalize touches on several demand- and supply-side policy areas. The above discussion illustrates the potential of further internationalization of Turkish firms to drive expansion and productivity gains via GVCs. However, maximizing the potential of GVCs to lead domestic firm upgrading depends critically on domestic policy frameworks. Investment climate and trade policy frameworks should be sufficient to attract MNEs that can generate productivity-enhancing relationships. The investment climate, however, also impacts how domestic investors react to the new opportunities provided through intensified GVC participation. The benefits of internationalization on domestic firms are much enhanced if firms have adequate absorptive capacity at the outset. Therefore, in addition to the issues discussed in earlier chapters, policy interventions that support improved management and workforce skills, address market failures, enable technology adoption, and enhance access to finance are important in raising the domestic value of GVCs.

Low-cost, efficient import competition is important for firms entering GVCs

Placing constraints on imports harms the competitiveness of both exporters and domestic suppliers in GVCs. As GVC participation grows, many countries including Turkey, worry about a rise in intermediate imports. However, imported goods and services allow for Turkish firms to successfully compete in GVCs, while the relationships with GVC suppliers overseas can also be a source of productivity and firm upgrading. In contrast, where an economy artificially replaces key inputs with inferior domestic versions, it likely hurts domestic firms' competitiveness, resulting in lower gross and value-added exports. Several empirical studies on developing countries have shown the positive impact of imports on productivity via GVCs such as Amiti & Konings (2007) on Indonesia, Toplova & Khandelwal (2011) on India, and Crino (2012) for a panel of transition countries. Promoting firm productivity and technological upgrading is the route to higher GVC value capture rather than increased domestic content (WTO et al. 2019). And firms that supply GVCs domestically are subject to the same constraints. In particular, those producing a higher-value product will very likely also rely on a mix of imported and domestic inputs and need to remain at the globally competitive frontier. Therefore, trade restrictions, as well as volatile or arbitrary changes in them, are not supportive of domestic value addition through GVCs, but rather stifle competitiveness.

Protectionism impedes a firm's innovation and efficiency-enhancing specialization. By opening up opportunities in new markets and fostering competition in domestic markets, trade liberalization tends to incentivize innovation. For instance, around seven percent of the increase in knowledge creation during the 1990s was attributable to trade reforms lowering barriers to foreign markets (World Bank, 2020a). Recent firm-level studies indicate that international sourcing strategies and competition from imports can serve as a conduit to innovation.⁷⁶ Firms in countries where low-cost import competition increased have been shown to increase their number of patents, raise their IT intensity, and increase their productivity because easy access to competitive intermediate inputs freed up resources to innovate. However, import competition can also reduce the employment and survival rates of less productive firms.

Policies should therefore encourage firm competitiveness to gain from new GVC opportunities and leave sourcing strategies to business. If the business decisions of GVC lead firms are distorted, for instance, by high import barriers or high levels of subsidization for domestic suppliers, it can reduce their overall productivity and value-added, and reduce the attractiveness of Turkey as a location for the next round of potential FDI. Deringer et al. (2018) assessed the impact of local content requirements in the heavy truck sector of BRICS. They found that such requirements: (i) have a negative impact on trade in the targeted sector; (ii) significantly increase the price for imported trucks leading to higher prices for firms as well as consumers, and (iii) increase output in the targeted sector, but at the expense of production in related industries. The focus on competitiveness improvements should also guide eligibility to incentive programs, whether financial or behavioral measures.

Fiscal incentives have limited impacts on densification and should be used carefully

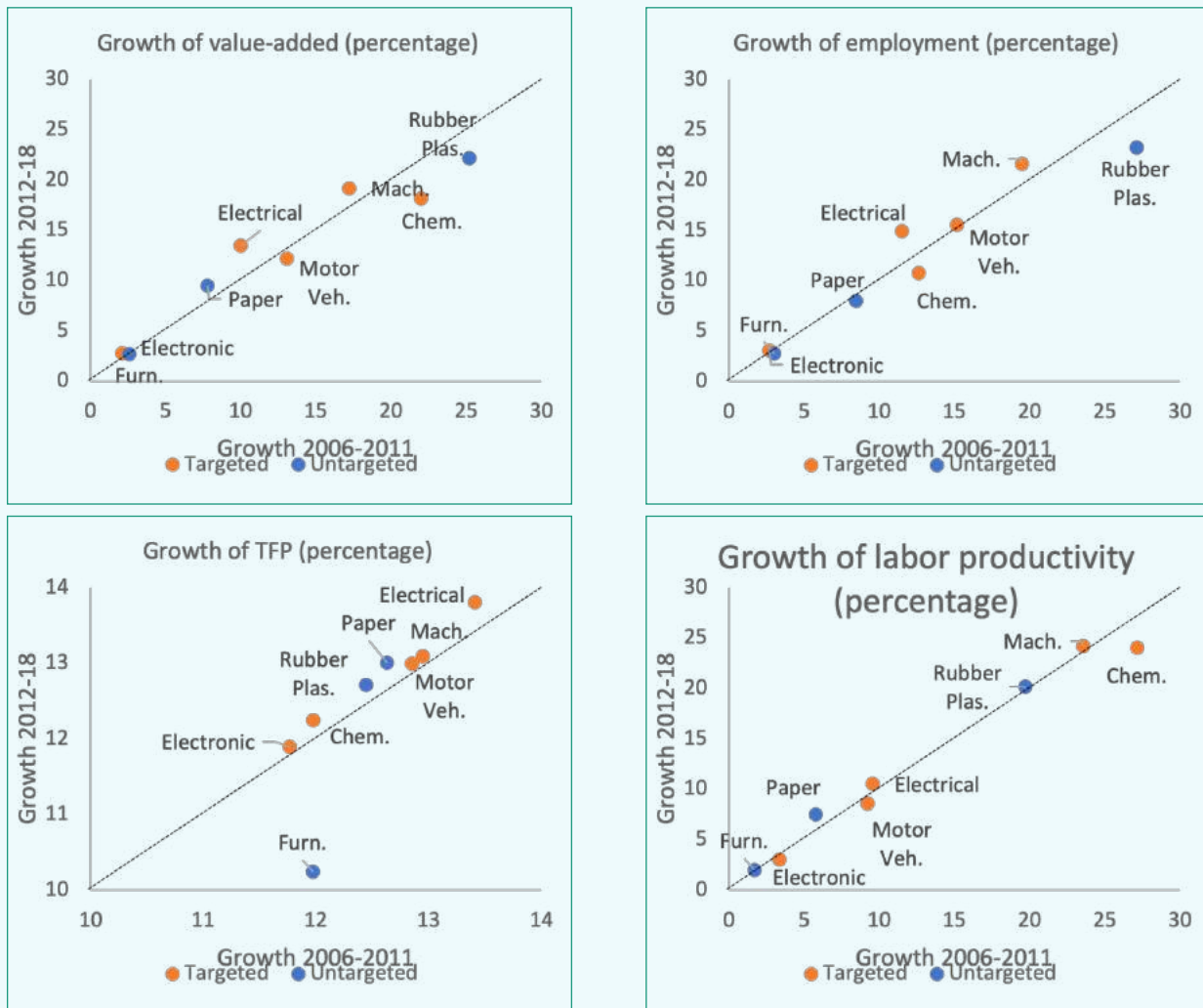
Trade and investment liberalization was critical for densification in Turkey, while incentives played a minor and uncertain role. Several studies confirm that trade and investment liberalization in the 1990s to 2000s had productivity-enhancing effects, especially in import-competing sectors (Oezler and Yilmaz 2009, Taymaz and Yilmaz 2007) in Turkey. Yet, the role of incentives is less clear. Ersel and Filiztekin (2008) undertook an evaluation of incentive programs in Turkey over the period of 1980-2000 and show that investment incentives either had no or negative effects. A survey of those firms benefitting from the incentives showed that 64 percent would have invested even if no incentive was offered, indicating significant inefficiency.

⁷⁶ Several case studies such as Bartel et al. (2007) on American valve-makers; Freeman and Kleiner (2005) on footwear; or Bugamelli et al. (2008) on Italian manufacturers show firms innovating in response to import competition from low-wage countries. Bloom et al. (2016) studied the impact of increased import competition from China, after its WTO accession, in 12 European countries (Austria, Denmark, Finland, France, Germany, Ireland, Italy, Norway, Spain, Sweden, Switzerland, and the UK).

Box 6.7: Sectoral incentives and GITES

From the late 2000s, the government began to expand the objectives in strategic planning from focusing on export growth to also limiting the use of imports by providing targeted support to domestic firms with the aim of them taking up positions in supply chains. The 9th development plan (2007-13) and the strategic export plan of the time identified a need to reduce import dependency, introduced targets for raising value-added, and brought in incentive schemes that focused on certain sectors. In 2011, the government launched the “GITES” program, which aimed to develop domestic intermediate input supply to higher value-added and high-tech exports, which relied heavily on intermediate imports. Rather than imposing additional costs or requirements on imports, the program supported the competitiveness of domestic suppliers by providing incentives. GITES targeted the following sectors: Metals; chemicals; motor vehicles; machinery; electronics; textiles and leather, and agriculture. GITES was just one of several incentive schemes which, in 2012, were combined into a framework called the New Incentive Scheme (NIS), of which GITES remained the most explicitly sector-targeted program. The 10th Development Plan (2014-18) continued the sector-specific approach and focused on the metals, chemicals, motor vehicles, machinery and equipment, and electronics and electronics sectors to lower import dependency. Since late 2016, incentives have been organized under a project-based incentive framework whereby a sectoral focus is less explicit.

Figure 6.5: Comparisons of targeted and untargeted sectors before and after targeting



To get a rough sense of how targeted sectors performed, we focus on four targeted sectors (chemicals, electronics, machinery, and motor vehicles) and compare them with untargeted sectors (rubber and plastic, furniture, and paper). We use firm-level data to analyze the universe of domestic suppliers to GVC exporting firms in these sectors and compare trends over time as the GITES program came into force. This is not to be interpreted as a robust evaluation but only as an illustration of developments over the period. In the figures above, a positive effect of GITES would be manifested by points appearing above the 45-degree line for targeted sectors. Figure X shows no clear step-up in value-added growth of targeted domestic suppliers in the period after GITES was introduced compared to the former. However, it does show that in some targeted sectors, but not all, there was a significant acceleration in employment growth. Econometric analysis confirms that there is no statistically significant difference between outcomes in targeted and untargeted GVC suppliers.

Source: World Bank Staff calculations and EIS data

Notes: Data presented is for GVC domestic suppliers only

The record of Turkey's industrial policy measures is mixed with little evidence for achievement of ultimate objectives. Turkey has increasingly turned to vertical measures, comprising of a series of sectoral incentive schemes that are project-based and highly selective, targeting import-intensive sectors, thus aimed at import substitution. After 2009, the incentive regime also became more complicated, both in terms of the number of instruments and in terms of the way targets and eligibility are defined (EIB 2015). While there has not been a comprehensive impact evaluation since the approach changed, some suggest that these sectoral incentive schemes have had little effect (Box 6.7; Atiyas & Bakis, 2015). Yet, the economic cost of this industrial policy has been high. According to the EBRD (2019), the direct costs of Turkey's industrial policy were around USD 1.2 billion in 2017, which does not include forgone tax revenues or the cost of market distortions through limited competition and trade restrictions.

The current incentive scheme suffers from a number of challenges. First, it is volatile, making it unpredictable due to frequent changes. Second, there is weak coordination with other important policy objectives. For example, R&D subsidies may have little impact on promoting innovation, technological upgrading, or investments in new sectors unless there is a complementary effort to develop skilled labor in the relevant industries. Hence incentives may need to be complemented by education and training policies. Third, there is little evidence-based evaluation apparent to ensure incentives are offering value for money. Ideally, the incentive system should be designed alongside an evaluation strategy which enables evaluation of the impact of the various components, and lack of such impact evaluation is a weakness of the incentive system (EIB 2015). Overall, policies for the subsidization of domestic producers should be transparent, non-discriminatory and target the market failure they are specifically addressed for, otherwise they risk exacerbating distortions in the market.

GVC-led upgrading should be guided by strong public-private collaboration


Close dialogue and cooperation between the government and industry helps inform effective policy measures to ensure competitive domestic supply chains. Turkish executives⁷⁷ agree that technological upgrading is necessary to increase value-added and global market share in key sectors. However, they are also convinced that their efforts alone will not be enough and that there needs to be a holistic and aligned approach where they work closely with government to address constraints to growth. Positioning Turkey as a competitive location in GVC sectors requires strategy with a long-term perspective, designed and supported by industry-government coordination and collaboration. Especially for production with increasing technology and skills content, working together in building a resilient and competitive supply chain with the right access to talent and industrial ecosystem is paramount (see Box 6.8 for industry-led R&D and workforce development in Malaysia).

The benefits of an established public-private coordination mechanism are manifold. It can help effective prioritization by defining shared goals, address cross-cutting industry objectives, define tailored programmatic support, and gather the right partners for efficient implementation. In some countries, this industry collaboration is institutionalized (see example of Malaysia or the UK's Automotive Council). In other examples, national industry associations are awarded the relevant mandates and consultative roles (e.g., Germany's Automotive Industry Association, VDA). Whichever the format, they have the following features in common: (i) Advocating for the best business environment to operate in, including access to the right skills; (ii) delivering targeted programs to improve the long-term competitiveness of the supply chain based on their understanding of the needs and challenges of the industry, and (iii) identifying and advising on R&D investment to develop new comparative advantages.

Turkey currently lacks adequate public-private platforms to explore new potential and tackle common gaps within and across industries. Even though committed industry associations and fora are in place in most GVC sectors, active coordination with government at the industry-level remains relatively weak and ad-hoc,

⁷⁷ Survey included 45 executives from 25 industrial companies representing 6 sectors (Food & Beverages, Textile, Chemicals, Automotive, Electrical Appliances, and Machinery) in Turkey. (TUSIAD and BCG, 2016).

usually not moving beyond consultations. Sectoral strategies that could provide a more strategic and longer-term vision are often not finalized or implemented. In the absence of communicated prioritization, support measures remain uncoordinated and reactive. However, the challenges Turkey experiences in increasing design and engineering capacity, improving R&D commercialization, upscaling supplier industry, and increasing scale and synergies across industrial ecosystems (e.g., testing centers) and clusters cannot be tackled by a few actors alone and require concerted effort.



Box 6.8: Penang, Malaysia - The Silicon Valley of the East

Malaysia has been successful in transitioning from the low-end processing of agri-food products in the 1960s to becoming a dynamic export-oriented economy producing high-technology products. The development of the electrical and electronics (E&E) industry can be traced back to the establishment of Penang's export processing zone (EPZ) in 1972. Today, Penang is home to multinational firms such as Bosch, Motorola, Dell, Intel, and Hewlett-Packard and has moved from assembly and basic manufacturing to R&D and design functions in the electric and electronics sector. There were several factors behind Penang's initial success, which first attracted labor-intensive operations of foreign firms and had limited backward linkages, and expanded to high-skilled activities in recent years. Among the most important initial factors were a large number of English-speaking trainable low-skilled workers, excellent infrastructure, and the proactive role of the government.

Penang's initial strategy was to provide excellent basic infrastructure coupled with favorable investment conditions and incentive schemes to attract multinational firms. In addition, Penang combined the infrastructure with superior provisions of social services, such as public health facilities and schools, to attract skilled workers and managers. Penang's success is also related to the aftercare services, which was just as, if not more, important than the initial promotional work (Singh, 2011). Penang Chief Minister and other senior state officials maintained constant contact with the CEOs of companies with plants in Penang to receive continuous inputs to the evolving development of the investment promotion campaign and to address investor issues related to their operations. Thus, it ensured that the expansion and upgrading of multinationals activities was done in the country.

Malaysia designed various programs to promote linkages between multinational firms and local suppliers. The first attempt was the Vendor Development Programme (VDP). Introduced in 1988, it had limited success at first due to its narrow scope of promoting Bumiputera-owned suppliers exclusively, but in 1992 the program was extended to all Malaysian firms. Under the program, the government provides soft loans and other types of financial support to small and medium-sized enterprises, while multinationals provide technical training to facilitate technology transfer to local suppliers. Since the mid-1990s, the Malaysian government has implemented additional initiatives to promote linkages with domestic firms. The Industrial Linkage Programme (ILP) provides tax incentives to SMEs and multinationals for the cost incurred to develop domestic SMEs into competitive suppliers. The incentives cover costs related to training, product development and testing, factory auditing, and technical assistance. Another important initiative is the Global Supplier Program (GSP) which provides subsidies to SMEs for training programs designed directly by multinationals.

In 1989, to increase the supply of skilled labor, the Penang Skills Development Centre (PSDC) was established. This was a private-public effort led by Hewlett-Packard, Intel, and Motorola jointly with the Penang Development Corporation and with the participation of academia. Eventually, other electronics investors joined the effort and contributed with equipment, trainers, and with the design of training programs. Since its establishment, the center had trained over 200,000 workers by means of more than 10,000 courses by 2018. The center has helped Malaysia to transition to higher value-added activities. According to one executive from Texas Instruments, "We came for the cheap labor and the tax advantages, but we are staying because of the expertise we have built up here. As far as assembly and testing are concerned, we have more expertise here than we have in the US. We sometimes have to send our Malaysian engineers to the States to solve their problems" (Lim and Pang 1995). The PSDC received a government grant for the first few years to set up, but since then operates self-financed through membership fees and income generated from providing courses and shared services (e.g., testing labs). As a result, customer service and business efficiency has been central to its successful management over the past 30 years.

More recently, to address industry's needs to grow the ecosystem for research, development, and commercialization, the Collaborative Research in Engineering, Science and Technology Centre (CREST) was established in 2012. Like the PSDC, it is led by industry, but its membership is tripartite (industry, government, academia). It functions as a catalyst for Malaysia's technology ecosystem focused on (i) commercializing R&D, (ii) preparing a pipeline of industry-ready talents, and (iii) providing a platform for local and FDI companies to build a formidable R&D ecosystem. Aware of the need for talent in economic upgrading, Malaysia also established the first government agency worldwide to explicitly provide programs to attract, nurture and retain talent in the country. TalentCorp was founded in January 2011 and has successfully helped over 5,000 experts to return to Malaysia.

Penang's successful economic transformation via GVC participation is explained by the combination of an aggressive investment promotion with continuous infrastructure upgrades and increasingly effective government-business coordination. This public-private partnership mentality rests on a mutual understanding that policies and programs need to be demand-led and customized, as the evolution of supplier linkages programs as well as the industry-led governance of relevant institutions (like the PSDC and CREST) highlight.

Sources: Kharas and Gill, 2020; Freund and Moran, 2017; Kharas et al., 2010; Lim et al., 1995; Singh, 2011; UNCTAD, 2011; UNIDO, 2009; WBG interviews in June 2019.

Domestic firms need to be ready to effectively participate in GVCs

Lead firms recognize the importance of engendering a vibrant supply ecosystem. As one representative from a leading manufacturer in household appliances put it: “We are only as competitive as the supply industry; therefore, it is critical and vital to plan our actions by finding a common language”⁷⁸. However, lead firms cite several constraints related to domestic supply chains. Capacity gaps exist in R&D, product design, and management systems which result in Turkish firms having difficulties covering the more innovative and higher value-add segments of value chains. They note that domestic suppliers are not able to invest at a rate commensurate with lead firm demand due to access to finance constraints and macroeconomic uncertainty. GVC lead firms in manufacturing report that their suppliers largely depend on them, especially in relation to investment decisions for upgrading production, to guide them on the specifications and benefits of such changes.⁷⁹ Moreover, a competitive domestic supplier base helps to attract more FDI. Ready access to suppliers is an important criterion in MNEs’ location decision (World Bank 2018, p. 21), and increasing their linkages with local firms helps to embed longer-term FDI while also strengthening in-country value addition and investment expansion.

Focusing policy support on strengthening Turkish firms’ capacity to absorb new knowledge is central to upgrading and internationalization. Many of the classical industrial policy tools can ultimately undermine competitiveness. Broad tax incentives, subsidies, and localization targets (including local content requirements) often end up distorting production patterns in GVC networks (World Bank, 2020a) without really addressing firm-level constraints that impede them to successfully grow and become more productive. Instead, proactive and targeted policy measures used to carefully address market failures, and that target sustainable improvements in firm competitiveness, can be effective. Measures that help to raise absorptive capacity by promoting firm innovation utilization, connecting producers to GVC lead firms, improving managerial and workforce skills, and strengthening domestic capital markets are important.

Supplier development programs can engender new productive firm linkages...

Uncertainty and limited information hamper the formation of new business relations and networks. Empirical studies⁸⁰ show that networking is a valuable business strategy in shaping economic outcomes, particularly in countries where business networks can form an attractive substitute to the relatively high transaction costs of using the market. Thus, helping firms discover markets and building relationships with clients can improve product quality and raise overall productivity.⁸¹ For instance, a study of firms in China showed that fostering business introductions and networking significantly improved referral, leading to a 9 percent increase in the number of linked suppliers (Cai and Szeidl, 2017). Firms that regularly participated in networking realized an average 8 percent sales increase. Though smaller than the 17 percent productivity gains achieved from intensive and tailored management consulting, such approaches are much cheaper and more cost-effective.

Promoting linkages between Turkish suppliers and lead firms can improve market access and upgrading. The ability of suppliers to effectively match the needs of foreign buyers is a core requirement of participating in GVCs and calls for a combination of good management and sources of active demand (World Bank 2020a). Programs that promote formation of these linkages entail: i) providing access to information about supply opportunities; ii) supporting the management training and capacity building of domestic firms; iii)

⁷⁸ See <http://www.turkhas.org/statistics> (accessed 10 Feb 2021)

⁷⁹ The findings highlighted in this section are informed by interviews and industry consultations conducted by the authors between February 2018 and October 2019 with representatives of multinational corporations, domestic firms, and industry associations affiliated with the manufacturing sectors in Turkey, in particular automotive, HVAC, and renewable energy equipment producers.

⁸⁰ Empirical evidence suggests that networking is a business strategy able to shape economic outcomes, e.g. for sharing information about customers or suppliers (McMillan and Woodruff 1999; Greif 1993), for meeting potential business partners (Casella and Rauch, 2002), improving a firm’s access to production technologies (Parente and Prescott 1994; Conley and Udry 2001, 2010), and for learning about promising investment opportunities (Patnam 2013).

⁸¹ For example, in a randomized controlled trial in which Egyptian carpet producers were given access to demand from high-income foreign markets (such as the United States and the European Union), the treated firms experienced a 16–26 percent increase in profits, driven by higher quality and learning-by-doing as their product quality improved over time (Atkin, Khandelwal, and Osman 2017).

facilitating access to finance, and iv) strengthening sector-specific human capital with targeted workforce development measures (discussed further below). While public programs can help improve the benefits derived from GVCs, care needs to be taken not to distort markets, which may undermine these efforts. Successful support programs, therefore, tend to combine information provision to increase exposure, firm matching to overcome contract friction and coordination failures, temporary support programs to address underinvestment in requisite capital and to strengthen demonstration effects, as well as enhance public-private collaboration.

There is untapped potential to support densification via supply chain linkages. World Bank analysis suggests that there are many firms with the potential to supply lead firms. Propensity score matching was used to identify the characteristics of Turkish firms in the manufacturing sector that have a higher likelihood of becoming a supplier.⁸² Applying these ‘predictive’ characteristics to those firms that do not yet supply lead firms reveals a considerable number of potential suppliers in the most complex manufacturing sectors.

...and support adoption of fundamental skills and technologies firms need to be competitive

Strengthening firm and managerial capabilities is key for upgrading and further GVC integration. Firms differ greatly in management capabilities and practices, resulting in productivity and profitability varying significantly,⁸³ and lead firms support the diffusion of management skills. Bloom and Van Reenen (2010) report that MNEs are not only better managed but are also able to transfer their better practices abroad. Thus, MNE presence plays a valuable role in improving management practices. Evidence from Mexico shows that firms in the top decile of the managerial practices index are over seven times more likely to participate in GVCs than firms in the bottom decile (World Bank 2020a). However, managers tend to systematically misdiagnose the quality of their organization and management (Bloom et al. 2013, 2019), and are unclear about the return on investments in improving management and organization, and lack information on the quality of management consulting services (Cirera and Maloney, 2017). When firms do invest in improving management, they experience higher profits, productivity, and job growth while raising product quality and the likelihood of exporting (Bloom et al., 2013). Bloom et al. (2013) find that adopting good management practices via management consultants leads to an 11 percent increase in productivity.

Supplier development programs aim to boost the competitiveness of the domestic supply chain. They encourage new and current supply chain companies to invest in building business capabilities (people, process, technology) needed for long-term competitiveness. Such programs can be transformative as they help local suppliers upgrade to meet the requisite quality and standards in return for supply contracts but, given their need for targeting and customization, are also costly (Steenbergen and Sutton 2017). International experience⁸⁴ proves that investing time and resources in promoting FDI linkages and upgrading local firm capacity pays off. Yet, certain principles for SDPs should be adhered to (see Box 6.9).

⁸² Heher et al. (2019)

⁸³ See for example Bloom and Van Reenen (2006, 2010); Bloom et al. (2019).

⁸⁴ The experience in Box 6.9 reflects a case study analysis to identify the common success factors of SDP and linkage programs in Singapore, Malaysia, Thailand, Czech Republic, and Ireland.

Box 6.9: Key principles for successful supplier development programs (SDPs)

A comparison of several international examples provides useful insights and relevant lessons for Turkey on the common features of successful SDPs across varying political and economic contexts:

1. Promote linkages with FDI and GVCs as part of an outward-oriented economic vision that provides adequate policy commitment, finance, and long-term focus.
2. Integrate SDPs in a broader programmatic approach, including capacity upgrading, information and matching services, and the development of an enabling industrial ecosystem to sustain progress.
3. Seek close and active involvement of MNEs that provide important 'demand pull' and guidance on supplier selection and improvement needs.
4. Focus on admitting committed and ambitious local suppliers into SDPs.
5. Provide a systematic and customized capacity-building approach and support package to suppliers.
6. Focus on providing a route to market through the active matching of suppliers with MNE business opportunities.
7. Mandate a strong lead agency to coordinate efforts and drive implementation, which needs to have sufficient political clout to convene stakeholders.
8. Emphasize relationship- and trust-building between public and private sectors to kick-off fruitful industry collaboration.

Sources: World Bank (2019)

Turkey should support supplier development programs to improve its supply base, adopt new capabilities, and master higher value-add segments. Although many GVC lead firms operating in Turkey are running their individual SDP activities and are satisfied with the present supplier improvement activities, these buyers naturally focus on the current (shorter-term) position and capabilities of suppliers, driven by cost reduction and product cycles. Such initiatives do not necessarily consider developing the capabilities needed for medium- to long-term competitiveness. Therefore, it would be useful to introduce a public supplier development program endorsed by the industry. These may be targeted at specific sub-sectors (e.g., electric and electrical components in automotive and electronic consumer goods) and subjects (e.g., product design requirements, product launch capability, asset utilization, cyber security, etc.) to ensure ongoing industry efforts are supplemented and future competitiveness is targeted. Currently, the domestic supply base lacks awareness and certainty on which new services and approaches would strengthen its competitive position and how to acquire them. The importance of boosting efforts in this area has been recognized in recent national economic strategies such as the New Economic Reform Program or the FDI Strategy, as well as public programmatic activities (e.g., TUSIAD's Industrial Digital Transformation Program⁸⁵). See also Box 6.10 for a pilot SDP in the automobile sector that the WBG is supporting in Turkey.

⁸⁵ For more information, see: <https://tusiadsd2.org/> (last accessed on 13 September 2021)

Box 6.10: Turkey's Pilot Supplier Development Program

In June 2021, the Ministry of Industry and Technology (MoIT), with support from the International Finance Corporation of the World Bank Group, launched a pilot Supplier Development Program in the automotive sector, with a focus on electronic vehicle (EV) production. It aims at expanding the participation of Turkish firms in the supply chains of large automotive OEMs based in Turkey, leading to increased linkages and business between Turkish firms and automotive OEMs. This will be achieved through targeted and systematic business consulting and upgrading support, designed in close collaboration with three OEMs (Ford Otosan, Isuzu, and Mercedes-Benz) to ensure alignment with industry needs.

Each participant supplier is individually assessed and receives an improvement plan in light of the performance gaps and OEM requirements. The assessment looks at the whole of the business (360-review) to identify those improvement areas most important for the stability and long-term competitiveness of the firms. It benchmarks each participant along four core capabilities (Competitive strategy & management systems; new product introduction & life cycle management; manufacturing operations; and supply chain management) and six dimensions of competitiveness (quality, cost, delivery, flexibility, product/technology, and customer experience). Senior international experts are coaching and working with each firm to assist them in the implementation of these improvement plans over a 12-24 month period as needed. More formal group training workshops on common topics of learning are also part of the pilot SDP.

To ensure that this demand-led and partnership initiative is taken forward in the most effective way, a MoIT-chaired Steering Committee, bringing together OEMs, industry associations, senior MOIT officials, and representatives from other private and public sector stakeholders, has been set up with the mandate to (i) oversee the strategy and implementation of the SDP vis-à-vis its agreed on performance indicators, (ii) coordinate and leverage the various support that each stakeholder can bring to the fore to ensure performance improvements result in new business opportunities, and (iii) pull together the widest range of experience and expertise in promoting the growth and sustainability of the automotive supplying industry in Turkey.

Sources: IFC / World Bank

Such programs can also play a role in developing new cross-industry linkages. Industry consultations confirm that lower-tier suppliers of computers, electronics, and optical devices, automotive, aerospace, and white good sectors are more technology and process (e.g., designing, molding, welding, stamping, forging, printing, etc.) specific than sector-specific. As these firms produce more generic inputs, lead firms have fewer incentives to invest in the relationship with those suppliers. But the competitiveness and availability of lower-tier suppliers forms an important backbone of multiple industries, and disruption can cause major bottlenecks in GVCs, as several cases during the COVID crisis have shown. SDPs should thus also promote cross-industry awareness of potential suppliers and business opportunities to help firms forge new supply links. Some technologies sought after and imported in one sector may already be in place in other sectors (e.g., TV screen producers may also supply in-car infotainment screens).

Workforce development

Invest in developing industry-specific skills. In many developing countries, there are large gaps between the outputs of traditional education and skills development institutions and the needs of employers (Fernandez-Stark, Bamber, and Gereffi 2012). Targeted workforce development strategies can bridge these gaps, ideally linking lead firms and local institutions, including universities and vocational and technical centers, and there are successful examples in certain GVC sectors in Turkey (see Box 6.11). Governments can also facilitate access to skilled labor by ensuring open labor markets and helping match investor needs with available local skills. Pervasive skills gaps often are a binding constraint to upgrading in GVCs, resulting in a large wage premium. However, explicit policies to promote “localization” of skilled jobs often result in investors facing high barriers to obtaining work permits to bring in skilled workers. By contrast, some countries actively help GVC investors identify skilled labor. For example, the Chengdu Hi-tech Industrial Development Zone gives priority to talent recruitment, assisting companies in the zone with their recruitment efforts both within China and abroad (World Bank, 2020a).

Box 6.11: Workforce development for Turkey's textile sector supported upgrading into branding, and ??

Turkey successfully rose up the value chain in the apparel GVC, with firms assuming design roles and even building global brands. This achievement has been supported by both private and public sectors and their active workforce development efforts. The Istanbul Textile and Apparel Exporter Associations (ITKIB) partnered with the private sector and government agencies to promote vocational training in fashion design. The Istanbul Fashion Academy is a partnership of the European Union and ITKIB. The Small and Medium Industry Development Organization (KOSGEB), a quasi-governmental organization, has also been involved in workforce development; it provides marketing support, training, and consulting services. The movement into own branding has also been supported by government incentives, including reimbursement of up to 60 percent of the cost of personnel expenses for a maximum of three years (including training and recruiting highly qualified personnel), machinery, equipment and software, consultancy, and R&D-related materials.

Source: World Bank (2020a)

Skills mismatches are a serious concern limiting Turkey's capacity for innovation and technological upgrading. Despite this successful example in the textiles sector (Box 6.11), labor markets in Turkey face significant skills mismatches. According to Manpower Group, 66 percent of employers have difficulty filling jobs in Turkey, with medium-sized companies faring worst. A joint EBRD and World Bank study (2019) confirms that workforce skills are among employers' top ten concerns. Although education levels are high among the young, they often lack the skills needed by employers. At the tertiary level, there is a tendency to favor subjects such as business administration and law over science and technology. Less than 20 percent of new university entrants are engaged in STEM (science, technology, engineering, mathematics) subjects, compared to an OECD average of 30 percent. Action to expand vocational training opportunities and employment support services should form part of a robust policy on skills for future of jobs in Turkey, which needs to be developed (EBRD 2019). The development of "sectoral skills maps" to guide labor market policies and design sectoral labor plans as proposed under section five of the recent New Economic Reform Program (2021) could help build the necessary evidence base. It will be critical for the views of business to be included so as to align public support with private sector need for skills.

Firms seeking to internationalize are often constrained by a lack of finance

Financing is a key consideration for firms entering GVCs, but can more than often be the first stumbling block. Successful integration into GVCs, even as a domestic supplier, is an investment-intensive activity, given the high demands of being at the competitive frontier. Yet, those firms that will gain the most from joining GVCs are more likely to be SMEs and are the most likely to face credit constraints. While many small and medium-sized enterprises involved in GVCs are able to build sufficient know-how to be competitive, their access to financing can be a major bottleneck⁸⁶ to expand or upgrade. Smaller companies often lack collateral, structured credit history, business plans, and other documents financial institutions require to determine their credit risk. When focusing on medium-sized firms, access to finance was reported as a major obstacle by 28.6 percent of firms, up from 19.5, and one of the highest figures amongst UMICs⁸⁷.

Lack of access to trade finance for SMEs can negatively affect the entire value chain. Constraints on cash flow for SMEs can be important factors affecting investment and growth (OECD, 2017)⁸⁸. Access to trade finance instruments can facilitate GVC integration, without which firms can struggle to finance quality imported inputs they need. Such constraints can impede the development of domestic GVC supply chains and so undermine the domestic potential of GVCs.

⁸⁶ <https://www.worldbank.org/en/topic/sme/finance>, <https://www.smefinanceforum.org/data-sites/ifc-enterprise-finance-gap-0>

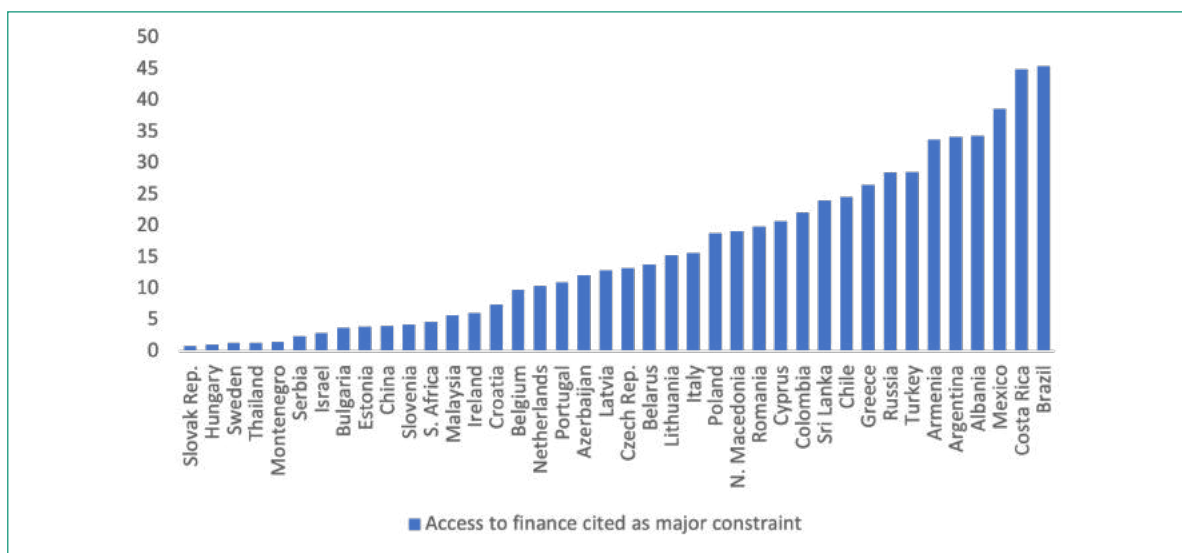
⁸⁷ World Bank's Enterprise Survey (2019)

⁸⁸ The term trade finance covers traditional bank-guaranteed instruments, bilateral working capital financing between suppliers and financial intermediaries, and conventional trade finance. A traditional bank-guaranteed instrument includes letters of credit and other documentary collection instruments, which are off-balance sheet. Other bilateral working capital financing between suppliers and financial intermediaries (such as export-related working capital lending, pre-export finance, supplier credits, receivables discounting, or forfaiting). Conventional open account trade financing directly extended trade finance loans by the supplier to the buyer.

SMEs in Turkey account for a small and decreasing share of bank finance. Micro, small and medium-sized enterprises account for 35, 21, and 18 percent of employment respectively in Turkey and two-thirds of employment in the manufacturing sector. However, they rely more on internal funds for financing investments and working capital than those in peer countries in the ECA region do and are more likely to have their loan applications rejected compared with large enterprises. The SMEs’ share in total credit stands at only 24 percent, having fallen significantly since 2018. SME exporters’ share of bank loans to total debt has also decreased in recent years, pointing to increasing difficulties in access to longer-term finance. Turkish manufacturing exporter SMEs have increased their short-term bank loans compared to non-exporter firms. That increase may be the result of exporters’ need for working capital financing, consistent with findings in other studies (Maes et al., 2016). EIS data also shows that financing methods other than bank loans, such as trade credit and other debt, are the primary source of finance for SMEs. However, these methods are generally used for working capital rather than investment due to their short-term nature.

Lack of access to finance is also a concern for existing exporters in Turkey and is associated with weaker export performance. Research (see, for instance, Atabek-Demirhan & Ercan, 2018) shows that access to credit is one of the main factors determining the likelihood of a firm in Turkey becoming and surviving as an exporter. This is also seen in recent firm-level data. Enterprise survey data (Figure 6.6) shows that 26.7 percent of non-exporters and 27.2 percent of exports cite access to finance as a major constraint to growth, far more than the 18.1 percent of exporters in the ECA region overall. Exporters face higher collateral requirements than non-exporter firms and the highest in the ECA region. Analysis of three consecutive enterprise surveys (2013, 2015, 2017) in Turkey indicates that SMEs reporting problems with access to bank finance have, on average, 2.3 percentage points lower exports compared to other exporting firms.⁸⁹ Analysis of EIS data similarly suggests that that access to longer-term bank finance facilitates more exports and investment, increasing the likelihood of a firm becoming an exporter. SME equity finance and export sales are positively correlated. A one percentage point increase in equity is associated with a 0.7 percentage point increase in the growth of export sales.

Figure 6.6: Access to finance is a major constraint for Turkish SMEs



Source: World Bank Group Enterprise Surveys

Notes: Latest available data for all countries, selection of high income and UMIC countries. Data is for ‘mid-size’ firms, defined by the ES methodology as having 20 to 99 employees. Note that data is not based on the same sample as quoted in the text, which is disaggregated by exporters and non-exporters, irrespective of size.

⁸⁹ The likelihood of a firm with no credit constraints starting export activity is 1.3 times higher than for a firm with credit constraints. The likelihood of survival for exporters with no credit constraints is 1.5 times higher compared to exporters with limited access to finance.

Access to longer-term finance is particularly important. Access to long-term financial liabilities is associated with an increase in export sales growth of SMEs. EIS data analysis shows that a 1 percent increase in long-term financial liabilities is associated with an increase in export sales growth of 0.9 percent, and even more if global financial crisis years are excluded. A 1 percentage point increase in long-term bank loans is associated with a 0.6 percent increase in SME non-exporters investments. When exporters have access to long-term bank loans, their investment rate increases further, as a 1 percentage point increase in long-term bank loans increases their investment rate by 0.9 percentage points. This is a much higher rate than for larger firms and for SME non-exporters. While both short and long-term financial liabilities are significantly associated with an increase in investments, when exporters have access to long-term financial liabilities, their investment rate tends to increase more.

Funding solutions for firms in accessing GVCs

Bank financing has been the traditional source for SMEs outside of the GVCs. SMEs within the boundary of FDI relationships are less credit constrained than their independent peers, because they can use internal capital markets, where much of this trade is financed through intra company netting and internal funding, including access to retained earnings or commercial papers (IMF 2017).⁹⁰ In Turkey, while the government-supported Credit Guarantee Fund has helped SMEs otherwise struggling to meet the high collateral requirements imposed by banks to access financing, high-interest rates and the short-term nature of bank financing remain constraints. In addition, access to domestic capital markets would alleviate concerns related to high corporate leverage, especially in FX, which also exposes the banking sector to substantial risks.

Private capital markets could play more of a role in promoting SME finance in Turkey. While the government-supported Credit Guarantee Fund has helped SMEs gain access to finance in some cases, high-interest rates and the short-term nature of bank financing remain problematic. Access to public capital markets (i.e., the Borsa Istanbul stock market) is subject to high fixed costs related to disclosure and governance requirements. Accordingly, while there are segments at Borsa Istanbul that target SMEs, the liquidity of such SME stocks remains low. Private markets, such as private equity, venture capital, or other means of bilateral financial connection, are often more attractive for SME finance. Even so, there are significant challenges for SMEs in private capital markets related to information asymmetries and matching costs.

Equity finance is a means to support SME finance with small-sized investments in growth capital. Given the high corporate leverage in Turkey⁹¹, equity financing is important, especially for SMEs. The market environment is generally supportive of the development of private equity (PE) and venture capital (VC). Nevertheless, private equity and venture capital investments are scarce for growth capital with smaller companies, with only a limited number of funds specializing in this area, mostly on mid-cap firms moving towards public offerings.

Corporate bond issuance is challenging for SMEs, and credit guarantees may support this market to develop. Debt securities accounted for only three percent of total financial borrowings of non-financial companies in 2019 compared to 90 percent for bank loans. Banks are the main issuers of corporate bonds. Bond issuance is more challenging for SMEs given the absence of strong governance structures and information disclosure. Stimulating corporate bond issuance by SMEs was highlighted as one area for further exploration. Recent bond guarantee fund plans in the Government's Economic Reform Program can play a role in supporting credit enhancement for SME bond issuance but need to be carefully examined and well designed to avoid incurring a substantial loss of public resources.

⁹⁰ "Fintechs and the Financial Side of Global Value Chains" IMF (2017)

⁹¹ According to CBRT data, firms' total debt to equity ratio has steadily increased over the past decade to over 200 percent (source: Turkish Economy (January 2021), MoTF).

Fintech, as well as new financing tools like online crowdfunding, can supplement traditional finance for SMEs. Globally, fintech is growing rapidly and can offer solutions to support access to finance in some cases. Volumes on lending platforms increased from US\$ 9 billion in 2013 to US\$ 345.3 billion in 2017, with most recent growth concentrated in emerging markets and developing economies. Services such as Alibaba's e-Credit Line, or India Mart's Payment Protection insurance, can be important trade finance resources for smaller companies. Blockchain could also open new opportunities for SMEs to access trade finance by making it easier for small companies to build a credit history, as well as by opening up the possibility for small firms and producers to make transactions on a peer-to-peer basis without the need to secure traditional trade finance, or even to go through banks (Ganne, 2018).

Working capital is essential for SMEs in demanding supply chains. Traditional trade finance such as Letters of Credit and other short-term working capital loans provided by banks can be subject to constraints, as discussed above. The principal alternatives are trade credits or supply chain (inter-firm) financing directly between buyers and suppliers. However, supply chain financing can bring its own risks if buyers themselves are subject to financial shocks and transmit them to SME suppliers by extending maturities on payments, for instance.

Innovative online 'reverse factoring' systems can address the working capital needs of smaller GVC suppliers. Online platforms can facilitate SMEs to access working capital by providing a simple means for firms to sell their account receivables to financial institutions in exchange for upfront credit (Abraham and Schmuckler, 2017). Lack of financial information on the supplier can be mitigated by large, well-known buyers posting the accounts payable, which are then picked up by financial institutions⁹². There are good examples of such platforms being established with the support of the government. NAFIN (Nacional Financiera), a Mexican development bank, has operated its own online platform for supply-chain finance since 2001. NAFIN only administers the platform and does not engage in lending directly, which is provided by private banks. As of 2015, the program encompassed about 12,000 suppliers, over 600 buyers, and around 40 private financing institutions. Due to its success, NAFIN has entered into agreements with other Latin American development banks to develop reverse factoring systems in Central America, Colombia, and Ecuador.

PE and VC funds and small securities offerings via private and public placements can be an alternative for GVC contender firms. Apart from providing financing, PE and VC funds usually support the companies they invest in to enhance management capacity, improve market focus and presence, strengthen governance, and manage growth. However, PE/VC financing is limited as VC funds usually aim for start-up companies, and PE funds invest in more established SMEs. Both PE and VC funds require sophisticated domestic and foreign investors. The government can support programs for the participation of chambers of commerce and industries, the export assembly, or organized industrial zones, as investors, with the help of development finance institutions, can establish programs to provide growth capital via PE/VC funds. Those funds with specialized fund managers and investment strategies focusing on innovative supply chain firms may mobilize growth capital financing for GVC SMEs.

⁹² "Addressing the SME Finance Problem" World Bank (2017), (de la Torre, Gozzi, and Schmuckler 2017).

Conclusion

GVCs do not stop at the border but stretch into domestic supply chains and offer opportunities to domestic firms to internationalize. The market-led development of domestic supply chains can multiply the benefits of GVCs. This is often described as increasing domestic linkages, or densifying GVC activity, in a country. By engaging with GVC lead firms, domestic firms can take several routes to raise productivity and internationalize. This could be domestic supply, forging strategic alliances, moving into direct exporting, or outbound foreign direct investment.

Domestic linkages are already substantial in Turkey, but the focus should be on realizing productivity gains amongst these firms. Turkey already retains a relatively high level of value-added in exports domestically, and domestic GVC supply chains have grown. Turkey retains more than 80 percent of exported value domestically, amongst the highest ratio in the OECD. There is a trade-off to be struck here. If domestic value-added is too high, it can come at the cost of productivity-enhancing relationships with international suppliers, as discussed above. The data suggests that rather than focusing on further densification, the focus should be on facilitating the existing, large group of domestic suppliers of GVCs to transform into high-performance, high-productivity firms. Firms that supply GVCs are slightly more productive than domestically oriented firms and have a higher probability of becoming an exporter. Yet productivity remains much lower than for lead firms, and more could be done to accelerate the rate of improvement of these firms. There is a role for targeted policies to address market constraints.

Policymakers should encourage technological upgrading but leave sourcing strategies to business. Restricting trade to promote domestic manufacturing is often counterproductive. As GVC participation grows, many countries worry about a rise in intermediate imports. But domestic firms gain the most by integrating into GVCs, rather than supplanting them, and to do this, they also need access to top-quality intermediate inputs, which may be imported. The causality runs from technological upgrading to higher GVC value capture and not from increased domestic content to technological advances. Trade restrictions and domestic content requirement measures are, therefore, not the right options to support domestic firms like those in Turkey seeking to upgrade in advanced GVC functions.

GVC-led upgrading should be guided by strong public-private collaboration. Close dialogue and cooperation between the government and industry helps inform effective policy measures to ensure competitive domestic supply chains. Positioning Turkey as a competitive production location in GVC sectors requires strategy with a long-term perspective, designed and supported by industry-government coordination and collaboration. Especially for production with increasing technology and skills content, working together in building a resilient and competitive supply chain with the right access to talent and industrial ecosystem is paramount. Yet Turkey currently lacks adequate public-private platforms to explore new potential and tackle common gaps within and across industries. And while committed industry associations and fora are in place, active coordination with government remains limited.

Readying firms to integrate into GVCs calls for targeted measures to address market failures and build

capabilities. Lead firms in Turkey readily recognize and appreciate the value of a strong and deep ecosystem of firms in the domestic market but often cite a lack of readiness of prospective domestic suppliers to join highly efficient supply chains. Gaps include management capability, investment, and adoption of enabling technologies. Classical industrial policy tools, such as incentives, subsidies, and localization targets, tend to not be well suited to addressing these constraints and may only end up distorting the market. Instead, proactive and targeted policy measures used to carefully address market failures, and that target sustainable improvements in a firm's competitiveness, can be effective. Measures that help to raise absorptive capacity by promoting firm innovation utilization, connecting producers to GVC lead firms, improving managerial and workforce skills and access to finance are important.

Supplier development programs can help forge new GVC linkages and upgrade supplier capabilities. Supplier development programs (SDPs) encourage existing and new GVC suppliers to invest in the business capabilities required for longer-term competitiveness. Such programs can be transformative, helping suppliers upgrade to meet quality and standards but, given their need for targeting and customization, are also costly. Yet international experience shows that investing in promoting these linkages and upgrading local firm capacity pays off, and given the positive market externalities of medium-term capacity development, there is a role for public sector participation.

Workforce development is a similarly important agenda for firms seeking to internationalize. As in many emerging markets, skills mismatches are also found to be a considerable problem for firms in Turkey. Targeted workforce development strategies can bridge these gaps, ideally linking lead firms and local institutions, including universities and vocational and technical centers. Governments can facilitate access to skilled labor by ensuring open labor markets and helping match investor needs with available local skills. Plans to develop "sectoral skills maps" to guide labor market policies and design sectoral labor plans, recently announced by the authorities, would help in this respect, and it would be essential for the views of business to be integrated into this exercise to align public support with private sector skills requirements.

Financing is a key consideration for firms trying to enter GVCs, but often be the first stumbling block. Successful integration into GVCs, even as a domestic supplier, is an investment-intensive activity, given the requirements to be at the technology and competitive frontier. Yet those firms that will gain the most from joining GVCs are more likely to be small and medium-sized enterprises (SMEs), and are the most likely to face credit constraints. While many SMEs involved in GVCs are able to build sufficient know-how to be competitive, their access to financing is often the main bottleneck to expansion or upgrading.

Firms in Turkey overwhelmingly rely on banks or retained earnings, and new financing options could help to relax credit constraints. Bank financing has been the traditional financing source for SMEs. Private capital markets could play a role in promoting SME finance in Turkey, although these markets have yet to be developed. Private equity (PE) is one of the most promising avenues through which to promote SME finance with small-sized investments in growth capital. The market environment is generally supportive of the development of PE and VC models. Bond issuance is more challenging for SMEs given the absence of strong governance structures and information disclosures. Recent bond guarantee fund plans of the Capital Market Board can play a role in support of credit enhancement for SME bond issuance but need to be carefully considered.

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Chapter 7

Realizing the benefits: Social and environmental upgrading



- **GVC growth in Turkey has been associated with strong improvements in employment outcomes and modest improvements in inclusion.**
- **But existing disparities, particularly female employment and lagging regions, may be holding back GVC potential.**
- **Turkey's GVC participation will be affected by decarbonization, and firms need to adapt to changing demand in the EU and other markets.**
- **Inclusive policies focused on improving connective infrastructure and workforce skills in lagging regions and addressing constraints to female employment.**

The impact of GVCs in supporting developmental outcomes is ultimately what matters

The preceding chapters largely discussed economic outcomes, but what ultimately matters are improvements in inclusive and sustainable development outcomes. Social upgrading is the dynamic of GVCs ensuring improved outcomes that are in line with a nation's development objectives. An important part of this is improved labor market outcomes. While most readily measured as improved wages and more jobs, there are other important dimensions to this issue, including better non-wage labor market outcomes and job stability (see Box 7.1). Further, GVCs should support sustainable development outcomes and minimize adverse environmental impacts. Social upgrading can also entail a distributional angle, helping to reduce income and geographical inequalities, as well as improvements in social sustainability and inclusion.

Box 7.1: What is social upgrading?

Social upgrading has been defined in various ways, but an early and ensuring definition at its core is the process of improving the quality of employment through enhanced labor conditions and protection of rights. In this respect, there is a strong complementarity between the concepts of social upgrading and the ILO concept of 'decent work'⁹³.

There is a common recognition that the measurement of social upgrading can fall into a group of more readily assessed measurable employment standards such as employment status, wage rates, and hours, while other measures are more difficult to observe at scale and usually require in-depth knowledge of the situation and/or personal interviews, such as exercised rights to collective bargaining, freedom of association and non-discrimination.

Sources: Barrientos, Gereffi and Rossi (2011); Milberg and Winkler (2011); Kummirtz, Taglioni and Winkler (2017); Mendoza 2018; Taglioni & Winkler (2016)

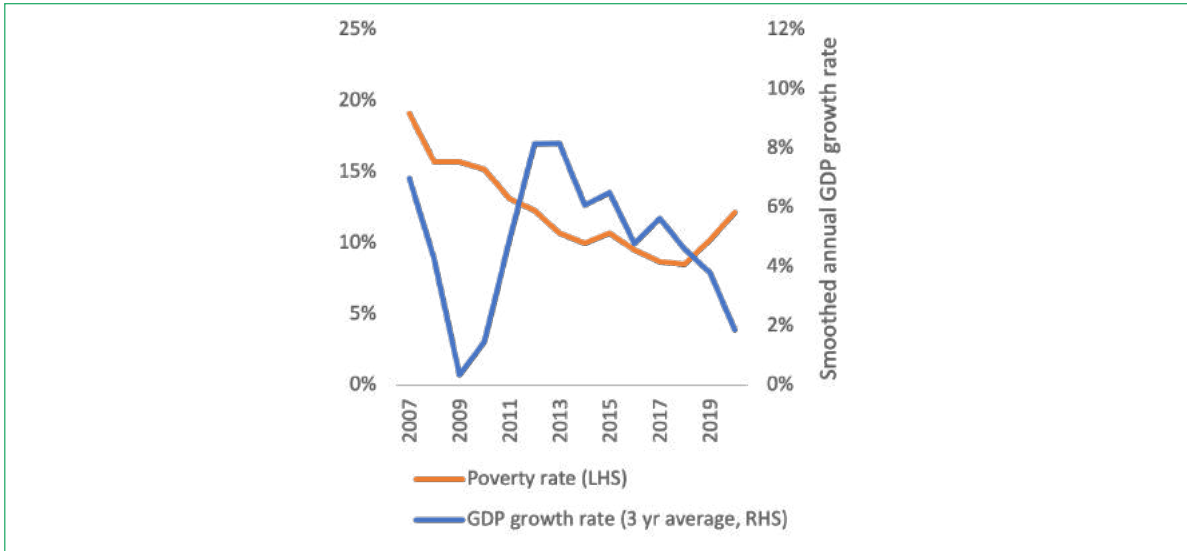
Participation in GVCs is often associated with positive distributional impacts for developing economies. A focus on social upgrading has emerged from critiques, based on evidence that GVC participation may not always lead to improved wellbeing for people in source countries. While low wages can be associated with highly competitive basic manufacturing in lower-income countries, there is more evidence that GVCs in higher-income countries support improved social outcomes (Farole, 2015 for South Africa, Blyde, 2013 for Latin America and the Caribbean, UNIDO, 2018 for China, South-East and South Asia). New employment opportunities, relatively higher wages, and the inclusion of low-income households in this process support poverty alleviation in these countries.

Turkey's tradeable sector has done relatively well in creating jobs and raising wages

Turkey has seen rising GVC participation at the same time as a broader, inclusive economic expansion. Turkey's share of world exports has increased over the past decade from 0.83 percent in 2007 to 0.96 percent in 2019. Over this period, Turkey experienced a 5.1 percent average annual growth rate, while the poverty rate halved from 17.8 percent in 2007 to 8.7 percent in 2017 (Figure 7.1). Around a 7.9 percentage point decline in the poverty rate (out of 9.1 percent) is related to higher labor incomes in Turkey (World Bank, 2020). However, highly tradeable sectors like industry only accounted for about an eighth of this growth, while over 60 percent was driven by services as Turkey experienced rapid domestic expansion.

⁹³ <https://www.ilo.org/global/topics/decent-work/lang--en/index.htm>

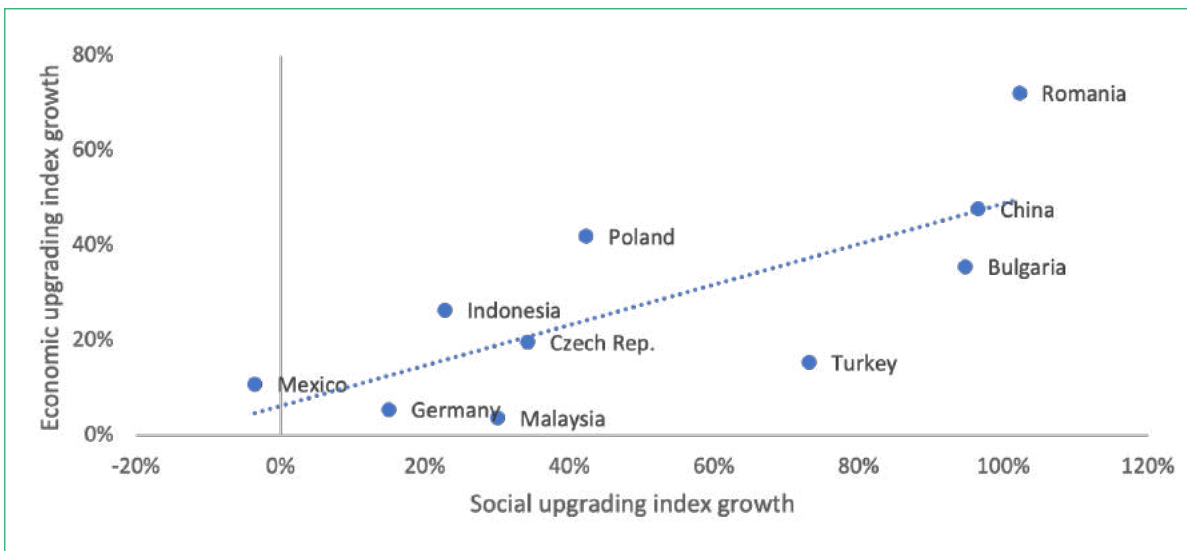
Figure 7.1: Strong economic growth was associated with poverty reduction up to 2018



Source: Turkish Statistical Office for growth rates, World Bank for poverty

Turkey’s employment and wage growth has been strong relative to stylized metrics of economic upgrading. As a simple illustration of the recent trajectory of export outcomes relative to social developments, Bernhardt & Milberg (2012) present indices of economic upgrading (growth in export shares and growth in export unit values) and social upgrading (growth in employment and growth in wages). It should be noted that this is a more simplified measure of economic upgrading than described elsewhere in this report. Comparing Turkey and nine other countries with similarities in GVC engagement reveals that Turkey’s social upgrading by this measure has been strong relative to its more modest improvement in export performance. Countries such as China, Bulgaria, and Romania have seen stronger social upgrading and considerably stronger economic upgrading over the period (Figure 7.2). But there are many factors other than GVC participation that might have helped drive Turkey’s good wage and jobs growth, especially the strong growth of the domestic sector over the period, which likely played a bigger role in driving improved social outcomes.

Figure 7.2: Turkey saw relatively stronger nationwide social improvements than export improvement

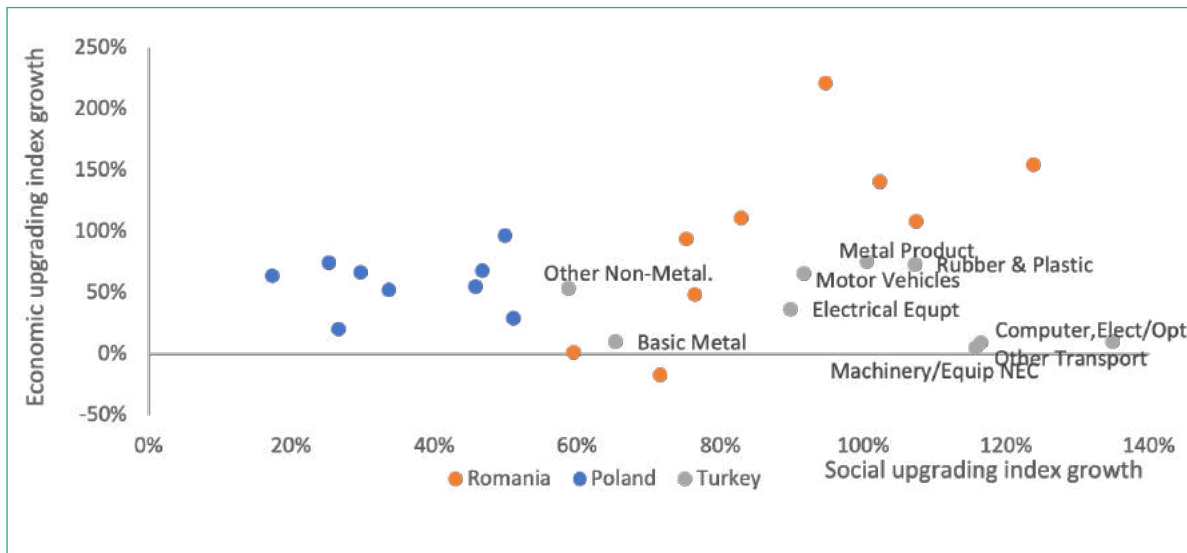


Source: Haver Analytics, World Bank World Development Indicators, WB Staff estimates

Note: Social upgrading index is a simple average of real, PPP-adjusted wage growth and employment growth. “Economic upgrading”, measured as growth in export unit values.

Comparing specific GVC-intensive manufacturing sub-sectors, Turkey’s social upgrading has outperformed selected comparators. Based on data available, it is possible to compare both economic and social upgrading by detailed economic activity for Poland and Romania, two countries that are also very active in similar EU-focused GVCs as Turkey. This shows that economic upgrading in Turkey’s manufacturing sectors was comparable to those in Poland, but that social upgrading in Turkey was far greater (Figure 7.3). Social upgrading in Turkey has been similar, or even higher, than in Romania’s sectors. However, economic upgrading proceeded at a much faster rate in most of Romania’s sectors than in Turkey.

Figure 7.3: Turkey’s manufacturing sub-sectors also saw strong social upgrading relative to economic upgrading



Source: European Union Eurostat; World Bank World Development Indicators, WB Staff estimates

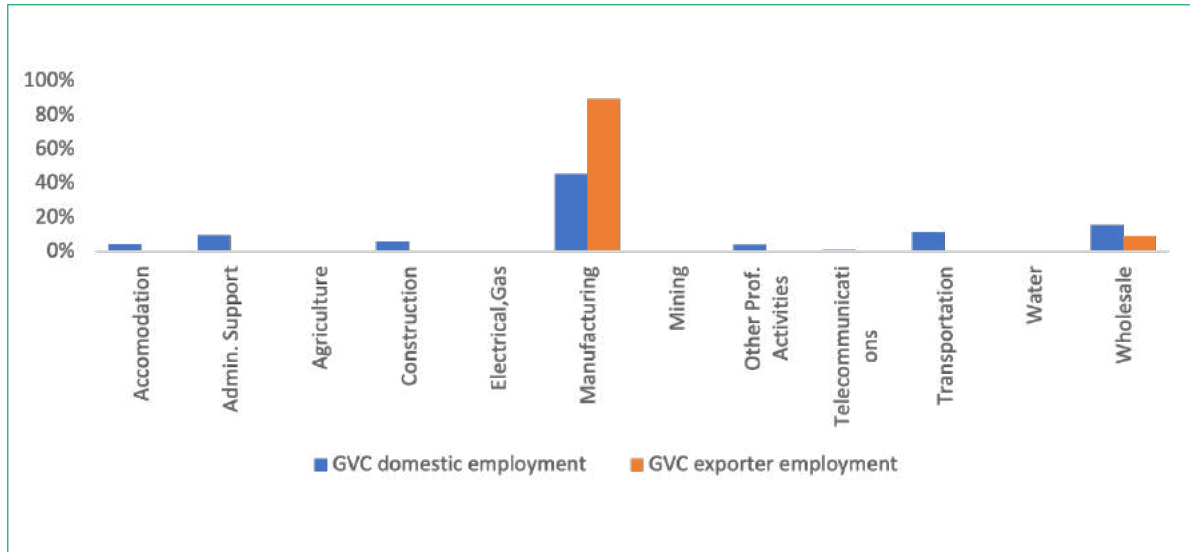
Note: The Social upgrading index is a simple average of real, PPP-adjusted wage growth and employment growth. Countries selected are based on data availability. "Economic upgrading" is measured as growth in export unit values.

GVC activity and employment have expanded

Participation in GVCs is associated with higher employment opportunities in Turkey. As noted in Chapter 3, employment in GVC firms has increased over the past decade, and more firms have participated in GVCs, with the formal workforce in GVC firms increasing by 55 percent from 2006 to 2018 to almost 436 thousand workers. Among GVC exporter firms, formal employment increased significantly to 234 thousand in 2018, while a higher rate of employment growth was observed in GVC domestic supply firms, by 61 percent, to 201 thousand.

Turkey’s higher integration into GVCs increased demand for manufacturing sector jobs. Similar to other developing countries, GVC participation in Turkey is associated with higher employment in manufacturing jobs. The manufacturing sector constituted around 69 percent of the formal workforce among GVC linked firms. Moreover, almost all employment amongst GVC exporter firms was in two sectors: Manufacturing (90 percent); and wholesale and retail trade (9 percent). GVC supplier employment, on the other hand, is distributed across a wider range of sectors: Manufacturing (46 percent); wholesale and retail trade (16 percent); transportation and logistics (11 percent); and administrative support (10 percent) (Figure 7.4).

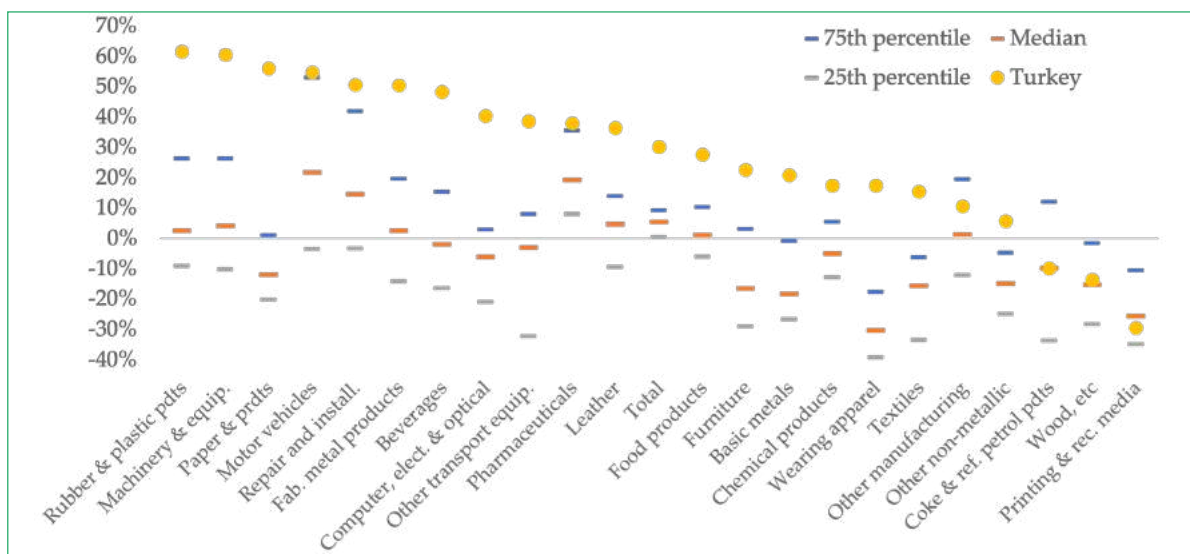
Figure 7.4: GVC employment is mainly in manufacturing, wholesale and retail, and transportation sectors



Source: Author’s calculations with use of the Enterprise Information Survey of the Ministry of Information and Technology.
 Note: GVC employment in Turkey in 2018, by sector

Turkey’s employment growth in GVC-intensive sectors has been robust when compared to European countries. Over the past decade⁹⁴, employment in Turkey’s manufacturing sectors grew by 30 percent. This is, in fact, the highest growth amongst all EU member states and accession states⁹⁵, with the exception of the small states of Malta and Luxembourg. As Figure 7.5 shows, employment growth has been above the average – indeed above the 75th percentile of countries – in the majority of sub-sectors. Most of Turkey’s established GVC sectors performed strongly. Employment grew by 55 percent in the motor vehicle sector, although several comparators saw even higher growth (Bulgaria, Hungary, Romania, Serbia, Slovakia, and Slovenia). In machinery, Turkey experienced the fastest employment growth amongst all countries, while in metals, only four countries grew faster. Turkey’s employment growth in the textiles sector was also amongst the strongest, only exceeded by Cyprus and the Netherlands.

Figure 7.5: Almost all of Turkey’s manufacturing sub-sectors grew much faster than EU average



Source: European Union Eurostat; World Bank World Development Indicators, WB Staff estimates

Notes: Manufacturing sub-sectors, Turkey relative to distribution of EU countries. Growth from 2008 to 2010 average to 2017 to 2019 average.

⁹⁴ This analysis is based on Eurostat data, and compares employment over 2017 to 2019 with employment over 2007 to 2009.

⁹⁵ Thirty-three countries with employment data at the detailed economic activity level, including the pre-accession states of Serbia and Turkey.

As GVC participation has increased, job intensity has not fallen in Turkey. There is often a concern that GVC integration will lead to fewer jobs in developing countries. As GVC integration increases, firms invest in technologies for higher productivity levels, which implies lower labor intensity in GVC linked firms (Farole 2016). This, however, has not been observed in Turkey over the past 12 years and indeed recent global work / international studies ? / global initiatives ? reveal / s offsetting effects. According to the WDR on GVCs, although the higher imported inputs and capital intensity of GVC production may mean less labor is required per unit of output, the output boost induced by GVC participation means more job creation overall. GVC exporter firms are much larger in Turkey, and the average firm size of around 50 full-time equivalent workers has remained stable over time (Figure 7.6). Full-time employment per unit of value added⁹⁶ showed a small increase from 2006-2013 but dropped back to its initial value in 2018 (Figure 7.7). GVC exporter firms had the highest ratio of employment relative to other firms.

Figure 7.6: GVC exporters are much larger

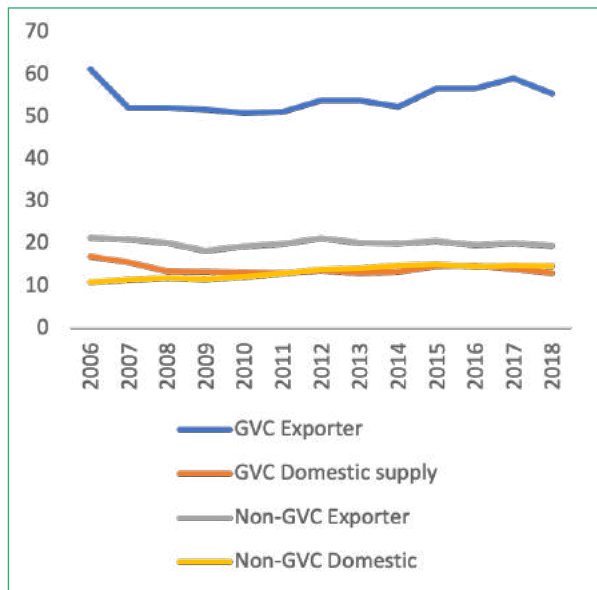
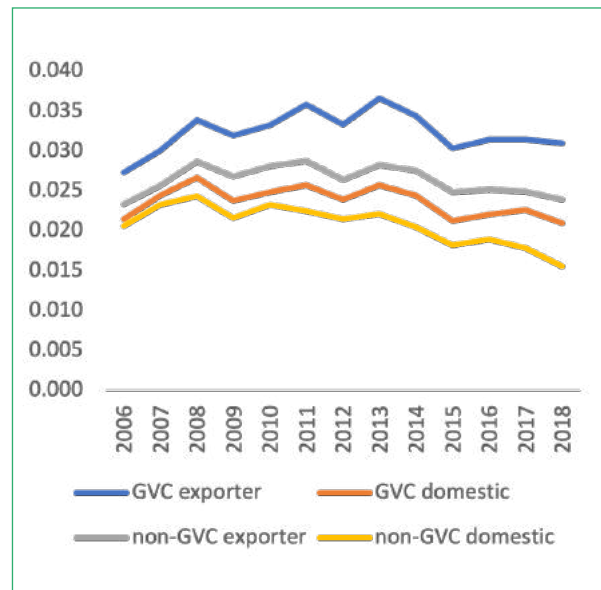


Figure 7.7: Labor intensity highest for GVC firms



Source: Author’s calculations using the Enterprise Information Survey of the Ministry of Information and Technology

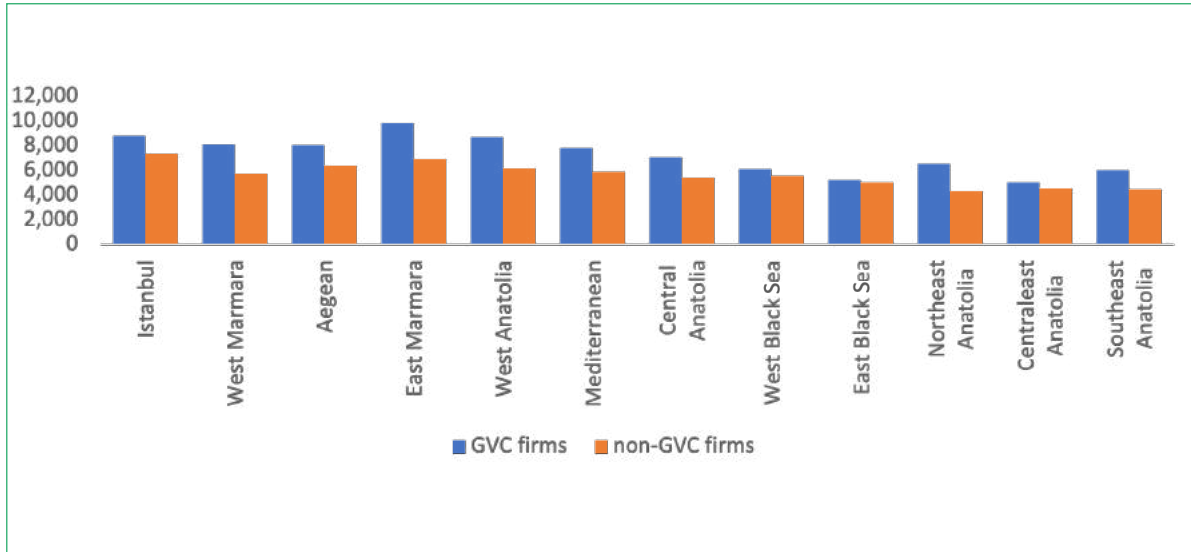
Notes: Employment on a full-time equivalent basis. Value-added expressed in constant price, US\$ terms.

GVCs offer better wages, including for lower-skilled work

GVC engagement has also contributed to social upgrading in Turkey by providing higher-paid jobs. In 2018, firms that participated in GVCs offered higher salaries compared to non-GVC firms in all regions (Figure 7.8). While in many regions, the GVC wage premium was significantly higher, salaries in the Eastern Black sea region remained at similar levels to those of non-GVC firms. Turkey’s GVC participation provides higher salaries for workers, which in turn increases household income. This would help poor and vulnerable households, in particular, to emerge from poverty and vulnerability.

⁹⁶In US\$, constant prices.

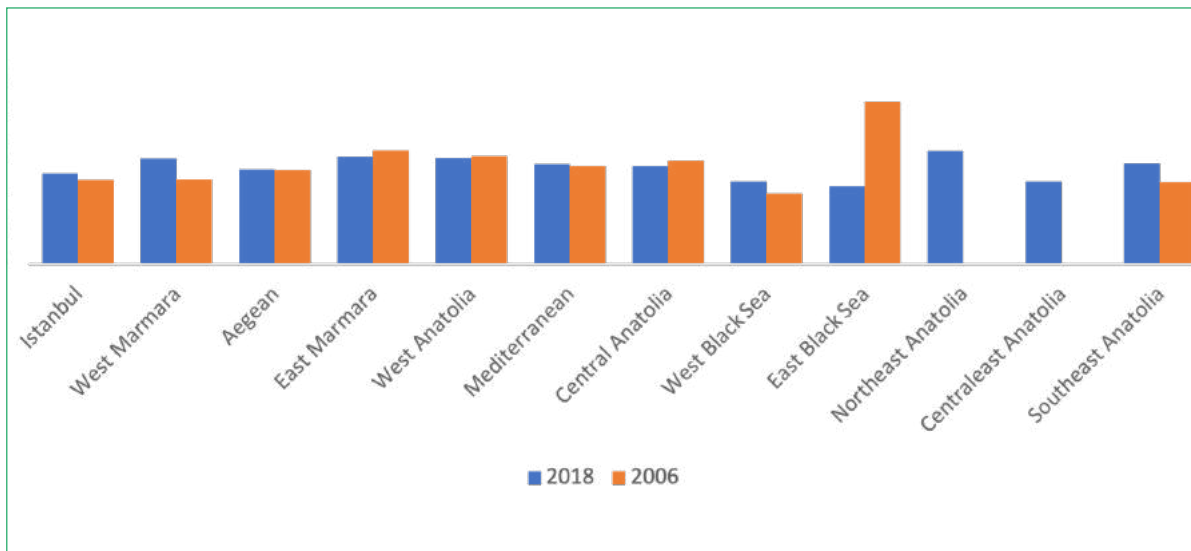
Figure 7.8: GVC firms offer higher wages across all regions of Turkey



Source: Author's calculations using the Enterprise Information Survey of the Ministry of Information and Technology.
Notes: Salaries in Turkey in 2018, by region and GVC participation. The reported numbers are the average annual wage in USD.

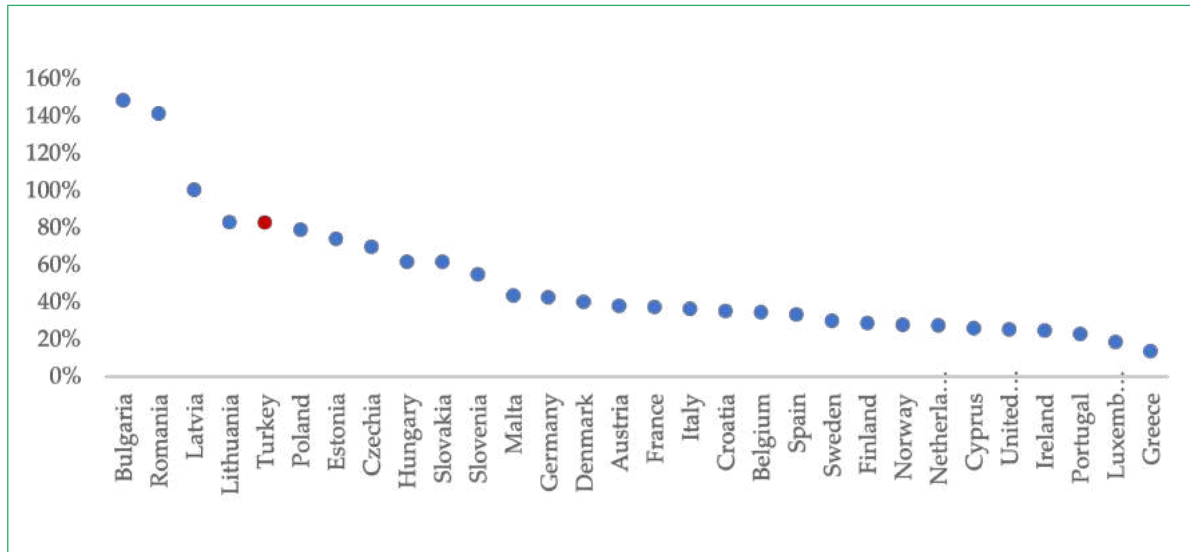
Wage premia of GVC-linked firms remained positive between 2006 and 2018. Wages of GVC-linked firms were on average higher in all regions compared to non-GVC firms in 2006, with the Western Black Sea being the exception (Figure 7.9). In 2018, GVC-linked firms paid higher salaries in all regions. Although wage premia decreased in certain regions (i.e., Eastern Marmara, Western Anatolia, Central Anatolia), the wages of GVC-linked firms remained higher compared to non-GVC firms.

Figure 7.9: Despite variation, wage premia remained higher to end of period



Source: Author's calculations by using Enterprise Information Survey of the Ministry of Information and Technology.
Notes: Ratio of GVC and non-GVC wages

Figure 7.10: Turkey's real wage growth in manufacturing amongst strongest compared to EU countries



Source: European Union Eurostat; World Bank World Development Indicators, WB Staff Estimates

Notes: Growth in manufacturing wages (in current US\$, PPP-adjusted). Growth from 2007 to 2009 average to 2017 to 2019 average.

Manufacturing sector wage growth has also been strong, although not as high as in new EU member states. Over the past decade, manufacturing wages⁹⁷ in Turkey have grown by 80 percent (adjusted for purchasing power parity). This strong wage growth reflects a catch-up towards higher-income countries. Only countries that acceded to the EU in the 2000s, such as Bulgaria, Romania, Latvia, and Lithuania, experienced stronger wage growth amongst EU and EU accession member states (Figure 7.10).

GVC firms in labor-intensive sectors increase the demand for low-skilled and unskilled workers raising the income levels of vulnerable households. Many of Turkey's leading GVC sectors, such as textiles and garments, traditionally require low skills. Around 60 percent of GVC linked firms hire low-skilled workers. Moreover, a significant share of GVC exporters and GVC domestic supply firms employ unskilled workers, 16.5 percent and 20.2 percent, respectively (Figure 7.11).

Figure 7.11: GVC firms have substantial unskilled employment

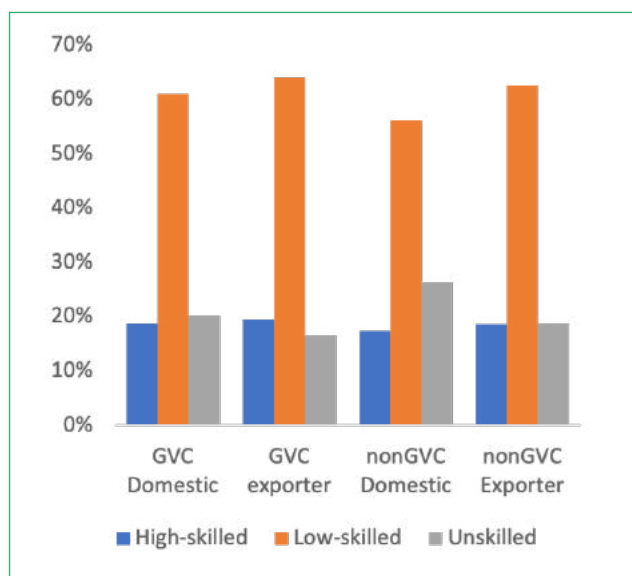
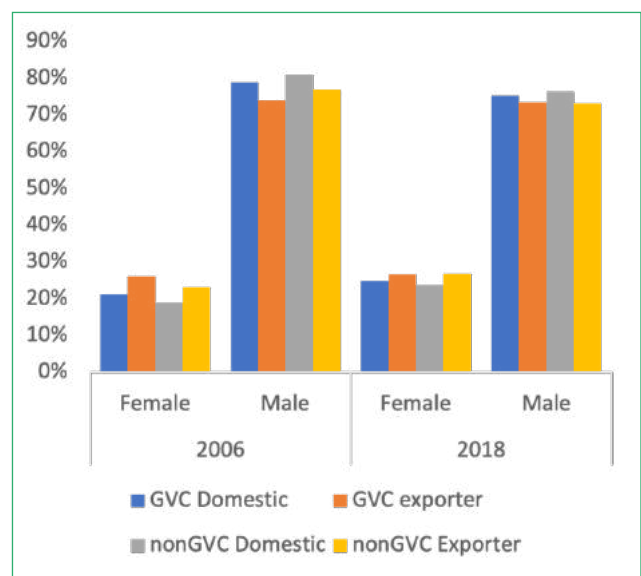


Figure 7.12: GVC firms do slightly better on female employment



Source: Author's calculations using the Enterprise Information Survey of the Ministry of Information and Technology.

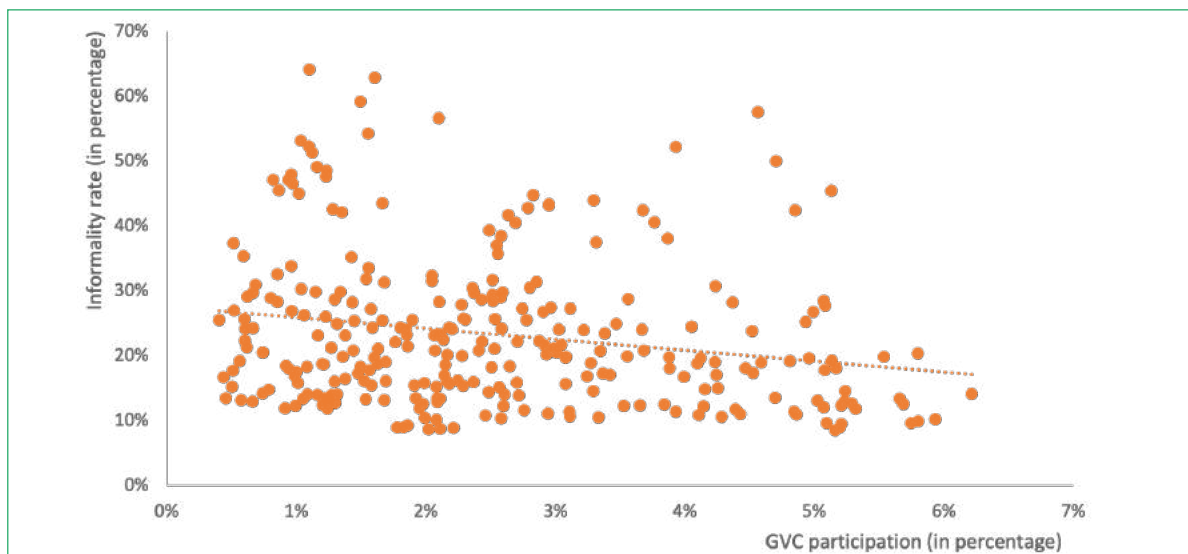
⁹⁷ This analysis is based on Eurostat data for nominal wages, which are adjusted using purchasing power parity private consumption adjustment factors from the World Bank's World Development Indicators. This adjustment converts all wage trends into changes in international US\$, which accounts for changes in domestic purchasing power. Thirty countries are available, of which Turkey is the only pre-accession state.

GVCs firms have slightly lower gender gaps and are associated with lower work informality

Despite more job opportunities for women in GVC-linked firms, gender differences in employment remain significant. On average, GVC-linked firms have a slightly higher share of female employees compared to non-GVC firms (Figure 7.12). The share of female employment increased from 26.1 percent in 2006 to 26.6 percent in 2018 in GVC exporter firms. But employment of female workers remains very limited in all firms. Female labor force participation and female employment have always been low in Turkey, and increasing the share of employment is good progress, although more needs to be done at a national level to address impediments to female access to labor markets.

Regions with higher GVC participation have lower informality rates. Increasing GVC participation is associated with lower levels of informality (Figure 7.13). Informality is strongly associated with lower household income in Turkey, and creation of formal employment may benefit those households' living conditions significantly. Formal jobs may reduce vulnerabilities among households and support social upgrading. For instance, formal jobs provide higher wages, access to social security, and hence retirement pensions when individuals reach the legal age. Moreover, formal workers benefit from increased job security, access to health services, paid leave, and other benefits. Formal jobs also provide protection for workers against shocks (sickness, loss of employment, disability, etc.) with contributory pensions and transfers. The association between GVC-linked employment and formality suggests that these firms are more likely to offer formal contracts and higher levels of social protection for their workers.

Figure 7.13: Greater GVC participation is associated with lower informality across Turkey's regions



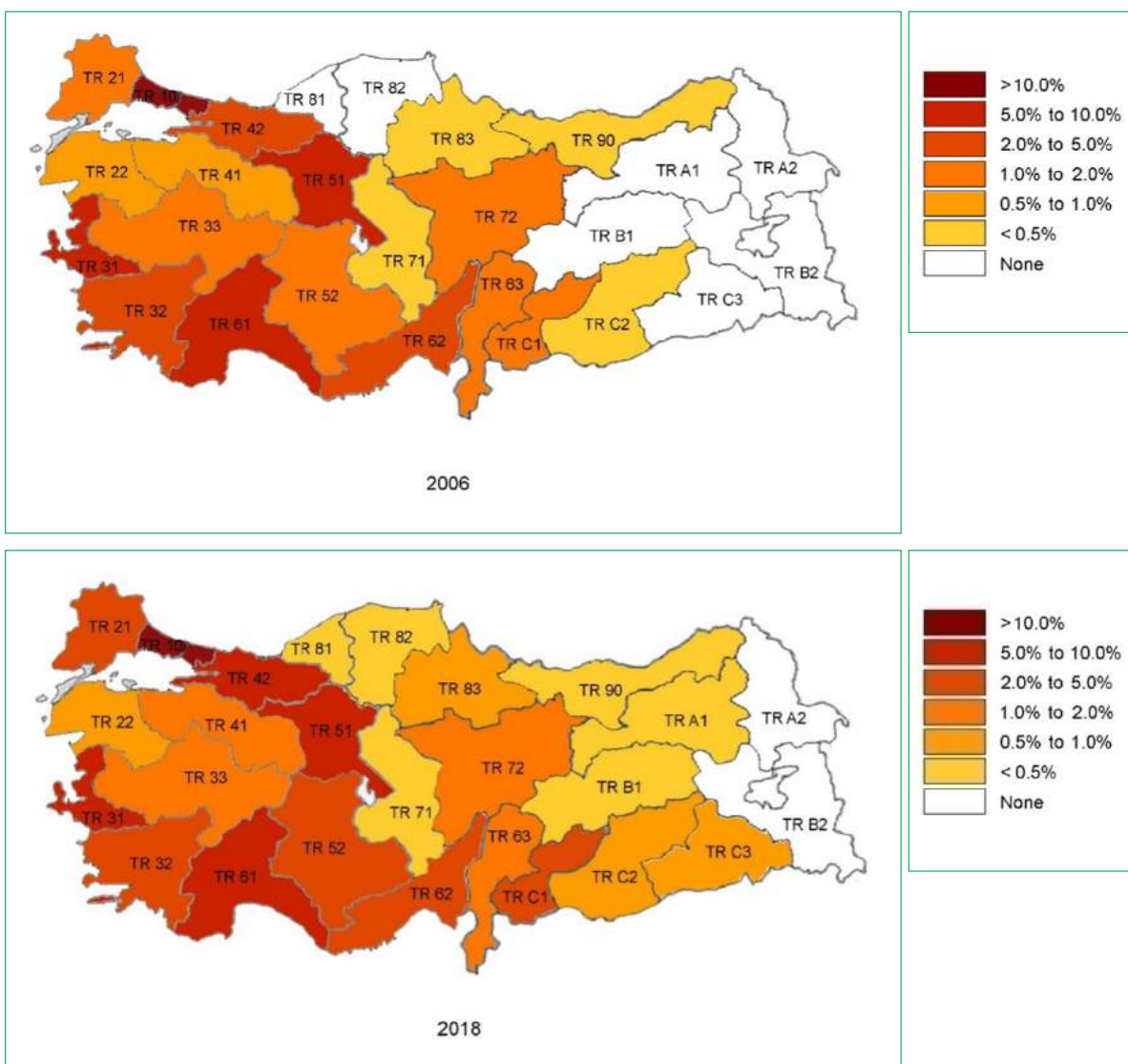
Source: Author's calculations using the Enterprise Information Survey of the Ministry of Information and Technology.

Notes: GVC participation and employment. Each circle represents a year-region combination from 2006-2018.

GVCs are heavily concentrated but have been spreading over time

GVCs are concentrated in and around Istanbul but are expanding to other parts of the country. Nearly 50 percent of all GVC activity is registered in the Istanbul region, and while this has not changed dramatically, the share is falling gradually over time. The next largest focal regions are the Aegean and the Mediterranean regions, together accounting for a further 30 percent of activity. These regions, too, have seen a gradual fall in their share. Nearly all other regions (except for Central and Central East Anatolia) have seen an increasing share of GVC activity. Both East and West Marmara have seen growth, as regions well connected with Istanbul and international markets. The Eastern regions of Turkey, where poverty rates are highest, have the least GVC activity, and there has been limited growth (Figure 7.14), with the exception of South East Anatolia, which also stands out as a growth area, today accounting for a non-trivial (4 percent) of Turkey’s GVC activity.

Figure 7.14: GVC activity is concentrated, but has become less so over time



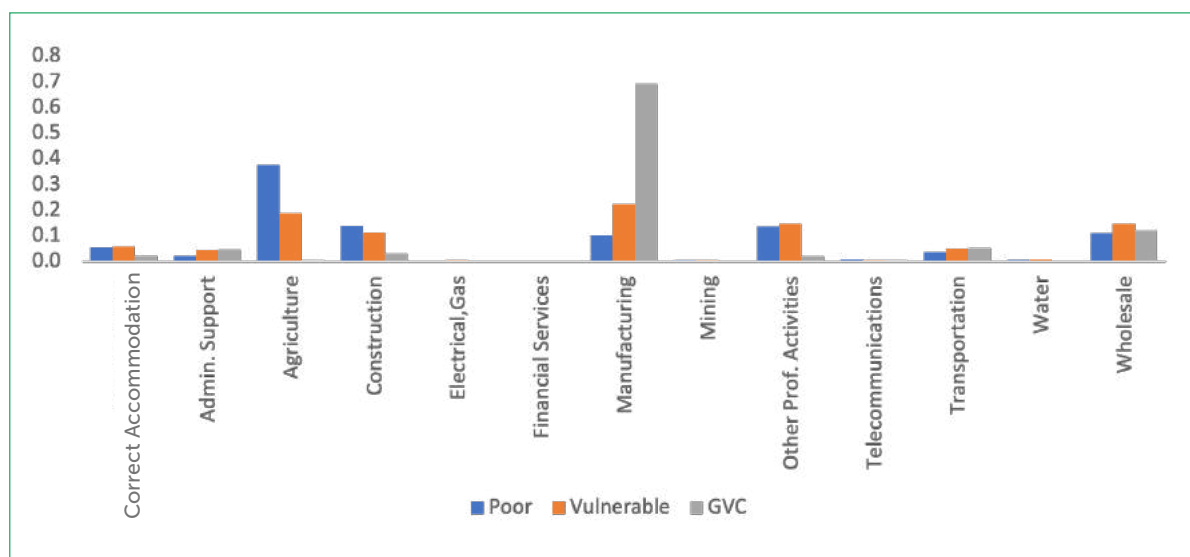
Source: Author’s calculations using the Enterprise Information Survey of the Ministry of Information and Technology.

Note: Figures show GVC activity intensity based on number of firms operating as GVC-exporters or GVC-domestic suppliers.

GVCs have likely had a positive, albeit small, impact on reducing poverty

GVC activity is likely to have contributed to reduced poverty in Turkey over the past decade. Given employment growth and good wages for lower-skilled workers, GVCs are likely to have contributed to reduced poverty in Turkey over the past decade. A significant share of poor workers is employed in GVC-linked sectors. Around 21.3 percent of poor and 37.1 percent of vulnerable employees work in manufacturing and wholesale sectors, which amounts to 81.4 percent of the GVC-linked employment (Figure 7.16). Similar to the experience of developing countries, manufacturing is the leading sector in Turkey's integration into GVCs. The manufacturing sector, employing almost 70 percent of the GVC workforce, provides job opportunities for poor and vulnerable households by requiring a relatively low-skilled and unskilled labor force.

Figure 7.15: Substantial numbers of the poor work in sectors where GVCs are concentrated

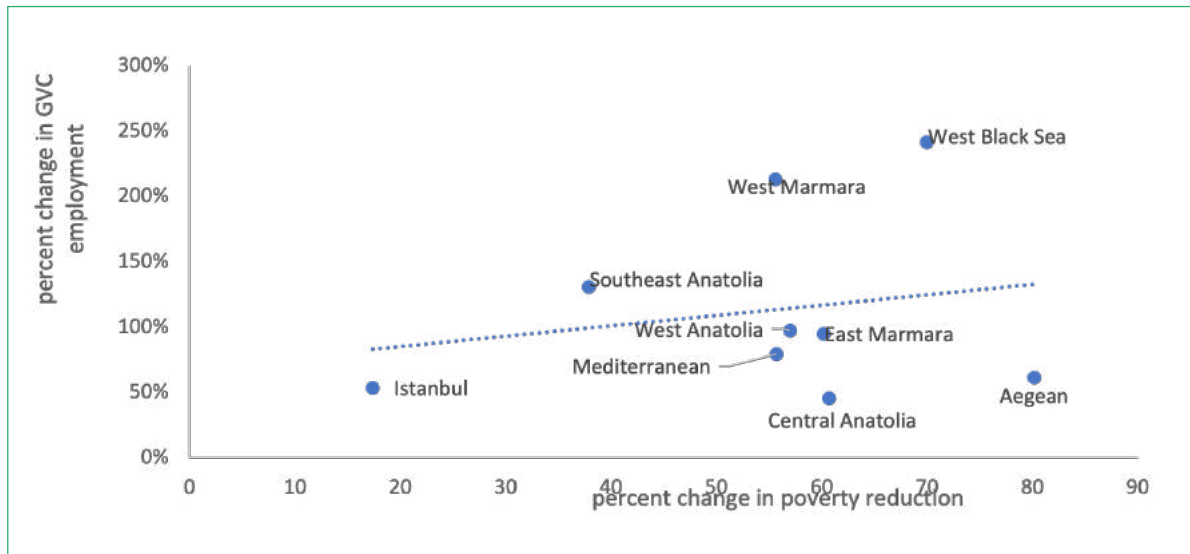


Source: Author's calculations by using Enterprise Information Survey of the Ministry of Information and Technology and Household Budget Survey 2018 for socio-economic status.

Notes: Employment in Turkey, by sector and socio-economic status, 2018

On a regional basis, higher growth of employment in GVC firms is associated with poverty reduction. Poverty decreased in all regions in Turkey between 2006 and 2018. Figure 7.17 shows that regions with higher GVC employment growth between 2006 and 2018 tended to see higher poverty reduction. More job opportunities provided by GVC firms for workers mainly from vulnerable and poor households might have helped low-income households to increase their income levels and thus, reduce poverty in these regions. This also confirms evidence at the international level, indicating that higher GVC participation is associated with faster poverty reduction at the country level (World Bank, 2020). The decline in poverty in these regions has likely occurred through employment and wage channels, as presented above.

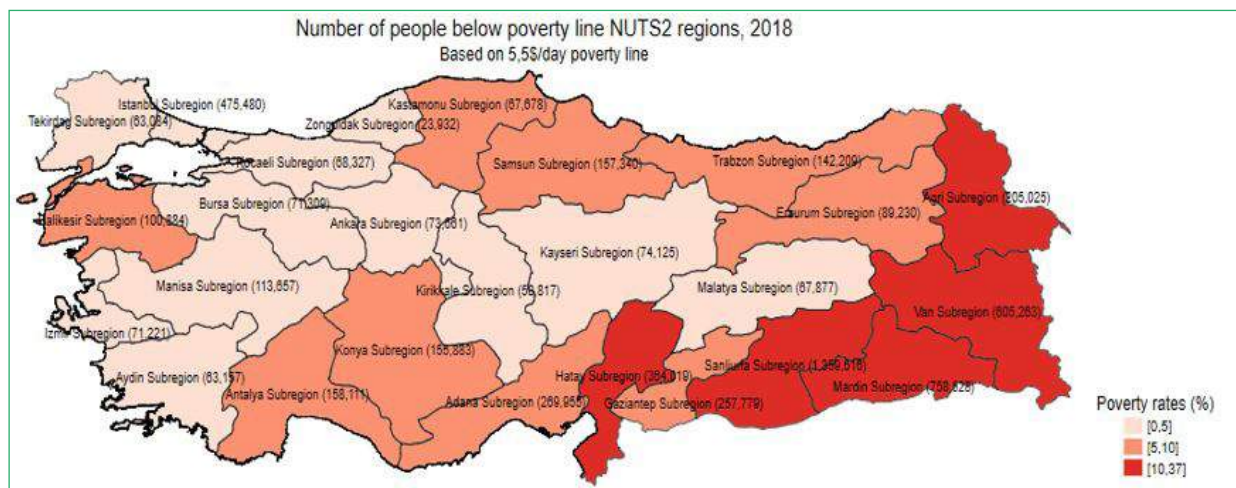
Figure 7.16: Some evidence of the correlation between rising GVC participation and falling poverty across regions



Source: Author's calculations using the Enterprise Information Survey of the Ministry of Information and Technology.
 Note: Change in GVC employment and poverty by region. Changes between 2006 and 2018

But the overall impact of GVCs on poverty is likely to be small, given their small share and limited presence in lagging regions. GVC firm activity still only constitutes less than 10 percent of formal sector employment, and the majority of the poor are in the agricultural sector, where there is little GVC presence. Furthermore, less than 10 percent of GVC firms are based in lagging regions where the majority of the poor are located (Figure 7.18)⁹⁸. Therefore, the direct impact of GVCs on reducing poverty is likely to have been small.

Figure 7.17: Most of the poor are in Eastern regions where GVC activity is limited



Source: Survey of Income living conditions using the World Bank's poverty line for Upper Middle-Income countries (\$5.5 per capita per day in 2011 PPP)
 Notes: Poverty rates in Turkey in 2018, by NUTS2 regions

⁹⁸As well as having the highest incidence of poverty, Eastern provinces – especially Sanliurfa, Mardin and Van – have by far the largest number of poor. These three provinces each have more poor than any other region, including Istanbul, and in the case of Sanliurfa, well over a million people were in poverty in 2018.

More inclusive policies may increase social upgrading associated with GVC participation

Moving forward, policies can focus on benefiting more from social upgrading associated with GVC participation in Turkey. As mentioned above, GVC activity has been distributed unequally across the country. Firms in more developed regions (provinces that are located in western Turkey) participate in GVC activities significantly more than the lagging regions (provinces that are located in south and east Turkey). Higher GVC participation of firms in lagging regions is likely to increase the inclusiveness of social upgrading in Turkey. As lagging regions have lower accessibility to agglomeration economies, facilitating market access for firms with poor connections would be a priority in order to benefit more from GVC activities. Moreover, policies that promote the diffusion of knowledge and technology can benefit non-GVC firms in lagging regions. Strengthening firm-to-firm linkages and facilitating trade between these firms could be the next practical steps.

Investing in skills can potentially increase the benefits of social upgrading in lagging regions. Lagging regions have experienced a structural transformation over the past 15 years, with a significant share of the workforce moving from agriculture to the industrial sector (diminishing agricultural employment from 45.5 percent in 2004 to 31.3 percent in 2018). As agricultural workers tend to have low skills, access to training programs could support positive employment outcomes. Overall, human capital accumulation in lagging regions is significantly less than in more developed regions. Providing sector-specific training programs and making them inclusive for all workers could create opportunities for both firms and workers.

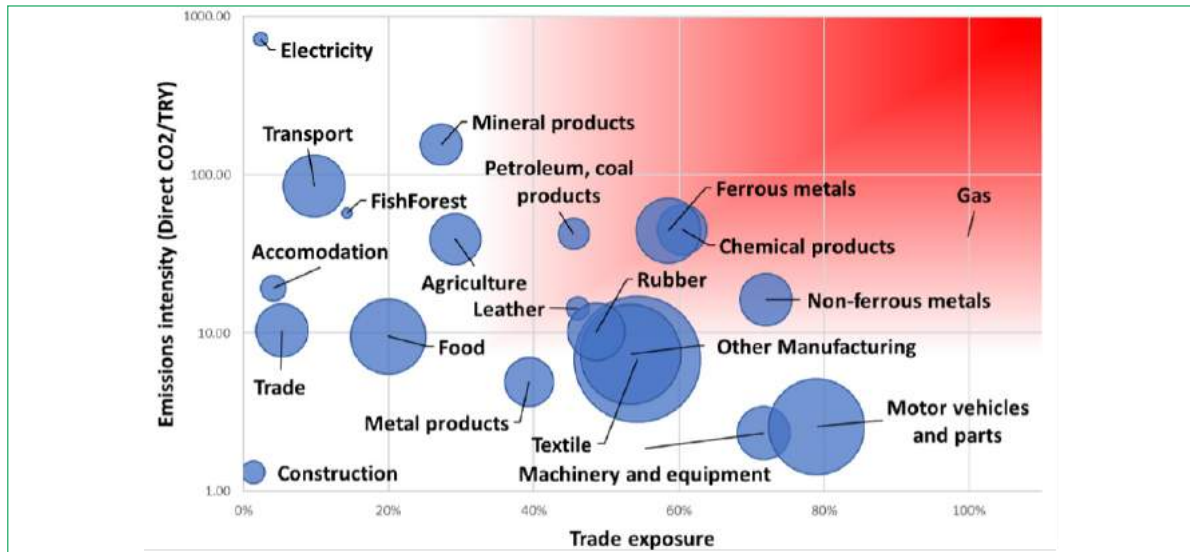
Supporting female employment is a clear focus area as GVC integration deepens in Turkey. Female labor force participation is the lowest among comparator countries at the same development level. Lower levels of education and lack of child and elderly care are the main constraints.

Firms in Turkey need to embrace green and low carbon technology

With demand rapidly growing in key markets like the EU for less environmentally damaging goods, firms in Turkey need to adapt to compete. As other countries take action to decarbonize their economies, demand for fossil fuels and emissions-intensive goods will decline. The EU, Turkey's largest trading partner, is especially important here. The EU has set out ambitious targets to reduce greenhouse gas (GHG) emissions and backed up those ambitions with an increasingly robust range of regulatory measures to support a low-carbon transition. The European Green Deal (EGD) is the most recent set of reforms to support this transition⁹⁹. The EGD includes provisions to reflect the price of carbon or carbon equivalent GHGs as levies on exports of goods arriving in the EU from jurisdictions where the regulated price of carbon is lower, in the form of a Carbon Border Adjustment Mechanism (CBAM). Other EU changes, such as the proposed shift to a circular economy and recent policy actions (e.g., the Industrial Strategy and Circular Economy Action Plan), would also impact Turkey's trade in environmentally impacting goods.

⁹⁹ European Commission. 2019. *Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions*, Brussels, 11 December 2019.

Figure 7.18: Several of Turkey’s sectors are emissions intense...

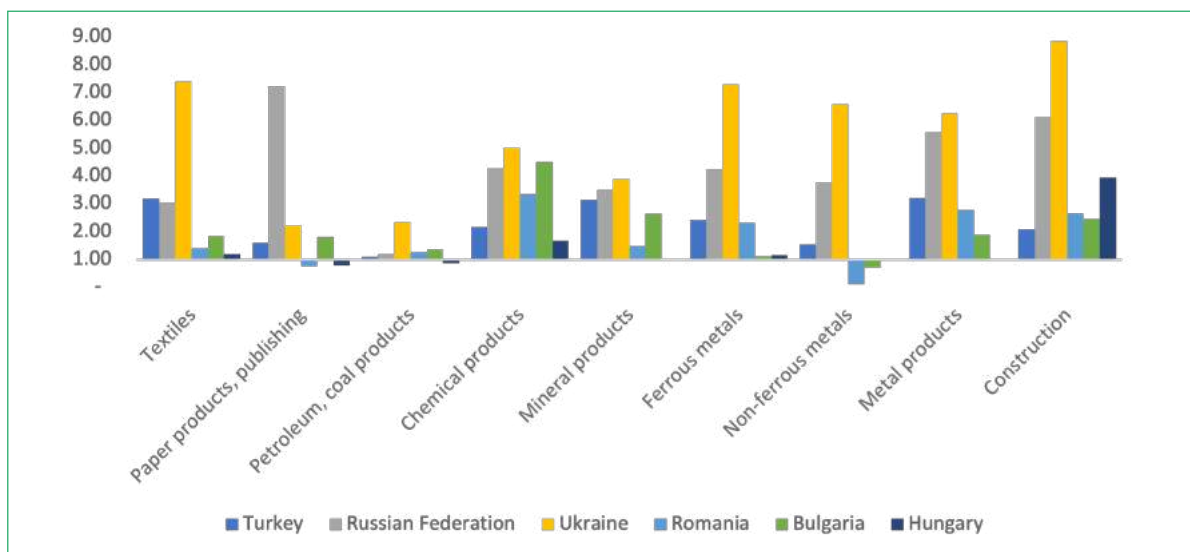


Source: World Bank analysis using Global Trade Analysis Project (GTAP) data
 Note: Sectoral trade exposure and emission intensity. The size of the bubble reflects the export value

Many of Turkey’s key sectors are relatively carbon-intensive and are expected to be centrally affected by the regional and global decarbonization shift. As shown in Figure 7.19, industries such as metals and chemicals are relatively carbon-intensive and are also highly traded. Other sectors, such as transportation, are emissions-intensive and, while less directly traded, form an important input for GVC firms. Most sectors are also more carbon intense than their EU equivalents, as shown in Figure 7.20.

The cross-national firm relationships of GVCs can support rapid adjustment of business in Turkey to take advantage of opportunities in developing green markets. The knowledge flows among networks of firms can enable the development or quicker application of more environmentally friendly techniques. With their large scale, the lead firms in GVCs can sustain high rates of innovation and quickly deploy new technologies both horizontally and vertically. The relational aspect of GVCs is also important in this context because lead firms are increasingly transferring environmentally friendly technologies to their suppliers and pushing for higher standards.¹⁰⁰

Figure 7.19: ...With Turkey’s manufacturing sectors more emissions-intensive than in the EU



Source: World Bank analysis using Global Trade Analysis Project (GTAP) data
 Note: Scope 1 covers direct emissions from owned or controlled sources. Scope 2 covers indirect emissions from the generation of purchased electricity, steam, heating, and cooling consumed by the reporting company

¹⁰⁰ World Bank Group. World Development Report 2020. World Bank: Washington DC.

Despite relatively limited trade in green goods today, Turkey is one of the countries with the highest potential. Turkey's share of global trade in green goods has been increasing gradually over the past two decades and currently stands at 0.88 percent, slightly less than its share of all merchandise exports. While the green complexity¹⁰¹ of Turkey's export basket is not exceptional, at 26th globally (Figure 7.21), Turkey is scored as having much higher potential for green complexity (Figure 7.22). It's ranking in the world in green complexity potential is 6th, and it has overtaken several other countries in the neighborhood in recent years. Turkey's existing production capabilities are increasingly aligned with products of lower technical sophistication (Figure 7.23). Technological upgrading and increased participation in green and environmental GVCs offer the opportunity of exports and value-added. Based on Turkey's existing production capabilities, areas of notable potential include components in the production of electrically powered railway locomotives and self-propelled railway cars; products for use in waste management, recycling and remediation, wastewater management, and water supply (i.e., water filtering) and turbines.

Figure 7.20: Turkey's green complexity is low but rising

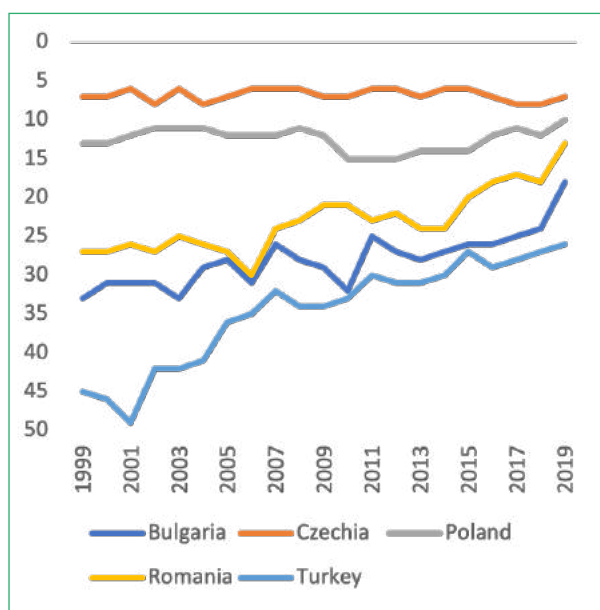
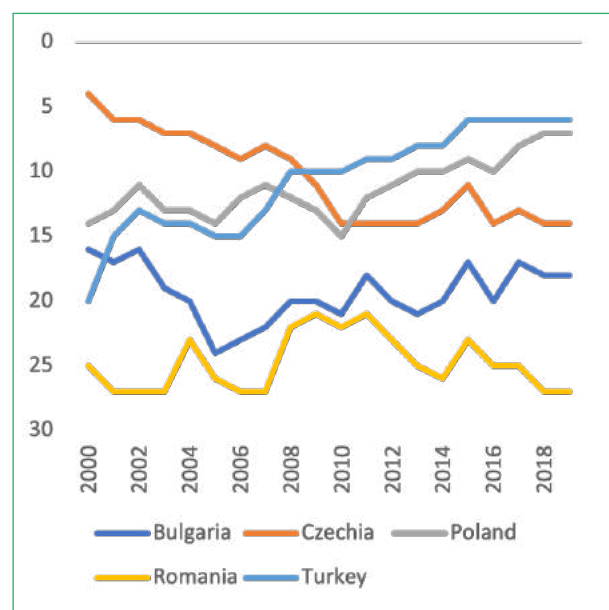


Figure 7.21: ...and has amongst the highest potential worldwide



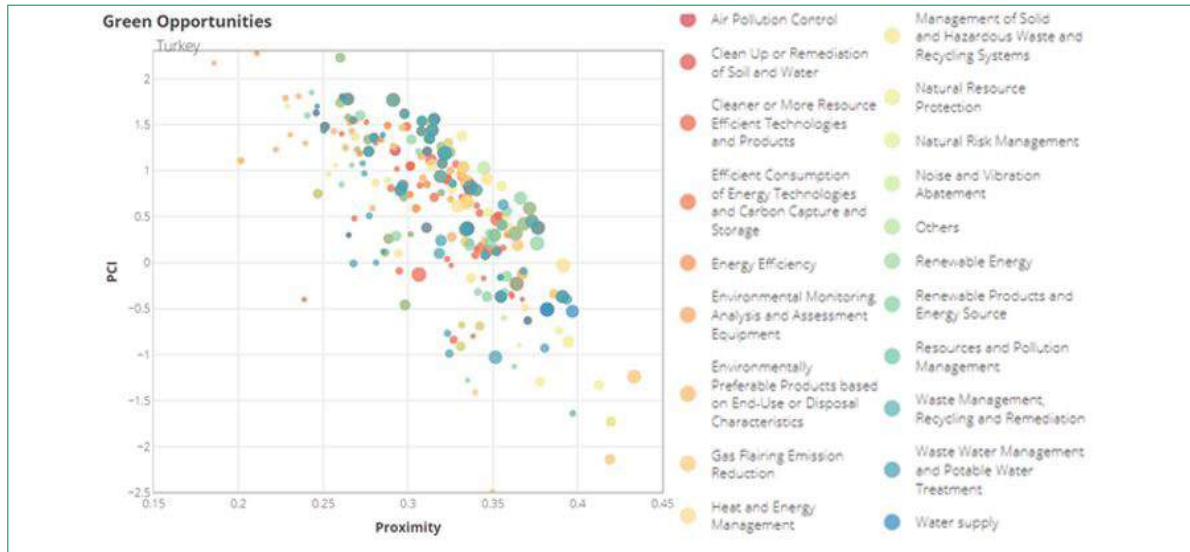
Source: Green Transition Navigator

Note: The Green Complexity Index (GCI) measures countries' green competitiveness based on the number and product complexity index of green products they are competitive in. Green Complexity Potential (GCP) measures how much potential a country has to diversify into green, complex products in the future based on the proximity and complexity of products it is not yet competitive in.

Policies can support firms to adopt green and lower carbon production techniques and shift demand towards more sustainable products. Environmental policies are important to mitigate environmental damage, such as human-induced climate change. However, they can also have dynamic economic effects. By supporting the growth of green and lower carbon sectors and developing industrial capacity in them, such policies support a competitive advantage in what are likely to be fast-growing sectors globally. The authorities have recently launched a new Green Deal Action Plan, which addresses several key policy areas, particularly related to alignment with the European Green Deal. Further work on green growth in Turkey, underway by the Bank, should provide more detailed recommendations in this area. But key measures include the appropriate pricing of environmental damage and regulations to mandate low-carbon standards. Others include incentives through trade agreements (discussed in Chapter 4) and green financing incentives for products that rank high on a sustainability index (e.g., credits, ESG-linked loans, etc.). If these actions are rapid and successful, and Turkey adjusts its production process to meet EU standards, it could gain a significant advantage over its competitors and become a net beneficiary of the green transition in the EU.

¹⁰¹ Green complexity refers to the extent to which countries are able to export green, technologically sophisticated products competitively.

Figure 7.22: There are a number of green products and activities where Turkey has potential



Source: The Green Transition Navigator

Note: Each marker in the figure represents a product that Turkey does not yet export competitively (Revealed Comparative Advantage or RCA < 1) but could develop competitiveness going forward. The size of the markers represents the current RCA – smaller markers indicate the products that Turkey is currently least competitive in. On the vertical axis, the figure displays the Product Complexity Index (PCI), which is a proxy for the technological sophistication of the products. On the horizontal axis, the figure displays a Proximity index representing products’ similarity to Turkey’s current production capabilities. Colors represent various sectors.

Conclusion

GVCs in Turkey have been remarkably beneficial for the country. GVC firms are large employers that pay workers more. GVCs are associated with more formal jobs and therefore offer workers better conditions and do slightly better on female employment. The rate at which wages and employment have grown in Turkey’s GVC-intensive sectors in recent years has been rapid – both faster than peers and relative to the level of economic upgrading seen over the same period. This suggests that the social benefits of GVCs have been improving, driven by densification and workers capturing a sizeable share of increased value-added.

The problems with GVCs generally mirror those of Turkey’s economy more broadly. GVCs are highly concentrated in certain, more developed regions, as is overall formal employment in Turkey. An economic agenda to raise the economic potential of lagging regions is important here, including improving connectivity, public services, and infrastructure in these areas. While GVCs do slightly better than other firms, female employment levels remain extremely low and pursuing a national policy agenda to enable stronger female labor force participation would complement and make GVC growth more inclusive.

Turkey’s GVC participation will be affected by decarbonization, and firms need to adapt to changing demands in the EU and other markets. As discussed, GVCs are a conduit for the latest technologies and product specifications. As demand in advanced markets – the ultimate focus for much GVC activity –

switches to low carbon goods, GVCs will, and are already, adapting. This means that Turkish GVCs firms will have no option but to reduce their carbon footprint to remain competitive. In this, as in other areas of technology, GVC firms are likely to lead the way and support broader green technology adoption in Turkey.

With GVCs in Turkey providing good social returns, the challenge is to scale them up. Returning to the earlier discussion, with social benefits strong in most respects, the main means of driving further social and environmental gains would be scaling up and upgrading GVC participation in Turkey. All the recommendations presented here would support achieving these goals.

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LEVERAGING GLOBAL VALUE CHAINS FOR GROWTH IN TURKEY

A Turkey Country Economic Memorandum



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