

Potential Economic Impacts of Liberalizing Foreign Investment Restrictions in Jordan's Services Sector

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Abstract: Foreign investment in services can have an important role in helping unlock growth, create jobs, and support export diversification. Yet, many services still face pervasive investment restrictions. This paper provides a brief review of the possible benefits of liberalizing foreign investment restrictions in services may bring, and the various channels through which it can raise exports, domestic sales, and employment. It then aims to understand the benefits of liberalizing such restrictions for Jordan's economy through a simulation exercise of full liberalization (no restrictions) and partial liberalization (removing some restrictions as in the recent policy reform introduced by the Government of Jordan). It combines two approaches: (1) a standard trade gravity model to examine the effects on trade and output (sales); and (2) a conditional labor demand function to assess employment effects. Services liberalization is found to offer significant export benefits in wholesale and retail (43 and 34 percent growth, respectively), with smaller benefits in transport (17 percent), finance (7 percent) and tourism (5 percent). The biggest effects on sectoral output would come from liberalizing tourism and transport (8 and 5 percent, respectively), which together also bring the largest expected benefits for raising employment (7 and 4 percent). In manufacturing, services liberalization would help raise exports most in food & beverages. Significant employment benefits would exist across all manufacturing sectors. The findings are more limited for Jordan's partial liberalization, given the limited degree of reform, with only minor effects on services and manufacturing exports. Overall, liberalizing FDI in services is found to help promote services trade, sectoral growth and increase manufacturing exports.

1 INTRODUCTION

Governments face complex choices in regulating the services sector. They need to strike the right balance between the benefits of regulation in correcting for market failures, and the costs stemming from the limitation of market entry. Regulation often stems from legitimate aims to stimulate network externalities in scarce distribution networks (e.g. in finance, transport and telecommunications), or to handle problems of asymmetric information related to service provider quality (e.g. the competence of doctors and lawyers, the safety of transport services, or the soundness of banks and insurance companies) (Francois and Hoekman, 2010).

Yet, regulation also imposes barriers that protects domestic incumbents from foreign entry. This creates a complex political economy situation (Hoekman et al, 2007). While the benefits from liberalization are diffused among many, the losses affect a small number of producers, which thus are more likely to organize themselves against the policy change (Olson, 1965). Policymakers may therefore be inclined to regulatory “overshooting” that offers excessive protection to a small group of (well-connected) firms, at the expense of the country’s other firms and households. Another challenge to liberalization is that policymakers are immediately faced with the costs (increased competition) yet would only see any benefits emerge in the medium-term (such as job creation in exporting competing sectors) (Cordoba, 2006). This creates a bias in favor of the status quo and can make reform of services regulations politically difficult to engineer (Fernandez and Rodrik, 1991).

The discussion on allowing entry of foreign firms in services is of particular importance to Jordan. Even though the country has some of the most restrictive services sectors,¹ its government recently acknowledged the critical effect that services FDI can have for unlocking growth, creating jobs and supporting export diversification. Jordan’s Vision 2025 focuses on services clusters such as engineering, construction, tourism, information technology, health and wellness tourism, and professional services.² Yet, there is notable resistance in opening up services. Part of this comes from the fear of short-term job losses for low-productivity domestic firms (especially small and medium firms). High concentration in key services sectors and a small, dispersed manufacturing sector further shape the private sector’s lobbying against liberalization and limits the political space for reform.

Despite these odds, Jordan has recently liberalized a part of its services sector in an effort to boost exports and generate jobs. Yet, it is held back by a general uncertainty of the potential benefits from reform. It is therefore key to explore what economic effects this reform may bring and identify further opportunities to sustain investment in Jordan’s service sector.

Policymakers should weigh up the regulatory costs against the benefits of liberalizing services. Yet, governments often favor the status quo because the economic effects of liberalization are uncertain. To better understand the benefits that liberalization can bring, this paper focuses on Jordan and provides a simulation of the effect that removing foreign equity restrictions in services would have on its economy.

This note starts with a brief review of the possible benefits liberalizing foreign investment restrictions in services may bring, and the various channels through which it can raise exports, domestic sales and employment. Next, we consider Jordan’s current restrictions to services FDI and introduce a set of

¹ As measured by the OECD’s FDI Restrictiveness Index in 2017. See section 3.

² The services sector is seen to offer substantial export potential, with room to increase exports of high value-added services where Jordan can capitalize on its skilled workforce. A recent study of Jordan’s growth potential underscores the key opportunities that can be exploited in the services sector both as direct exports, and as inputs for other domestic sectors (Hausmann et al, 2019).

recent reforms adopted by the Government of Jordan. The rest of the paper then provides the details of two simulation exercises – (1) full liberalization (removing all equity restrictions) and (2) partial liberalization (removing restrictions for some sectors, as recently introduced). For each, we use a combination of approaches. A standard trade gravity model is used to examine the effects on trade and real output in goods and services. To assess employment effects, we extrapolate from output changes based on a conditional labor demand function estimated using micro-data.

2 BENEFITS OF LIBERALIZING FOREIGN INVESTMENT IN SERVICES

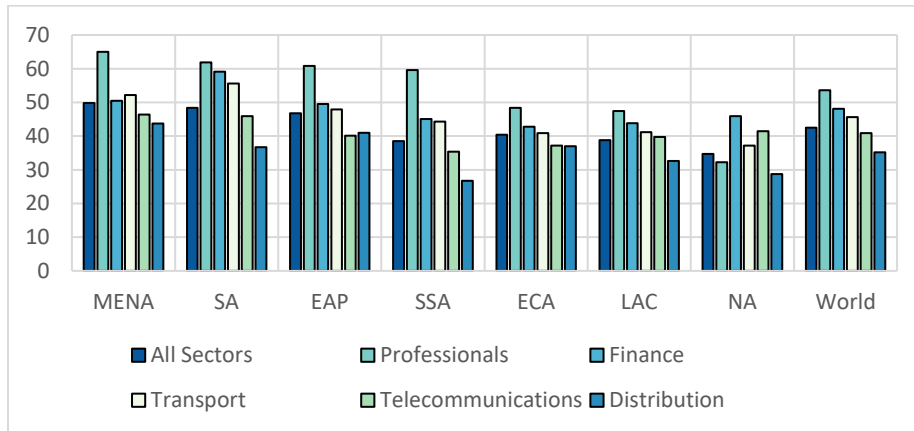
Modern services are growing rapidly across the world, partly due to the information and communication technology (ICT) revolution. Historically, services were often classified as ‘non-tradable’ because traditional services (e.g. haircuts) are not *storable* and require *proximity* of the supplier and consumer. Beginning in the 1980s, technological change has progressively weakened this proximity burden. This allowed services to be digitized and provided cross-border through ICT networks (Hoekman, 2018). Modern services are therefore growing rapidly across the world and are catching up with manufacturing productivity levels (OECD, 2017).

Services are also increasingly embedded into other sectors (industry and agriculture), constituting a growing share of value-added in production processes. Many services are “embodied” in both manufacturing and agricultural production, either as inputs (e.g. design, marketing, or distribution) or as an enabler for trade to take place (such as logistics services or e-commerce platforms). Improvements in transportation, connectivity, and information networks further allowed service providers to ‘unbundle’ these production processes and make up a growing share of value-added in production processes. For that reason, more than one-third of the global value of gross manufactures’ exports come from the value added of embodied services, which has gone up considerably in the last decades (Baines et al, 2011; Bamber et al. 2017). Stimulating service sector productivity is thus a critical short-term priority that will assist in driving labor productivity and export growth in other sectors.

2.1 Foreign investment restrictions in services

Services generate over two-thirds of global gross domestic product (GDP), attract over half of all foreign direct investment (FDI) and create most new jobs globally (OECD, 2017; UNCTAD, 2019). However, services still face pervasive restrictions in their trade and investment around the world. The World Bank Services Trade Restrictiveness Index (STRI) captures such restrictions in a score between 0 (fully open) and 100 (fully closed). Figure 1 shows that there are important variations in services restrictions across regions, with the Middle East and North Africa (MENA) and South Asia (SP) being the most restricted, while Latin America and Caribbean (LAC) and North America (NA) are least restricted. Similarly, some sectors (e.g. professional services, finance) are generally more constrained than others (e.g. telecom and distribution).

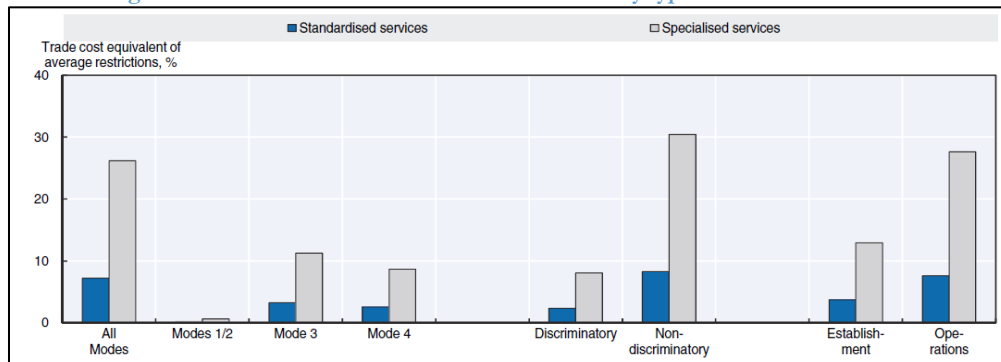
Figure 1: There are important variations in services trade restrictions, both across regions and different service sectors



Source: WB STRI, 2020. Note: 0 = Fully Open, 100 = Fully Closed. MENA = Middle East and Northern Africa, SA = South Asia, EAP = East Asia and Pacific, SSA = Sub-Saharan Africa, ECA = Europe and Central Asia, LAC = Latin America and Caribbean, NA = North America.

Services restrictions create large costs for firms. To gauge the magnitude of such restrictions, the STRI can be translated into *ad valorem* trade cost equivalents, or in other words, how high would a tariff-like instrument need to be to produce a similar trade-depressing effect. Ad valorem equivalents are expressed as a percentage of the value of services provided abroad. Results from OECD countries, using that organization’s STRI³, show the extensive costs associated with four types of services restrictions (Figure 2). While services market access restrictions (Mode 1) and movement of customers abroad (Mode 2) offer some costs to firms, the most important services restrictions all arise behind country borders – related to the commercial presence of foreign businesses (Mode 3) and natural presence of persons (Mode 4). This captures restrictions to both establishment and operation. Countries should thus aim to liberalize both areas concurrently to maximize the resulting benefits to the domestic economy.

Figure 2. OECD Breakdown of the estimated cost by type of service restrictions



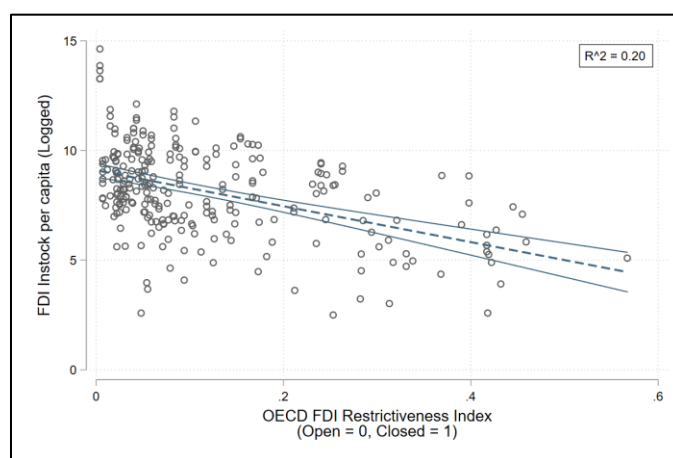
Source: OECD, 2017. Note: Specialized services correspond to an import demand elasticity of -1.5, and standardized services to an import demand elasticity of -5.

Governments may also face high costs from FDI restrictions in terms of foregone investment. Figure 3 shows that there is a strong negative relationship between a country’s FDI restrictiveness (as defined

³ There are important differences in methodology between the World Bank’s STRI and OECD’s STRI. For more details, see Borchert et al (2012) and Grosso et al (2015).

by the OECD’s FDI Restrictiveness Index (FRI)⁴ and its overall FDI inflows (in stock per capita). Mistura and Roulet (2019) identify similar results, using an augmented gravity model for 60 advanced and emerging countries to find that liberalizing FDI restrictions by about 10 percent (as measured by the FRI) can increase bilateral FDI in stocks by 2.1 percent on average. They note that effects are greater for FDI in the services sector, but even manufacturing sectors – which are typically open to FDI – are negatively affected by countries’ overall restrictiveness.

Figure 3: There is a strong negative relationship between a country’s FDI restrictiveness and FDI instock per capita



Source: Authors calculations using WDI (2019) and OECD FRI (2017), covering 62 countries (36 advanced, 26 emerging) for the years 2003, 2006, 2010, 2013 and 2017.

2.2 The effect of services liberalization⁵

The economic literature provides considerable evidence on the potential economic gains from services liberalization. For example, early literature finds that for a sample of 86 developing countries over the period 1985-1999, those who opened up their financial and telecommunications sectors grew, on average, 1.5 percentage point faster than other countries (Mattoo, Rathindran, and Arvind Subramanian (2006). Similarly, Eschenbach and Hoekman (2006) find that for a sample of twenty transition economies in the period 1990-2004, enabling entry of FDI in select services (finance, power, transport and telecommunications) is associated with large new investments in those sectors, and provides a statistically significant explanatory variables for their post-1990 economic performance.

More recent country-level studies also find that services liberalization stimulates long-term economic development and does so by raising overall total factor productivity (TFP) (the efficiency with which societies combine labor, capital and technology) (Van der Marel, 2012). Productivity improvements, in turn, enable countries to stimulate a sector’s exports, output and employment. We identify three main channels through which services liberalization affects economic performance (Figure 4):

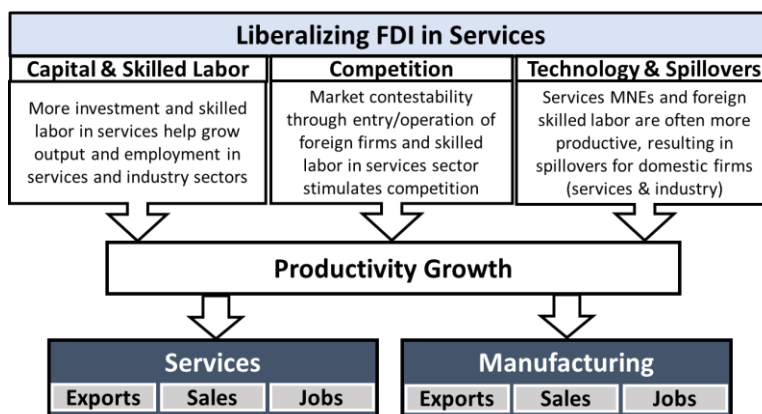
1. **Capital and skilled labor:** An increase in investment (capital) and more skilled workers will likely expand the scale of services activities, and hence increase both the output and employment in the services sector, which can also possibly spill over into the industrial sector.
2. **Competition:** Enabling the entry and operation of foreign firms and skilled workers in the service sector will stimulate competition. This can result in important allocative efficiencies, which can drive productivity growth.

⁴ For more details on the OECD’s methodology for constructing the FRI, see Kalinova et al (2010).

⁵ This section is based on Steenbergen et al (forthcoming).

3. **Technology and spillovers:** FDI is a particularly important channel for the transfer of services-related technology, as foreign firms introduce new types of services that may be better suited to client needs or provide existing services at lower cost than before they entered the market. Higher-productivity firms will benefit services sectors, while also increasing productivity of sectors that are relatively intensive users of such services (e.g. manufacturing).

Figure 4: The channels through which services liberalization affects exports, sales and employment.



Source: Steenberg et al (forthcoming).

The capital and skilled labor channel

As long as services liberalization is associated with increased competition (rather than concentration), reforms will expand the scale of services activities (Francois and Hoekman, 2010). An increase in total (foreign) investment will thus likely increase both output and employment in the direct services sector.

To illustrate the investment effect, Borchert, Gootiiz and Mattoo (2012) use a cross-country regression and find that foreign equity restrictions, discrimination in licensing, restrictions on the repatriation of earnings and lack of legal recourse all have a significant and sizable negative effect, reducing the expected value of sectoral foreign investment by USD 2.2 billion over a 7-year period, compared with “open” policy regimes. Similarly, Kox (2019) uses a gravity model and finds that if the Philippines would open up its services sector, it would bring in almost USD 8 billion in FDI. He then uses input-output tables to assess the effect of investments on each sector’s aggregate output, wages and employment. The results (Table 1) show that while most of the investment benefits accrue in services sectors (82 percent), half of all the benefits in output and employment growth lie within the industrial sector.

While there are fewer studies on liberalizing movement of natural persons, existing work suggests that restrictions on entry and operations (e.g. visas and work permits) are strongly negatively correlated to FDI inflows. Using a gravity model, Czaika and Neumayer (2017) note that imposing a unilateral visa restriction by one country would reduce bilateral FDI by 11 percent and reduce bilateral trade by around 5 percent. De Smet (2013) finds that a 1-point increase in this “Employing Skilled Expatriates Index”⁶ (0-100) is associated with a 0.2 percent increase in inward FDI flows per capita. This suggests that enabling the temporary movement of workers can also have large impacts on investment (which in turn can help expand a sector’s exports, sales and employment – see above).

⁶ This covers 1) quotas on the inflow of skilled immigrants; 2) the time and steps required to recruit a skilled expatriate; and 3) restrictions on permanent residency, citizenship and spousal work permits.

Table 1: benefits from opening up services in the Philippines on the industry and services sectors

Sector	FDI shock from services liberalization		Domestic economic effects (total effect, 5 year lagged)					
	(mln. USD)	(%)	Additional gross output		Additional wage sum		Additional jobs	
			(mln. USD)	(%)	(mln. USD)	(%)	('1000 FTE)	(%)
Agriculture	62	1%	122	1%	36.1	1%	15.8	2%
Industry	1,346	17%	12,252	53%	1,042.4	38%	397.3	46%
Services	6,530	82%	10,726	46%	1,632.5	60%	455.9	52%
Total	7,938	100%	23,100.3	100%	2,710.9	100%	869.0	100%

Source: Author's calculations, adapted from Kox (2019). Note: FTE stands for 'full time equivalent'.

The competition channel

Many services industries are characterized by pervasive regulation to solve apparent market failures.⁷ Yet, restrictions on entry and operations also raise the market power of service providers. Market power drives a pricing wedge between services producing firms and their customers, allowing firms to charge prices that are far above the cost of production. For this reason, many sectors benefit from (and lobby for) policies that impede new entry and operations. This can lead to regulatory “overshooting” that offers excessive protection to a small group of (well-connected) firms, at the expense of the country’s other firms and households. Restrictive domestic regulation creates a policy environment that discourages new entrants, whether they be potential domestic businesses or foreign competitors. In such a case, services liberalization can provide important productivity benefits.

Canton, Ciriaci and Solera (2014) illustrate the competition benefits that can come from services liberalization. They consider changes in the regulatory barriers⁸ of four highly professional services (legal, accounting, architectural and engineering) across EU countries over the period 2008-2011. All the professions are found to have profit rates that lie considerably above those of other less regulated professional services and skilled manufacturing (indicating market power). They estimated that a 1-point reduction of professional services regulation (PMR) increases the average firm entry/exit by 1.75 percentage points (pp) and reduced firm profits by 5.4 pp. Liberalizing (professional) services can thus have significant effects on firm entry/exit, competition and allocative efficiency. More competitive industries are more innovative, grow faster and create more jobs (World Bank, 2017).

The technology and spillovers channel

FDI is a particularly important channel for the transfer of services-related know-how and technology, as foreign firms introduce new types of services that may be better suited to the needs of clients or provide existing services at lower cost than was available before they entered the market. Entry of higher-productivity firms will benefit the services sectors, while also increasing the productivity of sectors (e.g. manufacturing) that are relatively intensive users of such services.

⁷ For example, services that benefit from scale economies and network externalities (incl. finance, transport and telecommunications) often benefit from entry restrictions to use scarce distribution networks. Problems of asymmetric information are also common, and often related to the quality of service providers (e.g. the competence of doctors and lawyers, the safety of transport services, or the soundness of banks and insurance companies). When information is costly to obtain, governments regulate the sector’s operations to improve consumer welfare (Francois and Hoekman, 2010).

⁸ The level of regulation at sectoral level is proxied by the OECD's Product Market Regulation (PMR) indicator.

A wide range of studies have found that services liberalization is associated with important benefits for manufacturing productivity and exports.⁹ Arnold et al. (2016) show that for Indian firms, a one standard-deviation increase in the services restrictiveness index resulted in a productivity increase of 11.7 percent for domestic firms and 13.2 percent for foreign firms. Similarly, Hoekman and Shepherd (2017) find that a 1 percent decline in services restrictiveness is associated with a 0.5 percent increase in the value of bilateral merchandise trade. They estimate that if East African countries would liberalize services in line with the regional best practice (Ghana), their exports could increase by over 10 percent. In sum, the economic impacts of services liberalization are often both significant and sizeable.

3 SERVICES RESTRICTIONS IN JORDAN: PATTERNS AND POLICIES

3.1 Jordan's FDI Patterns

Jordan has been selectively open to FDI, in sectors such as mining, manufacturing, energy, tourism and ICT, and has policies and institutions that support entry of foreign investors. Peak FDI inflows reached 24 percent of GDP in 2006; since then, Jordan has experienced a gradual decline in foreign investment as a share of GDP. In an attempt to reverse this trend, Jordan amended its Investment Law's Bylaw for Non-Jordanian Investors in 2016, removing some of the existing restrictions on non-Jordanians fully owning companies in certain sectors. While this reform contributed to some new FDI inflows in 2017, it could not stall the further decline in 2018, when it dropped to a low of 2.2 percent of GDP (

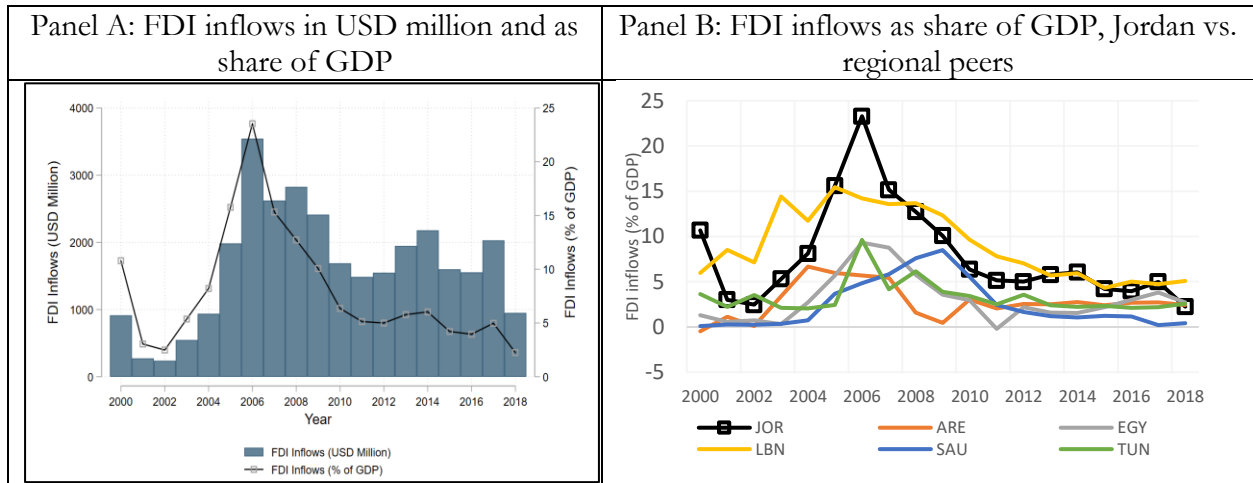
⁹ See for example Arnold et al. (2011) for the Czech Republic, Bas (2014) for India, and Duggan et al. (2013) for Indonesia, as well as for OECD nations (Barone and Cingano 2011; Bourlès et al. 2013).

Figure 5, Panel A).

The relative decline of Jordan's FDI inflows is also noticeable when comparing it to its regional peers
(

Figure 5, Panel B). Historically, Jordan's FDI inflows as a share of GDP were generally considerably above countries such as Saudi Arabia, Egypt, Tunisia and the United Arab Emirates (UAE), and comparable only to Lebanon. Yet, since 2015 its relative FDI led has declined considerably. Regional peers now outperform them (Lebanon) or meet their performance in 2018 (incl. Egypt, UAE and Tunisia).

Figure 5: Jordan's FDI inflows have seen a consistent, relative decline since 2006



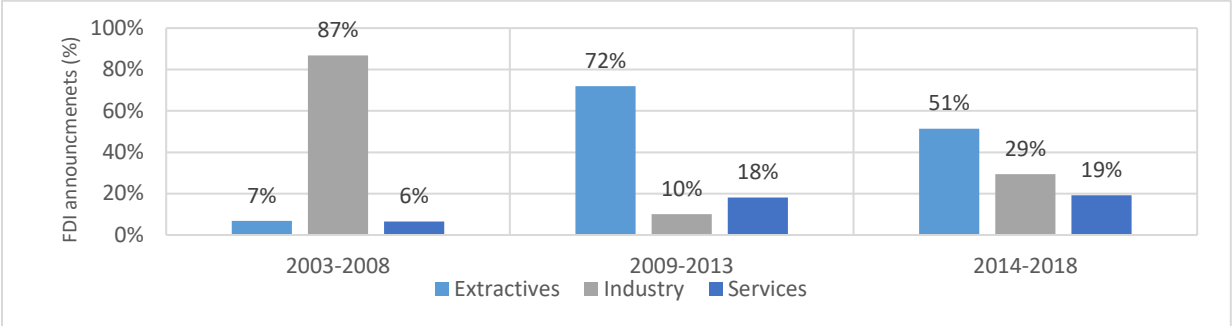
Source: Authors calculations using WDI (2019).

A sectoral breakdown of Jordan's FDI (Figure 6, and Table 13 in Annex 1), shows that between 2003 and 2008 most investment went into industry (especially construction and building materials). Since then, the extractives sector has become the most dominant form of investment, covering 72 percent of FDI from 2009 to 2013, and 51 percent between 2014 and 2018. Relatively little foreign investment has gone into the services sector (at 6, 18 and 19 percent respectively across the three time periods).

The heavy dependence on extractives FDI is also noticeable when considering the share of Jordan's FDI in-stock by country (

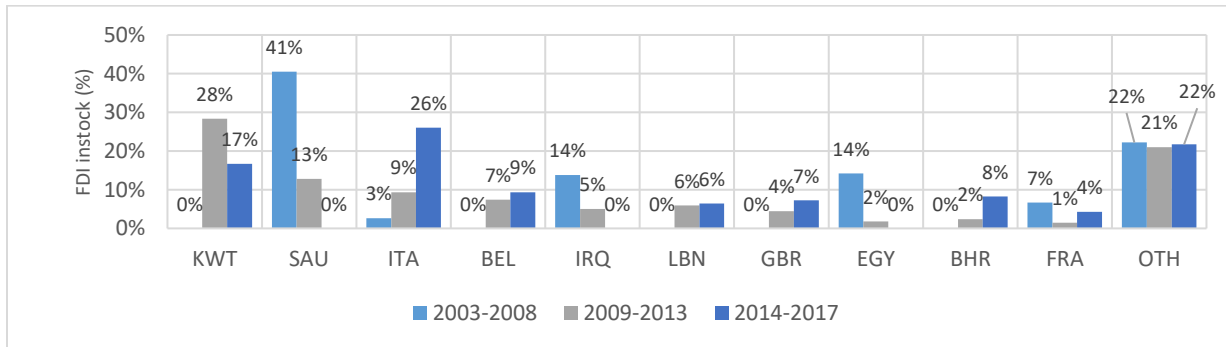
Figure 7, and Table 14 in Annex 1). Overall, the largest contributors are Kuwait and Saudi Arabia, with Iraq ranking fifth. However, there are some other countries which increasingly invest in Jordan. We see that countries such as Italy, Belgium, Lebanon and Great Britain have all increased over time in their share of Jordan’s FDI in-stock. Another notable finding is that Jordan’s FDI is reasonably diversified, with smaller amounts of FDI from a wide range of different countries. As a result, over 20 percent of its FDI in-stock has consistently come from countries outside of its top 10.

Figure 6: Most of Jordan’s FDI are in industry and extractives, with limited services FDI



Source: Authors calculations using FDI announcements from fDi Markets.

Figure 7: Jordan receives a large share of FDI from countries with large extractives sectors

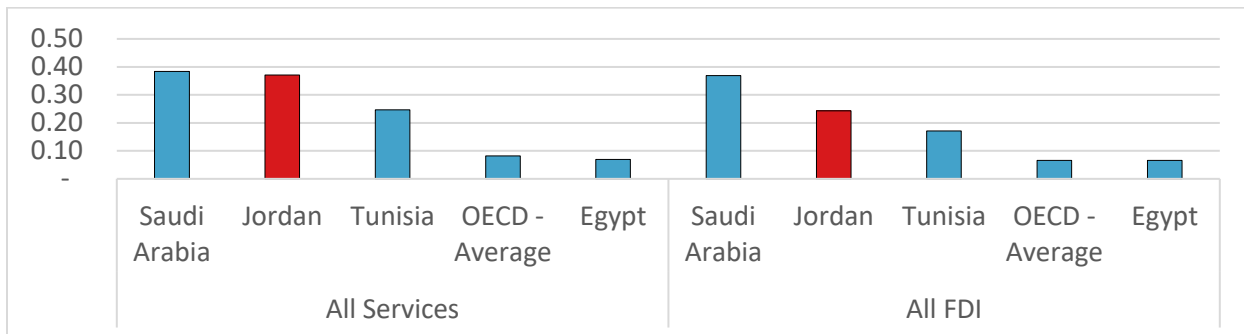


Source: Authors calculations using WB Investment Policy and Promotion bilateral FDI database.

3.2 Current Services Restrictions in Jordan

Despite some reforms implemented in 2016,¹⁰ Jordan remains among the most restrictive countries covered by OECD’s FRI, compared to both OECD averages and regional peers (Figure 8). Many service sectors remain partly off limits to foreign investors, restraining potential economy-wide productivity gains. The current negative list covers a seemingly random mix of service activities, mainly security-related, business services, and transportation and transport services (air, maritime, and road).

Figure 8 Jordan is among the most restrictive countries in the FRI, compared to both OECD averages and regional peers



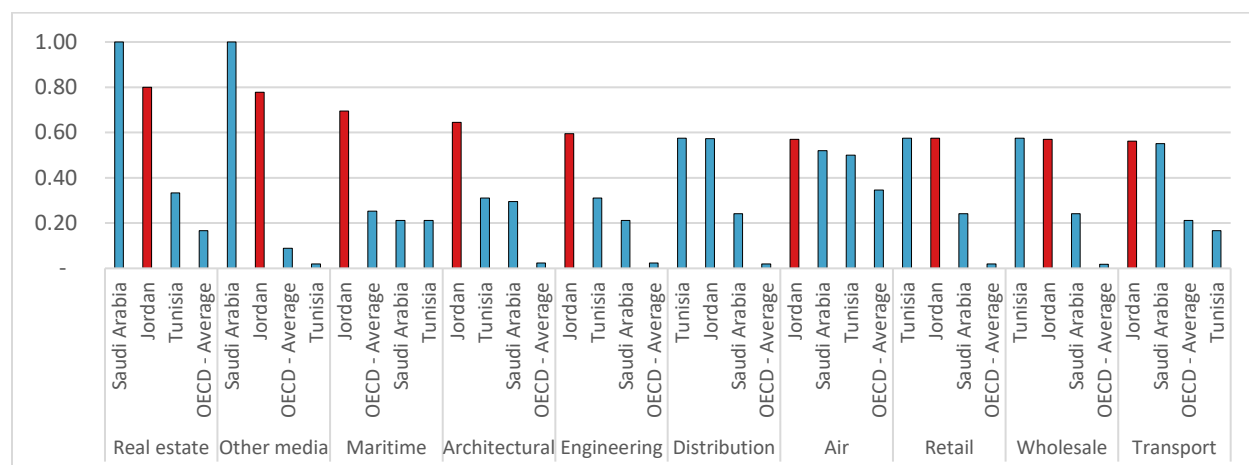
Source: Authors calculations, using OECD FRI (2017).

Figure 9 gives an overview of the ten most restricted service sectors in Jordan. Restrictions are greatest in real-estate, transport, construction, media and business services, which are often deemed strategic.

¹⁰ The 2016 reform (Bylaw No. 77 of 2016) introduced a definition of “non-Jordanian investor”. It also removed the discriminatory minimum capital requirement for foreign investors. However, the following activities or sectors were still listed as exceptions in the 2016 Bylaw, divided into three groups: (1) Sectors that require 50 percent local ownership, listed in Article 4 of the 2016 Bylaw. This added new activities to the previous list, including maritime maintenance and maritime health services. Bylaw No. 77 also removed the previous threshold of 50 percent foreign ownership on rail transport auxiliary services, as well as the ban on foreign investment in passenger and freight road transport services, which were allowed up to 49 percent in the 2016 Bylaw. (2) Sectors where a maximum of 49 percent foreign ownership was allowed, i.e., that require 51 percent local ownership (Article 5). The 2016 Bylaw reduced the allowed participation of non-Jordanians from 50 percent to 49 percent in several activities, such as the maintenance of road transport; the maintenance of radio and television broadcasting equipment; and land purchased for construction, sale or rental of residential apartments. (3) Restricted activities, where foreign investment was totally prohibited, which included activities relating to security services (Article 6).

It has also maintained FDI restrictions in wholesale, retail, and distribution activities, which elsewhere is typically open to FDI. A further breakdown for these 10 service sectors (not shown) would illustrate that almost all of their restrictions come from foreign equity limits (limiting the maximum share of foreign ownership in a specific sector to 0 percent, below 50 percent or below 100 percent).¹¹

Figure 9: Top 10 sub-sectors where Jordan faces significant services restrictions



Source: Authors calculations, using OECD FRI (2017).

3.3 Services FDI reforms in Jordan

The Government of Jordan has recently acknowledged the critical effect that services FDI can have for unlocking growth, creating jobs and supporting export diversification. Jordan's Vision 2025 focuses on services clusters such as engineering, construction, tourism, information technology, health and wellness tourism, and professional services. The services sector is seen to offer substantial export potential, with room to increase exports of high value-added services where Jordan can capitalize on its skilled workforce. A recent study of Jordan's growth potential underscores the key opportunities that can be exploited in the services sector both as direct exports, and as inputs for other domestic sectors (Hausmann et al, 2019).¹²

To strengthen the role of the services sector in transforming the Jordanian economy, the Government of Jordan acknowledged the need to review and liberalize the entry regime for FDI in key services sectors and activities. In support of this, the Government of Jordan committed in May 2019 to further amend the Investment Law's Regulation for Non-Jordanian Investors (Bylaw No. 77-2016, as amended by Bylaw No. 80-2019), and remove equity restrictions on FDI in select services sectors (see Annex 2 for more details).

- Of the 51 items under Bylaw No. 77-2016 that permit up to, but not equal to, 50 percent foreign equity ownership, 22 activities and services were fully liberalized (100 percent foreign ownership allowed). They encompass renting and leasing activities, business services (such as tourism-related services), some transport auxiliary services in maritime, road, and air transport, and warehousing and storage services.

¹¹ The main exception comes from business services, where other operational restrictions (on foreign workers) also apply.

¹² Services are important as inputs for all domestic sectors—Jordan's services sector contributes about 66 percent of the total domestic value added in the economy.

- The Government also streamlined the restricted list to only one category (up to but not equal to 50 percent) to eliminate any confusion to investors.¹³
- Provide that foreign ownership in any activity or sector not on the negative list (as published in the Non-Jordanian Investment Bylaw) is permitted without restriction.

In a gradual liberalization, Jordan is leaving several sectors restricted to less than 50 percent foreign ownership of new investments. Since liberalization brings overall economic benefits but may disadvantage specific groups or individuals, to the Government of Jordan decided to mitigate potential impacts through gradual liberalization and strengthening competent authorities to ensure a level playing field. Even with the liberalization, there remains a list of:

- Nine activities and services prohibited to foreign investors, mostly related to security services and activities reserved to citizens.
- 20 activities and services that will continue to be restricted to up to but not equal to 50 percent foreign equity ownership.¹⁴

The rest of this report aims to look at these foreign equity restrictions in more detail, and consider what effect removing these restrictions would have on the domestic economy. This is done through two simulation exercises – (1) full liberalization (removing all equity restrictions) and (2) partial liberalization (removing restrictions for some sectors, as introduced by the Government of Jordan).

4 DATA AND METHODOLOGY

To examine the economic impacts of services FDI liberalization in Jordan, we use a combination of approaches (

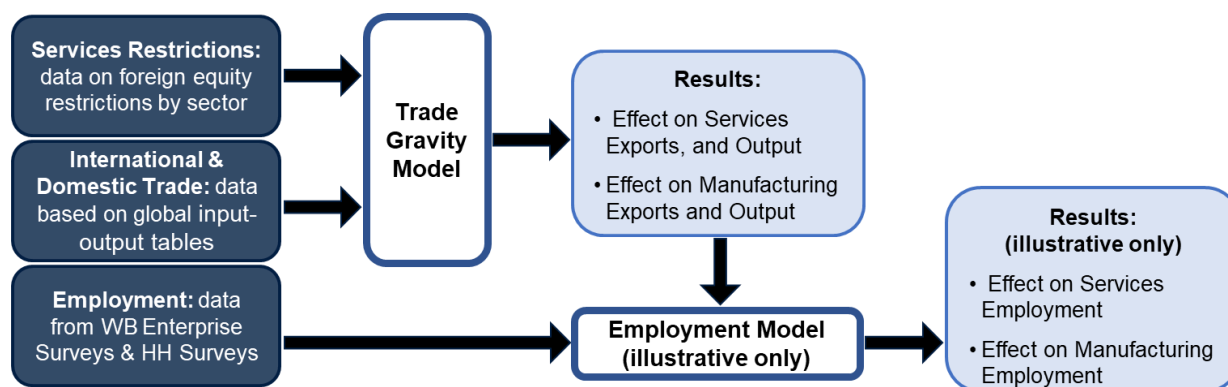
¹³ The Bylaw No. 77 of 2016 has two categories for restricted activities (foreign equity restriction): no more than 49 percent and no more than 50 percent.

¹⁴ There are nine prohibited or closed activities and services and 38 restricted activities and services in the negative list of Bylaw No. 77 of 2016, with a total of 47 activities and services. With the reform, the total number is slightly different (at 51 activities and services) because of more specific definition in four activities and services.

Figure 10). First, we consider the overall foreign equity restrictions under the various scenarios (full, and partial liberalization) by creating alternative sector scores in the OECD FRI.¹⁵ Next, we rely on these scores to examine the effects on trade and output using a standard gravity model of trade. Finally, to assess employment impacts, we extrapolate from output changes based on a conditional labor demand function estimated using micro-data. We now discuss each part of the methodology in turn and present the main data sources.

¹⁵ The World Bank STRI is only available for 2008-2010 and 2019-2020 timeframes, so the FRI is the best available data.

Figure 10: Economic impacts of liberalizing foreign equity limits



Source: Authors.

4.1 Measuring Services Restrictions and Partial Liberalization

The main source of data for investment restrictions in Jordan comes from the foreign equity restrictions set out in OECD’s FRI.¹⁶ This scoring is conducted across 38 sub-sectors¹⁷ to obtain an aggregate composite score on a country’s FDI restrictiveness.

To conduct a simulation of liberalizing foreign equity restrictions in services, we create alternative scores from the OECD FRI to reflect both full and partial liberalization.

- For “full liberalization”, we calculate a new OECD FRI score by removing all service sectors’ foreign equity restrictions (keeping in place any remaining restrictions on personnel or ‘other’).
- For “partial liberalization”, we mapped the change in service restrictions as covered in Jordan’s new negative list to the OECD FRI scores. Unfortunately, the overall definition of sectors do not always correspond directly to the sectors defined in the OECD FRI.¹⁸ Similarly, in some cases Jordan’s sectoral equity restrictions depend on the specific activities conducted (that cannot be captured by the OECD FRI).¹⁹ For that reason, we manually coded each sector as either “moved to the open list” or “no change”, by considering the *extent* to which these sectors were opened. From this, we could estimate the new sectoral and aggregate OECD FRI score. More details of this exercise and the indicative reform list is presented in Annex 3.

4.2 Gravity Model of Trade

Anderson et al. (2018) show that starting with the standard structural gravity model, it is possible to design a simple approach for first estimating the model’s parameters, and using estimated parameters to perform counterfactual simulations in a way that is fully consistent with the general equilibrium implications of gravity theory (see Box 1). The methodology can be broken down as follows:

¹⁶ In addition to foreign equity restrictions, the OECD FRI also includes scores around some other restrictions (incl. key foreign personnel, land ownership, branching rules, or capital restrictions). Such restrictions are often smaller in size (see section 3.1). For the purpose of simplicity and brevity, the analysis is thus limited to foreign equity restrictions.

¹⁷ Four primary sectors, 10 secondary sectors and 24 tertiary sectors.

¹⁸ For example, “distribution services” is a separate category in the OECD FRI, but is scattered across maritime, road and air transport in Jordan’s new negative list (which was also the case in the old negative list).

¹⁹ For example, maritime transport is *liberalized* for “brokerage in rental, leasing and sale of ships; ship management and ship maintenance” but *remains restricted* for “Passengers/goods transport on ships owned by non-Jordanians; Maritime inspection; Services of shipping brokers”.

1. Estimate the model using PPML and fixed effects to obtain estimates of trade costs and trade elasticities for the baseline.
2. Solve the gravity system using the output from step 1 to provide baseline values of all indices.
3. Define a counterfactual scenario in terms of an observable trade cost variable.
4. Solve the counterfactual model in conditional general equilibrium, i.e. direct and indirect changes in trade flows at constant output and expenditure.
5. Solve the counterfactual model in full general equilibrium, i.e. direct and indirect changes in trade flows with endogenous output and expenditure driven by trade-induced changes in factory-gate prices.

Yotov et al. (2017) provide a detailed explanation of the above steps, as well as Stata code for implementing them in a general setting. We adopt their approach and freely adapt their code here. Concretely, we use PPML to estimate (8) on a panel of up to 179 exporters and importers for the period 1997-2015, using at least three year gaps between observations in line with the suggestion in Yotov et al. (2017). This setup allows us to introduce importer-time, exporter-time, and country-pair fixed effects to account for multilateral resistance, expenditure, output, and pair-varying trade costs. In this first stage, we include a dummy for regional trade agreement (RTA) membership and an interaction between an index of FDI restrictiveness and a dummy for international (as opposed to intra-national) trade, as the only explanatory variable. Given the rigor of the fixed effects setup, the trade costs function is simply:

$$T_{ijt}\beta = \beta_0 rta_{ijt} + \beta_1 FDI_{jt} * intl_{ij}$$

The coefficient of interest is β_1 , which gives the partial elasticity of bilateral trade flows with respect to FDI restrictiveness in the importing country, interacted with an indicator equal to unity for international trade observations. Because of the pair and importer-time fixed effects, as discussed above, our claim to identification of an impact of FDI restrictiveness relies on changes in that variable over time for importers. As such, it is unlikely to be overly affected by simultaneity bias.

Once we have isolated β_0 and β_1 from the panel regression, we use data for 2015 only to estimate a model in which we constrain the value of the coefficients on the RTA dummy and the conflict variable, and include data on standard gravity controls.

Finally, we take the estimates obtained as above and use them to conduct a counterfactual simulation following Anderson et al. (2018) in which we consider the impact of fully liberalizing FDI flows in all sectors, as well as implementation of the new FDI liberalization, as discussed above.

Box 1: Details on the Structural Gravity Model

Anderson et al. (2018) develop a simple method for conducting theory-consistent policy simulations using the familiar structural gravity model derived from CES (constant elasticity of substitution) preferences across countries for national varieties differentiated by origin (the Armington assumption). The model takes the following form:

$$(1) X_{ij} = \left(\frac{t_{ij}}{\Pi_i P_j} \right)^{1-\sigma} Y_i E_j$$

$$(2) P_j^{1-\sigma} = \sum_i \left(\frac{t_{ij}}{\Pi_i} \right)^{1-\sigma} Y_i$$

$$(3) \Pi_i^{1-\sigma} = \sum_j \left(\frac{t_{ij}}{P_j} \right)^{1-\sigma} E_j$$

$$(4) p_j = \frac{Y_j^{1-\sigma}}{\gamma_j \Pi_j}$$

Where: X is exports in value terms from country i to country j ; E is expenditure in country j ; Y is production in country i ; t captures bilateral trade costs; σ is the elasticity of substitution across varieties; P is inward multilateral resistance, which captures the dependence of bilateral shipments into j on trade costs across all inward routes; Π is outward multilateral resistance, which captures the dependence of bilateral shipments out of i on trade costs across all outward routes; p is the exporter's supply price of country i ; and γ is a positive distribution parameter of the CES function. Full details of the model's solution and characteristics are provided by Anderson et al. (2018), and Yotov et al. (2017).

Most commonly, the model represented by (1) through (4) is estimated by fixed effects, which collapses it into the following empirical setup:

$$(5) X_{ij} = \exp(T_{ij}\beta + \pi_i + \chi_j) e_{ij}$$

Where: T is a vector of observables capturing different elements of trade costs; π is a set of exporter fixed effects; χ is a set of importer fixed effects; and e is a standard error term.

The model has a number of salient features, which are well known, but need restating. First, its structure makes clear that the elasticity of trade with respect to particular observable trade costs specified within t is not an accurate summary of the impact of a change of trade costs on trade. The reason is that the multilateral resistance indices depend on trade costs across all partners, which means that the model takes account of general equilibrium effects. This point is typically recognized at the estimation stage, when fixed effects by exporter and by importer are included to account for multilateral resistance. However, when a counterfactual simulation is conducted, the effects need to be passed through the two price indices, not simply extracted from the relevant regression coefficient. This point is much less commonly appreciated in the literature.

Second, if the model is estimated by PPML (Poisson pseudo-maximum likelihood) with fixed effects as recommended by Santos Silva and Tenreyro (2006), then Fally (2015) shows that the estimated fixed effects correspond exactly to the terms required by the structural model. In other words, if (5) is estimated correctly, then it follows that:

$$(6) \widehat{\Pi}_i^{1-\sigma} = E_0 Y_i \exp(-\pi_i)$$

$$(7) \widehat{P}_j^{1-\sigma} = \frac{E_j}{E_0} \exp(-\pi_j)$$

Where E_0 corresponds to the expenditure of the country corresponding to the omitted fixed effect (typically an importer fixed effect) in the empirical model, and the normalization of the corresponding price terms in the structural model.

Let $\hat{\beta}$ be the PPML estimates of the trade cost parameters in (5). To see the impact of a counterfactual change in trade costs, we can re-estimate (5) imposing $\hat{\beta}$ as a constraint and with counterfactual trade costs T_{ij}^c :

$$(8) X_{ij} = \exp(T_{ij}^c \hat{\beta} + \pi_i + \chi_j) e_{ij}$$

Estimating (8) with PPML and the original trade data means that output and expenditure remain constant, so the PPML fixed effects adjust to take account of changes in multilateral resistance brought about by the change in bilateral trade costs. Once estimates have been obtained, counterfactual values of relevant indices

can be calculated, but they are conditional on fixed output and expenditure although they take account of general equilibrium reallocations. In particular, \widehat{X}_{ij} from (8) provide counterfactual values of bilateral trade that are consistent with the general equilibrium restrictions of theory, but which still sum to give observed output and expenditure, consistent with a remarkable property of the PPML estimator (Arvis and Shepherd, 2013; Fally, 2015).

It is possible to push the model further, by allowing counterfactual changes in factory-gate prices to drive changes in output and expenditure, which in turn lead to additional changes in trade flows, until the system converges. Specifically, endogenous responses in output and expenditure are as follows in an endowment economy where trade imbalance ratios $\phi_i = E_i/Y_i$ remain constant:

$$(9) Y_i^c = \left(\frac{p_i^c}{p_i}\right) Y_i$$

$$(10) E_i^c = \left(\frac{p_i^c}{p_i}\right) E_i$$

Anderson et al. (2018) propose an iterative approach to solving the system. First, use structural gravity to translate changes in output and expenditure into changes in trade flows:

$$(11) X_{ij}^c = \frac{(t_{ij}^{1-\sigma})^c Y_i^c E_j^c}{t_{ij}^{1-\sigma} Y_i E_j} \frac{\Pi_i^{1-\sigma} P_j^{1-\sigma}}{(\Pi_i^{1-\sigma})^c (P_j^{1-\sigma})^c}$$

Where superscript c indicates counterfactual values obtained from constrained estimation of (8) and calculation of relevant indices. Counterfactual values of output and expenditures come from applying market clearing conditions $p_i = \left(\frac{Y_i}{Y}\right)^{1/\sigma} \frac{1}{\gamma_i \Pi_i}$, which makes it possible to translate changes in the fixed effects between (8) and (5) into first order changes in factory-gate prices:

$$(12) \frac{p_i^c}{p_i} = \frac{\exp(\widehat{\pi}_i^c)}{\exp(\widehat{\pi}_i)}$$

Further changes occur in a second order sense, as changes in prices lead to further changes in output and expenditure, which in turn drive changes in trade. By iterating the PPML estimation and calculation of changes until convergence, it is possible to obtain full endowment general equilibrium estimates of trade flows and relevant indices.

Data used for Gravity Model of Trade

Data on bilateral trade are sourced from the Eora Input-Output table. We cannot use standard data, such as UN Comtrade, because our model setup also requires data on intra-national trade (goods produced and consumed in the same country), which is not recorded by Comtrade. While there are quality concerns regarding the Eora data, they represent the only international source that includes matched and up-to-date trade and production data for Jordan. We use the 26 sector disaggregation of the Eora input-output table, which is based on the International Standard Industrial Classification (ISIC) scheme used in the national accounts. The data identify seven manufacturing sectors of interest, along with six services sectors. We estimate separate models for each sector, to allow coefficients of interest to vary by sector.

Data on FDI restrictiveness come from the OECD FDI Restrictiveness Index. The FRI covers 59 importing countries in our database, so the effective estimation sample is limited to bilateral flows among 179 exporters and those 59 importers. Taking account of our decision to construct a panel

with at least three year gaps between observations, we estimate the model using data for 1997, 2003, 2006, 2010, and 2015. In goods models, we use the overall tertiary sector FRI. For services models, we use sectoral FRIs specific to the sector being estimated.

Our data on RTAs are sourced from Egger and Larch (2008), as updated and made available online by Mario Larch. For the 2015 regressions, we also include standard gravity controls based on geographical and historical characteristics of country pairs. They are sourced from the CEPII distance database. Table 2 presents a consolidated list of variable definitions and sources, while Table 3 presents summary statistics.

Table 2: Variable definitions and sources

Variable	Definition	Source
Colony	Dummy variable equal to unity if one country in a pair was ever in a colonial relationship with the other.	CEPII
Common Border	Dummy variable equal to unity if the exporting and importing countries share a common land border.	CEPII
Common Colonizer	Dummy variable equal to unity if the exporting and importing countries were colonized by the same power.	CEPII
Common Language	Dummy variable equal to unity if the exporting and importing countries share a common language (ethnographic basis).	CEPII
Exports	Exports of goods by sector from the exporter to the importer.	CEPII
FDI*Intl	FDI Restrictiveness Index interacted with a dummy variable equal to unity where the exporting and importing countries are different.	OECD
Log(Distance)	Logarithm of the distance between the main cities in the exporting and importing countries.	CEPII
RTA	Dummy variable equal to unity if the exporting and importing countries are members of the same RTA.	CEPII

Table 3: Summary statistics

Variable	Observations	Mean	Std. Dev.	Min.	Max.
Colony	4,165,330	0.011	0.104	0.000	1.000
Common Border	4,165,330	0.017	0.128	0.000	1.000
Common Colonizer	4,165,330	0.097	0.296	0.000	1.000
Common Language	4,165,330	0.138	0.345	0.000	1.000
Exports	4,165,330	121767.500	10800000.000	0.000	8230000000.000
FDI*Intl	1,168,154	0.166	0.163	0.000	0.716
Log(Distance)	4,165,330	1.809	0.829	-6.276	2.993
RTA	4,165,330	0.166	0.372	0.000	1.000

Note: Statistics calculated using the full sample, i.e. all manufacturing and services sectors.

4.3 Conditional Labor Demand Function

A key impact variable for policy purposes is employment. However, there is no straightforward way to rigorously relate changes in FDI policy to changes in employment. We therefore provide a simple indication by adopting a simple mapping of changes in output from the gravity modeling exercise to changes in employment. We do that by estimating a conditional labor demand function using firm-level data from the World Bank Enterprise Surveys. The model takes the following form:

$$\begin{aligned} & \log(\text{employees}_{fcst}) \\ &= \beta_0 + \beta_1 \log(\text{Sales}_{fcst}) + \beta_2 \log\left(\frac{VA_{fcst}}{\text{employees}_{fcst}}\right) + \beta_3 \log\left(\frac{\text{Capital}_{fcst}}{\text{Employees}_{fcst}}\right) \\ &+ \beta_4 \text{Wage}_{fcst} + e_{fcst} \end{aligned}$$

The dependent variable is the total number of employees by firm (f) in county c, sector s, time period t. The independent variables, also at the firm level, are value added per employee as an indicator of productivity, capital per employee, the average wage rate, and total sales. The parameter of interest is the elasticity of employment with respect to sales (output), which shows how sensitive employment is to output changes.

Jordan is included in the Enterprise Surveys data, with data on relevant variables for around 200 firms in total. This sample size, which is very small, does not allow for differentiation of employment impacts by sector. We therefore pool observations across all sectors but include fixed effects by sectors. Similarly, panel data are not available, so simultaneity concerns are a major caveat on these results. Table 4 presents variables and definitions, while Table 5 contains summary statistics.

Table 4: Variable definitions and sources

Variable	Definition	Source
Log(Capital/Employees)	Logarithm of capital per employee by firm	Enterprise Surveys
Log(Employees)	Logarithm of the total number of employees by firm	Enterprise Surveys
Log(Sales)	Logarithm of total sales by firm	Enterprise Surveys
Log(Value Added/Employees)	Logarithm of value added per employee by firm	Enterprise Surveys
Log(Wage)	Logarithm of average wage by firm	Enterprise Surveys

Table 5: Summary statistics, Jordan

Variable	Observations	Mean	Std. Dev.	Min.	Max.
Log(Capital/Employees)	378	3.106	1.399	0.000	7.694
Log(Employees)	213	12.939	2.059	8.700	17.553
Log(Sales)	153	8.914	3.014	-1.386	12.985
Log(Value Added/Employees)	212	1.499	4.060	-2.303	13.256
Log(Wage)	244	8.094	1.011	1.637	12.008

5 RESULTS AND DISCUSSION

As with any gravity model, the outputs are not forecast or projections of the likely future state of the Jordanian economy if particular policies are implemented. Rather, they are counterfactuals: what would the economy look like if policies were to change, but everything else were to remain the same? They therefore provide important information as to the direction and relative strength of the economic forces at play but need to be interpreted differently from the sorts of forecasts produced by macro-economic models. This approach is standard in the applied trade policy literature.

5.1 Gravity Model of Trade

Estimation results of the panel gravity model are in Tables 6 and 7, taking goods and services separately. In all cases, the coefficient on the FDI Restrictiveness Index is negative and statistically significant at the 5 percent level or better. This result is in line with expectations.

Given the structure of the gravity model, it is not straightforward to translate the estimated coefficients into impact effects. The reason is that they have direct impacts, but also indirect impacts through the multilateral resistance terms. We therefore run two counterfactual simulations, which take full account of both sets of effects. The first simulation is the complete removal of equity restrictions in service sectors. The second simulation is the removal of equity restrictions in selected sectors, as per the new policy framework discussed in the introduction. These counterfactual simulations are conducted using the GE PPML methodology, as discussed above.

Table 6: Estimation results for goods sectors, panel model

	Electrical & Machinery	Food & Beverages	Metal Products	Other Manufacturing	Textiles & Apparel	Transport Equipment	Wood & Paper
FDI*Intl	-1.516 ***	-2.197 ***	-2.255 ***	-1.928 ***	-1.607 ***	-1.124 **	-1.838 ***
	(0.297)	(0.219)	(0.232)	(0.399)	(0.258)	(0.464)	(0.310)
RTA	0.014	0.033 **	0.028	0.002	0.044	0.063 **	0.045
	(0.031)	(0.016)	(0.023)	(0.042)	(0.048)	(0.032)	(0.040)
Constant	18.494 ***	18.327 ***	18.418 ***	16.659 ***	17.092 ***	17.847 ***	17.575 ***
	(0.019)	(0.004)	(0.009)	(0.013)	(0.015)	(0.022)	(0.010)
Observations	44324.000	44324.000	44324.000	44324.000	44324.000	44324.000	44324.000
R2	0.998	0.999	0.998	0.998	0.998	0.997	0.999

Note: Estimation is by PPML with dependent variable Exports. Standard errors are robust to heteroskedasticity and adjusted for clustering by country pair. All models have fixed effects by exporter-year, importer-year, and country pair. Statistical significance is indicated as follows: * (10%), ** (5%), and *** (1%).

Table 7: Estimation results for services sectors, panel model

	Transport	Hotels & Restaurants	Telecom	Retail	Wholesale	Finance
FDI*Intl	-1.006 ***	-0.713 ***	-1.304 ***	-1.131 ***	-1.486 ***	-1.435 ***
	(0.212)	(0.141)	(0.112)	(0.123)	(0.339)	(0.212)
RTA	0.085 ***	-0.011	0.050 **	0.073 ***	0.186 ***	0.109 ***
	(0.033)	(0.019)	(0.025)	(0.021)	(0.054)	(0.032)
Constant	18.421 ***	18.495 ***	18.764 ***	19.096 ***	18.848 ***	20.814 ***
	(0.009)	(0.001)	(0.001)	(0.000)	(0.002)	(0.001)
Observations	44324.000	44324.000	44324.000	44324.000	44324.000	44324.000
R2	0.999	1.000	1.000	1.000	1.000	1.000

Note: Estimation is by PPML with dependent variable Exports. Standard errors are robust to heteroskedasticity and adjusted for clustering by country pair. All models have fixed effects by exporter-year, importer-year, and country pair. Statistical significance is indicated as follows: * (10%), ** (5%), and *** (1%).

5.2 Conditional Labor Demand Function

Table 8 contains estimates of a conditional labor demand function for Jordan, using Enterprise Surveys data for 2019, the most recent year available. The model is well estimated, although the coefficient on the average wage rate has an unexpected negative and statistically significant coefficient. The relationship between labor demand and output (sales) is positive and 1 percent statistically significant, which is in line with expectations. The coefficient estimate suggests that a 10 percent increase in output is associated with a nearly 9 percent increase in employment.

Given that the sample of Jordanian firms is small, we have investigated whether results are significantly different using the full Enterprise Surveys dataset, covering all countries for which data are available. In fact, the core estimate of the elasticity of employment with respect to output is very similar in such models, even when it is interacted with sector dummies to allow for cross-sectoral heterogeneity. We therefore conclude that despite the small sample, the Jordanian data provide a reasonable estimate of

the parameter of interest. We apply it to estimated changes in output from the gravity models for goods and services to estimate the corresponding expected changes in employment, which are reported below.

Table 8: Conditional labor demand function estimates, Jordan

	Log(Employees)
Log(Sales)	0.899***
	(0.0496)
Log(Value Added/Employees)	-0.610***
	(0.0892)
Log(Capital/Employees)	-0.0585
	(0.0589)
Log(Wage)	-0.0380***
	(0.0134)
Observations	153
R2	0.928

Note: Estimation is by OLS with dependent variable Log(Employees). Standard errors are robust to heteroskedasticity and adjusted for clustering by sector. The model has fixed effects by sector. Statistical significance is indicated as follows: * (10%), ** (5%), and *** (1%).

5.3 Counterfactual Analysis

Tables 9 and 10 present results for the counterfactuals in services sectors, while Tables 11 and 12 present results for goods sectors. We consider changes in exports, output, and employment relative to baseline. The first two come directly from the gravity model itself, while the third uses our mapping of output changes to employment changes from a conditional labor demand function estimated using micro-data (see below). As stated above, these figures are counterfactual estimates, so the estimated value that each variable would have if FDI policy changed but all other factors remained constant. They do not have a dynamic framework attached, but instead represent the change from one equilibrium state to another. They should not under any circumstances be interpreted as forecasts of the likely future path of the economy following policy reforms.

Considering services sectors first, we see that not all sectors for which data are available are in fact liberalized under the government's new policy. As a result, there are major differences between the two counterfactuals: our results show that major output and employment gains are being foregone as a result of taking a partial approach in terms of sectoral coverage. Growth in unchanged sectors could be substantial if full liberalization were to take place. Our findings suggest that full services liberalization would lead to significant export benefits in wholesale (+43 percent) and retail (+34 percent), with smaller benefits in transport (+17 percent), finance (+7 percent) and tourism (hotels & restaurants, +5 percent). However, the biggest effects on sectoral output would come from tourism and transport (+8, and +5 percent, respectively), together also bringing the largest expected benefits for raising employment (+7 and +4 percent). Yet, the findings are considerably more muted for Jordan's new policy, given the limited degree of liberalization. As a result, the current reforms are only expected to have some effects on exports in transport (+28 percent) and tourism (+9 percent), with some benefits in transport employment (+1 percent).

In manufacturing sectors, full services liberalization is estimated to bring high expected export benefits in food & beverages (+30 percent), with additional benefits for wood & paper (+16 percent), metal (+15 percent) and textiles sectors (+12 percent).²⁰ Significant benefits for domestic output and employment would be present across all the manufacturing sectors observed. For the new policy, similar benefits are expected in terms of domestic output and employment. The difference between the two policies is much more muted, because the model is based on an overall index for the full services sectors; as a result, policy changes are smaller in relative terms than in the sector-specific models for services. In general, there are only slight differences in economic effects between the new policy and full liberalization. The major point of distinction is in terms of the degree of international economic integration of goods sectors: pushing liberalization of services FDI further promotes a switch of output from domestic to foreign consumers, so although the difference in output is typically zero or small between the new policy and full liberalization, the difference in exports is much more significant.

Taking these results together, we conclude that liberalizing FDI in services has the potential not only to promote services trade, but also to promote sectoral growth and greater export integration in goods markets. Differences between partial and full liberalization are large in services sectors, in particular due to the limited sectoral scope of the new policy. Differences are more muted in goods' markets and focused on switching towards greater international integration under full liberalization.

Table 9: Counterfactual simulation results for partial liberalization of services sectors, Jordan, USD and percent change over baseline

Services Sector	New Policy (Partial Services Liberalization)					
	Export (USD millions)		Output (USD millions)		Emp ('1000)	
	#	%	#	%	#	%
Transport	141	28	32.0	1	0.2	1
Hotels & Restaurants	13	9	0.0	0	0	0
Telecom	0	0	0.0	0	0	0
Retail	0	0	0.0	0	0	0
Wholesale	0	0	0.0	0	0	0
Finance	0	0	0.0	0	0	0
Services (TOTAL)	154	N/A	32.0	N/A	0.2	N/A

Note: Authors' calculations. Totals are for the year 2015, using Eora (2015) and Jordan's LFS 2015.

Table 10: Counterfactual simulation results for full liberalization of services sectors, Jordan, USD and percent change over baseline

Services Sector	Full Services Liberalization					
	Export (USD millions)		Output (USD millions)		Emp ('1000)	
	#	%	#	%	#	%
Transport	86	17	160	5	1	4
Hotels & Restaurants	7	5	0	8	4	7
Telecom	0	0	0	0	0	0

²⁰ These results also broadly align with OECD's Input-Output tables that display linkages between manufacturing and services. For example, the food & beverages, wood & paper, and textiles sectors have very strong linkages to the wholesale and retail trade sectors. Metals section has large linkages with electricity and gas services, and (to a lesser extent) for wood and textile sections. Most manufacturing sectors also show some linkages with transportation and finance sectors.

Retail	9	34	121	4	5	3
Wholesale	19	43	49	2	1	1
Finance	0	7	509	4	1	3
Services (TOTAL)	121	N/A	839	N/A	11	N/A

Note: Authors' calculations. Totals are for the year 2015, using Eora (2015) and Jordan's LFS 2015.

Table 11: Counterfactual simulation results for partial liberalization of services sectors on goods sectors, Jordan, USD and percent change over baseline

Goods Sector	New Policy (Partial Services Liberalization)					
	Export (USD millions)		Output (USD millions)		Emp ('1000)	
	#	%	#	%	#	%
Electrical and Machinery	17	5	352	7	4	6
Food & Beverages	55	25	105	4	30	4
Metal Products	11	15	148	7	15	6
Other Manufacturing	10	11	45	7	11	6
Textiles and Wearing Apparel	30	12	52	6	12	5
Transport Equipment	5	6	87	4	7	4
Wood and Paper	19	16	74	4	19	4
Manufacturing (TOTAL)	146	N/A	864	N/A	98	N/A

Note: Authors' calculations. Totals are for the year 2015, using Eora (2015) and Jordan's LFS 2015.

Table 12: Counterfactual simulation results for full liberalization of services sectors on goods sectors, Jordan, USD and percent change over baseline

Goods Sector	Full Services Liberalization					
	Export (USD millions)		Output (USD millions)		Emp ('1000)	
	#	%	#	%	#	%
Electrical and Machinery	17	5	352	7	4	6
Food & Beverages	66	30	105	4	30	4
Metal Products	14	18	148	7	15	6
Other Manufacturing	12	13	45	7	11	6
Textiles and Wearing Apparel	34	14	44	5	12	5
Transport Equipment	6	7	87	4	5	3
Wood and Paper	23	19	74	4	19	4
Manufacturing (TOTAL)	171	N/A	855	N/A	97	N/A

Note: Authors' calculations. Totals are for the year 2015, using Eora (2015) and Jordan's LFS 2015.

6 CONCLUSION AND POLICY IMPLICATIONS

Governments face complex choices in regulating the services sector. Part of such regulation stems from legitimate aims to address market failures (e.g. stimulate network externalities, or handle problems of asymmetric information related to service provider quality). Yet, in other cases, governments may be inclined to regulatory “overshooting” that offers excessive protection to a small group of (well-connected) firms, at the expense of the country's other firms and households. As a result, we find that many services still face pervasive investment restrictions around the world. It is important that policymakers weigh up any regulatory costs against the benefits of liberalizing services.

Yet, governments often favor the status quo because the economic effects of liberalization are uncertain. To better understand the costs that such restrictions bring, this paper focuses on Jordan and provides a simulation of the effect that removing foreign equity restrictions in services would have on its economy. We find that foreign investment in services can have an important role in helping countries to unlock growth, create jobs and support export diversification.

The paper provides the details of two simulation exercises – (1) full liberalization (removing all equity restrictions) and (2) partial liberalization (removing restrictions for some sectors, as recently introduced by the Government of Jordan). For each, we use a combination of approaches. A standard trade gravity model is used to examine the effects on trade and output. To assess employment effects, we extrapolate from output changes based on a conditional labor demand function estimated using micro-data. A significant benefit to this approach comes from its sole reliance on global datasets (EORA, the OECD’s FRI and the World Bank’s Enterprise Survey). This means that these general models can be easily amended to assess foreign equity restrictions for services in other countries, which may benefit researchers going forward.

Our findings suggest that full services liberalization would lead to significant expected export benefits in wholesale and retail, with smaller expected benefits in transport, finance and tourism (hotels & restaurants). However, the biggest expected effects on sectoral output would come from tourism and transport, together also bringing the largest expected benefits for raising employment. Yet, the findings are considerably more muted for Jordan’s new policy, given the limited degree of liberalization. As a result, the current reforms are only expected to have some effects on exports in transport and tourism (with some expected benefits in transport employment).

In manufacturing sectors, full services liberalization would bring high expected export benefits in food & beverages, with additional expected benefits for wood & paper, metal and textiles sectors. Significant expected benefits for domestic output and employment would be present across all the manufacturing sectors observed. For the new policy, similar benefits are expected in terms of domestic output and employment. The major point of distinction is in terms of the degree of international economic integration of goods sectors: pushing liberalization of services FDI further promotes a switch of output from domestic to foreign consumers, so although the difference in output is typically zero or small between the new policy and full liberalization, the difference in exports is much more significant.

Taking these results together, we conclude that liberalizing FDI in services has the potential not only to promote services trade, but also to promote sectoral growth and greater export integration in goods markets. We find that the current reforms by the Government of Jordan would hold promise for its domestic economy. Yet, due to the limited sectoral scope of the reforms, there still would be considerable benefit from additional liberalization of FDI services restrictions going forward.

However, to cope with the political economy constraints of services liberalization, there may be need for a short-term program to ‘manage’ adjustment. This could possibly target those small and medium domestic firms that are less productive, and at greatest risk of short-term losses through competition. Yet, instead of providing direct assistance to these firms, a good rule of thumb is to ‘decouple’ assistance to firms from past production and target subsidies towards workers (and possibly affected communities) (Hoekman and Javorcik, 2004). Hence, to best assist in the restructuring of industry, policy should be directed to facilitate labor adjustment. Pro-active labor-market policies and unemployment insurance, retraining programs, and financing for skills enhancement, as well as general social safety nets, are likely to be better approaches towards facilitating adjustment (Richardson, 2003).

Finally, it is important to note that FDI is unlikely to automatically flow into the services sector just because it has been further liberalized. Jordan faces a wide range of investment climate constraints that hold back its inward investments.²¹ In order for Jordan to fully reap results it needs to engage in a broad-based strategy that aims to improve its aggregate investment climate, while simultaneously promoting specific identifiable investment transactions in the services sector. Jointly, such an approach can result in important benefits to Jordan's actualized investments.

²¹ Examples including general risk exposure, business costs, governance issues and policy unpredictability. Inadequate public service delivery (e.g. water shortage) and high levels of informality are additional concerns for Jordan.

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ANNEX 1: ADDITIONAL TABLES ON JORDAN'S FDI INFLOWS

Table 13: FDI announcements by sub-sector in Jordan, 2003-2018

Sector	2003-2008	2009-2013	2014-2018	Total
Extractives	6.8%	71.9%	51.3%	38.1%
Power generation	0.0%	60.6%	23.8%	26.8%
Extractive industries	6.8%	11.3%	27.5%	11.3%
Industry	86.8%	10.0%	29.4%	49.2%
Construction and building materials	81.4%	7.8%	28.4%	45.6%
Other manufacturing	2.2%	1.3%	0.1%	1.6%
Automotive industry and other transport equipment	2.1%	0.6%	0.0%	1.2%
Food and beverages	0.4%	0.1%	0.8%	0.4%
Machinery and equipment	0.4%	0.2%	0.0%	0.3%
Apparel, textiles and footwear	0.3%	0.0%	0.1%	0.2%
Services	6.4%	18.1%	19.3%	12.7%
Transport and logistics services	0.8%	6.9%	1.9%	3.3%
Tourism and hospitality	2.7%	1.5%	4.9%	2.6%
Financial services	0.7%	3.3%	3.7%	2.1%
Utilities and telecom	0.3%	2.4%	3.9%	1.6%
Business services	0.3%	2.5%	1.6%	1.3%
IT and electronics	0.8%	0.6%	0.0%	0.7%
IT services	0.2%	0.5%	2.4%	0.6%
Air- and spacecraft	0.4%	0.3%	0.6%	0.4%
Health services	0.1%	0.0%	0.0%	0.0%
Education	0.0%	0.1%	0.0%	0.0%
Entertainment	0.0%	0.0%	0.2%	0.0%
Biotech, pharma and medical products	0.0%	0.0%	0.0%	0.0%
Total	100.0%	100.0%	100.0%	100.0%

Source: Authors' calculations using FDImarkets.

Table 14: The share of Jordan's FDI in-stock by country, 2003-2017

Country	2003-2008	2009-2013	2014-2017	Total
Kuwait	0%	28%	17%	20%
Saudi Arabia	41%	13%	0%	15%
Italy	3%	9%	26%	13%
Belgium	0%	7%	9%	7%
Iraq	14%	5%	0%	5%
Lebanon	0%	6%	6%	5%
United Kingdom	0%	4%	7%	4%
Egypt	14%	2%	0%	4%
Bahrain	0%	2%	8%	4%
France	7%	1%	4%	3%
All other countries	22%	21%	22%	21%
Total	100%	100%	100%	100%

Source: Authors calculations using WB Investment Policy and Promotion bilateral FDI database.

ANNEX 2: JORDAN'S NEW NEGATIVE LIST

Jordan's New Negative List and Items Removed from the Negative List Non-Jordanian Investment Bylaw No. 77-2016, as amended by Bylaw No. 80-2019

Table 15: Old Negative List

Closed	No more than 49 percent	No more than 50 percent
9	6	32 <ul style="list-style-type: none"> • Business activities: 2 • Services: 11 • Transport (maritime): 9 • Transport (air): 6 • Transport (road) 3 • Clearance: 1
TOTAL: 47²²		

Table 16: New Negative List: (A) Closed/ Prohibited List

1. Stone saws, quarries, construction sand, bricks, building stone and rubble used for building purposes
2. Investigation and security services
3. Special protection and guarding services and training on their work
4. Clearance, subject to paragraph (D) of Article (4) thereof
5. Trafficking, import and maintenance of firearms and ammunition
6. Special shooting activities
7. Trafficking, import and use of fireworks
8. Bakeries of all kinds
9. Handicrafts
TOTAL: 9

Table 17: New Negative List: (B) Restricted List (up to but not equal to 50 percent)

Business Activities	Business and Professional Services	Transportation Services and Transport Auxiliary Services
1. Retail and wholesale trade, including distribution, import and export (except for the importation of goods necessary for the purposes of economic activity and export of goods)	1. Engineering services and consultancy	a. <u>Maritime transport:</u> 1. Passengers and goods excluding transport on ships owned by non-Jordanians
	2. Construction and related services	2. Maritime inspection
	3. Brokerage, except brokering and financial intermediation by banks and financial services companies	3. Ship chandlers
	4. Agents services, commercial and insurance brokers	4. Services of shipping brokers
	5. Money exchange except as provided through banks and financial companies	5. Navigation agents services
	6. Cafes, cafeterias and restaurants except provided in hotels, inns and touristic restaurants	
		7. Inspection
		8. Cargo transport agencies

²² There are nine prohibited or closed activities and services and 38 restricted activities and services in the negative list of Bylaw No. 77 of 2016, with a total of 47 activities and services. With the reform, the total number is slightly different (at 51 activities and services) because of more specific definition in four activities and services.

		9. Air freight brokers
		c. <u>Road transport:</u>
		10. Specialized tourist transport services
		11. Passengers and goods transport services
		12. Parking services
		13. Freight forwarding agencies, inspection and freight intermediary services
Total: 1	Total: 6	Total: 13
TOTAL: 20		

Table 18: Open List: 100 percent opened activities and services by group

Business Activities	Business and Professional Services	Transportation Services and Transport Auxiliary Services
1. Leasing activities	1. Technical testing services for soil examination and chemical testing for construction purposes	a. <u>Maritime transport:</u>
		1. Brokerage in the rental, leasing, lease and sale of ships
	2. Photography	2. Ship management
	3. Provision of labor	3. Ship maintenance
	4. Advertising services, including advertising agencies and offices	4. Health services on ships
	5. Touristic restaurants	b. <u>Air transport:</u>
		1. Handling (air transport)
	6. Travel agencies and management of touristic tours and trips	2. Packing and unloading (air transport)
	7. Maintenance of equipment for TV/radio broadcasting	3. Service warehouses for services related to air transport
	8. Residential real estate development	c. <u>Road transport:</u>
		1. Tunneling, bridges, bus stations and highway support services
	9. Sports clubs including organizing sporting events	2. Service warehouses for services related to road transport
		3. Maintenance of road transport
		4. Cargo handling (road transport)
		5. Packing and unloading (road transport)
Total: 1	Total: 9	Total: 12
TOTAL: 22		

ANNEX 3: CODING JORDAN’S PARTIAL SERVICES LIBERALIZATION

The OECD sectoral scoring considers restrictions for both start-ups and acquisitions. These range from a score of 0 (fully open), to a lowest restriction (acquisition – foreign equity > 50 percent but < 100 percent of total equity = 0.125), all the way up to a restriction of 1 (no foreign equity allowed for start-ups or acquisitions). A full list is given in Table 19.

Table 19: Sectoral Equity Restrictions and FRI score

Start-ups and acquisitions	Effect on FRI Score
No foreign equity allowed	1
Foreign equity < 50 percent of total equity	0.5
Foreign equity > 50 percent but < 100 percent of total equity	0.25
Acquisitions	Effect on FRI Score
No foreign equity allowed	0.5
Foreign equity < 50 percent of total equity	0.25
Foreign equity > 50 percent but < 100 percent of total equity	0.125

Source: OECD FRI.

To consider the effect of “partial liberalization”, we mapped the change in service restrictions as proposed by Jordan’s new negative list to the OECD FRI scores. Unfortunately, the overall definition of sectors do not always correspond directly to the sectors defined in the OECD FRI. For example, “distribution services” is a separate category in the OECD FRI, but is scattered across maritime, road and air transport in Jordan’s new negative list. Similarly, in some cases Jordan’s sectoral equity restrictions depend on the specific activities conducted (that cannot be captured by the OECD FRI). For example, maritime transport is *liberalized* for “brokerage in rental, leasing and sale of ships; ship management and ship maintenance” but *remains restricted* for “Passengers/goods transport on ships owned by non-Jordanians; Maritime inspection; Services of shipping brokers”. For that reason, we manually coded each sector as either “moved to the open list” or “no change”, by considering the *extent* to which these sectors were opened.²³ From this, we could estimate the new sectoral and aggregate OECD FRI score. The resulting indicative reform list is presented in Table 20.

Table 20: Coding Jordan’s partial services liberalization based on reforms

Services Sector	Reform	Effect on OECD FDI Restrictiveness Index		
		Initial Score (2017)	New score	Change
All Services	Partially Opened	0.308	0.173	-0.135
Distribution	Moved to open list	0.525	0	-0.525
Wholesale	No change	0.525	0.525	-
Retail	No change	0.525	0.525	-
Transport	Moved to open list	0.45	0	-0.45
Surface	No change	0.375	0.375	-
Maritime	Moved to open list	0.5	0	-0.5
Air	Moved to open list	0.475	0	-0.475

²³ Ultimately, this requires a judgement call around the role that a sub-sector plays within the overall sector. We therefore chose to code it such that if sub-sectors that constitute an approximate majority of the sector (as defined in terms of economic value), the entire sub-sector is considered liberalized. Otherwise, the sector is considered unchanged.

Hotels & restaurants	Moved to open list	0.15	0	-0.15
Media	Moved to open list	0.333	0	-0.333
Radio & TV broadcasting	No change	0	0	-
Other media	No change	0.667	0.667	-
Communications	No change	0	0	-
Fixed telecoms	No change	0	0	-
Mobile telecoms	No change	0	0	-
Financial services	No change	0.117	0.117	-
Banking	No change	0	0	-
Insurance	No change	0.25	0.25	-
Other finance	No change	0.1	0.1	-
Business services	No change	0.25	0.25	-
Legal	No change	0	0	-
Accounting & audit	No change	0	0	-
Architectural	No change	0.5	0.5	-
Engineering	No change	0.5	0.5	-
Real estate investment	Moved to open list	0.8	0	-0.8