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# Mali

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## Acronyms

APEX	Mali's Export Promotiion Agency
CGE	Computable General Equilibrium
DB	Doing Business
DTF	Distance-to-Frontier
ECOWAS	Economic Community of West African States
CET	Common External Tariff
EM	Extensive Margin
ES	Enterprise Survey
EU	European Union
GCC	Gulf Cooperation Countries
GVC	Global Value Chain
IC	Investment Climate
ICT	Information and Communication Technology
IM	Intensive Margin
RCA	Revealed Comparative Advantage
REER	Real Effective Exchange Rate
ROW	Rest of the World
SAM	Social Accounting Matrix
SME	Small and Medium Enterprise
SSA	Sub-Saharan African
TFA	Trade Facilitation Agreement
TFP	Total Factor Productivity
UAE	United Arab Emirates
WAEMU	Western African Economic and Monetary Union
WDI	World Development Institute

## Preface

This report describes the key policies for Mali to succeed leveraging growth with export diversification. For many decades, Mali has been a commodity-dependent country, mainly relying in gold and, to a lesser extent, cotton. However, the experience of other countries, in Africa and other parts of the world, shows that large scale production of minerals and oil resources offers great opportunities, but also presents major shortcomings. These are: tendency to growth beyond potential in cycles of booming prices; high GDP growth volatility that translates into a fragile fiscal stance; a resource curse that favors production of non-tradable goods; and a growth pattern biased toward rent-seeking activities, which prevents expansion of competitive activities creation of abundant and better jobs. Mali is no exception to this. Below, we shall not try to summarize the main conclusions of the present report, but rather emphasize the following ten messages which -- we believe -- can shape future government policies and help build national consensus.

**First message.** The Government views economic -- and export -- diversification as a key objective of its Vision 2025 and its associated Strategic Framework for Economic Recovery and Sustainable Development Plan (CREDD 2016–18). *This report fully supports that view.* International experience shows a strong correlation between export diversification and growth accelerations. *This report underscores that under its present two commodities exports-based model, Mali's economy would only reach modest average growth rates until year 2025; while export diversification-prone policies -- mainly focused on agricultural productivity and trade facilitation -- would allow it to reach higher and sustained growth rates, as expected by its Vision 2025.*

**Second message.** The failures associated to its excessively concentrated export model, its stagnant structural change and its too small domestic market for a potentially expandable production are three major reasons why Mali must diversify its exports. Gold and cotton account for over 80 percent of total exports; the share of manufacturing has oscillated around 10-11 percent of GDP for over 35 years; and about 80 percent of its population still relies on agriculture for a livelihood and work as subsistence farmers in informal activities. *Unless Mali breaks with the past, it will remain as a low-productivity economy dominated by subsistence agriculture, informal services and gold-cotton related exports.*

**Third message.** *A Modern Services- or a broad Industrialization-led strategies are unlikely to deliver structural change in Mali.* On the former, shifting resources from low productive sectors of Agriculture and Informal Trade to high productive Modern Services sector requires skilled labor which is scarce in Mali and those services do not create abundant jobs. On the latter, shifting resources from low productive Agriculture to broad Manufacturing industries seems also inappropriate because of Mali's poor past industrialization performance, low job creation and failed record of import substitution policies nationwide.

**Fourth message.** *In contrast, an agriculture-based light manufacturing diversification strategy can deliver structural change by creating abundant and better paying jobs for low skilled Malians.* Such agribusiness strategy would be based on Mali's comparative advantages in agriculture. It would broadly rests on the mix of (i) the adaptation of new production technologies to increase productivity in both agriculture and light manufacturing; (ii) diversification within agriculture toward new crops and within light manufacturing industries producing more sophisticated exports (e.g. new garments of the cotton-textiles value chain); and (iii) ensuing expansion of modern—Financial, Transport and Communications—services.

**Fifth message.** *Hence, Mali needs to climb the four-step ladders of an export diversification strategy.* From simple to more complex endeavors, making these complementary steps would require upgrading the country's capacity at (i) exporting more of the same; (ii) opening new markets --regional and global -- abroad, (iii) piloting emerging and more sophisticated export winners -- especially agri-based; and (iv) moving into a full-fledged agri-based light manufacturing diversification strategy.

**Sixth message.** *Reducing export product and markets concentration can be implemented simultaneously* (first two steps). Mali is the 10<sup>th</sup> most export concentrated and 5<sup>th</sup> less markets diversified economy in Sub-Saharan Africa (SSA). While regional neighboring markets remain a priority for agri-exports growth, Asian and GCC markets feature higher potential. APEX can play a key role helping gather commercial intelligence, facilitating upgraded interactions between buyers and sellers and developing commercial databases.

**Seventh message.** When it comes to piloting new products (third step), selectivity is more important than an accelerated, dispersed and costly expansion of untargeted export promotion policy. Fortunately, all of the 11 agri-based products already identified by the Government are on target--mango, Arabic gum, sesame seeds, green beans, potato, rice, karate, sugar, fish, cotton-based garment textile and fertilizer. However, the report finds that the list of potential winners should also include: cashew nuts, cereals (pasta), jams, juices, sugar, vegetable oils, leather, milk and transport and ICT services. A well sequenced and monitored export promotion approach should focus on presently emerging export products in the short term; and on a gradual move to more sophisticated products in the medium term, in tandem with available fiscal space and interested private firms actively investing in these products.

**Ninth message.** A full-fledged agri-based diversification strategy (fourth step) should combine streamlined business regulations with a revamped trade facilitation infrastructure to remove constraints to private sector growth. Despite Mali has made solid progress on Doing Business (DB) rankings, cumbersome Customs and trade regulations, low access to finance, poor telecommunication and transport services, lack of support in markets, and poor marketing conditions remain important constraints to exporters. *The emphasis in the DB agenda should be at simplifying the concession of building permits and better managing public contracts.* The trade facilitation agenda should streamline export (and Customs) Procedures and address the logistic infrastructure gaps that plague trade transit through the key corridors linking its economy to the ports of Dakar and Abidjan. The former would contribute to reduce opportunities for corruption arising from opaque and antiquated administrative procedures. Underway reforms are the full adoption of ASYCUDA World, a National Single Window at Customs, and a revised Customs Code to allow for e-payments. Other key reforms should overhaul the management system of international freight by repealing the freight-sharing and queuing systems in place. The railroad system under rehabilitation should improve the efficiency of freight transport on the Dakar-Bamako corridor.

**Ninth message.** Mali has in sesame seeds and cashew nuts two potential game-changers, but the value chains in both products are in their infancy and feature low participation in GVCs. More than 80 percent of sesame production is located in the regions of Koulikoro, Ségou, Sikasso and Kayes; but the central Mopti region (partially affected by the crisis of 2012) holds 18.8 percent of the national production. Key constraints include lack of data and institutional policy support, inconsistent quality, low productivity and production volumes, underdeveloped cooperatives, and limited agro-processing capacity not accompanied by leading foreign firms investing in upgrading. Mali could learn from successfully sesame seeds and cashew nuts exporting neighboring countries: respectively Ethiopia and Tanzania, and Cote d'Ivoire and Mozambique. These four countries are recovering from difficult civil and political strife. And despite that, they have successfully grown their agriculture sector by focusing on strategic investments to develop agri-food processing and on business climate reforms to attract foreign direct investment.

**Tenth message.** To succeed, the country needs to work at upgrading its selected GVCs. Stepwise and complementary policy priorities should aim at (i) improving sesame seeds and cashew nuts production, yields and quality; (ii) developing the capacity and the organization of the chains actors; (iii) complying with international certifications and traceability standards; (iv) attracting investment by lead regional and international firms; and (v) developing their accompanying infrastructure.

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## Executive Summary

*Mali needs to structurally transform itself to accelerate growth and reach its vision, Mali 2025. The Government of Mali (GOM) does not have a choice: without adequate jobs by 2025, Mali's burgeoning youth population will foment more violence in an already fragile economy and keep investors away. Hence, it has outlined a strategy to achieve this vision centered on the diversification of its economy (and exports) away from natural resource-based commodities.*

**1. The country faces major challenges to diversify, but international experience shows that Mali's global comparators combined with smart policies can achieve structural change.**

- It is one of the poorest countries in the world, with more than 80 percent of the Malians relying on agriculture for a livelihood. Informality, widespread illiteracy and low productivity constrain the economy from creating sufficient better-paying jobs.
- International experience shows that inclusive and sustainable growth requires structural change through diversification of exports away from gold and cotton, based on developing the private sector and industry through agribusiness, improving corporate governance and promoting domestic and external trade.
- As the mirror process of economic diversification, structural change is the dynamic reallocation of labor from low- to high-productivity sectors/activities, frequently associated to exports.

**2. Structural change is constrained by natural resource-dependence, and its related underdevelopment and inertia in most economic sectors.**

- Over dependence on cotton and gold accounts for about 80 percent of total exports has bred Dutch Disease, which suppresses growth in other tradable sectors and prevents export diversification.
- Agriculture is the sector with the lowest and declining labor productivity (near zero) followed by Trade (and Tourism) indicating widespread informality. Even productivity growth in the cotton sector has declined in recent years.

**3. Resource dependence is a natural obstacle to structural change, but other factors also hinder structural change.**

- Security continues to be a deterrent to investors: Since the 2015 fragility index, Mali is in the "Alert" category.
- Demographic change is a potential burden: 68 percent of Malians are under the age of 24 and Mali's population will double by 2030.
- Infrastructure gaps and adverse weather are obstacles to creating a potentially dynamic, commercially-farmed agricultural sector.
- Mali's human capital is among the lowest in the world: in 2013, the average years of schooling was only 2.4 years, making lack of skilled labor one of the most critical constraints.

**4. Structural change also remains stalled by low labor productivity in the tradable sectors except for a few small changes within some Modern Services subsectors.**

- The sectoral composition of the economy has not changed in more than three decades. Using value added as a proxy for labor indicates that the shares of the primary and tertiary sectors have summed up to around 80 percent of GDP for at least 35 years. Unlike many non-African resource-based economies, Mali has not industrialized in the last three or more decades: the share of manufacturing in GDP has oscillated around 10-11 percent, and the share of the broader secondary sector has only rose with booming commodity prices.
- Although services have contributed most to growth, the sector share of “Modern Services” which grew the fastest (Financial Services, and Transport and Communications) has not been large enough to absorb labor and drive structural change. Indeed, between 2004 and 2013, as labor productivity in Modern Services increased significantly in the sectoral share of skill-intensive Transport and Communications, only a small reallocation of labor moved from Government and Personal Services to Transport and Communications.
- More broadly, labor has not moved from low productive Agriculture or Trade and Tourism to high productive Manufacturing or Modern Services.

5. **A Modern Services- or a broad Industrialization-led strategy are unlikely to deliver structural change in Mali.** Two options can be discarded upfront.

- *Option 1:* Policies that shift resources from low productive sectors of Agriculture and Informal trade to high productive Modern Services sector are not a suitable option as the latest requires skilled labor which is scarce in Mali and do not create abundant jobs.
- *Option 2:* Policies that shift resources from low productive Agriculture to high productive *broad* Manufacturing are also inappropriate because of Mali’s poor past industrialization record, low job creation and failed import substitution policies regionwide.

6. **In contrast, an agriculture-based light manufacturing strategy can deliver structural change by creating abundant and better paying jobs for low skilled Malians.** It would strike a balance between agriculture and manufacturing, and foster private sector development. Such agribusiness strategy is low risk, as it is based on Mali’s comparative advantages in agriculture at the initial stage, and can be implemented in stages. It rests on:

- The adaptation of new production technologies to increase productivity in both agriculture and light manufacturing.
- Diversification within agriculture toward new crops and exports.
- Diversification toward new light manufacturing industries producing more sophisticated exports such as new segments of the cotton-textiles value chain; new agro-processed exports sourcing raw materials from a more productive and diversified agricultural sector.
- Demand for modern/backbone services growing naturally pressed by the new agri-based light manufacturing: services such as Financial and Business, and Transport and Communications.

7. **As Mali cannot afford to delay structural change, the GOM has to initiate it soonest and global experience suggests that governments can apply certain general guidelines at the macro level:**

- Sustained political commitment and sound macro-fundamentals are prerequisites. This includes a healthy and steady fiscal policy stance and dealing with security concerns.
- A productivity-enhancing partnership with the private sector. Even if the private sector is weak and some investor-unfriendly business climate still prevail. Government should mainly

become a facilitator, strengthening efficient institutions that protect investors and enforce property rights, and issuing business-friendly regulations.

8. **A coordinated set of well-targeted complementary macro policies is recommended for a successful agriculture-based light manufacturing strategy.** Three sets of additional macro policies are recommended:

- Maintaining high investments in education with early attention to technical and digital skills. The benefits would accrue to farmers and firms through increased productivity when they apply superior communication technologies.
- Facilitating access to credit, business-specific skills development, and technological change. Access to new technologies is costly but GOM can purchase them off-the-shelf. Dissemination to farmers and firms should draw on global experiences and seek foreign assistance just as all successful countries have done.
- Making selected public investment in agriculture and related services (trade and transport) to reduce costs: irrigation, power and telecom/trade-supportive infrastructure.

#### *Climbing the ladder of export diversification is an urgent task for Mali*

9. **At the micro level, Mali's export diversification strategy should consider climbing a four-steps ladder.**

- The ladders are: (i) exporting more of what it already produces as non-natural resource based products; (ii) diversifying its export destination markets; (iii) piloting non-traditional and more sophisticated (higher value added) emerging products; and (iv) based on the previous steps, moving into a full-fledged sectoral diversification exporting higher value-added products.
- So far, Mali's simultaneous progress across the ladder has been rather modest in terms of products intensity (first step) and in term new markets expansion (second step); still embryonic, albeit promising while piloting emerging products (third step); and stagnant on structural change (fourth step).
- Some policies might *de facto* address different ladders and be mutually reinforcing. For instance, moving into niche markets might expand demand for additional export volumes. Similarly, pilot higher value-added products often involve active exploration of new markets to make them profitable.
- But the overall trust of the strategy is that climbing the four ladders of export diversification requires a gradual but sustained productive upgrading shift, from low to high complexity products/processes.

#### *In Step 1, Mali should just simply aim to export more volume of its existing exports*

10. **Exporting more of the same is the logical first step, but such task is not as easy as it should be.**

- Mali is the 10th most export product concentrated economy in Sub-Saharan Africa (SSA), and this relatively high level of concentration of exports has mildly increased over the past decades from 0.57 in 1995 to 0.66 in 2015.
- Mali ranks poorly at the economic complexity index: 99<sup>th</sup> out of 141 countries and its ECI value of -0.65 places it in the bottom 50 least complex economies. It is also among WAEMU countries whose export goods are the least sophisticated—lower than Togo and Cote d'Ivoire, but close to Senegal and Benin.

- Besides gold and cotton, Mali's most dynamic exports are primary agricultural products and livestock, but with only small shares of total exports.
- Mali lost comparative advantage in most products that were at the top of exports in 1995 (e.g. hides and skins of goats, beans and textile). The overall number of products for which Mali had relative comparative advantage declined from 95 to 66 to between 1995 and 2015; and as a percentage of exports, such products represented 35 and 8 percent of total exports respectively.

*In Step 2, Mali should make efforts at opening new markets in South Asia and Africa, thus preventing a missed opportunity*

11. **Mali's exporters face a continuous dichotomy between addressing regional versus overseas markets. Formal trade flows are dominated by exports of gold and cotton, mostly outside SSA.**

- Mali's is the 5<sup>th</sup> less markets diversified economy in SSA. Mali's market concentration is well above other low-income countries averages: 0.84 for Mali and 0.63 for low-income countries. Even by SSA standard (which has an average index of 0.59), Mali's export market concentration is very high. Worst, its destination markets have become significantly more concentrated today than it was 20 years earlier.
- North and South America have represented the largest change, declining from 14.8 percent of total exports in 1995 to less than 1 percent in 2015. Nowadays, the largest share of the country's exports go to Switzerland and India; while the share of Mali's exports to Africa remains low (below 8 percent). Gold is mainly exported to South Africa, Switzerland, Emirates and India; while cotton goes to Asia.

12. **Hence, in the second rung of the ladder, as data show promising signs of Mali breaking into non-traditional markets, strong geographic diversification efforts should be pursued to explore greater access to Asian and GCC markets, two main drivers of global trade.**

- In 2015, emerging agricultural products like sesame and cashew were exported to Burkina Fasso, Senegal, France and China; while Burkina Fasso and Guinea had emerged as export destinations for its fertilizer.
- This should be further deepened through strengthened export development institutions—like APEX—to gather commercial intelligence, facilitate interaction between buyers and sellers and maintain commercial database on each country or region.

*In Step 3, Mali should pilot higher-value added export products pre-identified as potential winners*

13. **The third rung of the ladder requires piloting higher value export products, as desired by its Vision 2025. In this regard, the GOM has rightly identified a few products with high export potential, and a more rigorous analysis reveals that the list of possible emerging products is a longer one.**

- Bank analysis confirms that the 11 products already identified by Government studies are adequate: mango, Arabic gum, sesame seeds, green beans, potato, rice, karate, sugar, fish, cotton-based textile and fertilizer. All of them have high export potential and deserve to be supported by active policies.
- But Bank analysis also extends the list of possible product choices and ranks them into a two pronged strategy (see below). While some are raw products (like mangos and sesame seeds), others are agro-based light manufactured products (like juices and textile), albeit on the lower end of the complexity spectrum but feasible given Mali's capability stock.

- Country-specific advantages that support Mali’s capabilities are: (i) low labor cost, (ii) abundance of natural resources that supply raw materials such as fruits, skins and hides, and cotton for the foodstuffs, leather and garment industries; and (iii) opportunities to increase yields on cultivated land.

Overall, the Government should not forcefully promote all priority sectors identified simultaneously, but a rather stepwise selection—combining a short-with a medium-term approach--and sound implementation mechanisms.

**14. Short-term export diversification policies should focus on products on which Mali already has the productive knowledge and relative comparative advantage.** Key options are next:

- *Developing agri-processing products.* Currently, the processed food industry is still young and growing. Potential agri-processing industries include cereals (including pasta), jams and jellies, and juice, sugar, and vegetable oils.
- *Upgrading the quality of existing agricultural and livestock exports (so as to compete not just on price).* Sesame seeds, tropical fruits, and live animals (sheep and goats) can benefit from it.
- *Strengthening the transport and ICT sectors already showing some progress and critical for being globally competitive.* The most pressing challenge is to tackle the need for competitive transportation and telecommunication infrastructure, with market based pricing, private sector participation and appropriate regulation. Expanding the ICT sector also requires provision of skilled labor force. This will also facilitate opportunities for other service sectors, particularly financial and professional services.

**15. Medium-term policies should aim at developing a sufficiently large pool of local industrial skills/capabilities producing more sophisticated agri-based light manufactured exports, which cannot be imported or achieved in a short period of time.** Key options are:

- *Upgrading apparel products.* Beyond raw cotton, Mali’s potential for expanding its production of high-quality cotton favors a renewed production of clothing. To do this, particular attention also needs to be given to dedicated trade logistics: establishing a green channel for apparel at customs, providing free and immediate access to foreign exchange, reducing the cost of letters of credit, and setting up an industrial zone close to the Koilikoro on Niger River or Abidjan (Mali’s main seaport, as the country is landlocked).
- *Upgrading leather products.* Leather is more labor intensive than apparel. Currently, Mali has handful tannery but targeted policy support could enable Mali’s large animal herds to produce vast amounts of high quality leather. The immediate constraint is limited access to high-quality processed leather. So promoting better breeds, controlling cattle diseases, and enabling the use of cattle as collateral could expand the capacity of small-scale operators to contribute to a larger supply of quality hides. And improving trade logistics along the same lines as apparel would further enhance competitiveness.
- *Upgrading agribusiness products :* mainly fruits and vegetables, foodstuffs and an upgraded milk industry. To unleash the vast potential of agribusiness, the government should also (i) facilitate private sector investments in key input markets, such as fertilizers and hybrid seeds; (ii) pilot in key locations the use of land and cattle as collateral; and (iii) facilitate access to rural land for good-practice investors.

- *Developing other services:* Mali also has immense opportunity to grow its tourism sector, with its ancient caravan cities, Neolithic rock art, and medieval settlements. As soon as security conditions improve, the poor road conditions and other shortcomings in tourist-friendly factors (such as limited supply of hotels and restaurants) should be tackled with empowered private operators.

*In Step 4, Mali should support its export diversification strategy with streamlined business regulations and a revamped trade-facilitation infrastructure*

**16. Streamlined business regulations require to tackle the major constraints to private investment as identified by firms surveyed by a World Bank Enterprise Survey (ES).**

- *The five major constraints are political instability (72.8 percent), corruption (70.6 percent), access to electricity (67.9 percent), competition from informality (63.7 percent), and lack of access to finance (63.5 percent).* The first two ones address the inefficiency of institutions and poor governance, illustrated by perceived obstacles and corruption-related fees. The third one address a key infrastructure gaps: electricity. The third set addresses the inefficiencies of factor and product markets: cumbersome trade regulations and poor access to finance.
- *Briberies appear as particularly important in obtaining construction permits and government contracts.* The relative importance of electricity as a constraint is high for large firms, suggesting a key obstacle to firm growth and diversification into industrial production. Access to finance is particularly difficult to foreign, service-providers, Bamako-based and small firms.

**17. Seizing Mali export firms' particular constraints is also highly relevant.** Despite exporters broadly report similar responses to constraints identified by the general survey, but they do so with higher ratings and varying per firm size and age. For instance, political instability and corruption are cited by 84 percent and 76 percent of exporters as major constraints.

- *Compared to peers, Mali has a higher rate of exporters among its total firms.* The number of firms in Mali engaging in direct exports has actually doubled in recent years: 10 percent of firms in 2017, compared to 5.4 percent of firms found in the 2010 ES. Yet, their exports only account for about 1.9–2.1 percent of firms' total revenues.
- *In comparison to non-exporters, direct exporters do better in factors affecting competitiveness.* They tend to have higher foreign ownership (58 percent), slightly more experienced managers (average of 21 years), their industries are older (22 years old), feature greater capacity utilization (86 percent), are more likely to invest in Research & Development (R&D) (29 percent), and are more prone to innovate (45 percent of younger firms have adopted new products or services in the last 3 years).
- *The top three constraints cited by firms as "major or very severe" obstacles to exporting to their main destination markets include: lack of export financing (53 percent), issues with transport services (46 percent), and high or discriminatory export taxes or charges (39 percent).* These constraints are particularly severe for medium-size firms. While large export firms prevail in having access to formal bank finance, small and medium size firms barely reach micro credit lending.

**18. A revamped trade facilitation infrastructure should reduce border and transport costs.**

- *Mali's Logistic Performance Index is low compared to international standards, average when compared to WAEMU countries, but slowly improving since 2007.* Its 2016 LPI is 2.5, well

below the global average of 2.9, but higher than 2.3 in 2007. This led to minor improvements in the country's global rankings from 139 place in 2007 to 109 in 2016.

- *The road transport sector is characterized by passable quality paved roads to major regional ports and a multitude of trucking companies operating in a poorly competitive and conducive environment.* The sector is dominated by a large number of aged and poorly maintained fleet of individual or family-type transporters; with freight companies barely accounting for less than 20 percent of transporters. The international freight-sharing quotas schemes signed with the coastal transit countries, coupled with corrupt-prone queuing system and cartels practices, constitute strong obstacles to increased market access and undermine transport service quality in Mali. The Dakar-Bamako railway line suffers from severe exploitation difficulties. The system is plagued with delays, derailments and informal payments, which have forced traders to increasingly operate by roads.
- *Trade costs remain high in Mali, despite their trend decline since 2003.* They are significantly lower than those of the SSA and WAEMU countries averages, but their distance to frontier still remain considerable at 26.7 percent. Doing Business indicators shows Mali's improved performance in terms of cross-border costs, particularly regarding documentary and border compliance of exporting goods. However, the cost to export (US\$ per container) remains higher in Mali than in the average of WAEMU and SSA countries; and this includes landlocked countries like Burkina Faso.
- *The costs of freight transport varies depending the type of goods exported, destination, modes of transport and the corridor.* The total freight transport costs, as a percentage of market value, range from less than one percent for gold, to 13-19 for cotton, and 74 percent for mangos. The costs through the Bamako-Abidjan corridor are more expensive than those through the Bamako-Dakar. Mali's hindrances in terms of number of checkpoints, bribes and delays during the shipment of goods are more important in Mali than in neighboring WAEMU countries.
- *Lengthy Customs procedures are cited by 37 percent of firms as a major constraint to exports and wait times have increased steadily since 2007, being well above peer countries.* The average number of days to clear Customs for exports is 16.5 days, a more than three times increase since 2007 with 4.8 days.

19. **The trade facilitation agenda must address a significant streamlining of Export (and Customs) Procedures.** This would contribute to reduce opportunities for corruption arising from opaque and antiquated administrative procedures. Underway reforms are moving slowly with the full adoption of ASYCUDA World; work on a National Single Window at Customs, which will expedite the harmonization of import and export documents is at early stages; and a revised Customs Code to should integrate digital e-payments.

20. **An effective trade facilitation policy should also address the infrastructure and logistic gaps that plague trade transit through the key corridors linking its economy to the ports of Dakar and Abidjan.** To reinvigorate the sector, it would be necessary to overhaul the management system of international freight and to steer towards a gradual liberalization of market access by repealing the freight-sharing and queuing systems in place. And while the railroad system is in the process of being rehabilitated and regaining its capacity to transport freight, it is expected to increase the efficiency of freight transport on the Bamako-Dakar corridor.

21. **Last but not least, Mali also needs to address the underlying shortcomings of its business regulations.** As indicated above, the emphasis should be streamlining the concession of building permits and the management of public contracts.

*Mali has two game-changers at hand: Sesame Seeds and Cashew nuts exports can succeed, but only if major upgrading shifts are implemented in their regional and global value chains*

22. **In general, as an agricultural seller, strengthening Mali's participation in global value chains requires densification and economic upgrading to higher value-added activities.** Densification is about engaging more local actors (firms and workers) in its agricultural GVC network. This contributes to the overall goal of increasing a country's value added as it creates spillovers across sectors and resilience to external shocks (likely to increase with greater export orientation, other things equal). In fact, this could even mean that performing lower value-added activities on a large scale can generate large value-addition for the country. In turn, economic upgrading is about gaining competitiveness in higher value-added products, tasks and sectors. Three types of economic upgrading exist: (i) moving into more sophisticated products; (ii) increasing value-added shares in existing GVC tasks with technology; and (iii) moving into new value chains with higher value added shares. Thus, Mali's policy makers and private investors need to decide which type of economic upgrading (products, functional, intersectoral) they want to pursue.

23. **Mali is already an emerging exporter of sesame seeds and cashew nuts, two products with growing production and exports since the mid- 2000s, and considerable potential.** The country's sesame exports mostly go to regional importers such as Burkina Faso, to re-export the seeds to global markets. Similar to other exporters in Africa, Malian producers and traders are seeking to increase their share in global markets by entering the primary processing segments of the value chains. African lead sesame and cashew producers and exporters are in the early stages of developing their sesame processing to diversify export markets.

24. **Both the sesame and cashew nuts' value chains in Mali are in their infancy, but have potential.**

- *Sesame production numbers are increasing but yields are low and quality is not stable.* Cooperatives are relatively new and are still developing. The processing segment is limited to few actors who are exporting and developing some primary processing capacity. Artisanal processors are mostly women owned enterprises that produce small quantities of sesame oil, soaps and animal feed for the local market.
- *The cashew chain is less organized than the sesame chain with actors especially in processing and trading participating in the value chain.* The Malian chain uses few inputs, is limited to small holders, is export oriented and little primary processing occurs in Mali. Global demand for cashews, high global prices and international development projects are driving growth in Malian production and exports. Crop smuggling to major exporters such as Côte d'Ivoire is problematic.
- Mali's opportunity cost for not upgrading the sesame sector by increasing production and improving primary processing amounts to (i) over USD 49 million by not exporting to the Middle East, and (ii) exceeds USD 67 million for not exporting to the United States and Europe. At the same time, its opportunity cost for not upgrading by increasing cashew production and processing amounts to (i) over USD 7.8 million to the Middle East and (ii) USD 10.9 million for foregone market opportunities to European and North American markets.

25. **However, Mali lags behind other African countries in terms of strategic policies and investment strategies that target the development of both chains.** The four comparative country cases (Ethiopia and

Tanzania's sesame seeds and Mozambique and Cote D'Ivoire's cashew nuts) are recovering from difficult civil and political strife. Despite that, they are successfully growing their agriculture sector by focusing on reform, private sector development, strategic investments to develop agro-food processing and attracting foreign direct investments to diversify into high value exports. All four markets are developing commodity exchanges and other institutions to improve trade and commodity prices; creating focal point organizations to resolve bottlenecks; and attracting lead firms to develop their value chains.

26. **Mali's participation in the sesame seeds and cashew nuts' value chains is characterized by capacity constraints in the production quantity, quality and yield, lack of institutional and policy support, underdeveloped cooperatives and lack of lead firms investing in upgrading.** Low production volumes and inconsistent quality are a challenge for Malian traders working with international firms and are a disincentive for lead international firms such as Olam to invest in the Malian market.

27. **The potential upgrading trajectories for Mali's sesame seeds and cashew nuts' value chains should focus on building the country's capacity to adopt a comprehensive agri-based export diversification strategy.** By strengthening the sesame and cashew nuts' forward linkages to improve production volumes, yields, traceability and market organization these chains can become more competitive. Stepwise policy priorities should aim at (i) improving sesame seeds and cashew nuts production, yields and quality; (ii) developing the capacity and the organization of the chains actors; (iii) complying with international certifications and traceability standards; (iv) attracting investment by lead regional and international firms; and (v) developing their accompanying infrastructure.

### *Implementing to succeed in 2035*

28. **Ultimately there is no magic universal recipe for an export diversification strategy, but Table ES.1 summarizes the menu of core complementary policies that would provide its fundamentals.** Its key pre-requisites are:

- (a) A shared national vision that would provide clear goals;
- (b) A strong policy commitment to reduce trade costs and be competitive;
- (c) A clear, transparent and predictable business-friendly IC that facilitates adequate incentives to domestic and foreign private investors;
- (d) Targeted investments in infrastructure, connectivity and trade logistics to increase agricultural productivity and reduce trade costs; and
- (e) Effective Government coordinated interventions aiming at the identification, support and monitoring of "strategic bets" in terms of well selected Regional and Global Value Chains.

Table ES.1. Summary of key policy recommendation

Objective	Main options for consideration
<b>1. Implementing a Business-Friendly Policy</b>	
<i>Facilitate Business Creation</i>	<ul style="list-style-type: none"> <li>Make available online the standard company statutes for easy retrieval by potential entrepreneurs.</li> <li>Pursue the computerization of “RCCM”, the Commercial and Credit Registry, within the clerk’s office to speed up registration at the commercial court.</li> <li>Reduce notary fee / or make the notary intervention optional, and Remove Stamp duty CFAF 9,750 for the registration of the statutes.</li> </ul>
<i>Streamline obtention of Construction Permits</i>	<ul style="list-style-type: none"> <li>Reduce the number of days required to obtain the geotechnical study; inspection procedures and the time required for the application/extension of the permit.</li> <li>Eliminate the costs of connection to water.</li> <li>Introduce a single window for obtaining building permits for smaller buildings.</li> </ul>
<i>Making commercial courts more efficient</i>	<ul style="list-style-type: none"> <li>Reduce delays on proceedings of trials, judgments and enforcements through the mapping of court proceedings to identify bottlenecks.</li> <li>Establish an electronic business management system to: automatically update the status of filings reviewable and allow rapid detection of cases that have remained inactive for a long period.</li> <li>Train magistrates and staff in mediation centers, develop a dedicated curriculum for law and business schools.</li> </ul>
<i>Increase access to credit</i>	<ul style="list-style-type: none"> <li>Establish a register of guarantees with a rank.</li> <li>Collect information from institutional lenders (e.g. water and electricity co.) rather than only from financial institutions.</li> <li>Allow each individual registered to access his information.</li> </ul>
<i>Facilitate access to electricity</i>	<ul style="list-style-type: none"> <li>Reduce deadline to get quote online from 30 to 5 days max.</li> <li>Make operational the procedure of reduction of the delays of 120 to 20 days for the connection to the electricity of a warehouse to the grid for a subscribed power of 160 kVa.</li> </ul>
<b>2. Developing a Trade-Facilitation Diversification Agenda</b>	
<i>Reduce trade costs with streamlined Customs regulations and procedures and accelerate automation</i>	<ul style="list-style-type: none"> <li>Conduct a media campaign on implementation of the Asicuda (Sydonia) word.</li> <li>Reduce the time and procedures required to obtain a letter of credit.</li> <li>Complete a mapping of export and import transactions procedures for a single window.</li> <li>Set a task force to design a 2<sup>nd</sup> generation Customs reform (digital-based e-payment)</li> </ul>
<i>Eliminate illegal fees and levies on trade corridors</i>	<ul style="list-style-type: none"> <li>Establish an effective reporting mechanism for traders facing road harassment.</li> </ul>
<i>Promote a competitive transport sector</i>	<ul style="list-style-type: none"> <li>Implementing harmonized ECOWAS rules of access to and exercise of professions based on competence, training and the solvency of the companies.</li> <li>Repeal the international freight sharing and queuing systems</li> <li>Provide proper road maintenance to Dakar-Bamako and Bamako-Abidjan corridors.</li> </ul>
<b>3. Fostering Existing and Future Product Export Capabilities</b>	
<b>Short term: Investing on existing industries</b>	
<i>Agricultural/livestock products</i>	<ul style="list-style-type: none"> <li>Mango. Arabic gum, sesame seeds, green beans, potato, rice, karate, sugar.</li> <li>Sheep and goats meat.</li> </ul>
<i>Agro-processing</i>	<ul style="list-style-type: none"> <li>Pasta, cereals, vegetable (palm) oils, juices.</li> </ul>
<i>Light manufacturing</i>	<ul style="list-style-type: none"> <li>Woven textiles and cotton,</li> </ul>
<i>Services</i>	<ul style="list-style-type: none"> <li>ICT, travel and transport</li> </ul>
<b>Medium term: Developing products with higher value added capabilities</b>	
<i>Animal products</i>	<ul style="list-style-type: none"> <li>Leather and dairy (milk and cream)</li> </ul>
<i>Agri-business</i>	<ul style="list-style-type: none"> <li>Fertilizers and hybrid seeds</li> </ul>

<b>Objective</b>	<b>Main options for consideration</b>
<i>Textiles</i>	› Garments and higher complexity fabrics
<i>Services</i>	› Tourism.
<b>4. Upgrading Sesame Seeds and Cashew Nuts Value Chains Competitiveness Abroad</b>	
<b>Sesame seeds</b>	
<i>Process upgrading</i>	› Develop an oilseed sector strategy that prioritizes the sesame seed subsector; create/recognize sesame seeds local and national organizations and stakeholders; and define Mali's sesame sector priorities and strategies. › Create the Sesame Seeds Council and the Malian Sesame Seeds Federation and professionalize sesame seeds organizations and stakeholders. › Improve yield using better seeds, enhancing agricultural technics and controlling plant disease.
<i>Product upgrading</i>	› Develop higher value sesame and enter new markets: this implies producing traceable, certifiable quality sesame seeds to be sold internationally. › Improve farmers value added by increasing demand for Mali's sesame seeds through adequate market assessment, strategy design and targeting new and existing markets
<i>Functional upgrading</i>	› Improve infrastructure and services such as logistics, storage, testing and certification labs and processing facilities.
<i>Market upgrading</i>	› Reach new end markets in Africa, Asia and GCC countries. › Develop market monitoring information systems.
<b>Cashew nuts</b>	
<i>Process upgrading</i>	› Develop edible nut sector strategy prioritizing cashew sub-sector to recognize local/national organizations/stakeholders; and define Mali's cashew sector priorities and strategies. › Create the Cashew Nuts Council/Malian Cashew Nuts Federation and professionalize sesame seeds organizations and stakeholders. › Improve yield using better seeds, enhancing agricultural technics and controlling disease.
<i>Product upgrading</i>	› Ensure that Mali's cashew sector produces traceable, certifiable quality that can be sold on international market
<i>Functional upgrading</i>	› Improve farmers value added by increasing demand for Mali's cashews through market assessment, strategy design and collaboration with the African Cashew Alliance.
<i>Market upgrading</i>	› Reach new end markets in Africa, Asia and GCC countries. › Develop market monitoring information systems.

## Chapter 1. Why Export Diversification Matters to Mali<sup>1</sup>

### 1.1 Diversification as a Top Priority for Mali's Development

1. **The Government of Mali (GOM) has identified economic diversification as a priority in *Mali 2025*, its national vision of inclusive and sustainable growth (GOM, 1999).** To do so, it proposes four strategic pillars: (i) capitalizing on Mali's agro-pastoral potential; (ii) strengthening the basic infrastructure investment program; (iii) promoting the private sector; and (iv) investing in human resources. Such pillars guide the implementation of the Strategic Framework for Economic Recovery and Sustainable Development (CREDD 2016–2018) which emphasizes the necessity to diversify exports from gold and cotton by developing other sectors, attract private sector investment into the agribusiness industry, and promote external and domestic trade. CREDD also aims to improve the governance and transparency of extractive industries.

2. **With the 2025 deadline, less than seven years away, *Mali 2025* is currently at cross-roads.** Mali can continue its current commodity-based trajectory that is paved with more boulders than stepping stones, or it can start diversifying from exports of unprocessed gold and raw cotton to transform into a middle-income export competitive country. Neither path is easy, but global experience suggests that the latter option has worked well for countries like Mali, and this seems to be the option that the GOM has chosen.

3. **This chapter focuses on how export diversification can contribute to solve Mali's structural challenges and deliver on its national vision *Mali 2025*.** It overviews the patterns of export diversification in other countries and whether they would apply to Mali; what structural challenges prevent its diversification; whether Mali is industrializing and what is the status of structural change in Mali. In doing so, it takes a backward look at the evolution of the Malian economy over several decades. Then it presents policy simulations scenarios for a forward look in the run-up to 2025, evaluating how external shocks to export prices preempt structural change, as well as how government can leverage targeted public investment to foster economic growth expected under Mali 2025. In the concluding section, the chapter explores policy options for the Government of Mali to consider to achieve this goal.

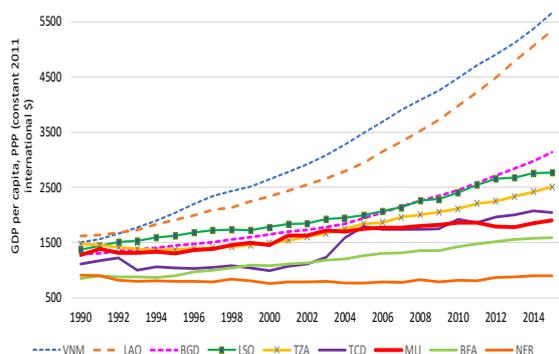
4. **With modest increases in per capita GDP to reaching \$1904 (PPP, constant 2011 international \$) in 2015, Mali has remained as one of the poorest countries in the world in the last two and a half decades** (Figure 1.1). In 1990, many developing countries that were dependent on exports of agricultural commodities like cotton, cocoa or coffee, or minerals and metals like gold, were as poor as Mali. Although Mali has fared better than some of its neighbors, being first among some low-income regional peers is not sufficient to signal progress towards a middle-income status. In fact, Mali's non-regional country comparators have surpassed its income level by a significant margin. By 2015, Bangladesh, Laos, Lesotho, Tanzania and Vietnam had income levels that exceeded Mali's per capita income by 30–200 percent. All these five countries shared at least one of the following initial economic characteristics with Mali: they exported mostly minerals, metals and agricultural commodities, and were also endowed with abundant unskilled labor. However, the key distinction between these non-regional comparators and Mali was success in diversifying exports through value addition to natural resources in which they had a natural comparative advantage. For instance, Laos diversified its exports of wood and coffee to higher value wood veneer, fresh and dried vegetables, and more garments. Vietnam diversified from exports of mostly crude petroleum, seafood and un-milled rice to light manufacturing, that is, garments and footwear, high value agricultural products and simple electronics. Bangladesh diversified from mostly jute exports to mostly labor-intensive garments made from imported fabric. Many low-income countries have also leveraged export processing zones to jumpstart large-scale, labor-intensive industrialization. Vietnam, Bangladesh, Cambodia, Lesotho and Ethiopia are

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<sup>1</sup> Unless indicated otherwise, this Chapter was written by Vandana Chandra, with dedicated inputs from Hans Lofgreen, Fiseha Halle and Jose Lopez-Calix.

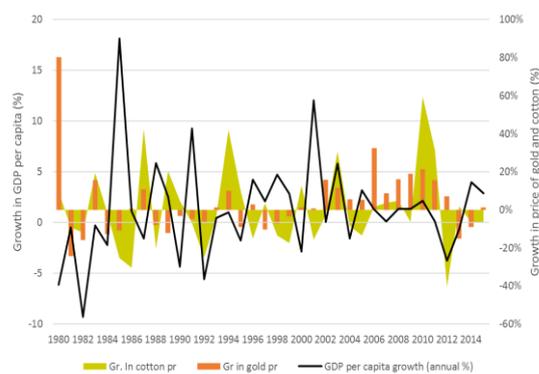
a few examples. Fostering farm to firm-led manufacturing, that is, agro-industry, is an important step in the industrialization process in many countries in low-income Asia and SSA.

**Figure 1.1. Mali has the highest per capita income among its neighbors, but five non-regional country comparators that were as poor as Mali in 1990 have income levels that are 30–200 percent higher today**



Source: WDI 2016, and Commodity Markets Outlook April 2017.

**Figure 1.2. Growth in Mali’s GDP per capita is as erratic as the price of the natural resources it exports**



Source: WDI 2016, and Commodity Markets Outlook April 2017.

5. **Mali needed to create 6.2 million new jobs between 2015 and 2025 but the employment potential of its resource-dependent economy cannot meet such demand.** Mali’s young and rapidly growing population of approximately 18 million is expected to double between now and 2030, creating a demand for over an average of 563,000 new jobs annually. However, despite isolated episodes of high growth, the combined effect of gold and cotton price cycles and unstable weather patterns has kept GDP per-capita growth at modest average levels (Figure 1.2). Like other natural resource-dependent economies that have diversified their exports to minimize the impact of volatile natural resource prices cycles on growth, it will be difficult for Mali to generate and sustain high growth without diversifying its exports.

6. **The rural and urban sectors combined will have to close the jobs deficit.** The urban sector alone will not be able to make it. In comparison to other developing countries which have vibrant urban economic activity and job creation, Mali’s formal sector is comprised of a small number of large and medium size firms that do not generate sufficient jobs. As few as 40 firms pay 80 percent of all formal private sector salaries, and operate in (gold) mining, telecommunications, cotton ginning, sugar manufacturing, banking and electricity-generation. Capital-intensive sectors such as telecommunications and electricity-generation have low employment potential. For its part, by 2030, urbanization will lead 47 percent<sup>2</sup> of rural Malians to cities and small towns, but the absence of large manufacturing and services sector jobs will drive them to informality. Between 1998 and 2009, the population of Bamako grew at an annual average rate of 6.1 percent; by 2020, it is projected to exceed 4 million. Typically, the capital city is an important engine of growth in developing countries, but although Mali’s capital hosts a concentrated secondary sector, it lacks the size and dynamism to nurture large numbers of better-paying urban jobs. In most developing countries, rapid urbanization fosters agglomeration economies associated with dynamic industrial sectors with a large jobs potential, but industrial agglomerations have yet to emerge in Mali. However, most jobs in Mali’s predominantly rural economy are informal and low-wage. Hence, agri-based export diversification is a critical recipe for Mali to create better-paying jobs and ultimately graduate to a middle-income status. And while sophisticated

<sup>2</sup> In 2014, 37 percent of the population lived in urban areas. United Nations, Department of Economic and Social Affairs, Population Division (2012). World Urbanization Prospects: The 2011 Revision. CD-ROM Edition - Data in digital form (POP/DB/WUP/Rev.2011).

skills are a direct constraint to industrialization,<sup>3</sup> successful diversifiers did not let a small stock of human capital to postpone the export diversification process. Committed governments have made parallel valuable investments in building human capital.

7. **International experience also suggests that natural resource-generated wealth rarely facilitates sustained growth accelerations, and hampers the economy's potential for export diversification.** Reliance on natural resource-generated wealth has other shortcomings.

- **Tendency to grow beyond potential in booming times (over-heating):** In the initial phases of a commodity boom, domestic demand tends to grow too fast as a familiar expansionary fiscal policy does not always weigh its inflationary impact. The additional spending affects both tradables and non-tradables. The production of commodities (and eventually foreign borrowing) generates foreign exchange which allows only the supply of tradables to increase through imports, but the non-tradables need to be produced with existing labor and installed capacity in the country. Hence, the commodity boom tends to generate demand for non-tradables and large current account deficits, thus overheating the economy.
- **GDP growth volatility.** Commodity prices are very volatile, that is, they have high standard deviations (often above 30 percent per year). In addition, their shocks tend to be persistent, thus creating great uncertainty over the long run of wealth of the economy.
- **Dutch disease (real exchange rate appreciation).** A common outcome is that as the price of tradable goods is pinned down by excess demand of imported goods, often at declining prices, there is a tendency to a real exchange rate appreciation that favors non-tradable sectors. The ensuing loss of competitiveness hits the tradable sectors, further hampering the potential for exports diversification, while it makes non-tradable sectors (that is, construction) more attractive.
- **Growth biased toward rent seeking non-competitive activities.** Government commodity-generated revenues tend to be allocated to priority sectors of society. Since this is often a non-transparent political process in which many vested interests participate, there are incentives which affect the allocation of resources. Such allocation favors unproductive public investment in non-tradable activities compared to those needed to create wealth and value-added in tradable competitive activities.

## 1.2 Structural Challenges of Export Diversification in Mali

8. **This section briefly discusses the structural constraints to diversification in Mali.**<sup>4</sup> Although conflict and fragility are not structural features of Mali's economy, in recent years they have challenged diversification and, more broadly, economic growth. Conflict led to a sharp economic downturn following the military coup of March 2012. A significant reduction in Official Development Assistance (ODA) spilled over into cuts in the public investment budget and a substantial decline in the construction sector. Deterioration in security also deterred foreign investors. Limited access to markets affected tourism, human mobility, especially of economic agents - herders, traders and farmers - and loss of economic assets, especially livestock that is a source of income for the poor. These economic losses were reinforced by the 2012 drought which led to a 14 percent decline in agricultural production. In general, all sectors were affected by conflict. As a result, GDP per capita in 2013 was the same as in 2007-08, and extreme poverty increased by 2.6 percent to 50.4 percent in 2013.<sup>5</sup> Overall, the government spends between 2-4.5 percent of the GDP on security. For its part, fragility inflicts high

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<sup>3</sup> Industrialization is used to cover the manufacturing, modern agriculture and a modern backbone services - financial, insurance, business, telecommunications, and transport services.

<sup>4</sup> This section is largely based on World Bank (2015).

<sup>5</sup> Less fragile categories are "Elevated Warning" and "High Warning" and more fragile are "High Alert" and "Very high Alert."

economic costs. The 2015 fragility index<sup>6</sup> which combines political and socio-economic indicators such as fractionalized elites, group grievance, refugees and IDP, or uneven development, demographic pressure and poverty among others, classified Mali in the “Alert” category (Figure 1.3A).

9. **The demographic dividend is likely to transform into a demographic misfortune in Mali.** Rapid population growth undermines job creation and public resources needed to foster diversification in at least three ways. First, Mali’s population of about 15 million in 2015 is projected to double by 2030 and increase to about 41 million in 2050 (Figure 1.3B). The young age structure of its population - 68 percent of Malians are under the age of 24 – indicates that about 6.2 million new workers will be searching for better paying jobs between 2015 and 2025. The absence of a formal sector with large and medium size firms that can create a critical mass of jobs, and high rates of school-dropouts which hinder the emergence of new sectors of formal economic activity suggest that (i) most of the new entrants to the labor force will be relatively less skilled and join the informal sector; and (ii) the present model of an undiversified economy will tend to perpetuate itself. Second, the high dependency rate among Malians implies that there will be a relatively small base of tax-paying individuals in the coming years. As GOM tries to meet with limited tax resources the growing demand for social and basic services for the relatively large dependent-population, it will find difficult to make critical public investments necessary to accelerate diversification and foster good jobs. The third cost of Mali’s high population growth is related to the recent conflict. As per the Fragile States Index, there is a strong, positive and endogenous relationship between fragility and population growth (Goldstone et al. 2010).

10. **Mali has agricultural potential but underdevelopment and weather are obstacles to a dynamic, commercially-farmed sector that contributes to diversification.** Despite its status as the leading export sector, and a product in which Mali has a comparative advantage, the cotton sector does not support the typical value chain related with export diversification. Mali is endowed with rain-fed, fertile agricultural land in the south, and a northern region that is also suitable for agriculture and livestock, but the potential of both regions is unrealized because the harvests, especially of cotton, are heavily dependent on rainfall which significantly varies on a declining trend (Figure 1.3C). By directly affecting the potential of agriculture and pastoralism, weather conditions have allowed the full impact of bad cotton harvests to pass through to the rest of the economy.

11. **The low level of Mali’s human capital is another critical constraint to export diversification.** Mali’s human capital is among the lowest in the world – in 2013, the average years of schooling was only 2.4 years (Figure 1.3E). The urban Malian attended school for 4.5 years compared to only 1.4 years for a rural Malian. Males were schooled for 3.1 years relative to females who were schooled for only 1.8 years. In the 6–11 age-group, 45 percent of the Malians had never attended school, while the corresponding statistics for the 12–17 age-group was 40 percent. Youth literacy rates of only 47 percent (2013) explain why even basic services such as logistics, accounting, packaging, moving, and transport that are essential for the development of farm to firm linkages have been slow to emerge. A dynamic agro-processing industry that adds more value to agricultural produce is an example of a missing industry in a sector in which Mali has a potential comparative advantage but not yet the necessary skills.

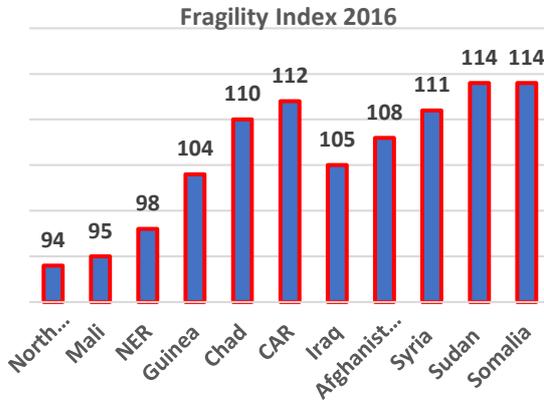
12. **High dependence on gold and cotton exports exposes Mali’s trade balance to volatile commodity price shocks.** Overt dependence on gold and cotton exports subjects Mali’s export revenues to destabilizing global price shocks (Figure 1.3D). In addition, cotton export volumes are vulnerable to weather shocks which compound the volatility of export revenues. In the absence of other sources of export revenues to dampen the impact of gold and cotton price shocks, the instability from export revenues is passed to the trade balance and the overall economy.

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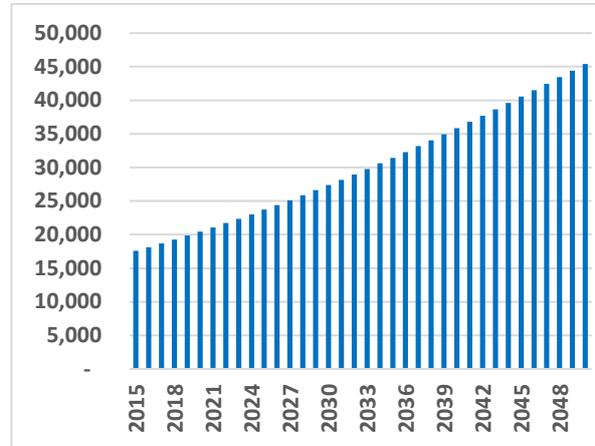
<sup>6</sup> Sources: Fund for Peace (2016), and World Bank Staff Calculations based on authorities’ data.

**Figure 1.3. Structural challenges to export diversification in Mali**

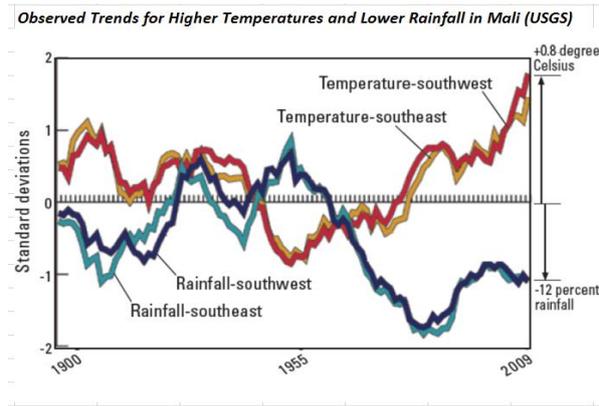
A. In 2015, Mali was classified in the “Alert” category. Between 2012–2015, spending on security increased from 2 to 4.5 percent of GDP.



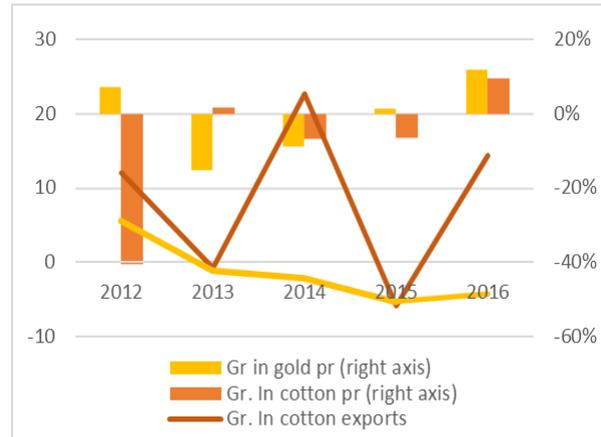
B. Rapid population growth outpaces the rate of job creation and drains public resources needed to foster export diversification in Mali.



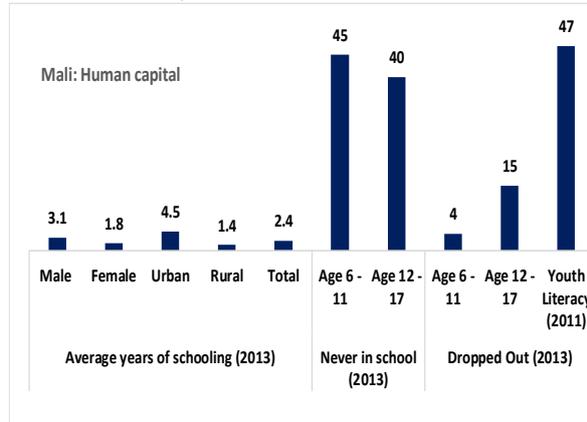
C. Agricultural production remains vulnerable to adverse weather conditions.



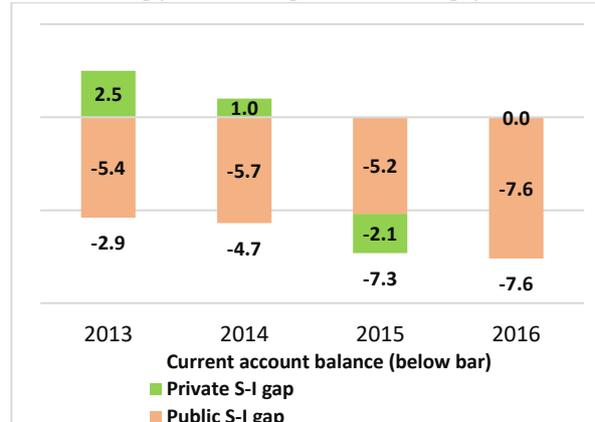
D. High dependence on gold & cotton exports exposes Mali’s BOP to volatile commodity price shocks.



E. The low level of Mali’s human capital is a serious constraint to export diversification.



F. Mali’s growing current account deficit is driven by the widening public savings-investment gap.



Source: Fig 3 A: Fund for Peace (2015) & WBG Staff Calculations. B: UN population estimates. C: Mali SCD. D: IMF, 2017. E: US Geological Survey. F: Commodity Markets Brief, 2017; IMF 2016 for commodity export growth.

13. Mali’s current account deficit is generated by a widening public savings-investment gap (Figure 1.3F). Export concentration in Mali is an outcome of insufficient investment in diversification-enabling

sectors. Low levels of public savings, due partly to a small taxable base, fall significantly short of the public investment necessary for diversification in new sectors with potential to expand the taxable base, and fuel sustainable growth. Although the private savings-investment account was balanced in 2016, Mali's low income level does not generate sufficient private savings to substitute for the public savings deficit. Mali's financial sector is not sufficiently developed to close an increasing public savings-investment gap.

14. **As a result, the sectoral composition of Mali's economy has not suffered dramatic changes in the last 35 years and suggests that diversification is unlikely to occur automatically.** Between the 1980s and 2015, the structure of the Malian economy did not change in any significant way. With roughly equal shares, the primary and tertiary sectors jointly accounted for 80 percent of GDP. The share of the secondary sector varied when commodity price booms led to expansions in the share of extractives in GDP (Figure 1.4A). The period between the 1980s and 2015 featured wars, commodity price cycles and uncertain weather patterns. As external shocks have not modified the sectoral composition of the economy, only government can undertake policy measures to jumpstart export diversification in Mali.

15. **With minor exceptions, sub-sectoral dynamics also confirms the absence of diversification in the last 35 years.** Even when the main sectors of the economy seem static, dynamism in nascent sectors could indicate early signs of diversification. Unfortunately, with minor exceptions, growth rates do not indicate the emergence of new subsectors in the last 35 years. Between the 1980s and 2013, growth in the primary and tertiary sectors picked up and was consistently positive (Figure 1.4B). *Within* Mali's primary sector – comprised of Fishery, Logging and Harvesting, Breeding and Hunting, Export Agriculture, and Subsistence Farming -- most subsectors grew at approximately similar rates with two exceptions. One, led by cotton, Export Agriculture registered large variations reinforcing volatility in export earnings. Two, relative to other primary sectors, the only subsector that grew at a steady higher rate was Subsistence Farming which does not contribute positively towards the achievement of Mali's diversification (Figure 1.5A).

16. **Between the 1980s and 2009, growth in Mali's secondary sector was erratic, and during 2010–2013, its collapse was driven by a downturn in the Extractives industry (Figure 1.4B).** Unlike most developing countries, in the most recent period, Mali's Construction subsector grew at negative rates. The only exception within the secondary sector were Agroindustry and Textiles that have grown steadily since the 1980s and are the two nascent subsectors that could, with the aid of conducive policies, lead to diversification in manufacturing (Figure 1.5B).

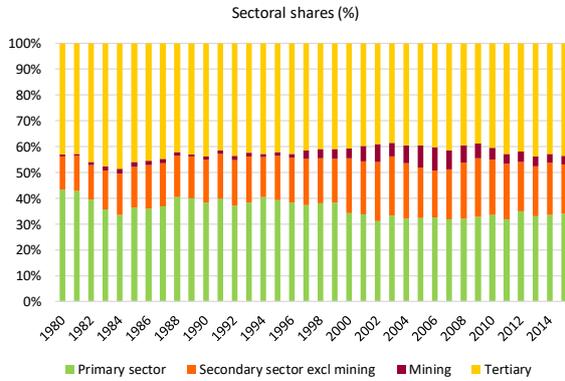
17. **As in other developing countries, in recent years, Mali's services sector was the main contributor to growth, accounting for about a third of overall GDP growth.** In comparison, after exclusion of Subsistence Agriculture, the primary sector's contribution to GDP diminishes (Figure 1.4C). Within services, those which performed exceptionally well were Financial services, and Transport and Communications which grew at 8–21 percent per annum in the last 15 years, followed by Trade (wholesale and retail trade) that grew at 5 percent per annum (Figure 1.5C). However, despite rapid growth, the sector share of Financial services, and Transport and Communications in GDP have not been large enough to make the modern<sup>7</sup> services sector the driver of structural change in Mali's economy.

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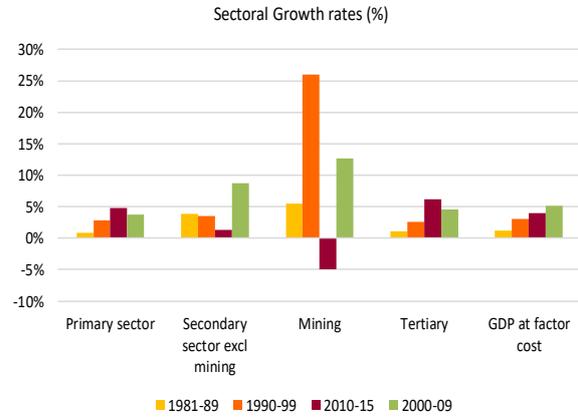
<sup>7</sup> Modern services include the class of tradable services such as finance and business, transport and communications, hotels and restaurants, and real estate. In low-income countries, such as Mali, Trade (wholesale and retail) is generally excluded as it contains mostly petty trading which is invariably informal. Modern services overlap with backbone services which are an essential input in manufacturing.

Figure 1.4. Stylized facts about Mali's sources of growth

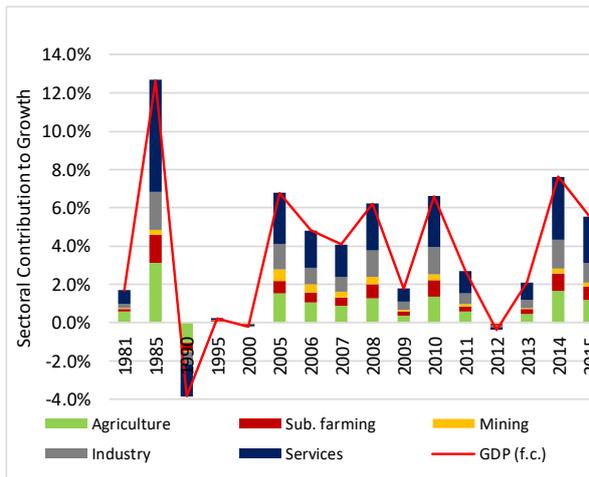
A. The sectoral composition of GDP in Mali has not changed in the last 35 years. Hikes in gold prices led to a rise in the share of Extractives.



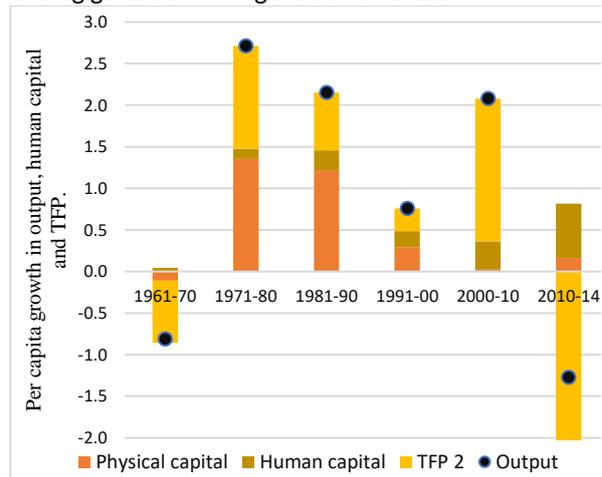
B. In the 35 year period starting with the 1980s, the main sectors had lackluster growth. Only growth in Mining was high but erratic.



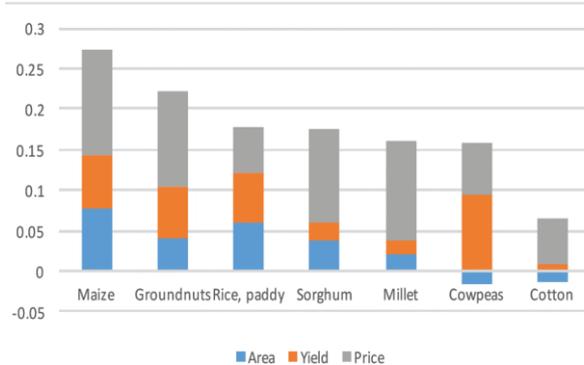
C. As in other developing countries, Services are the key sector contributing to growth in Mali.



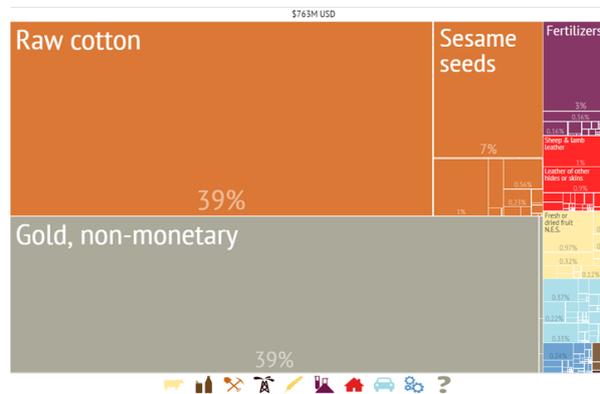
D. After 2000, GOM investments in education have paid off: human capital becoming the key factor driving growth. TFP negative since 2010.



E. Relative to other agricultural crops, cotton yields and area are lower; growth in cotton exports follow price booms.

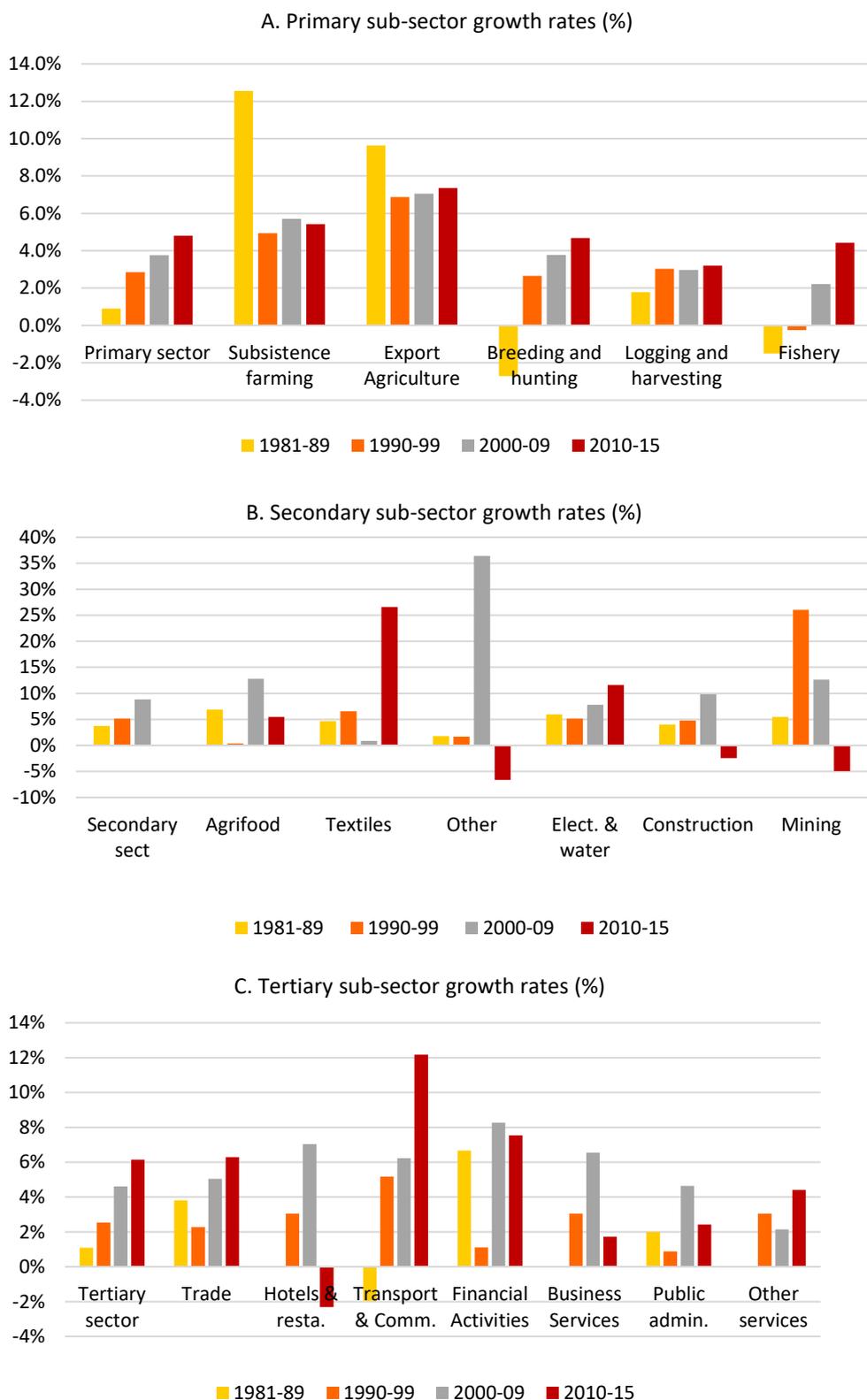


F. Mali's exports are concentrated in cotton and gold – but their volatile tend to destabilize the economy.



Source: INSTAT, SCD, Atlas of Economic Complexity [http://atlas.media.mit.edu/en/visualize/tree\\_map/hs92/export/mli/all/show/2015/](http://atlas.media.mit.edu/en/visualize/tree_map/hs92/export/mli/all/show/2015/).

Figure 1.5. Evolution of the Malian economy (1981–2015)



Source: Author's estimates.

18. **Although overall productivity (total factor productivity [TFP]) and physical capital collapsed, human capital, boosted by investments in education, survived the ravages of conflict, and was the main contributor to economic growth in the last five years.** A growth accounting exercise of GDP shows the contribution of each factor, that is, capital, labor, human capital and the unexplained efficiency factor referred to as productivity or TFP. An accounting of Mali's GDP growth indicates that in the 1970s and 1980s, per worker capital investment and TFP growth were the main drivers of GDP growth, with capital being significantly more important (Figure 1.4D). Human capital per worker was less important and consistent with the low rates of overall literacy and schooling. In the 2000s, TFP growth continued to boom driven mostly by the entry of foreign firms in the mining industry as gold prices peaked. In parallel, fueled by valuable investments in education, human capital emerged as a critical engine of GDP growth. While shocks such as conflict and drought led to a significant decline in TFP growth and physical capital especially after 2010, the contribution of human capital per worker to growth endured the external shocks, confirming the high payoffs from investments in education. In fact, during 2010–14, productivity gains related with human capital investments in education were the major factor powering GDP growth.

19. **Growth decomposition by land area, yield and price shows that growth in Mali's export-oriented cotton is rather explained by global prices.** In general, the contribution of growth in prices to overall growth is high across all agricultural crops in Mali. Although cotton comprises the largest export crop, its yields have been declining consistently in recent years. The growth in yields in cowpeas was almost 10 percent, and in maize and groundnuts 5 percent relative to less than 1 percent for cotton (Figure 1.4E). Nearly all the recent growth is attributable to a significant increase in cotton prices (5 percent), indicating the vulnerability of the sector to external price shocks.

20. **Mali's export basket is highly concentrated.** As raw cotton and gold account for 80 percent of total exports (Figure 1.4F). The trade balance is positive or negative depending upon commodity prices of gold and cotton. Furthermore, Mali is a net food exporter. The share of food exports in total merchandise exports is about 20 percent, and the food trade balance ranges between 6–7 percent and is generally positive. Sesame seeds comprise about 7 percent of total goods exports with fruit – fresh or dried, flour of wheat, green groundnuts comprising other food exports.

### 1.3 Appraising Structural Change in Mali's Economy

21. **This section focuses on structural change, a key pattern at the center of the export diversification challenge in SSA's natural resource-based economies.** Is Mali making progress towards an industrial economy or is it de-industrializing? Interestingly, compared to the mid- 1980s, the share of manufacturing in its GDP has stagnated at the mid-1980s low level. This finding contrasts to SSA countries whose share has declined and henceforth have de-industrialized. Broadening the definition of industrialization to also cover modern services also points to the same conclusion, that is, Mali has not further industrialized in the last 35 years. If so, more broadly, has there been the so-called "structural change" that is the hallmark of all developing countries which have successfully reallocated narrowed the gap with high income countries? Although Malian data gaps preempt a comprehensive analysis, the answer to this question also points to the absence of structural change in Mali since the 1980s.

22. **Both processes, industrialization and structural change, are associated.** Industrialization was key for sustained productivity growth that led the United States, Japan, South Korea and Taiwan, among others, to catch up with western countries. And, during the 1970s and 1980s, other East Asian countries played catch-up by leveraging industrialization and successfully transformed their agrarian economies to manufacturing ones, creating an "export-led" growth model. In contrast, Sub-Saharan (SSA) economies like Mali typically specialized in agriculture and/or mining activities, and remained among the poorest in the world. Like industrialization, structural change, defined as the dynamic reallocation of resources from less productive sectors to sectors with higher productivity, is another essential ingredient of economic development. Both industrialization and structural change tend to converge in

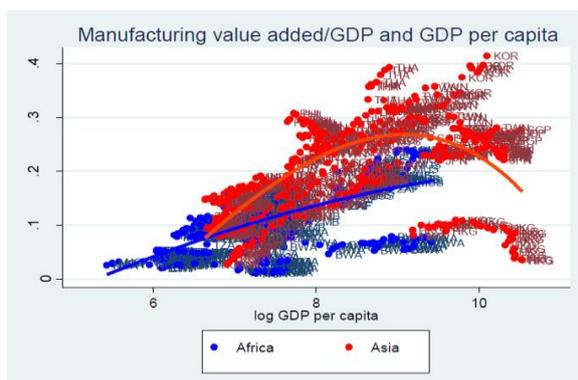
countries that succeed as these are typically characterized by a general increase in productivity caused by the reallocation of labor and other resources towards higher productivity modern activities in various sectors of the economy.

### Is Mali industrializing or de-industrializing?

23. **African economies are de-industrializing faster than in other developing regions but industrialization in Mali is rather stagnating.** The process of industrialization, defined narrowly as the share of manufacturing in GDP in relation to per capita income, follows a path like an inverted-U or hump-shape. As income levels increase, the economy transitions to a service economy, that is, the share of manufacturing in GDP diminishes and that of services increases, leading to the hump-shape. Such process of industrialization in developing countries is however a cause for concern, as the turning point is occurring at significantly lower levels of income giving rise to a phenomenon called premature deindustrialization (Rodrik 2014). The case of SSA is particularly alarming as many of these countries have experienced a steady decline in the share of manufacturing in GDP in both employment and real value added since the 1980s, even after controlling for income (Figure 1.6). In 2000, SSA was the least industrialized region in the world and between 2000 and 2012, barring Europe and Central Asia (ECA), SSA countries recorded the sharpest drop in the share of manufacturing to GDP (Figure 1.7).

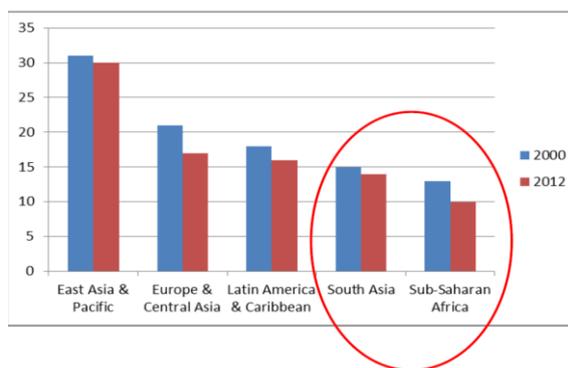
24. **In the 1980s, the share of manufacturing in GDP in SSA was about 15 percent, but by 2015 it had declined to about 10 percent – indeed, SSA has deindustrialized (Figure 1.8).** In contrast, in the mid-1980s, Mali was about half as industrialized as SSA. Between the mid-1980s and 2015, excluding Foundry/Metalworking, the average share of manufacturing in Mali’s GDP stagnated at around 10-11 percent.<sup>8</sup> During 2000–09 the sector experienced expansions and contractions but on average, over the long span of 35 years, Mali was neither industrializing nor deindustrializing.<sup>9</sup> The country is also lagging significantly relative to global comparators like Bangladesh or Vietnam where the share of manufacturing in GDP was about 18 and 15 percent, or 7 and 4 percent higher than Mali’s between 2010–2015. For its part, Mali’s manufacturing share of GDP has stagnated. Growth in all its subsectors was volatile and lackluster during such long period (Figure 1.9).

**Figure 1.6. Relative to other countries, African is de-industrializing**



Source: D. Rodrik, Keynote address PPT, at New Growth Strategies Conference, World Bank, 2014. (Sample countries are noted in the footnote).<sup>10</sup>

**Figure 1.7. Manufacturing is declining in all countries, raising the challenge for countries like Mali who would like to expand manufacturing**



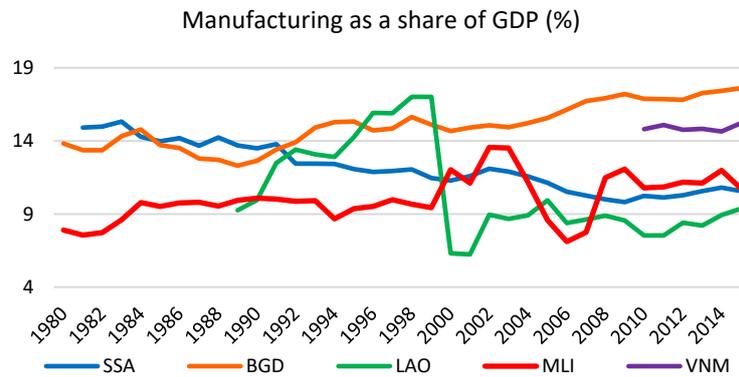
Source: D. Rodrik, Keynote address PPT, at New Growth Strategies Conference, World Bank, 2014.

<sup>8</sup> Foundry/Metalworking is excluded from Manufacturing and included in Mining which also includes some artisanal activity in the Extractives Industry.

<sup>9</sup> If the gold Mining sector classified as Foundry/Metalworking is included in Manufacturing, the share of Manufacturing to GDP rises to about 13 – 20 percent depending on the price of gold.

<sup>10</sup> Sample of countries used in Rodrik 2014: Africa: Botswana, Ethiopia, Ghana, Kenya, Mauritius, Malawi, Nigeria, Senegal, Tanzania, South Africa, and Zimbabwe. Asia: Hong Kong, Indonesia, India, Japan, Korea, Malaysia, the Philippines, Singapore, Thailand, Taiwan, and Vietnam.

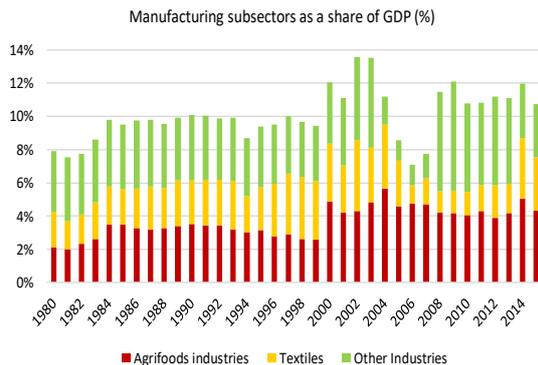
**Figure 1.8. Industrialization in Mali is stagnating relative to SSA, but lagging relative to its global comparators**



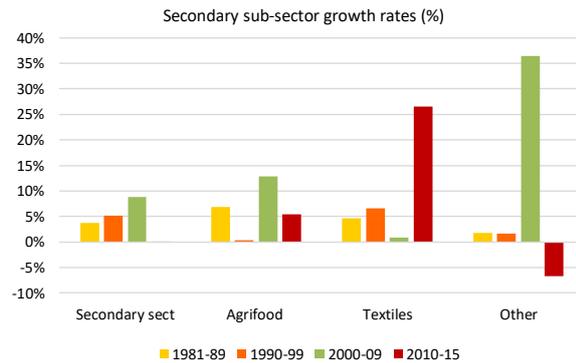
Source: WDI and Government of Mali. Note: The graph includes Foundry/Metalworking.

**Figure 1.9. Mali is not industrializing - its level of industrialization today is like that in 1980**

A. Overall manufacturing and the subsectors in manufacturing as a share of GDP have stagnated in Mali.



B. In the last 35 years, within manufacturing, growth in all subsectors was volatile and lackluster.



Source: Government of Mali, National Accounts 2017.

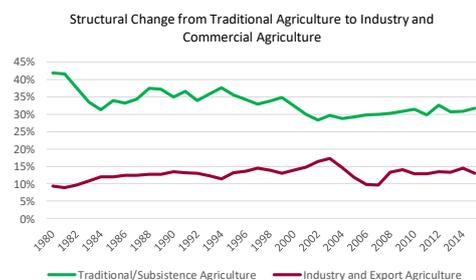
### Has there been structural change in Mali?

25. Researchers use several definitions of structural change in search of evidence of at least some change in the structure of African economies. McMillan and Rodrik (2011, 2014) in an analysis covering the period between 1990 and 2005 found that there was a shift of workers from sectors with above-average productivity into sectors with below-average productivity for SSA.<sup>11</sup> Their findings are reinforced by Timmer et al. (2012) in a study covering the period between 1990 and 2005. They found that labor moved from high-productivity activity to low-productivity ones in Africa, with negative consequences for economic growth. The study also notes that expansion of employment into manufacturing has been meager, at about one-quarter of one percent during that 15-year period. Data

<sup>11</sup> On the contrary, Asian countries experienced productivity-enhancing structural change during the same period. In light of these findings, the authors argue it would be difficult to attribute Africa's (and Latin America's) poor growth performance solely to globalization or other external determinants. They rather make the case that Asia has outshone the other two regions not so much in productivity growth within individual sectors (where performance has been broadly similar), but instead, in ensuring that the broad pattern of structural change contributes to, rather than detracts from, overall economic growth.

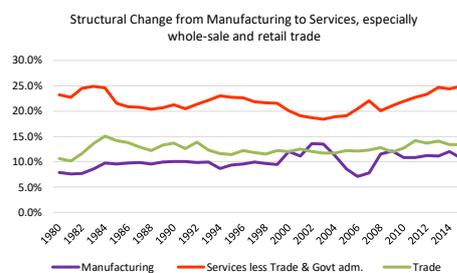
gaps, especially on sectoral employment disaggregated time-series, preempts from applying this definition to analyze structural change in Mali, and leaves no choice but to work with proxies.

**Figure 1.10. Between 1980–2015, a decline in the share of traditional agriculture was not offset by growth in the share of manufacturing and export agriculture in the economy, indicating the absence of structural change in Mali**



Source: Government of Mali.

**Figure 1.11. Between 1980–2008, the share of services (excluding trade) and manufacturing in GDP stagnated. The marginal pick-up in the share of services since 2009 is too small to conclude the onset of structural change in Mali**



Source: Government of Mali.

26. **Measuring structural change Mali with the value-added measure.** The three most common definitions of structural change refer alternatively to changes in the shares of (i) employment, (ii) value added, and (iii) final consumption expenditure (Pacci et al, 2017).<sup>12</sup> As Mali’s labor market data are not suitable for applying the employment measure, and data on consumption are not regular, the only choice available is using the value - added measure following Ahmed et al. (2015), who studied the role of structural transformation along the following pairings of sectors: traditional or subsistence agriculture versus industry and commercial agriculture; manufacturing versus services; and tradable versus non-tradable sector.

- **Per one value-added measure, that is, a decline in the share of traditional agriculture versus an increase in the share of manufacturing and export agriculture in GDP, there is no evidence of structural change in Mali.** The primacy of cotton in Mali’s economy suggests that over the course of 35 years, if there was structural change, the sector share of commercial or Export Agriculture, which is more productive than traditional agriculture, should have increased. Yet, growth in the cotton sector was related to expansion in cultivated area and positive shocks in cotton prices, instead of boosts in yields (productivity) (Figure 1.4E). Expected linkages between the cotton sector and the processing of cotton (as manufacturing more generally) have not emerged and the average share of manufacturing, however, did not increase to indicate a shift towards activities with higher productivity. Traditional agriculture which is predominantly a subsistence and informal activity, has maintained its sector share in Mali’s economy (Figure 1.10).
- **Per a second value-added measure, an increase in the sector share of high-productivity services to GDP, there was no signal of structural change either.** Evidence of a decline in the share of low value sectors would normally be a sign of structural change if there was growth in the share of high productivity modern services (excluding wholesale and retail trade).<sup>13</sup> The speed at which this structural transformation occurs, however, is an important determinant of the success of the process (McMillan, Rodrik and Verduzco-

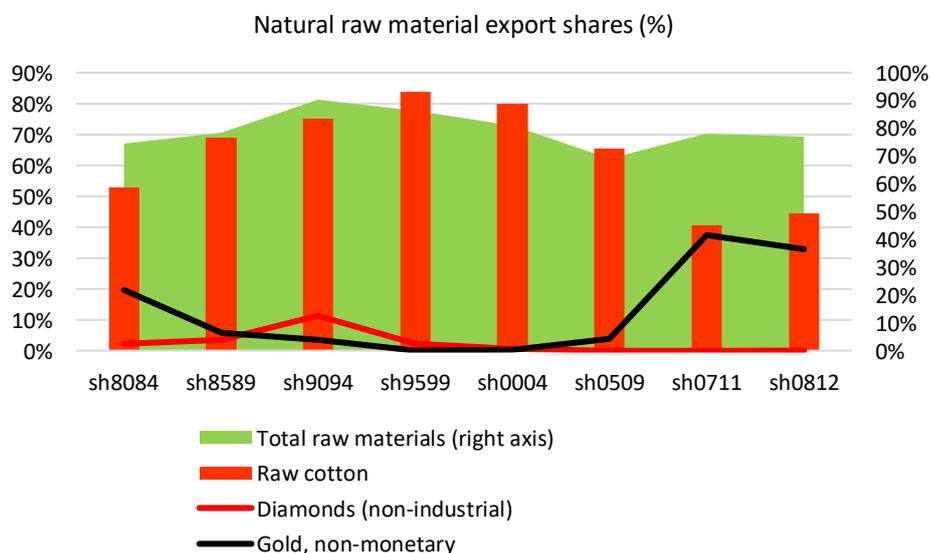
<sup>12</sup> Making Transformation Work for the African Poor, Draft, 2017.

<sup>13</sup> The belief per the labor-productivity definition of structural change is that in Africa, workers leaving agriculture tend to cluster in petty trade and low-productivity commerce leading delaying structural change (McMillan, Rodrik and Verduzco-Gallo, 2014).

Gallo, 2014). Unfortunately, in Mali, while there was an increase in the share of tertiary services after 2009, the change is too small to indicate the commencement of structural change. (Figure 1.11). Moreover, Annex 1.1 shows GVC shares subsectoral trends.

27. **Similarly, trade-led by export diversification from natural resources has not been a driver of structural change in Mali.** McMillan and Rodrik (2011, 2014) document that a lower share of natural resources in exports contributes to growth-enhancing structural change. In this regard, between the 1980s and 2012, there was only a small variation in the share of raw materials – raw cotton, gold and diamonds – in Mali’s export basket. The value of gold and raw cotton exports responded to global commodity price shocks (Figures 1.2 and 1.12) and cotton exports were also affected by weather conditions. Overall, the share of natural raw material exports ranged between 80–90 percent throughout the 32 years period. Such high share after several decades underscores that the Malian economy has not been driven by structural change.

**Figure 1.12. The high share of natural raw materials in exports is indicative of the absence of structural change**



Source: WITS.

28. **Mali needs to diversify into light agro-industries to accelerate export diversification and structural change.** A familiar argument is that the prospects for diversification in SSA countries depend critically on fostering new manufacturing industries (Rodrik, 2016, PDES, 2017). More recently, the view that the famous low-skilled labor-intensive manufacturing industries that transformed East Asia several decades ago are no longer an option for low-income countries like Mali is gaining ground (Rodrik 2014, 2017). An alternative view argues that the rising cost of labor in Asian countries is creating space for light manufacturing industries to locate in SSA, that is, there is still space for African industrialization. While the benefits of manufacturing-fueled export diversification are being debated, leveraging trade to transform the economy can be advantageous in several ways for Mali. New agri-exports can help in lifting the demand constraint, foster job-creation, skills development and productivity-enhancing structural change.

29. **Mali also needs to scale-up modern services to foster diversification.** A new study<sup>14</sup> of 27 SSA countries covering 2000–2014 found that in 40 percent of the countries analyzed, the relative decline in the share of agriculture was accompanied by a sharp increase of the service sector. In the most recent

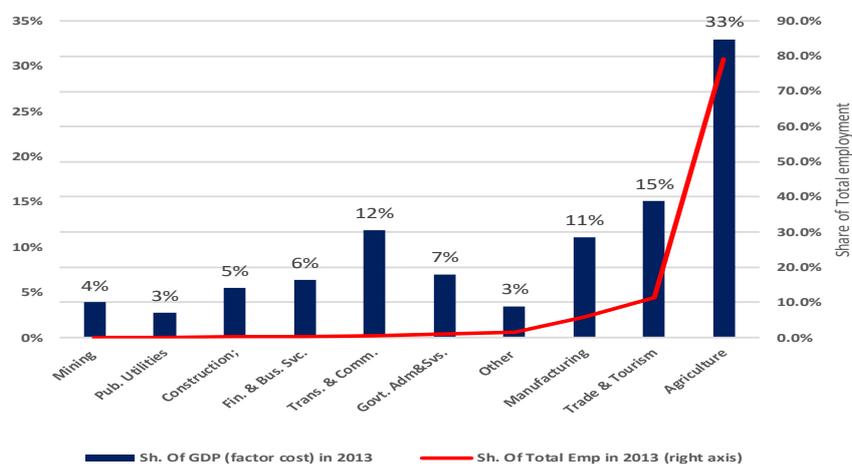
<sup>14</sup> The data used is the purposely assembled Africa Structural Transformation Integrated Database (ASTRID) which consists of nationally representative household surveys for the 27 SSA countries with a minimum of two comparable surveys over the course of the 2000s.

years for which data is available, the tertiary sector has overtaken agriculture as the largest employer, while it is the second-largest employer in all remaining countries except Madagascar (Paci et al., 2017). In contrast to these 27 SSA countries, in Mali, the combined share of modern services – Transport and Communications, Finance, Business, Hotels and restaurants – has not grown beyond 20 percent in the last 15 years. The share of Financial and Business services that are typically the fastest growing industries is only 6 percent of GDP. Except for Transport and Communications which grew at 12 percent between 2010–15, growth in all other modern services sectors was anemic. The only dynamic service sector was Trade (wholesale and retail trade), but as it is fueled mostly by informal, low productivity firms, its potential to fuel diversification is weak. Expansion of high productivity modern services is important both for accelerating the speed of diversification and providing the backbone services’ support to manufacturing.

### A snapshot of employment and productivity in Mali

30. An employment time series for the 2004–2013 period is available from the GOM, but it is unreliable as it is based on constant sub-sectoral employment shares and growth rates in these 2 years (Figure 1.13). A snapshot of labor productivity *levels* in 2013 suggests the following:

**Figure 1.13. Distribution of employment and GDP in 2013**

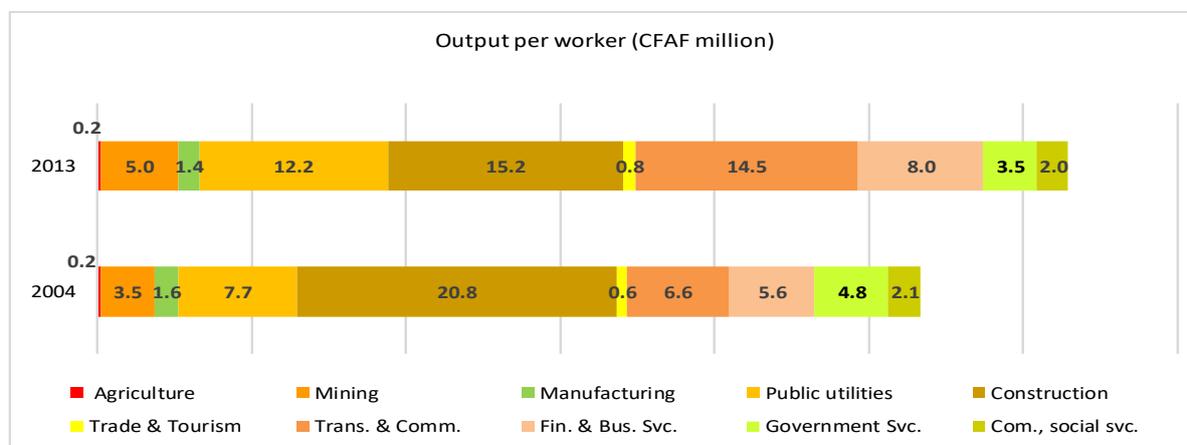


- The near zero (0.2 CFAF) level of labor productivity in Mali’s Agriculture is consistent with evidence from other SSA countries. Likewise, the share of Trade and tourism has productivity levels that are not too different from Agriculture, indicating their informal nature. As a result, any shift of labor from Agriculture or Trade to any other sector in the Malian economy will be productivity-enhancing.
- Labor productivity in manufacturing is higher than in Agriculture and Trade, but lower than even Personal and Social Services!
- Construction, Public Utilities, and two services sectors - Transport and Communications, and Financial and Business Services - are the most productive sectors.
- Mali’s Mining sector has a relatively low level of labor productivity. This fact is at odds with evidence from other mineral-exporting economies where mining is the most productive sector, typically because it is capital-intensive and high-value. A possible explanation for low labor productivity in Mali’s mining sector (classified as Metalworking/Foundry) could be its partially artisanal nature.

31. The comparison of labor productivity levels between 2004 and 2013 shows certain characteristics of the Malian economy that distinguish it from the typical mineral exporter. However, it should be noted that due to data problems, it is difficult to distinguish the source of changes in labor

productivity, that is, between intersectoral labor mobility and changes in value added in a sector. Specifically (Figure 1.14):

**Figure 1.14. Labor productivity was highest in modern services and construction, and almost nil in agriculture**



Source: CSO, 2016.

- Labor productivity increased in Mining, Public Utilities, and modern services. It declined in Manufacturing, Construction, Government Services, and Community and Social Services. The largest productivity gains were in modern services: 120 percent in skill intensive Transport and Communications, and 43 percent in Financial and Business services. However, this was offset by productivity losses from Government and Personal services, sectors that did not foster structural change!
- Labor productivity in Agriculture did not increase between 2004 and 2013, which poses significant challenges given the dominant role of food and cotton production in the economy, and the over-dependence of the labor force on them. A key policy challenge for Malian Agriculture is the adoption of yield-boosting technologies.
- In sum, very small differences in labor productivity levels between 2004 and 2013 confirm that a large-scale shift of labor from low productivity Agriculture or Trade to slightly higher productivity Manufacturing did not ensue in Mali.

## 1.4 Simulating Policy Scenarios for Diversification

### Explaining determinants of economic growth in Mali (1990–2015)<sup>15</sup>

32. This section first examines the fundamental determinants of economic growth in Mali during 1990–2015, followed by a simulation of the impact of trade openness resulting from export diversification on growth. The analysis basically applies a regression model developed to explain long-term growth elsewhere.<sup>16</sup> In particular, the goal is to study to what extent per capita growth can be traced to structural factors (infrastructure, financial intermediation, trade, education, government size, institutions), stabilization policies (inflation, exchange rate), and external conditions (terms of trade, export commodity prices). Infrastructure development is proxied by a composite index constructed as

<sup>15</sup> The following two sections have been written by Fiseha Halle as a contribution to this study.

<sup>16</sup> We use the growth regression model in Brueckner (2014) which has been previously used to explain long-term economic growth elsewhere (see Araujo et al. (2014), Moller and Wacker (2017), and Haile (2016) for applications in the context of Latin American countries, Ethiopia, and Tanzania, respectively). In order to shed light on recent developments in Mali, we extended Brueckner's (2014) dataset by one additional five-year period, namely 2010-2015, based on consistent data sources.

a weighted average of three individual indices capturing progress in phone lines, roads,<sup>17</sup> and power generation capacity.<sup>18</sup> Human capital development is controlled for using secondary school enrolment.<sup>19</sup> Trade-to-GDP ratio accounts for openness to international trade while government consumption (in percent of GDP) serves as a measure of government size.<sup>20</sup> Institutional quality is measured by the well-known Polity index. Finally, the analysis includes the share of domestic credit to the private sector in GDP.

33. **Growth predictions are made using Mali's values of the aforementioned determinants for three sub-periods: 1990–2000, 2000–2010, and 2010–2015.** To facilitate a better understanding of the considerable volatility in the country's growth trajectory, we define four sub-periods: 1980–1990, 1990–2000, 2000–2010, and 2010–2015. Hereafter, we refer to the gap between the average values (of the growth determinants) for 1990–2000 and 1980–1990 as 1990s; the average values for 2000–2010 and 1990–2000 as 2000s; and the average values for 2010–2015 and 2000–2010, as 2010s. The model generally performs satisfactorily in terms of tracking the actual growth performance, indicating its relevance in understanding long-run growth dynamics in Mali (see the green shaded area in Figure 1.15).

34. **Economic growth during 1990s was driven by structural factors and, to a lesser extent, stabilization policies while external headwinds held back growth.** Per capita growth in 1990–2000 held steady at 1.2 percent, mostly propelled by the strong performance that followed the 1994 devaluation of the CFA franc. Structural improvements accounted for roughly 0.85 percentage points (ppts) of the observed per capita growth. Public infrastructure investment contributed by 0.35 ppts. Mali implemented a number of structural reforms since the early 1990s, which, combined with the CFA franc devaluation, led to an increase in investment. This was partly facilitated by constrained government recurrent spending, which fell from an average of 17.5 percent of GDP in 1985–1990 to 14 percent in 1990–2000. However, lower credit to the private sector reduced growth, albeit slightly. The share in GDP of private sector credit contracted from 16 percent in the 1980s to 12 percent in the 1990s. The remaining structural factors made a relatively small contribution. Stabilization policies contributed positively to growth, at nearly 0.3 ppts. This was, however, a combined outcome of two counteracting effects: lower growth due to the surge in inflation that ensued the devaluation and higher growth due to the exchange rate realignment. The growth pickup was, however, partly held back by persistently low global commodity prices throughout much of the 1990s.

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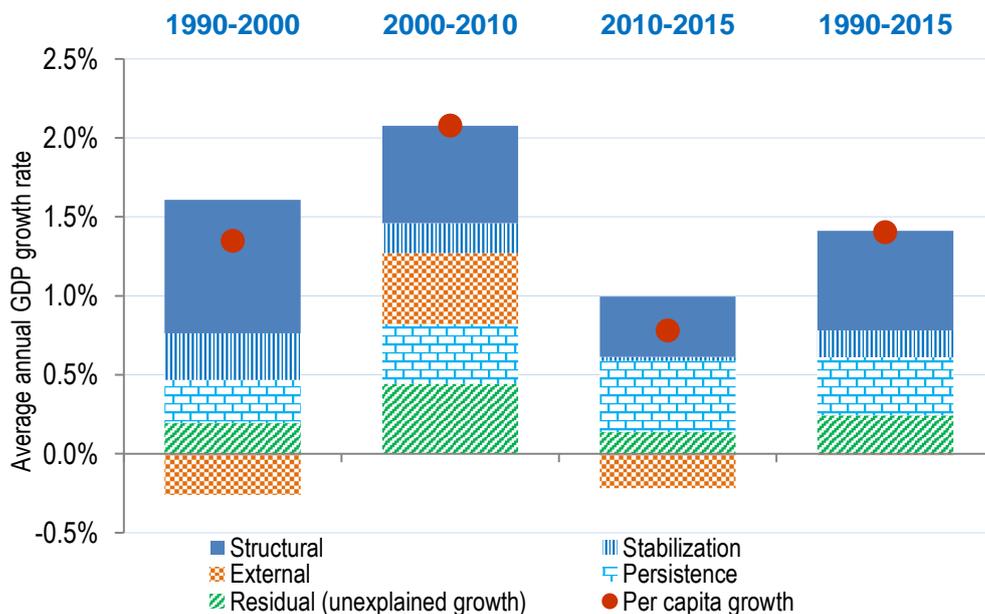
<sup>17</sup> Note that data on road density and electricity production in Mali were missing for some years. For this reason, information for the latest period for which data were available has been used to measure progress along these dimensions over 1990–2000, 2000–2010, and 2010–2015. However, the main conclusions from this analysis remain reasonably robust to using only a measure of telecom infrastructure for which data are more complete, notwithstanding changes in magnitudes of predicted growth effects.

<sup>18</sup> Although Brueckner (2014) uses fixed telephone lines per capita as an indicator for infrastructure, this is a less plausible measure for Mali given that mobile phones were much more widely used in the last decade and that it captures only one aspect of physical infrastructure. In countries with limited (fixed) telephone network like Niger, a variable capturing only telecom infrastructure might be a misleading indicator of overall infrastructure development. As infrastructure is inherently multi-dimensional, transcending several sectors like telecom, transport and energy, we pursue the approach suggested by Calderon et al. (2014) and construct a composite infrastructure index based on three individual indices capturing progress in power generation capacity (as measured by electric production kWh per capita), roads (by road density (km of road per 100 sq. km of land area)), and phone lines (by fixed telephone and mobile cellular subscriptions per 100 people). It should be noted that the key results of the study prove robust to changes in the weights attached to these indicators.

<sup>19</sup> Secondary school enrolment is commonly used in the growth literature to capture progress in human capital development (e.g. Mankiw et al. (1992); Loyaza et al. (2005)). Measures of educational achievements would certainly be preferable; however, data on such variables are very scanty, circumscribing their use in such analysis.

<sup>20</sup> Large government consumption spending might reduce growth via crowding-out private investment by causing higher interest rates (where public deficit is debt-financed), distortionary taxation, and bureaucratic inefficiencies, among others. Note, however, that our model takes into account some of the transmission channels through which the beneficial impacts of government consumption may operate, such as human capital and infrastructure. Given that our focus is on long-run growth, the negative impact of an expansion in government recurrent spending (as a share of GDP) is not necessarily inconsistent with the positive simulative effects that it may have during times of economic downturns.

Figure 1.15. Determinants of growth per capita in Mali



35. **Turning to the 2000s, structural features and external tailwinds constitute the major growth drivers.** Overall, the contribution of structural features stood at 0.6 ppts, roughly accounting for one-third of the observed growth per capita, which is only slightly lower than that in the 1990s. Notwithstanding this, a closer scrutiny reveals that some structural determinants played a more pronounced role compared to the 1990s. In particular, the growth contributions of infrastructure investment and education were around 0.5 ppts and 0.17 ppts, respectively. Mali spent an annual average of more than half a billion dollars (about 10 percent of GDP) on infrastructure during the late 2000s, more than 60 percent of which represented investment.<sup>21</sup> Private sector credit played a limited role in the growth resurgence. However, an increase in government recurrent spending (as a share of GDP) negatively affected growth.<sup>22</sup> Sound stabilization policies boosted growth. Higher growth during this period was also aided by favorable external conditions and particularly by the demand-driven upsurge in commodity prices that started in the early 2000s and lasted more than a decade, often dubbed as commodity price “super-cycle”. Further, a good chunk of per capita growth can be explained by ‘growth persistence’ – lagged impact of the structural improvements of the 1990s.

36. **Economic growth during 2010–2015 was mainly due to structural factors and ‘persistence effects’ while external headwinds reduced growth.** Specifically, private sector credit contributed 0.55 ppts, which is substantially higher compared to the 1990s and 2000s. Domestic credit to the private sector (in percent of GDP) surged from nearly 13 percent during 2000–2010 to 19 percent in 2010–2015. Unlike the 2000s, the growth contribution of infrastructure declined, indicating that Mali experienced far less structural improvements in recent years. Education contributed strongly to growth during this period. Secondary school enrolment rate increased from an average of 28 percent in 2000–2010 to 41 percent in 2010–2015, which enabled Mali to catch up with the average for SSA. The results suggest that investments in key infrastructures (or lack thereof) and human capital may largely determine whether Mali will achieve sustained high growth going forward. In addition, external

<sup>21</sup> Cecilia et al. (2011).

<sup>22</sup> Excessively large government consumption spending might reduce growth via by impeding infrastructure development and crowding-out private investment by causing higher interest rates (where public deficit is debt-financed), distortionary taxation, and bureaucratic inefficiencies, among others. It should be noted, however, the considerable negative impact of government consumption spending (as a percentage of GDP) can be largely attributed to its large estimated impact on growth.

headwinds have had a negative impact on growth, which is to be expected given that Mali has been affected by the slide in commodity prices that began in the early 2010s.

37. **Overall, during 1990–2015, economic growth occurred mostly due to structural factors and, to a much lesser extent, stabilization policies.** Within structural factors, increased credit to the private sector and infrastructure investment accounted for 0.31 ppts and 0.28 ppts, respectively. Education contributed to growth per capita by about 0.13 ppts while trade has had a very modest contribution. However, higher growth due to these structural drivers was slightly offset by increased government consumption spending. Stabilization policies also contributed positively to growth. This was, however, a combined impact of a slightly higher inflation and a movement of the real effective exchange rate (REER) closer to equilibrium. In contrast, external factors made an insignificant contribution to growth over the past 25 years.

### Simulating the impact of trade reforms

38. **Based on past model determinants, it is possible to make a quantitative assessment of the potential impact of trade reforms, partly resulting from export diversification, on economic growth in Mali.**<sup>23</sup> Specifically, we benchmark Mali against some countries identified as their SSA peers and ‘aspirational’ peers. Scenarios aim closing the gap (differential) in trade openness (as proxied by trade-to-GDP ratio) vis-à-vis a benchmark country (Table 1.1). On the one hand, Mali’s SSA peers are countries featuring similar structural characteristics, notably comparable geography, income level, and development experience: Burkina Faso, Cote d’Ivoire and Uganda. On the other hand, Mali’s aspirational peers comprise countries with development trajectories that Niger would aspire to emulate: Vietnam and Malaysia (Table 1.2). Mali’s average values for the period 2012–2016 are compared with the average values for the aspirational peer when they were at Mali’s stage of development.

**Table 1.1. Average values of trade-to-GDP ratio (%)**

Niger	Mali	Burkina Faso	Cote d’Ivoire	Uganda	Vietnam	Malaysia
2012–2016					1990s	1960s
61.2	54.8	64.3	76.3	51.6	82.9	71.2

Source: Haile 2017.

**Table 1.2. Potential impact on Mali’s GDP growth per capita (%)**

	Burkina Faso	Cote d’Ivoire	Uganda	Vietnam	Malaysia
Mali	0.99	2.06	-0.36	2.57	1.63

Source: Haile 2017.

39. **Results indicate that if Mali closed gaps in trade to GDP with Burkina Faso and Cote d’Ivoire, its GDP per capita growth rate would accelerate by 1.0 and 2.1 percentage points (ppts), respectively.** Mali has a higher trade-to-GDP ratio than Uganda., which comes somewhat as a surprise as Uganda is often hailed for maintaining one of the most open trade regimes in Africa. However, this could be partly accounted for by regional trends and reflect a stronger trade integration within West Africa, supported by the monetary union, compared to East Africa. And if Mali’s trade ratio were on a par with Vietnam and Malaysia, its GDP growth per capita would increase by roughly 2.6 ppts and 1.6 ppts, respectively. It is important to note that these findings should be interpreted keeping certain caveats in mind. The benchmarking approach throws light on the potential that increased trade openness ensuing from export diversification could deliver and its estimated timeframe, but the exercise is mechanistic and

<sup>23</sup> This analysis continues using the cross-country growth regression model of Brueckner (2014). See also Araujo *et al.* (2014), Moller and Wacker (2015), and Haile (2016) for applications in the context of Latin America, Tanzania, and Ethiopia, respectively.

only shows how growth performance would fare if Niger closed the gaps in trade-to-GDP ratio with a benchmark country.

### Looking forward to 2025 - Comparing external shocks to structural change scenarios<sup>24</sup>

40. **Given the limits of the previous exercise, this section complements it with a general equilibrium model to identify economic policies and external conditions that could help put Mali on a path toward stronger economic performance between 2018 and 2025.** It shows the results of a simulation analysis from MAMS, a World Bank Computable General Equilibrium (CGE) model<sup>25</sup> (Lofgren 2017). The analysis is useful to GOM as its concluding year coincides with the deadline for *Mali 2025*. It is also valuable because the GOM urgently needs to implement dedicated policy interventions to jumpstart structural change in Mali.

41. **The backdrop for the scenarios is set by the preceding sections that present a historical or backward perspective of the Malian economy over previous decades.** Their forward-looking perspective complements the discussion in the previous sections of this chapter. One of the scenario envisages a no structural change economy in which export prices in mining remain high compared to the general belief that the era of high commodity prices is past. The projections of this scenario can be understood as mimicking how the Dutch Disease stymies structural change in Mali's natural resource-based economy. Alternatively, the remaining scenarios discuss how diversification-prone policy interventions can trigger structural change by unleashing, albeit slowly, dynamism in the agricultural and services sectors.

42. **MAMS is constructed from a new database with 2015 as the base year and a social accounting matrix (SAM) estimated drawing on scattered data and applying judgement when data from different sources were incomplete or inconsistent.** MAMS is a multi-purpose model made up of a set of simultaneous linear and non-linear equations. It is economy-wide, providing a comprehensive and consistent view of the economy, including linkages between production and the income it generates, households, the government, and the balance of payments. In each period, the different agents (producers, household, government, and the nation in its dealings with the outside world) are subject to budget constraints. The decision rules of each agent – for producers and households, the objective is to maximize profits and utility, respectively – respect these budget constraints: for example, households set aside parts of their incomes to direct taxes and savings, allocating what is left to consumption. For the nation, the real exchange rate or foreign financing adjusts to ensure that its external accounts are in balance. Wages, rents and prices play a crucial role by clearing markets for factors and commodities (goods and services). For commodities that are traded internationally (exported and/or imported), domestic prices are influenced by international price developments. Over time, production growth is determined by growth in factor employment and changes in TFP. Growth in capital stocks is endogenous. For other factors, the growth in employable stocks is exogenous. For labor (disaggregated by educational attainment) and natural resources (with sector-specific factors for mining, fishing, and forestry), stock growth rates are exogenous, reflecting projections based on available data. For labor, the projections reflect the evolution of the population in labor-force age, labor force participation rates, and the impact of expanded education. For more information, see Annex A1B.

### Simulation analysis

43. **Simulations require a baseline and a set of counterfactual scenarios.** The forward-looking analysis treats 2017 as the base year and considers alternative scenarios for 2018–2025.<sup>26</sup>

44. **The baseline scenario is designed to provide a central, business-as-usual case for the evolution of Mali's economy up to 2025 without major changes in economic policy; it serves as a benchmark to which the results for non-base scenarios are compared (Figures 1.16–1.18).** To assure such an outcome,

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<sup>24</sup> The present section on 2025 simulations is based on Lofgren (2017) background paper for this study.

<sup>25</sup> For more on MAMS, see Lofgren et al. (2013) and <http://www.worldbank.org/en/research/brief/MAMS>.

<sup>26</sup> The first simulation year is 2015, which replicated the 2015 database. GDP growth in 2016 and 2017 reflects projections.

it is assumed that the shares in nominal absorption (total consumption and investment spending) are unchanged over time for most payments in the economy: government consumption, government investment, private investment (domestic and foreign), foreign and domestic financing (borrowing net of interest) for the government the private sectors, and various transfer payments involving the government or the ROW. The net foreign assets of the domestic financial sector are set to grow at roughly the same rate as GDP. Full details on the construction of the base case scenario are provided in Annex A1B.

- The overall economy in the base scenario grows at a rate of 4.7 percent per annum during 2018–2025. The price of Mali’s mining exports (primarily gold) is assumed to decline at an average annual rate of 3.4 percent per annum translating into a total price fall of around 24 percent during 2018–2025. The mining sector is assumed to contract at a moderate rate, in part due to the influence of the export price decline.
- During the period 2018–2025, the economy grows along a smooth path. Thanks to a large trade deficit, the average annual growth rates for most macro aggregates are around 4–5 percent; real exports grow more rapidly than GDP and imports more slowly. The growth rate of private consumption, public consumption and investment is 4.2 percent per annum.
- Among the aggregate sectors agriculture has by far the highest GDP, followed by private services. Mining declines at an annual rate of 0.8 percent while the other sectors grow at uniform rates that are slightly above the aggregate GDP growth rate as they are incentivized by the depreciation of the real exchange rate caused by lower export prices.
- Given an annual population growth rate of around 3 percent, the aggregate household consumption growth at 4.2 percent translates into a per-capita growth rate of around 1.1 percent, or an increase of 9 percent in average national per-capita consumption between 2017 and 2025. At this pace, some 60 years will be needed to double per-capita consumption, hence the urgency of accelerating growth. During this period, per-capita consumption grows more rapidly in rural areas, increasing by 11 percent between 2017 and 2025, as opposed to an increase of 7 percent in urban areas, thereby slightly reducing rural-urban inequalities. Between 2017 and 2025, the base scenario yields a decline in the national poverty rate declines by 5.6 percentage points (from close to 42 percent to in 2017 to 36 percent in 2025). This aggregate decline is made up of declines of 7.0 points in rural areas (from 54.0 in 2017 to 47.0 in 2025) and 2.8 points in urban areas (from 23.4 in 2017 to 36.1 in 2025).

45. **The first counterfactual scenario is designed to test the impact of an alternative projection for the prices Mali receives for its mining exports, and two sets of alternative scenarios repeat the analysis for the impact of export-diversification-prone public investment in (i) agriculture, so as to foster its productivity; and (ii) trade and transport.** While there is a total of three scenarios, each comprises of two options related with the financing of the shock being analyzed (Table 1.3). All scenarios deviate from the base scenario starting from 2018; the simulated results for 2017 are always identical to the base. In all scenarios, GDP is determined endogenously and savings drive investment, that is, a household income increase translates into increases in savings, investment spending, private capital stocks and GDP. Real government consumption is the same as in the base case and real government investment only changes in the scenario with a shock to public investment. The results of the all the non-base scenarios are displayed in Figures 1.19–1.22.

Figure 1.16. Base case sectoral growth projections

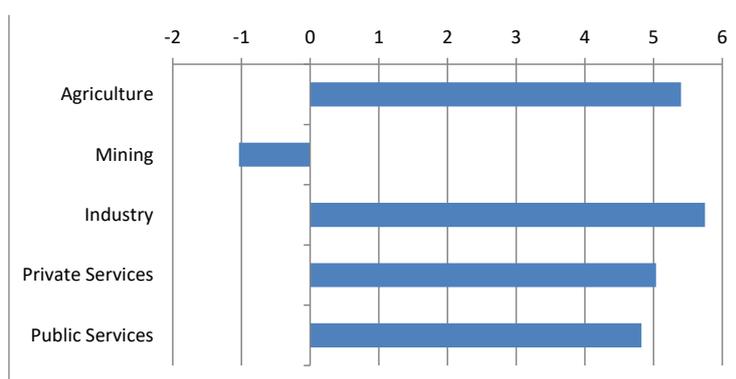


Figure 1.17. Base case household consumption per capita projections

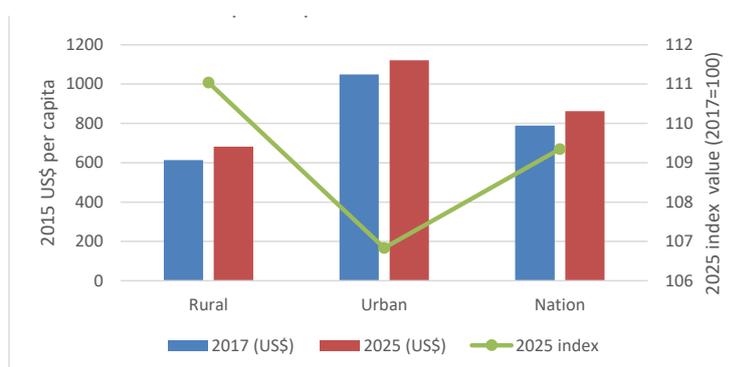
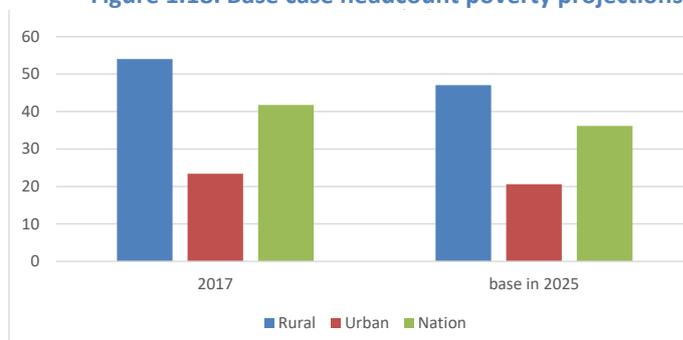


Figure 1.18. Base case headcount poverty projections



Source: Lofgren, 2017.

Alternative scenarios 1 (*pwe-fbor*) and 2 (*pwe-fdor*): No fall in mining export prices between 2018 and 2025

46. In contrast to the base case where export prices in the mining sector are assumed to decline by 24 percent during 2018–2015, in this scenario *pwe-fbor*, export prices are assumed to stay unchanged at the 2017 level up to 2025. As expected, growth in mining (which employs very little labor) accelerates. To balance its budget, the government is assumed to use the export earnings to repay foreign debt. A balance of payments surplus ensues, leads to a real appreciation (relative to the base) of the exchange rate and negatively impact exports, growth and employment in agriculture and industry. Growth in private services does not change much. Overall, growth in real GDP at factor cost declines slightly due to lower growth in employment and private capital stock in agriculture and industry, but growth in private consumption rises. In sum, while constant export prices in the mining sector would be a welcome development for mining exports, the export price dynamic in Mali's economy will have an adverse effect on growth, employment and the poor, especially in the agriculture/rural sector which

houses more than 80 percent of the population. It will also have negative implications for structural change as the joint share of manufacturing and services will decline (Figures 1.19–1.22).

**Table 1.3. Definitions of the non-base scenarios**

Name	Description
<b>pwe-fbor</b>	No decline in mining export prices starting from 2018; government budget balanced via adjusted (reduced) foreign borrowing
<b>pwe-dbor</b>	No decline in mining export prices starting from 2018; government budget balanced via adjusted (reduced) domestic borrowing
<b>agr-fbor</b>	Increased government investment in agriculture starting from 2018; government budget balanced via adjusted (increased) foreign borrowing
<b>agr-dbor</b>	Increased government investment in agriculture starting from 2018; government budget balanced via adjusted (increased) domestic borrowing
<b>tt-fbor</b>	Increased government investment in trade and transportation starting from 2018; government budget balanced via adjusted (increased) foreign borrowing
<b>tt-dbor</b>	Increased government investment in trade and transportation starting from 2018; government budget balanced via adjusted (increased) domestic borrowing

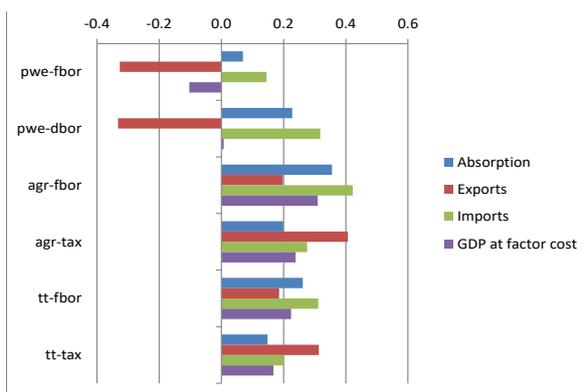
47. The scenario *pwe-dbor* is identical to the previous *pwe-fbor* scenario except that instead of using higher export earning to reduce foreign debt, the government reduces domestic debt which, in turn, frees up funding for private investment. Compared to the preceding scenario, the balance of payments surplus and the equilibrium trade deficit are both higher and lead to a stronger real exchange rate appreciation which depresses non-mining export growth. Growth in private consumption, private investment and imports is stronger. A slight increase in employment growth, and the resulting gain in the private capital stock together explain a small gain in GDP. At the sectoral level, growth is slightly higher across the board, especially for industrial production which provides inputs to investment.

#### Alternative scenarios 3 (*agr-fbor*)–4 (*agr-tax*): Public investment in agriculture

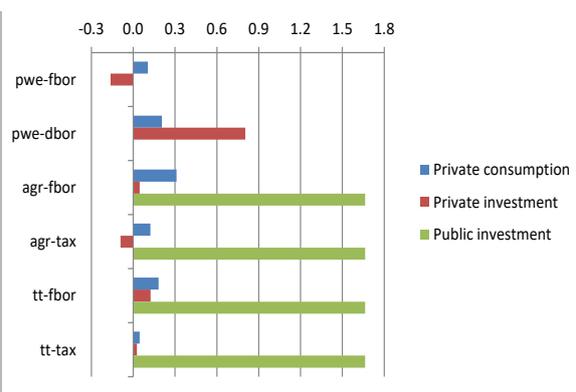
48. Can the GOM accelerate growth in agriculture to improve productivity, growth and the incomes of over 80 percent of the Malians who depend on the sector for their livelihood? In the base scenario, each year, GOM spends around 1.4 percent of GDP on investments in agriculture. In this scenario, *agr-fbor*, GOM increases real investment in agriculture each year between 2018–2025 to generate a total investment of around 2.4 percent of GDP in the sector. It finances the investment with foreign borrowing. If the public investment were financed by foreign grants, the outcome would be the same except that Mali would have a lower stock of foreign debt. The inflow of foreign financing results in a balance of payments surplus and an appreciation of the exchange rate that leads to an increase in import growth. Over time, higher import growth rates lead to a trade deficit. The gains in growth in private consumption, investment and growth are roughly 0.2–0.4 percentage points above the baseline. Among the sectors, unsurprisingly, the strongest growth acceleration is in agriculture, but industry and private services also benefit through higher investment demand and the availability of a higher private capital stock. The mining sector suffers from the appreciation of the real exchange rate (Figures 1.19–1.22).

49. The scenario *agr-tax* introduces an identical increase in public investment but GOM pays for it through an increase in domestic indirect taxes. Compared to the preceding scenario, the gains in private consumption and GDP growth are more modest, but private investment declines due to higher taxes. The pattern of sectoral GDP growth rates is similar to the *agr-fbor* scenario, that is, growth in agriculture, industry and private services increases but is negative for mining which benefits from less appreciation of the real exchange rate.

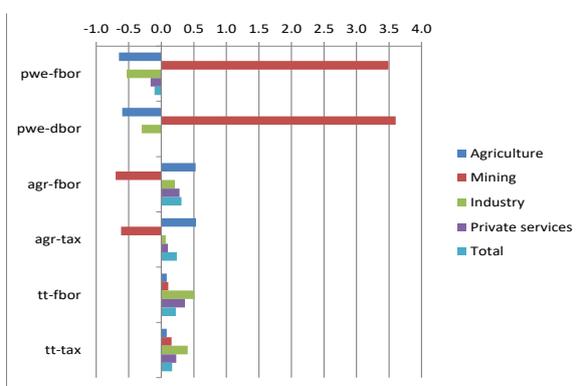
**Figure 1.19. Impact of alternative scenarios on GDP growth relative to the base case**



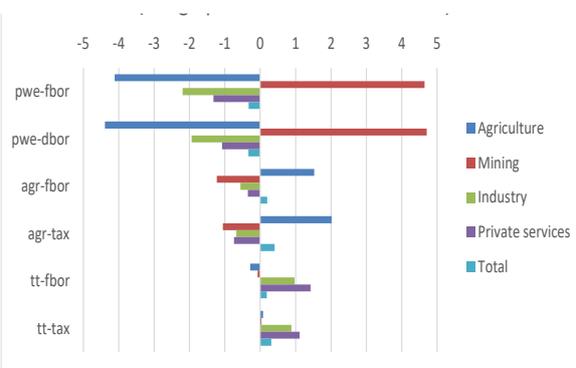
**Figure 1.20. Impact of alternative scenarios on consumption/investment growth wrt to base case**



**Figure 1.21. Impact of alternative scenarios on sectoral growth relative to the base case**



**Figure 1.22. Impact of alternative scenarios on export growth relative to the base case**



Source: Lofgren, 2017.

50. In sum, GOM can leverage an increase in public investment in agriculture to boost growth in the sector and indeed in industry, services and overall GDP to trigger structural change as well as push the economy closer to the goals set by Mali 2025. Given that agricultural productivity, especially in the cotton sector is declining, an increase in public investment in agriculture could finance technological change or infrastructure or activities that foster diversification in agriculture. As agricultural growth also has spillovers for industry and services, strong linkages between the three sectors could trigger structural change if the intervention was sustained. In this scenario, growth is inclusive as it would be less-skilled labor-intensive and in rural areas where the majority of the poor Malians reside. As long as public funds are put to productive use in the agricultural sector, they will lead to a reduction in poverty.

#### Alternative scenarios 5 (tt-fbor)–6 (tt-dbor): Public investment in trade and transportation

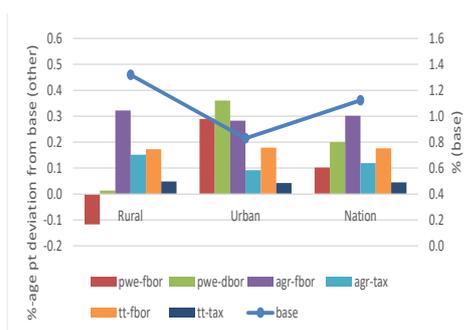
51. Public investment could also help reduce trade and transportation margins in Mali's economy with wide-spread benefits, reducing prices paid by demanders and raising prices received by suppliers. The final two scenarios *tt-fbor* and *tt-dbor* explore the consequences of public investment that raises the productivity in Mali's trade and transportation sectors. The real investment increase is identical to that in scenarios *agr-fbor* and *agr-tax* which was directed to support agriculture; it also explores two alternative financing mechanisms. The patterns of change for consumption, investment, trade, and GDP are similar to the preceding agricultural investment scenarios but the growth gains are weaker. The gains are more favorable for private investment compared to private consumption because relative to the base case, reduced trade and transportation costs for an import-dependent economy like Mali's lead to a real depreciation in the form of a decline in domestic prices (among other things for the construction sector) relative to given international prices and a fixed exchange rate. This benefits investment relative to more import-dependent private consumption. The changes in sector GDP growth

are more even and the increase in private investment boosts domestic industry (which includes construction). These changes in relative sector GDP growth are also visible in (and influenced by) similar changes in export growth. This is a win-win scenario for all sectors of the economy and could be a useful intervention for initiating structural change (Figures 1.19–1.22).

### Impact on rural and urban consumption and poverty

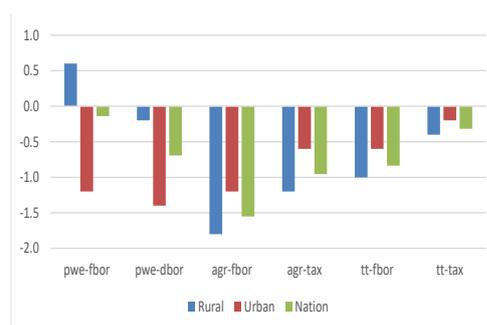
52. **The income sources of rural and urban households are distinct, with rural households depending more on unskilled labor and agriculture-related natural resources while urban households rely more on skilled labor and private capital.** The scenarios differ substantially in terms of their impact on different sectors and, thereby, on household incomes and consumption. Figure 1.17 show the per-capita consumption growth rates for the base case and Figure 1.23 displays the deviations from these growth rates for the various scenarios, both at the national level and for rural and urban households separately. For the base scenario, the per-capita growth rates for rural and urban households were at 1.3 and 0.8 percent, respectively, yielding a national average of 1.1 percent. The scenarios with higher mining export prices are much less advantageous for rural households since the agricultural sector and the demand for unskilled labor are hurt by the appreciation of the exchange rate. For the other scenarios, the consumption growth gains are spread more evenly. Rural households gain more than urban households under the agricultural public investment scenarios while the gains are very evenly distributed for the trade and transportation investment scenarios.

**Figure 1.23. Impact on growth in household consumption per capita relative to the base case**



Source: Lofgren, 2017

**Figure 1.24. Impact on growth in poverty relative to the base case (Figure 1.21)**



Source: Lofgren, 2017

53. **These changes in per-capita consumption are reflected in changes in headcount poverty.** Figure 1.24 shows the deviations of the poverty rates in 2025 from the base rates reported in Figure 1.18. All scenarios lead to a reduction in poverty at the national level. For the scenarios with higher mining export prices, the declines in the poverty rate are stronger for urban households while, for the other scenarios, they benefit the rural sector where poverty is by far most severe. The outcomes are stronger for the scenarios under which foreign resources help the government fund additional expenses. Given Mali’s current precarious state of affairs and the urgency of accelerating economic recovery and growth, it may be preferable to augment foreign aid since this makes it possible to avoid the trade-offs that are involved if tax increases are needed to finance the bulk of additional spending. Furthermore, sensitivity analysis indicates that essential projects that are not well managed may not yield positive net benefits if financed from domestic resources. Given Mali’s current governance challenges and the unstable situation, it may be unwise to rely on needed institutional improvements during the relatively short period up to 2025.

54. **In conclusion, the scenario analysis in this section suggests several pointers that can inform GOM’s policy choices in accelerating structural change, and realizing its vision Mali 2025.** First, the mining shock under a no structural change (export price-related) scenario confirms that in the run up to 2025, good news for mining not necessarily will be good news for the other economic sectors and their exports, as the limitations of a commodity-based strategy will continue to be a direct deterrent to

structural change in Mali. Second, the scenario analysis illustrates that GOM has a variety of policy levers to jumpstart structural change. Targeted public investment in agriculture can finance productivity-enhancing public goods such as new technologies, better intrants or rural infrastructure. Targeted public investment in trade and transport can also boost growth in industry and modern services and, if sustained, attract labor from lower productivity sectors such as agriculture to propel structural change. Third, governments have a choice in how to finance change and how their choice can affect economic outcomes. Unsurprisingly, compared to domestic taxes, foreign borrowing and especially aid-financed public investments are more favorable for structural change. And fourth, policy interventions have differential effects on the rural and urban economies.

## 1.5 Options for Diversification: Policy Recommendations

55. **In response to the urgent need for jobs, the GOM has articulated *Mali 2025*, its vision to transform the economy in ways that foster inclusive and sustainable growth and create better jobs.** To achieve that goal, the GOM has designed a strategy that is focused on structural change - essentially diversification to reduce the economy's dependence on cotton and gold, and foster private sector development. Considering the short deadline of 2025, GOM's diversification strategy demands urgent implementation but this is an ambitious goal. However, over the course of the last three and a half decades, structural change has been elusive in Mali's economy. Industrialization stagnated and the Dutch Disease stymied economic and export diversification as evident from Mali's overt dependence on cotton and gold. Structural change remains elusive. The share of high productivity sectors - manufacturing and services - in GDP has stagnated in at least the last 35 years indicating inertia; agriculture, the mainstay of over 80 percent of the population has the lowest labor productivity. Above all, a young population with an average of only 2.4 years of schooling confirms that skilled labor which is the passport to structural change, will be the most critical challenge in Mali in the years to come.

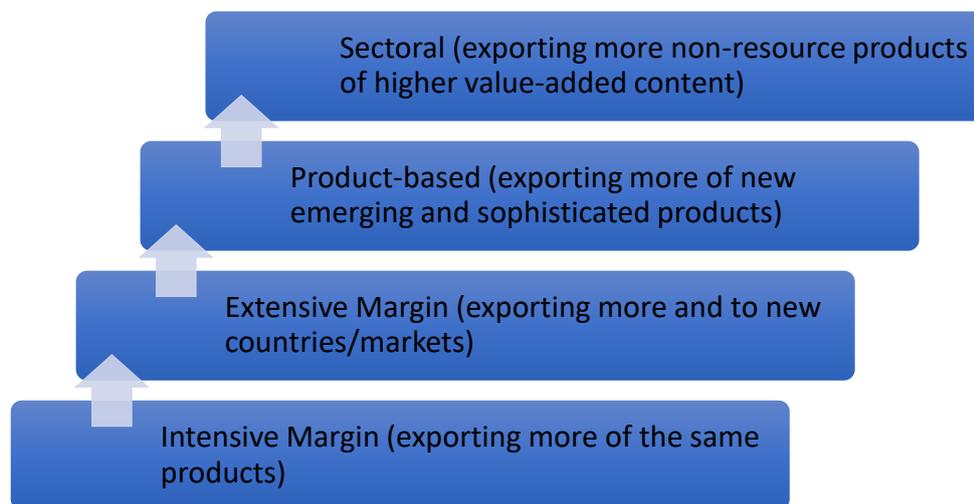
56. **The absence of structural change in the last three and a half decades or so suggests that the Malian economy lacks endogenous economic forces to automatically diversify either itself or at least its exports.** If so, GOM needs to initiate structural change efficiently without risking government failure. Global experience suggests that governments can initiate structural change without causing government failure. Certain guidelines can help: (i) Political commitment is a prerequisite and basic macro-fundamentals and property rights must be ensured. (ii) When the private sector is weak, it is essential and efficient for government to lead in partnership with the private sector by providing structural change-promoting public goods. If the private sector, include foreign, can drive certain structural change-promoting functions, government must be the facilitator. (iii) Government's role in initiating structural change must be time-bound, and should transform to a facilitator when the economy picks up momentum.

57. **As in other natural resource-based economies, Mali can choose from a menu of export diversification strategies.** International experience suggests that in the early stages of development, countries which diversified successfully adopted strategies that fostered productive use of endowments (resources) in which they had a comparative advantage. Most governments designed diversification policies that corresponded to the initial country-specific conditions, and modified them as the economy diversified. This study concentrates on export diversification. It does not explore the prospects and potential of the diversification of its gold industry. Instead, it explores the potential for new products especially agricultural-based products and services.

58. **Mali aims for a non-natural resource-based export diversification strategy, but such strategy can be decomposed into four steps (stages) of the so-called "ladder of export diversification" (Figure 1.25).** In the first step, a country exports more of what it already produces (so-called growth in its intensive margin [IM]). In the second step, the country exports what it produces to an increased number of markets (so-called growth in its extensive margin [EM]). In the third step, the country moves to new, and often pilot, higher value-added products. This is the case, when countries target the promotion of few non-traditional emerging products (also called « strategic bets »), including agri-

based. In so doing, this leads to less export concentration on a limited basket of commodities in the medium term. Finally, in the fourth step, emerging new higher value-added export goods (and services) lead to the decomposition of sectoral outputs in favor of the increased production of new non-resource-based products, thus modifying the sectoral structure of the economy (the so-called « sectoral diversification »). The accompanying mirror shift of labor force moving from the low- to high-productivity sectors is known as « structural change» (see Annex A).

**Figure 1.25. The ladder of economic diversification**



59. **The steps above can be combined in two major options and are intended as a trigger for structural change which is a medium-term phenomenon.** They are proposed as the first step in the run up to 2025. As the process picks up momentum, endogenous change will enable subsequent stages to be self-driven. This will require the role of GOM to alter from a leader spearheading structural change in partnership with Mali’s presently weak private sector to a facilitator supporting private entrepreneurs - domestic and foreign. From the analysis above, it is first reasonable to exclude public services, that is, Public Utilities, Government Services, Community and Social Services as well as mining as candidates for structural change.

- *Option 1:* Policies that shift resources from the lowest productivity agricultural sector to the higher productivity services. The reallocation of resources from agriculture to services will foster structural change but this is not a suitable option for Mali in the medium term. Although the shrinking global space for low-wage light manufacturing has led some to believe that services could be the new source of structural change, emerging evidence shows that only tradable, modern services such as Finance and Business, and Transport and Communications typically have higher productivity. As they require skilled labor which is scarce in Mali, *they are not a suitable option*. They also do not create many jobs which is the goal of *Mali 2025*. Like most SSA countries, Mali has a large low productivity Trade sector comprised mostly of petty trading.
- *Option 2:* Policies that shift resources from the lowest productivity agricultural sector to higher productivity new manufacturing industries. In the medium term, this option is also not pragmatic as a driver of structural change in Mali. One view is that the potential of low-wage light manufacturing to foster East Asian-style structural change in SSA countries is limited, but a contrarian view is that with smart policies, these countries can leverage light manufacturing for export diversification. While the emergence of new light manufacturing industries in countries like Ethiopia is encouraging, Mali’s investment environment cannot mimic Ethiopia’s (Hinh et al, 2012). Fragility alone is a severe deterrent to potential investors, hence *leapfrogging to new light manufacturing industries is an overambitious goal for the medium term with the exception of agro-processing*.

- *Option 3. Policies that foster an agriculture-linked light manufacturing strategy is low risk as it is based on Mali's comparative advantage in agriculture.* The building blocks of this strategy rest on:
  - the adaptation of new production technologies to increase productivity in both agriculture and light manufacturing;
  - diversification *within* agriculture in new crops and exports a la Vietnam!
  - diversification in new light manufacturing industries and exports *linked* to agricultural value chains such as new segments of the cotton-textiles value chain; agro-processed exports sourcing raw materials from a more productive and diversified agricultural sector; light manufacturing linked to other subsectors in Mali's primary sector (logging, animal farming), and Mali numerous "Other" manufacturing industries.
  - As manufacturing generates demand for modern/backbone services (financial and business services or transport and communications), the modern services sector will grow naturally.

60. **The proposed agriculture-based industrialization strategy would be consistent with Mali's vision to foster inclusive growth by create better paying jobs for low skilled Malians.** It will also strike a balance between agriculture and manufacturing, and fostering private sector development and diversification from cotton and gold through agribusiness. The outcome will be agricultural export diversification. As manufacturing generates demand for modern/backbone services such as financial and business services, and transport and communications, the modern services sector will grow naturally.

61. **The success of the proposed agri-industry based strategy in initiating structural change in Mali will rest on the GOM's commitment and capacity to leverage and coordinate macro and micro policies, further developed in the following chapters, that would help to transform its commodity-based economy.** On the macro side, doing so requires (i) macro-investment friendly climate related policies that address basic fundamentals of the investment climate, facilitates access to credit, and foster business-specific skills and human capital development, policies covered in Chapter 2. And on the micro side (ii) policies to select and spur emerging exports with high potential, as selectivity does not come automatically; and (iii) public (and foreign) investment-prone policies in export-prone agriculture and services (trade and transport to reduce costs for example) favoring structural change in well targeted global value chains, covered each in Chapters 3 and 4 respectively.

## Chapter 2. Firms' Growth and Competitiveness in Mali<sup>27</sup>

### 2.1 Introduction

62. **As seen above, improving the country's investment climate (IC) would improve conditions to facilitate exports.** It is fundamental for exporting more volume of existing products, exporting to new markets, increasing the share of pilot and currently emerging higher value exports as initial goals to enhance competitiveness in the ladder of diversification.

63. **This chapter provides a synopsis of the IC in Mali, identifying the main challenges and opportunities needed for improving the country's competitiveness.** The analysis presented uses a mix of diagnostic tools comprised of: i) global competitiveness indicators from the World Economic Forum Index; ii) a review of regulations governing economic activity based on the latest Doing Business (DB) Report indicators; and (iii) the recently completed Enterprise Survey (ES) for Mali describing IC conditions, with a dedicated module focusing on exporters. Using a combination of analytical resources, the chapter aims at providing a more comprehensive analysis of Mali's IC. In addition, this chapter draws on recent publications highlighting the need for Mali to diversify and accelerate the process of structural transformation and diversification of its export base. While Section 2.2 provides a synopsis of the overall IC, also including Doing Business ratings; Section 2.3 focuses on exporting firms, using the exporter module of the ES undertaken recently. The exporter module of the ES provides a deeper understanding of constraints and conditions specific to exporting firms.

### 2.2 IC at a Glance

#### The WEF global competitiveness benchmarking for Mali

64. **Mali does not rank well on global competitiveness indices.** The World Economic Forum (WEF) Global Competitiveness Index provides a broad look into a country's competitiveness using a mix of business opinion surveys and rankings based on individual and aggregate indices. In term of overall competitiveness, the WEF ranks Mali 125th out of 138 economies. From a global perspective Mali ranks low on individual indices such as in Health and Primary Education (135th), Infrastructure (112th), Institutions (98th) and Market Efficiency (110th). Mali's exceptional highest score is on Macroeconomic Environment (90th) owing to a series of structural reforms and sound macroeconomic management undertaken in recent years in partnership with the IMF. Overall, however, under the WEF "stage" classification, Mali is classified as a "stage 1" country, meaning that it is considered as a *factor driven* economy relying on commodities and/or minerals. In general, countries with 70 percent and above of their total exports relying on minerals and/or commodities are often classified as stage 1; while stage 2 and stage 3 economies refer to efficiency, innovation and diversification-driven economies, suggesting more sophisticated stages of their development. In short, Mali's classification as a stage 1 economy reflects the country's reliance on primary commodities.<sup>28</sup>

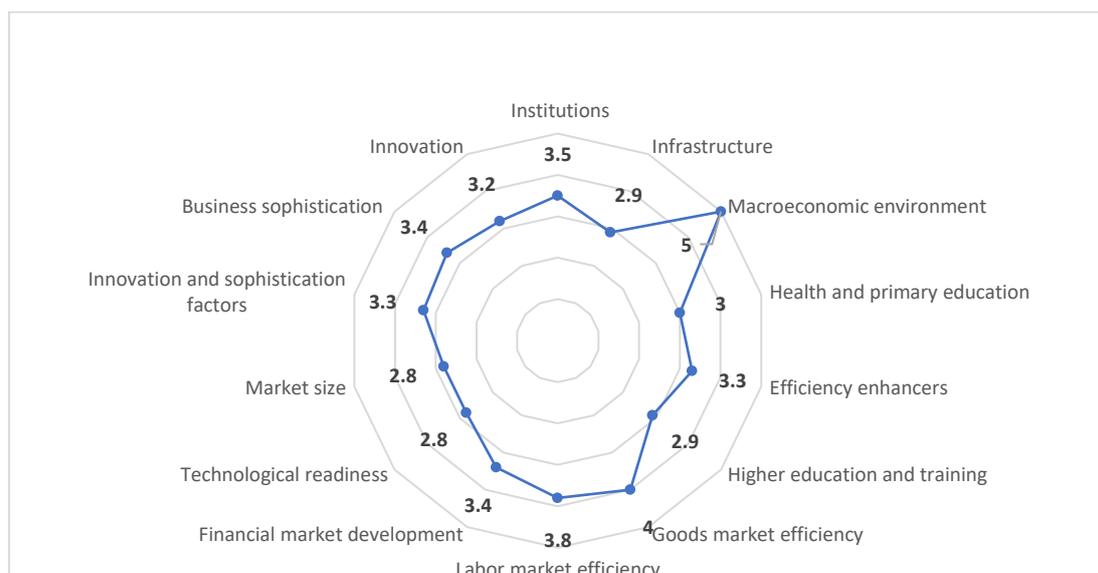
65. **Mali performs poorly on the WEF's main pillars of competitiveness.** For instance, Mali scores 2.8 out of 7 in market size, and 2.8 on technological readiness (which indicates the potential for market growth and technological absorption and diffusion); whereas in infrastructure, which is another key factor of a country's competitiveness, it scores 2.9 out of 7. The only exception is on the indicator measuring macroeconomic environment, where Mali has made some progress, since growth resumed following its recovery from the recent conflict (Figure 2.1).

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<sup>27</sup> This chapter is based on Benyagoub and Clark (2017) background paper for this study, which itself is an outgrowth of the Enterprise Survey study developed by Muzi and Islam (2017).

<sup>28</sup> "Mali's economy remains dominated by the primary sector, as reflected in the country's low ranking on the economic complexity index (see Chapter 3).

**Figure 2.1. Mali main pillars of competitiveness indices (1–7 best)**



Source: World Economic Forum 2016.

66. **Mali’s relatively poor competitiveness performance is confirmed by the ES (see next).** Likewise indicators measuring the quality of the regulatory framework under the DB Report, examined in section 2.3 points to similar challenges for Malian firms.

#### IC challenges through the lens of 185 firms

67. **This section examines results from the ES carried out in Mali over the course of 2016, covering 185 firms located in the main urban centers of Bamako, Mopti, Segou, and Sikasso.**<sup>29</sup> The context in which the survey took place provides an additional perspective in understanding the results produced. Mali is in the midst of a political transition, recovering from a conflict which saw the country descend into social and security unrest. Although the situation has improved since then,<sup>30</sup> elements of instability and uncertainties are still cause for concern. In addition to structural IC weaknesses common in many low income and developing countries, fragile environments like Mali are often marred by dysfunctional institutions governing social and economic activity. These circumstances affect the operational conditions of enterprises on the ground across several dimensions of the business environment. Figure 2.2 below illustrates the overall IC as it is perceived by firm managers.

68. **There are several IC issues rated as particularly problematic by operators.**

- **Leading obstacles.** The top rated constraint is *Political instability* mentioned by 72.8 percent as a major or severe constraint followed by *corruption, electricity and unfair competition*, with respectively, 70.6 percent, 67.9 percent and 63.7 percent of firms citing them as major or very severe obstacles. These concerns relate to the fragile institutional environment resulting from the country’s fragile recovery. Also of importance are concerns that illustrate structural challenges underscoring the limited efficiency of factor markets, such as inadequate access to electricity, finance and land. In a context of resumed growth for firms - *the four-year annual growth sales averaged 11 percent for firms, also half of firms reported acquiring fixed assets during the previous fiscal year* -

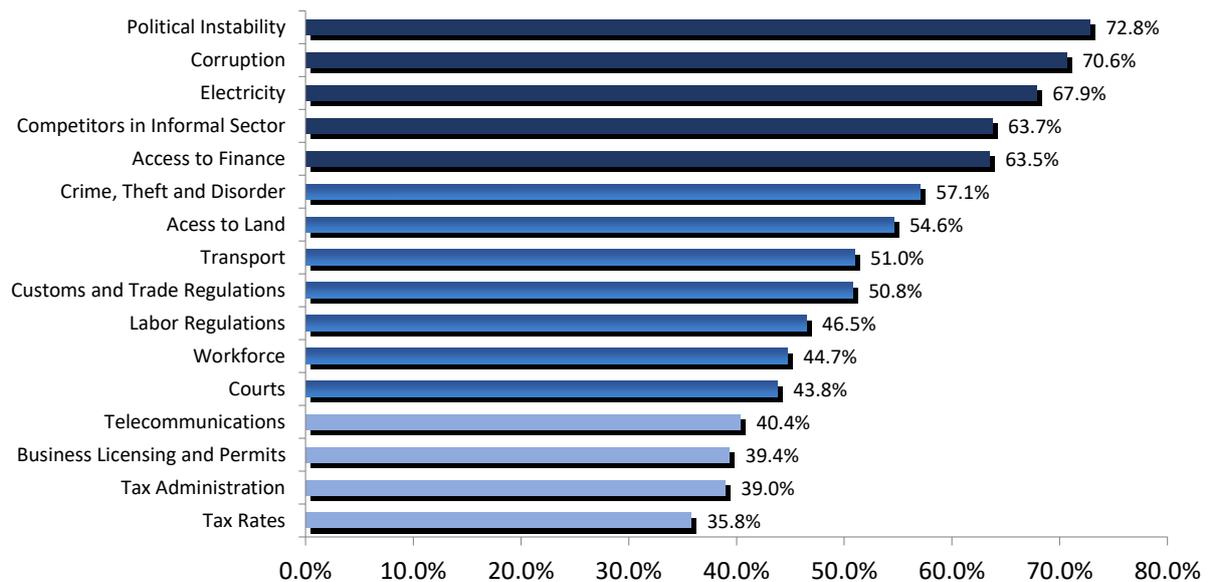
<sup>29</sup> See Annex 2A for a survey sample description and implementation methodology.

<sup>30</sup> This relative recovery situation is confirmed by recent World Bank economic update reports: “With the progressive consolidation of political stability and improved security conditions, growth accelerated to 7.0 per-cent in 2014, its highest level since 2003, and remained robust in 2015 and 2016 at 6.0 percent and 5.4 percent, respectively. Mali’s economy is projected to grow by around 5 percent over the period 2017-2019, reflecting a return to normalcy and a gradual tapering of the recent surge in international aid”. World Bank 2017

these shortcomings are felt more acutely by businesses and could explain the unusual elevated magnitude of complains registered by managers.

- **A second group of obstacles are slightly less problematic.** they constitute a second tier of obstacles, yet with about 40 to 50 percent of respondents rating them as major or very severe, and warrant the attention of policy makers. They include concerns such as in transport, trade, labor regulations and the functioning of courts. These point to regulatory inefficiencies and problems associated with reliable and affordable infrastructures.
- **The last tier of constraints include obstacles rated at or below 40 percent of survey respondents citing them as major or severe.** These somewhat less problematic results could be attributed to recent progress in regulatory reforms undertaken in the area of business registration and construction permits. In particular, the removal of a previously high minimal capital requirements (for more details listing of regulatory reform in annex 2B). Note that these obstacles are ranked by a range of 35 to 40 percent of firms complaining, they still underlie the importance of pursuing measures aimed at alleviating costly and burdensome administrative procedures (*section 2.3 takes a closer look at the regulatory framework and the measures initiated by the Malian authorities in recent years*).

**Figure 2.2. IC constraints (% major or very severe)**



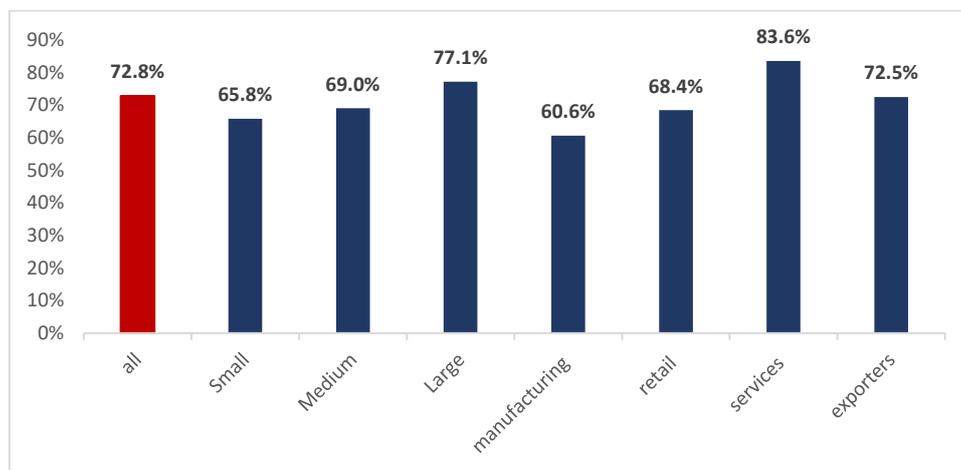
69. **Assessing leading constraints and firm characteristics.** The IC in Mali illustrates weaknesses in both the institutional and governance framework combined with inefficient and costly factors markets. In the analysis that follows, more detailed results based on those indicators tend to confirm the perception reported by businesses.<sup>31</sup>

- *Political instability.* When asked, firms responded that political instability was the single most important factor constraining the operation of their businesses, with over 72 percent of firms rating it as a major or very severe constraint. International experience

<sup>31</sup> Since businesses report their private perspective, it is always important to align survey results with complementary analysis of the factors identified. For example, while firms generally complain about taxes throughout the world, it is only by understanding actual tax burden and its distribution as administered that one can fully understand whether adjustments are needed.

with surveys undertaken in fragile or post-conflict countries indicate that the functioning of institutions can be particularly flawed in these environments. Malian firms operate amid a political, social and economic transition that present multiple challenges marked by apprehension and expectation of a better future for businesses and their employees. The aftermath of the conflict, continues to generate some measure of uncertainty with regard to the future political and economic framework of the country. Figure 2.3 indicates that political instability is a concern that is widespread across several firm characteristics. It is more acute for service sector firms as nearly 84 percent of operators in the sector mentioned political instability as a major constraint to their business. Likewise, political instability constitute a source of major concerns for large firms probably due to the fact that large firms make investment plans on a longer term horizon and thus require some measures of stability in assessing policies that may affect these plans.

**Figure 2.3. Political instability (pct rated major or very severe)**



- Corruption* is the second leading constraint, as mentioned by 70 percent of firms. High levels of perceived corruption curtail private investments and induce a lack of confidence in the institutions governing economic activities, while significant amounts of bribes undermine the operational efficiency of firms through increased costs, which erode their margins unnecessarily. This appears to be the case in Mali where 33.7 percent of businesses were subjected to at least one incidence of bribery last year, significantly higher than the average for SSA (24 percent) and low-income countries (28 percent). Similarly, a high proportion of firms is expected to provide a bribe in order to secure a government contract (63 percent, which is double the SSA average of 33 percent); these bribes impose an additional average cost of 5 percent of the value of the contract compared to an average of 2.7 percent and 1.7 percent for SSA and low-income countries, respectively. The high incidence and cost of corruption is most likely related to the fragile post conflict political and institutional environment. Firms are operating in an environment where the capacity of institutions to regulate and administer adequate services has been eroding, leading to significant degrees of discretion and capture. Figure 2.4 illustrates this point: 74 percent offers were expected to pay a bribe in order to obtain a construction permits compared to the SSA average of 26 percent. Furthermore, there are significant variations in the perception of corrupt practices as a major obstacle by firm characteristics. Small firms and manufacturing firms rate corruption as much less constraining than large firms, or firms operating in the service sector (Figure 2.5); which makes sense when considering that in an environment such as in Mali, margins (profits) are probably higher in the service sector and larger firms, who in turn become targets of predatory practices.

Figure 2.4. Incidence of bribery (pct. firm expected to pay for service)

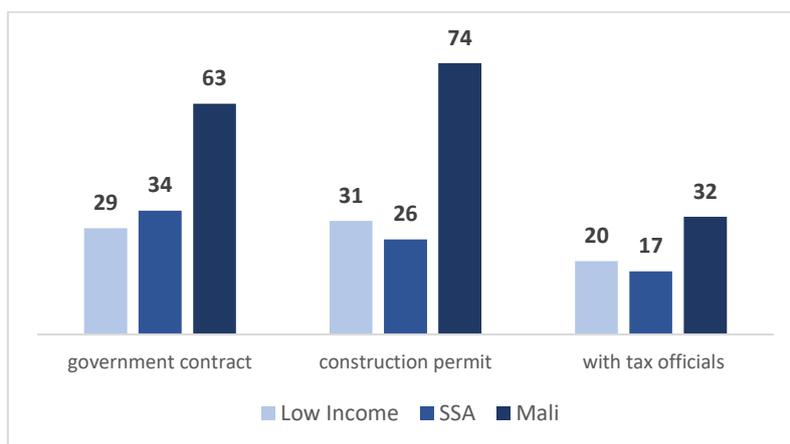
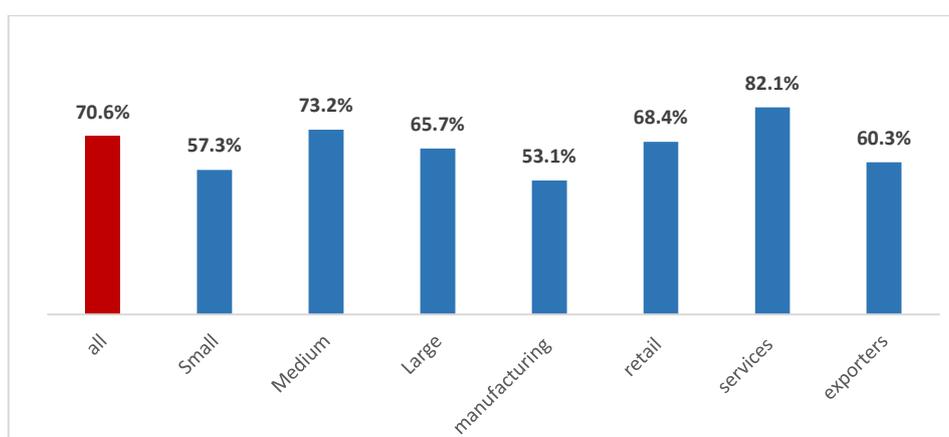


Figure 2.5. Corruption (pct. rated as major or very severe)



- Electricity and Infrastructure:* Cost and adequacy of energy provision are a key factor eroding firm competitiveness. A substantial proportion of firms in Mali experienced at least one power outages (86 percent) (Figure 2.6). Mali’s unreliable provision of electricity translates into frequent and lengthy outages resulting in unnecessarily additional cost to firms. For instance, 6.5 percent of annual sales are lost due to the overall unreliability of the power grid, prompting a large majority of firms (66 percent) to supplement power with self-provision, by buying generators. While the high rate of generator ownership may partly reflect costs imposed on firms, it does not explain the large production losses attributed to power supply failures reported by Malian firms – averaging 6.5 percent of annual sale. These costs are felt acutely by Malian firms. On a global scale, 67 percent firms in Mali reported electricity as a major or severe constraint – a significantly higher compared to the SSA average of 39 percent (Table 2.1). Larger firms face more instances of power outages but suffer less from production losses compared to small or mediums firms, since large firms consume more electricity and invest more in mitigating equipment. For instance, 97 percent of large firms have a generator compared to 47 percent for small firms.

Figure 2.6. Electricity Indicators by firm size

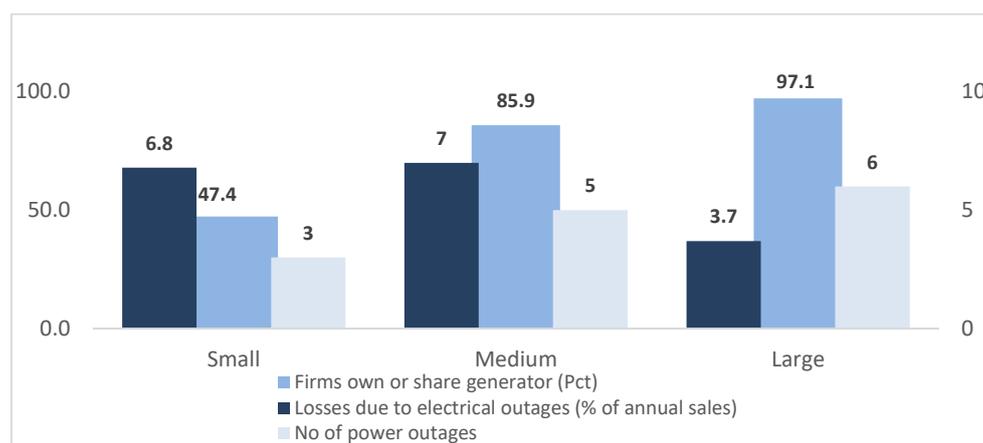


Table 2.1. Electricity: Regional benchmarking

	No. of electrical outages (typical month)	Pct. of firms with a generator	Losses due to electrical outages (% sales)	Electricity from a generator (%)	Pct. rating electricity as a major constraint
Mali	4.2	66.8	6.5	25.8	67
SSA	8.5	51.3	5.4	15.6	39

Source: ES, 2016.

- Informality:** Informal practices point to the inability of market institutions to provide a sound and even playing field for all operators. High levels of informality diminish confidence in the institutions and can act as a major break on productivity growth. Informal activity is prevalent in Mali with 79.5 percent of firms reporting having to compete against informal firms. This result is a significantly higher proportion than the average for SSA and low-income countries, which reported respectively 67.1 percent and 53.2 percent of firms competing against informal businesses (Table 2.2). Similarly, a much higher proportion of Malian firms (63.7 percent) identified informality as a major constraint compared to 37.5 percent in the SSA region. Firms operating in the service sector (particularly wholesale) complained more about informal behaviors (64.1 percent) than manufacturing firms (52.4 percent). This is counter intuitive, given that traditionally uncompetitive behavior tends to hurt more manufacturing firms (through counterfeiting, violation of patents, and so on). Informal behavior is considered widespread within the wholesale and retail sectors since they are more challenging to control (tax and labor regulation evasion, Customs evasion, and so on). In addition, large firms reported more complaints than smaller firms (62.8 vs 51.3 percent). The survey results can also be interpreted as a product of the market dominance of larger informal groups; particularly those operating in the wholesale and retail sector.

Table 2.2. Informality and crime indicators

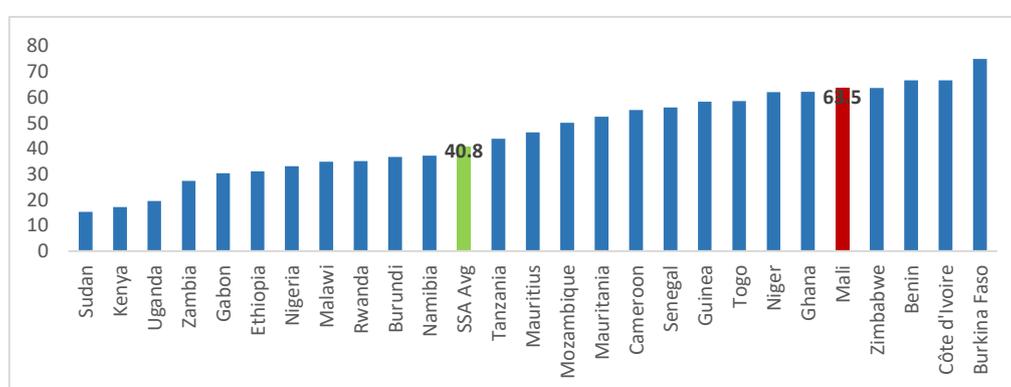
	Firms competing against informal firms (%)	Firms identifying informal behavior as a major constraint (%)	Firms identifying crime, theft and disorder as a major constraint	Average losses due to theft and vandalism (% of annual sales)
Mali	79.5	63.7	57.1	4.0
SSA	67.1	37.5	20.8	7.6

Source: ES, 2016.

- Access to Finance:** Malian small and medium enterprises (SMEs) face similar issues observed across SSA and in many developing nations. In this context credit availability is restricted and high collateral further restricts financial services for smaller firms. Access to finance is mentioned as a major or very severe constraint by 63 percent of firms - one

of the highest level recorded in the SSA region (compared to a regional average of 40 percent). Paradoxically, regional benchmarking shows that Mali compares relatively well on most access to credit indicators (see Table 2.3, Figures 2.7 and 2.8). Hence, the extent to which the magnitude of the perceived constraint corresponds to actual market conditions is not straightforward when it comes to credit. Mali also ranks better than the SSA region on most finance indicators selected (Table 2.3). In particular, Mali stands out in the way firms utilize bank financing. The ratio of Malian firms with access to a bank account stands at 26 percent which is slightly above the regional average. Likewise, firms derive 15 percent of their total financing needs for working capital from banks and 19 percent for longer term investments - higher than the region SSA average of 9 percent and 10.3 percent respectively. Furthermore, rejection rates are lowered in Mali than the region as a whole (10 vs 16 percent). Whereas a smaller proportion of Malian businesses (21 percent) reported that they did not need a loan compared to 37.8 percent in the SSA region. Although Mali performs better comparatively than the SSA region on many metrics, in absolute terms these results continue to pose serious challenges for firms.<sup>32</sup>

**Figure 2.7. Access to finance (% firms rating as major or very severe)**



Source: Enterprise Surveys, multiple countries, 2016.

**Table 2.3. Selected finance indicators by firm size and regional benchmarking**

	Small	Medium	Large	Mali	SSA
Firms with a loan or credit line	13.8	41.9	51.8	26.3	22.6
Value of collateral needed for a loan (% of loan)	—	191.2	—	233.2	205.7
Firms not needing a loan	16.5	30.3	19.1	21.2	37.8
firms whose recent loan application was rejected	15.9	5.9	0	10.5	15.8
Firms using banks to finance investments	53.4	49.3	79.2	55.1	21
Firms using banks to finance working capital	43.3	58.4	78.6	51.7	23.7
Bank financing working capital (%)	12.9	16.4	22.7	15.0	9.0
Bank financing: Investments (%)	20.2	15.2	25.2	19.0	10.3

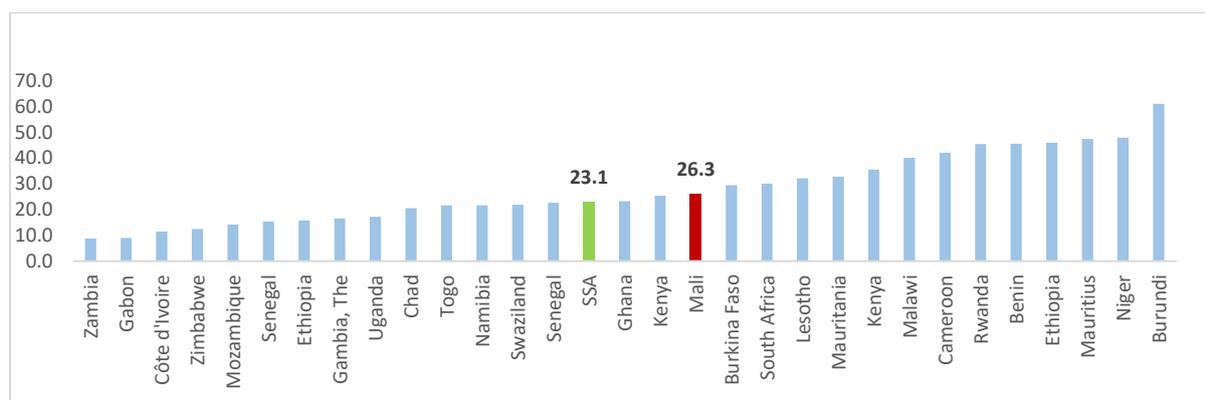
Source: ES, 2016.

70. Hence, it is likely that the extent to which firms complain about accessing finance may reflect issues of credit availability (rationing party due by low supply) and entry (credit being captured by larger established businesses and/or concentrated in few sectors). For instance, nearly 86 percent of all bank transactions require collateral, which is slightly higher than the regional average. In addition, the amount of collateral required to secure a loan is estimated at 233 percent of the loan amount, which is

<sup>32</sup> At the same time, the banking sector's credit to the private sector and the number of bank branches is not growing fast enough to meet this demand (see CPIA 2017)

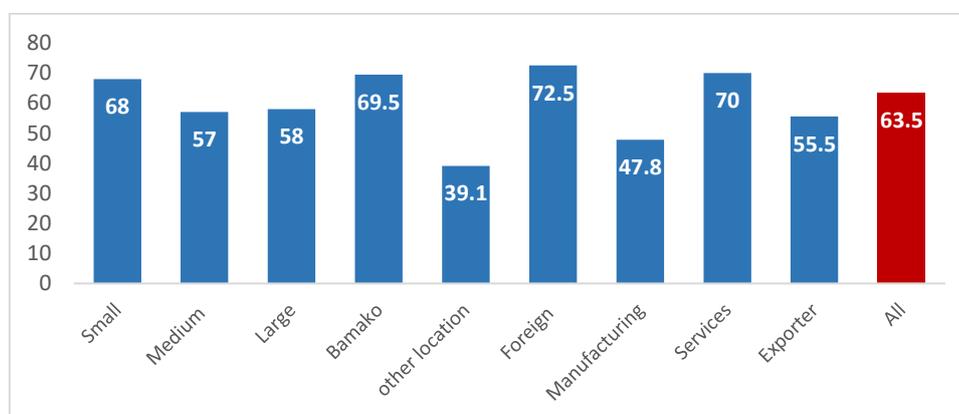
significantly higher than both regional and global figures. Also of interest is the type of collateral used – physical assets (47 percent of firms asked to provide), followed by land and buildings (30 percent of firms asked to provide this type of guarantee) represent the main guarantees requested by lenders. High and stringent collateral can act as a deterrent for firms, especially for smaller firms. In addition, there is a relatively high number of firms with access to an overdraft facility (65 percent) enabling them to utilize an overdraft as a mitigating measure for having low access to credit in another indication that credit is not easily available for the financing needs of private firms. Access to finance is more challenging for small firms. First 51 percent of large firms surveyed indicated that they have a loan from a bank compared to only 13 percent for small firms. Large firms are able to access bank loans or use bank finance for their investment or for shorter working capital requirements compared to smaller firms who have to rely on their own resources extensively (Table 2.3). In fact, small firms complain much more as illustrated in the graph below.

**Figure 2.8. Percent of firms with a bank loan/line of credit**



Source: ES, multiple countries, 2016.

**Figure 2.9. Firms identifying access to finance as a major constraint**



Source: ES, 2016.

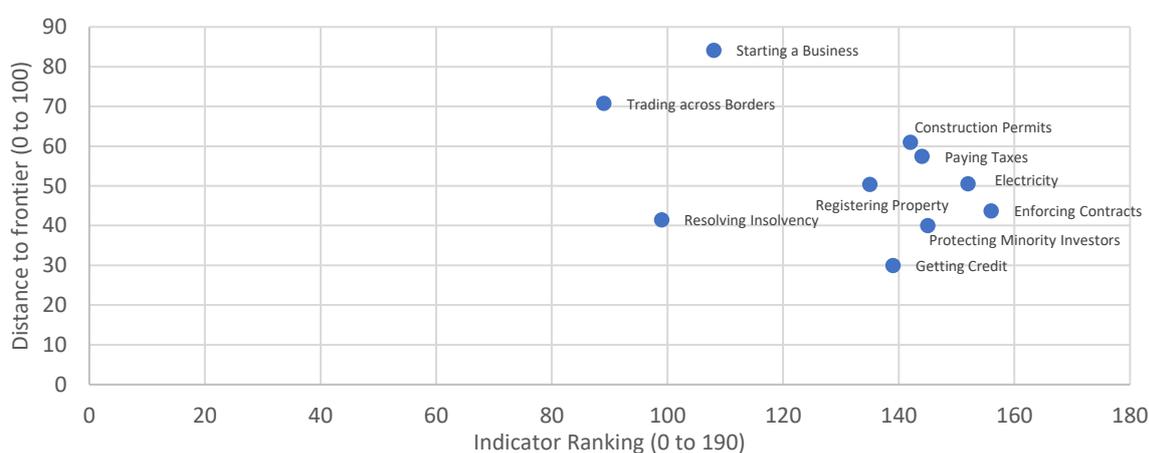
71. Moreover, there is a considerable variation based on firm characteristics in the perception of access to finance as a major constraint, particularly with regard to firm size (Figure 2.9). Small firms complained significantly more, with 68 percent of manager rating access to finance as a major or very severe constraint compared to 58 percent for large firms. Foreign owned firms complained more than the average while surprisingly, manufacturing firms point to lower levels of complaints. Usually service firm suffer less from financing issues due their more flexible and lower cost structure. Location also seems to play a role in the way firms perceive problems associated with accessing credit, such as in Bamako where firms complained more - probably because of the increased demand in fast growing urban centers. Generally, firm level surveys find that informality and a lack of institutional trust translate into few firms interested in bank financing or general bank services. To a certain extent, that is the case in Mali given the high and stringent loan requirements that discourage firms, and the preferential

treatment afforded to large established operators in growing sectors of the economy (retail-services, wholesale). Furthermore, SME lending is undermined by the low capacity of SMEs in providing acceptable information and evidence of the financial soundness of the enterprise or their investment projects.

### Snapshot of the regulatory environment as measured by DB indicators

72. **This section focuses on the regulatory framework measured by DB indicators.** Because the DB methodology has a narrower yet more focused approach, it serves to complement the analysis presented in the preceding sections which relied on broader surveys and indices based evaluations. The results from the DB report show that despite steady progress undertaken over the last seven years, Mali’s regulatory framework remains cumbersome and costly. Long delays and costs required for complying with burdensome administrative procedures act as substantial obstacles for the entry and operation of firms. Furthermore, these complex and costly procedures leave space for discretionary behavior on the part of agents thereby aggravating inefficiencies in the market and weakening the competitiveness of firms.

**Figure 2.10. DB indicators for Mali (rank and DTF) - 2017**



73. **Mali initiated and accelerated the pace of regulatory reforms starting in 2010, but that momentum stalled owing to the conflict and institutional instability.** It has regained momentum in recent years under the leadership of the CTRCA (*Cellule technique des Reformes du Climat des Affaires*)<sup>33</sup> and contributed to a steady progress, which saw Mali improve from the 162nd place in 2010 to 141st in 2017. These efforts place Mali among the top 20 in Africa and the leader in the sub-region. Mali performed better than its peers in the West African Economic and Monetary Union (UEMOA) and among members of the Organization for the Harmonization of Business Law in Africa (OHADA) countries.<sup>34</sup> Some of the most significant reforms registered over the last two years by the DB report include:

- **Starting a business:** Mali registered a significant improvement of 64 places in 2017 owing to a reduction in the minimum capital required to register a business, from \$1,600 to \$8. Mali has established a One Stop Shop in 2010 and since then has worked slowly but steadily to improve its functioning.
- **Trading across borders:** Mali ranks 89th and lost one place compared to DB 2016, but remains the best performer in the Western African Economic and Monetary Union

<sup>33</sup> The CTRCA – a technical working group under the Ministry of Investment Promotion put in place an action plan for the period 2015-2018.

<sup>34</sup> A complete summary of reforms undertaken since 2010 is provided in Annex A2B.

(WAEMU) for this indicator. The Distance-to-Frontier (DTF) for this indicator stands at 70.8 pointing to continued progress. In 2017, Mali reduced documentary compliance for both exporting and importing by introducing an electronic data interchange system, which should reduce delays at the border.

- *Resolving Insolvency*: Mali introduced a new conciliation procedure for companies in financial difficulties and a simplified preventive settlement procedure for small companies.
- *Protecting Minority Investors*: Mali strengthened minority investor protections by introducing greater requirements for disclosure of related-party transactions to the board of directors and by making it possible for shareholders to inspect the documents pertaining to related-party transactions and to appoint auditors to conduct an inspection of such transactions.
- *Getting Credit*: Mali established a new credit bureau in 2017 and regulations for licensing and functioning of credit bureaus in the West African Economic and Monetary Union (UEMOA).
- *Dealing with Construction Permits*: Mali eased the process of obtaining a construction permits by reducing the time needed to obtain a geotechnical study.

74. **Despite several reforms enacted in recent years and a concerted effort to improve its business environment, DB in Mali is still hampered by several constraints.** Figure 2.10 provides a snapshot of the country regulatory framework based on the latest iteration for the DB report (2017). However, the rankings of most dimensions measured remain low by global standards. On a regional level, the 2017 DB report ranks Mauritius as the top performer in the SSA region, with a global ranking of 49th over 190. The DTF<sup>35</sup> points to moderate progress in a little over a third of the areas measured by the report. Other performers in the SSA region include Rwanda (56th), Botswana (71), South Africa (74th). Compared to countries of the Sub-region, Mali is relatively well positioned (141st), ahead of Ivory Coast (142nd) Burkina-Faso (146th) Senegal (147th) Niger (150th) Nigeria (169th) Mauritania (160th) and Guinea (163rd).

75. **There are several areas measured by the DB report that continue to be ranked well below regional and global benchmarks and are therefore in need of continued attention.** These include:

- *Getting electricity*: In addition to frequent and costly outages recorded by the ES, connecting to the grid remains lengthy and costly. Mali is ranked 150th with a DTF score of 50.2. It takes 120 days to obtain a connection compared to a regional average of 93 days, involves four procedures and cost nearly 3,000 percent of income per capita.
- *Getting credit*: Mali is ranked 134th for 2017 compared to 139th for 2016 and an unchanged DFT score of 30. Borrower information registry and coverage ratios score particularly low compared to global performers. Mali has a score of 6 over 12 on the strength of legal rights index, 0/8 on the depth of credit information ratio, and 0.8 on credit coverage ratio (percent of adult population) for the bureau and for the registry. Also, the country lacks a fully operational credit bureau. Weak scores on credit information partly explain the difficulties associated with SME lending (See access to finance section confirming the DB analysis). Though Mali scores slightly better on the strength of legal index, it is not sufficient to offset weaknesses observed in the ability to collect sufficient information and to improve SME lending. Nevertheless, the reforms enacted over the past two years such as the establishment of regulations governing licensing and functioning of credit bureaus among members of the West African Economic and Monetary Union (UEMOA) followed in 2017 with the establishment of a credit bureau

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<sup>35</sup> For detailed on Distance to Frontier methodology see: <http://www.doingbusiness.org/methodology>.

should begin to have an impact on reducing information asymmetries between lender and borrowers and improve lending to SMEs.

- *Paying taxes*: Mali lost 3 places from 141th to 144th in 2017. The DTF for this indicator (57.5 percent) is slightly above the SSA average (55.8 percent) and takes the lead in terms of ranking and TDF in WAEMU Zone indicating steady progress. For 2017 the number of tax payments remains unchanged (35), but Mali did streamline the process of paying taxes with the introduction of a single form for joint filing and payment of several taxes in 2012, whereas previously it took a Malian entrepreneur an of average 120 hours preparing, calculating, and paying his VAT. Mali also reduced the corporate income tax rate.
- *Enforcing contracts*: It is ranked 156th with a DTF of 43.0: the worst ranked indicator for Mali placing the country well below both SSA and global comparators. Two areas are problematic under this indicator. First the particularly long delays associated with a court ruling – from filing to enforcement - involving a commercial dispute takes 620 days. Second, the quality of rulings index scores only 5.5 over 18.<sup>36</sup> The cost is also an issue (52 percent of the claim compared to 44.3 percent for SSA). Mali has not implemented a significant reform in the area of contract enforcement since 2010 when it improved its civil procedure code by introducing case time limits and allowing a summons to be served, with no intervention by the judge, when filing.
- *Registering property*: Mali ranks 135th for 2017, a gain of 4th places since 2016. Mali has a DTF score of 50.3. The cost involved with transferring a property title is excessive amounting to 11.8 percent of the property value, compared to 8 percent for SSA and 4.7 percent for the OCDE. At the same time, the quality of the administration is considered weak based on the index scores of 8/30. Placing Mali below many of its regional as well as behind the best performers in the OCDE. In addition, there has not been any significant progress made since 2011 when Mali reduced the property transfer tax for firms for 15 percent of the property value to 7 percent. The number of procedures and time to comply with construction permit indicator is inferior to the average SSA. For this indicator, Mali ranked 142 in DB 2017 against 146 in DB 2016 and improved its DTF by 1.37 which is equal to: 61,02 percent. The effective functioning of the land administration is essential to ensure that property rights are respected. Costly and cumbersome procedures associated with the transfer of titles promotes informal activities – this has a direct association with the process of acquiring credit from banks as informal titles are not likely to be considered for collateral.

## 2.3 Export Performance and Constraints to Trade

76. This section focuses on the IC as lived by exporting firms using a dedicated exporter module in the ES 2016, which allows for a deeper understanding of constraints and conditions specific to exporting firms. As a landlocked country, Mali faces numerous challenges to trade and export performance. Once a hub for trans-African trade between SSA and Maghreb countries, access to external markets is particularly important as its domestic market is very small and foreign markets enable firms to increase their consumer base and gain foreign exchange.

### Export trends

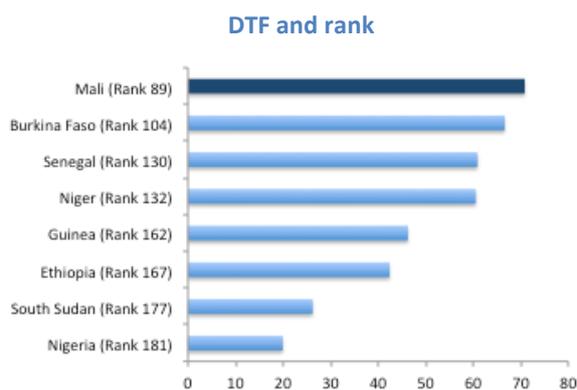
77. Mali fares relatively well compared to peer SSA countries in terms of measures of DTF on trading across borders and relative rank, as well as time and cost to export (DB 2017). Time for border compliance captures the processing time to obtain customs clearance, including inspections by other

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<sup>36</sup> The quality of ruling index measures the extent to which Mali has adopted a series of good practices in its court system in four areas: court structure and proceedings, case management, court automation and alternative dispute resolution. The index ranges from 0 to 18, with higher values indicating more efficient judicial processes.

agencies and the processing of documents during clearance, and associated fees including informal payments and insurance cost. Documentary compliance measure the time and cost of obtaining, preparing and submitting documents during transport, clearance, inspections and port or border handing, as well as any documents required by the destination economy. Based on these indicators, Mali has a relative rank of 89 (out of 190 countries) and a DTF of 79.79 percent (Figure 2.11). Mali has made two major changes related to trade in the past years. In 2011, Mali eliminated redundant inspections of imported goods, thus reducing processing time for imports. In 2016, it reduced the time for documentary compliance for trade, by introducing an electronic data interchange system well below its SSA neighbors (Table 2.4).

**Figure 2.11. DB - trading across borders, 2017**



**Table 2.4. DB, 2017**

	<b>Time and Cost to Export:</b>			
	<b>Border Compliance (hours and USD)</b>		<b>Documentary Compliance (hours and USD)</b>	
<b>Mali</b>	<b>48</b>	<b>\$242</b>	<b>48</b>	<b>\$33</b>
Niger	48	\$543	51	\$39
Ethiopia	57	\$144	91	\$175
Senegal	61	\$547	26	\$96
Guinea	72	\$778	139	\$128
Burkina Faso	75	\$261	84	\$86
Nigeria	135	\$786	131	\$250
South Sudan	146	\$763	192	\$194

78. **Yet, further information on trade was gained through ES 2016 survey.** In sum:

- Compared to peers, Mali exports at a marginally higher rate. Further, the number of firms in Mali engaging in direct exports increased in recent years (10 percent of firms in the latest ES, compared to 5.4 percent of firms in the ES conducted in 2010). Yet, these exports only account for about 1.9–2.1 percent of firms’ total revenues.
- A typical firm in Mali engaging in direct exports is trading finished products with government clients or parent companies or affiliates, primarily based in the Economic Community of West African States (ECOWAS) countries. Firms cite that this trade is driven by high foreign demand. Direct exporters appear to have slightly more experienced managers and are operating slightly older firms with greater capacity utilization. These firms tend to have foreign ownership and are more likely to have invested in Research & Development (R&D). Likewise, exporters tend to innovate more: Younger firms directly exporting are innovative.
- Exporters and non-exporting firms face similar constraints to firm operations in the domestic market. In fact, both groups cite the same obstacles as “major or very severe” constraints to business operations in Mali. These include: political, instability, corruption, access to finance, electricity, and competition from the informal sector, with varying rankings between exporters and non-exporters.
- Constraints related to exporters reaching their main export markets include access to inputs, taxes and regulations. The top three constraints cited by firms as “major or very severe” obstacles to exporting to their main destination markets include lack of export financing (53 percent of direct exporters), issues with transport services (46 percent), and high or discriminatory export taxes or charges (39 percent).

79. **The next section looks at firm characteristics of exporting firms compared to the overall landscape of Malian firms and capture why firms in Mali are constrained from exporting.**

## Export participation

80. Firms in Mali tend to export at a marginally higher rate than peers, yet reap limited sales revenues from both direct and indirect exports.<sup>37</sup> 14.2 percent of firms in Mali export directly or indirectly and 10 percent of manufacturing firms export directly (Figure 2.12). These rates are higher than peers, such as Niger, Ethiopia, Burkina Faso, Guinea and South Sudan. Yet, despite the level of export participation, most firms in Mali gain their revenue from domestic sales (95.9 percent), with and only about 1.9 percent of sales from direct exports and 2.1 percent of sales from indirect exports (Figure 2.13). This is likely due to the low value of products being exported by firms in Mali, and high costs associated with exporting, perhaps due to being landlocked and the associated transport costs, which cut into firms' revenues.

Figure 2.12. Export participation

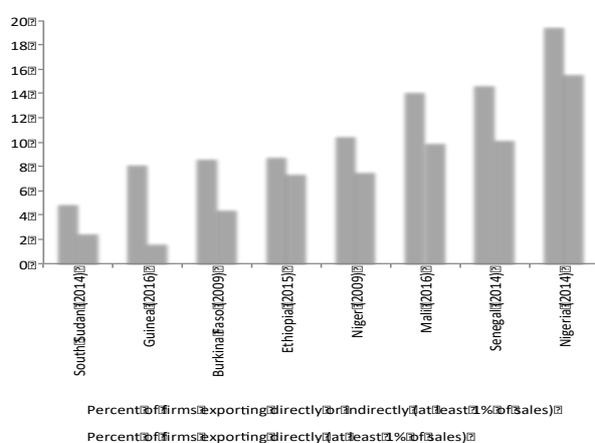
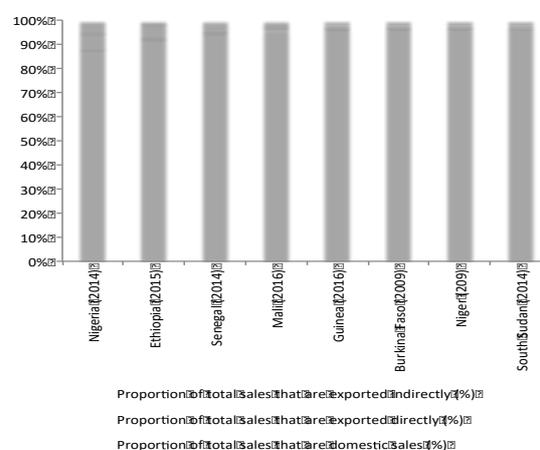


Figure 2.13. Proportions of sales by origin



Source: ESs, various years.<sup>38</sup>

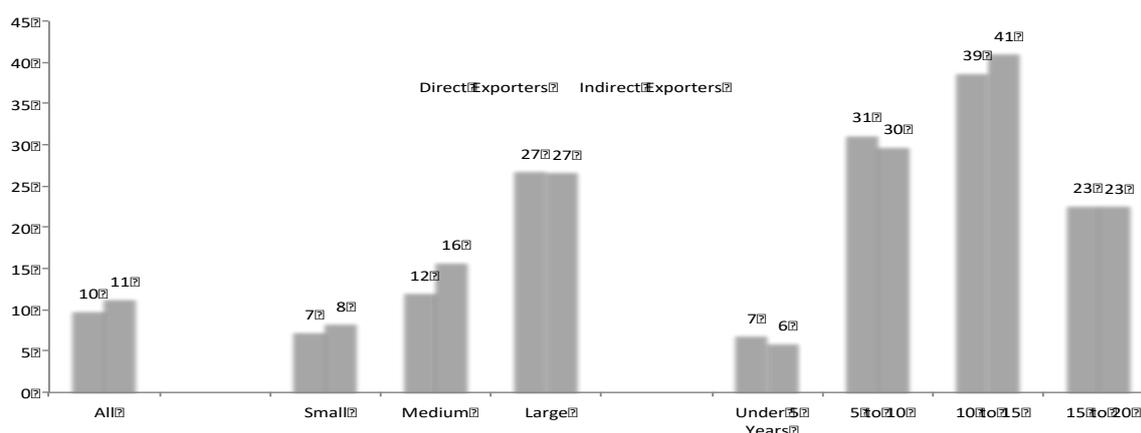
81. Both direct and indirect exporters tend to be large firms and slightly older – between 10 and 15 years in operation (Figure 2.14). Larger firms may be more equipped with the knowledge, contacts, access to export markets, and able to produce volumes for export.

82. Compared to previous surveys, Malian firms are increasingly exporting proportionately, although its exact determinants remain unclear. Overall, 10 percent of firms in Mali engage in direct exporting; an increase compared to prior ESs: in 2010, 5.4 percent of firms were engaged in direct exports and in 2007, 6.5 percent of firms were directly exporting. Perhaps the increase in firms engaged in direct exporting could be explained by improvements in the business environment related to trade, but given this is recent, it is unclear whether this was a contributing factor.

<sup>37</sup> *An indirect export* is when the manufacturer sells its goods to a trader or another agent who then exports the product without modifications. *Direct export* is the sale of goods where the immediate recipient is an intermediary, user, consumer, firm, individual, or other institution that is located outside the borders of the country. And, products that the manager knows are smuggled abroad should also be counted as exports, but very hard to quantify. Finally, if a firm sells its product to another firm as an intermediate product (for use as one input into a different final product) which is then exported, this establishment's product is not considered an export, neither direct nor indirect.

<sup>38</sup> From here until the end of the chapter, unless indicated otherwise, all Figures have ES results as source.

Figure 2.14. Exporters by firm type (percent)



## Export markets

83. A typical firm is exporting finished products to foreign clients, based on external demand. As seen in Table 2.5, the main buyers of Mali's exports are governments, including state-owned enterprises (28.8 percent) and firms' parent companies or affiliated subsidiaries (26.7 percent). The majority of these exports (81 percent) are finished products, with only about 11 percent of exports comprising of semi-finished products. Exports appear driven by external demand and incentives: 39.7 percent of exports are driven by high foreign demand for the firms' products and 17.9 percent are due to specific and favorable incentives when exporting to the given market. Besides, some exports (16.8 percent) are due to excess domestic supply of the firm's products within Mali.

Table 2.5. Export market characteristics, in percent

Type of Client in Main Market	Governments 28.81	Company or Affiliates 26.67	Private large firms 16.55	Private SMEs 1.83	Other 26.15	
Type of Good Exported	Finished product 80.55		Semi-finished 10.45		Both 9	
Primary Reason for Exporting to Main Market	Excess domestic supply 16.79	High foreign demand 39.7	Favorable incentives 17.89	Subsidiary of parent firm 14.68	New competitive product for destination market 6.92	Other 4.03

- *Firms are getting a larger share of their direct export revenue from ECOWAS countries, than from the EU or other countries where firms directly export.* On average exporting firms get 66.04 percent of their export revenue from trade with ECOWAS countries, 11.82 percent from the EU, and 22.14 percent from "other" countries.
- *The typical firm exporting to ECOWAS has foreign ownership and is about 20 years old.* Firms focused on exports to other ECOWAS countries, defined as those with greater than 50 percent of export sales from trade with an ECOWAS country, are 51.1 percent small firms, 31.7 percent medium firms, and 17.1 percent large firms. The mean age of these firms is 20.7 years in business. 59 percent of ECOWAS exporters have some foreign ownership, defined as greater than 30 percent owned by private foreign individuals, companies or organizations.
- *The top constraints to firm operations cited by ECOWAS exporters were political instability, corruption, and practices of firms in the informal sector.* 84 percent of ECOWAS exporters cited political instability as a major or very severe constraint to firm operations. Likewise, 84 percent of ECOWAS exporters cited corruption as a major or very severe constraint.

76 percent of ECOWAS exporters cited corruption as a major or very severe constraint to overall business operations.

**Table 2.6. Key differences between direct exporters, indirect exporters, and non-exporting firms**

		Mean	Small	Medium	Large
Managers' experience (average years)	Direct Exporter	22.2	19.8	23.6	26.0
	Indirect Exporter	21.4	19.0	24.9	22.7
	Non-Exporter	20.8	20.6	20.8	24.0
Age of Firm	Direct Exporter	22.2	14.8	33.7	26.1
	Indirect Exporter	20.0	14.7	23.8	28.5
	Non-Exporter	20.4	18.6	25.6	25.7
Capacity Utilization (% of potential output)	Direct Exporter	86.2	87.0	87.4	83.2
	Indirect Exporter	86.0	84.3	90.8	84.0
	Non-Exporter	82.0	80.6	85.1	80.7
Foreign Owned (% of firms with at least 10% foreign private participation)	Direct Exporter	57.9	33.2	73.6	100.0
	Indirect Exporter	47.6	20.4	68.0	92.6
	Non-Exporter	21.7	14.1	38.1	64.4
Innovation: Introduction of a new or improved product or service in the past 3 years	Direct Exporter	44.7	52.8	42.4	27.6
	Indirect Exporter	46.7	53.2	51.3	18.2
	Non-Exporter	37.1	32.1	55.2	43.4
Investment in R&D (% indicating investment)	Direct Exporter	29.4	24.1	29.7	42.7
	Indirect Exporter	25.9	21.3	25.1	39.5
	Non-Exporter	9.7	4.2	27.0	26.6
Investment in Fixed Assets (% indicating investment)	Direct Exporter	46.3	39.7	29.5	83.5
	Indirect Exporter	43.8	44.4	26.1	64.4
	Non-Exporter	55.3	53.9	54.2	75.3

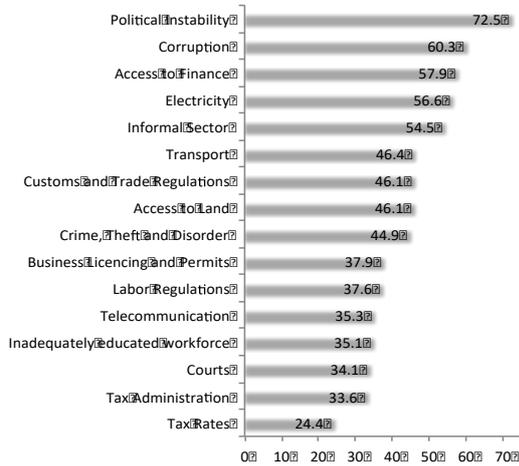
### Main characteristics of exporting firms

84. **Direct exporters and non-exporters have minor differences based on age and size, however some distinctions emerge with capacity utilization (Table 2.6).** The typical direct exporter has a manager with 22.2 years of experience, who is running a firm that is 22.2 years old. In comparison, a typical non-exporting firm has a manager with 20.8 years of experience, in a firm with 20.4 years of existence. However, there are other categories where the differences between exporters and non-exporters is more. A typical direct exporter has 86.2 percent capacity utilization, compared to a non-exporter operating at 82 percent of potential output. At size breakdowns, distinctions are wider. For instance, capacity utilization differences tend to be greater for small firms, where small non-exporting firms are operating at 76.5 percent of their potential output, compared to small exporting firms, which are operating at 87 percent of their total potential output which could be related to higher overall performances of exporting firms and to some extent by the requirements to meet export market demands. Other features follow next.

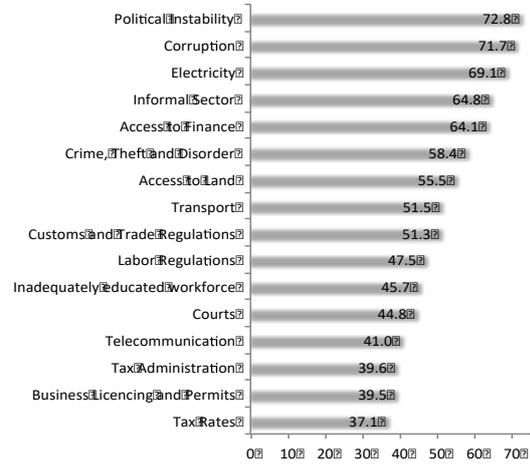
- *Exporters tend to have higher foreign ownership:* 57.9 percent of direct exporters had at least 10 percent of foreign ownership, compared to only 21.7 percent of non-exporters. Foreign ownership can help firms to establish contacts with foreign markets and develop contacts with foreign buys, thus making entry to foreign markets easier. Additionally, foreign ownership may impart different management skillsets or improved technologies that might not be endemic to the local market.

- *Substantially more exporters have indicated they invested in R&D compared to non-exporters.* 29.4 percent of direct exporters indicated they invested in research and development, compared to only 9.7 percent of non-exporters. While larger firms of both categories tend to invest more in R&D, likely because they have the financial resources to do so, the gap between direct exporters and non-exporters remains.

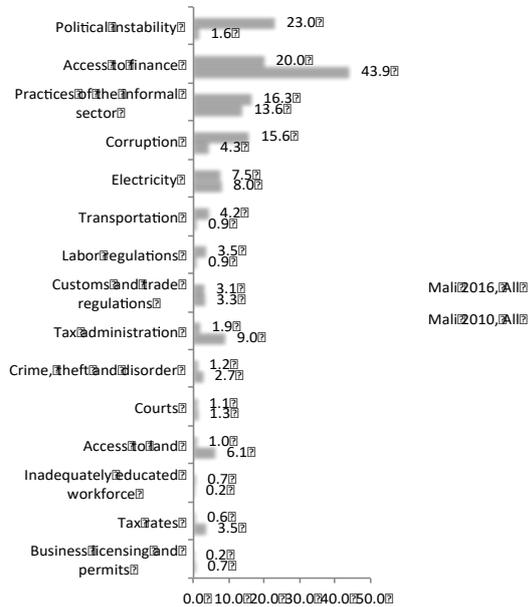
**Figure 2.15. Major or very severe constraints, direct exporting firms (% of firms citing constraint)**



**Figure 2.16. Major or very severe constraints, non-exporters (% of firms citing constraint)**



**Figure 2.17. Biggest obstacle to operations, all firms, 2010 and 2016 (% of firms citing constraint)**



**Figure 2.18. Biggest obstacle to operations, percentage point change 2010 to 2016.**



- *Exporters tend to innovate more, particularly among small direct-exporters.* 44.7 percent of direct exporters indicated they have adopted a new or improved product or service over the last three years, compared to 37.1 percent who have not. However, large firms tend to have significantly less investment in innovation among direct exporters than non-exporters. This could be attributable to larger exporting firms already having established markets and thus feeling less incentivized to innovate. Smaller firms, on the other hand, tend to show much higher rates of investing in innovation among direct exporters (52.8

percent) compared to 32.1 percent of non-exporters. Perhaps this could be due to the correlation of smaller firms, being younger, and therefore more likely to try to innovate to remain competitive and grow.

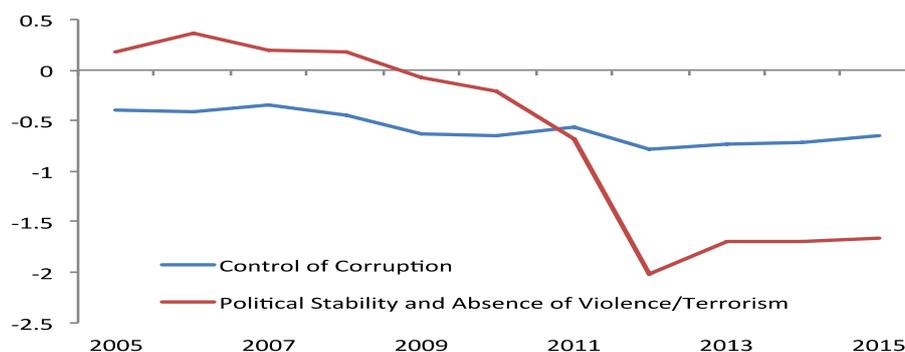
- *On the other hand, non-exporters tend have higher rates of investment in fixed assets.* 55.3 percent of non-exporting firms indicated they have invested in fixed assets over the past fiscal year, compared to only 46.3 percent of direct exporters. However, this trend reverses at larger firm sizes. For example, 83.5 percent of large firms engaged in direct exports report investing in fixed assets, compared to 75.3 percent of large non-exporting firms.

### Constraints to firm operations in domestic market

85. **Direct exporters and non-exporting firms face similar constraints to firm operations in Mali (Figures 2.15–2.18).** Both types of firms cite the same top five constraints, albeit with slightly different rankings between the two groups. These top five constraints include: political instability (cited by 72.5 percent of direct exporters, and 72.8 percent of non-exporters), corruption (cited by 60.3 percent of direct exporters and 71.7 percent of non-exporters), access to finance (cited by 57.9 percent of direct exporters and 64.1 percent of non-exporters), electricity (cited by 56.4 percent of direct exporters and 69.1 percent of non-exporters), and competition from the informal sector (54.5 percent of direct exporters and 64.8 percent of non-exporters).

86. **Across all firms the perception of political instability as a constraint to firm operations is large.** In 2016, it was perceived as the biggest constraint to firm operations by 23 percent of firms (Figure 2.17). This marked a shift of 21.4 percentage points between surveys conducted in 2010 and 2016 (Figure 2.18), and corresponded with a relative decrease in the perception of access to finance as the biggest constraint to firm operation (23.9 percentage point decrease). And while corruption has been a constant issue for the past 10 years, political instability as defined by the World Bank’s Governance Indicators which includes absence of violence and terrorism, showed a marked decline since 2009 (Figure 2.19).

Figure 2.19. Governance indicators, Mali

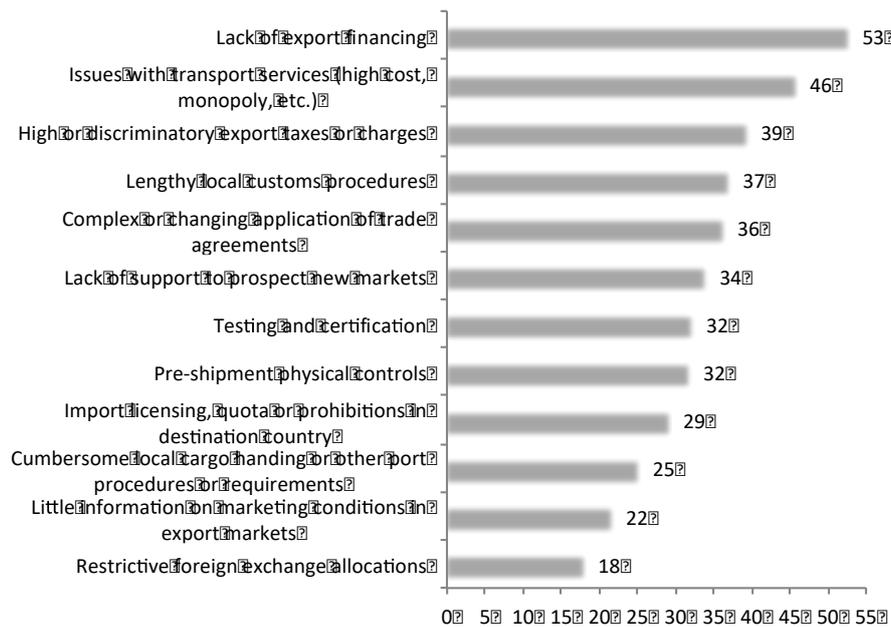


Source: World Bank, Worldwide Governance Indicators database.

### Constraints in exporting to main partner markets

87. **Firms engaging in direct exports from Mali cite issues related to access to inputs, and taxes and regulations as major obstacles for exporting.** Lack of export financing is the leading constraint for exporters to their main partner market (cited by 53 percent of firms). Issues with transport services, such as high costs and monopolies, are cited by a further 46 percent of firms as major or very severe obstacles for exports to main markets. Third, high or discriminatory export taxes or charges are cited by 39 percent of firms as a major or very severe obstacle (Figure 2.20). Further details next.

Figure 2.20 “Major” or “very severe” obstacles for exports to main markets (percent of firms)



- Lack of export financing is particularly cumbersome for medium sized firms—77 percent of these firms cite it as a major constraint (Table 2.7).* These firms could represent a missing middle sector, where small firms are reached by microcredit lending and large firms by formal bank finance, with medium sized firms left with limited resources. On the other hand, about equivalent percentages of domestic and foreign-owned firms (52 and 53 percent, respectively), cite export finance as a constraint to exports, which is surprising as foreign owned firms should have greater access to finance.
- Issues with transport services are cited as a major constraint to exports, again medium sized firms are particularly constrained (58 percent of medium firms).* As a landlocked country, transport services are critical to exports, as sea access is only possible when using the ports of neighboring coastal countries. Mali’s landlocked status also meant that exporters had to rely on neighboring countries surface infrastructure and road networks, many of whom were little more developed than Mali’s own. These infrastructure issues led to transport time delays, which in the case of perishable exports led some exporters to rely on exporting by air cargo – which can be costly.
- High or discriminatory export taxes or charges are the third most cited constraint to exporting to main markets.* Again, medium sized firms appear to voice more concern over this constraint – with 66 percent of medium firms citing this issue as a major or very severe constraint to exporting to their main markets.

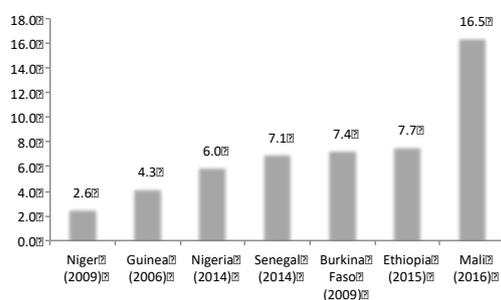
88. **Lengthy customs procedures are cited by 37 percent of firms as a major constraint to exports (Figure 2.21) and wait times for exports to clear customs have increased steadily since 2007.** We see that the average number of days to clear customs for exports is 16.5 days. This represents an increase from the 2010 and 2007 ESs, which found firms waited 12.9 and 4.8 days, respectively. Further, latest data show that firms in Mali face much longer wait times to clear exports through customs compared to peer countries, causing exporting firms to face greater challenges than peers (Figure 2.22). Longer wait times could reduce Malian firms profit margin, thus being a contributing factor to why the increase in export participation has not led to increases in export revenue.

**Table 2.7. “Major” or “very severe” obstacles for exports to main markets, by firm size, sector and ownership status - percent of firms**

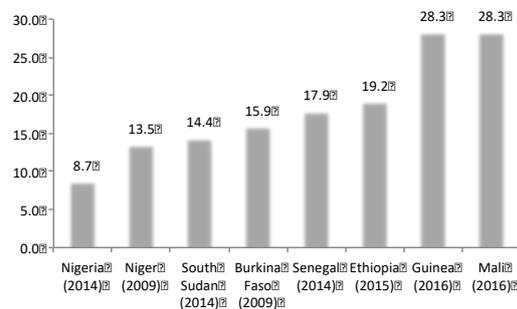
Product/Market	Firm Size			Sector			Ownership	
	Small	Medium	Large	Manufacturing	Retail	Other Services	Domestic Firm	Foreign-owned (>30%)
Testing and certification	13	64	42	27	**	38	28	39
<b>Export/Import Procedures</b>								
Pre-shipment physical controls	23	57	23	30	**	31	31	33
Import licensing, quota or prohibitions in destination country	27	43	18	17	**	56	32	25
Lengthy local customs procedures	36	57	16	38	**	31	39	33
Cumbersome local cargo handling or other port procedures or requirements	19	43	19	20	**	32	25	26
<b>Taxes and regulations in country of origin</b>								
Restrictive foreign exchange allocations	10	43	9	15	**	19	14	24
High or discriminatory export taxes or charges	33	66	23	30	**	56	42	34
<b>Access to inputs (or public support)</b>								
Lack of export financing	46	77	42	41	**	75	53	52
Little information on marketing conditions in export markets	10	43	25	15	**	32	16	30
Lack of support to prospect new markets	26	43	42	24	**	50	29	42
Issues with transport services (high cost, monopoly, etc.)	39	58	49	36	**	63	44	48
<b>Trade regulations</b>								
Complex or changing application of trade agreements	30	51	34	22	**	63	37	35

\*\*/Less than 5 observations

**Figure 2.21. Time to clear exports through customs, by days\***



**Figure 2.22. Time to clear imports through customs, by days**



Note: \*Guinea 2016 and South Sudan 2014 contain no data.

89. Customs delays appear to go in both directions, affecting both exporting firms and domestic firms relying on imports for inputs to products for re-export or for sale on the domestic market. Similarly to time estimates for clearing exports through customs, Mali again falls at the high end compared to peers (Figure 2.22). The time to clear imports through customs has steadily increased over the years from 6.4 days in the 2007 ES to 17.4 days in the 2010 ES, to 28.3 days in 2016. Furthermore, *bribes remain an issue for firms to get exports past customs*. 43 percent of firms cited the need for an informal gift of payment to clear goods through customs. Similarly, 51 percent of firms faced losses in the value of products exported due to theft and 62 percent indicated losses due to breakage or spoilage. Losses due to theft and spoilage/breakage were estimated at an average of 4.6 percent and 3.3 percent of the value of the products, respectively.

### 2.3 Policy Recommendations

90. Mali should vigorously pursue its efforts at restoring trust among business operators. Table 2.8 provides detailed policy recommendations. As long as operators and potential investors perceive

the economic environment as marred by instability and corruption, private investments and firm competitiveness will remain curtailed to few privileged firms. In this context, it is paramount the authorities follow up and sustain the efforts undertaken under the technical guidance of the IFC Mali IC3 and the CTRCA (*Cellule technique des Reformes du Climat des Affaires*) which has recently prepared a road map to pursue IC reforms.<sup>39</sup> This effort should be inclusive and participatory across the full spectrum of stakeholders (private sector, public agents, policy makers and civil society) with the added features in monitoring and evaluation measures and efforts to increase communications and ownership. In additions, Impartial courts are essential for firms because of their impact on the interpretation of rules governing commercial activities and the protection of economic rights. Efficient and transparent courts promote partnerships since businesses trust that commercial disputes will be dealt with fairly and quickly. In particular, speedy hearings are critical for smaller firms, which often lack the resources to mitigate financial losses while awaiting the outcome of a long court dispute. Hence, it is essential that Mali improves the functioning of its courts, with impartial rulings and enforcements in order to restore confidence. See Annex 2B, which provides detailed reforms in DB areas for the last five years.

91. **Finally, Mali's policy framework should position the country to rip more benefits from its regional initiatives.** These are such as through the West African Economic and Monetary Union (WAEMU), the ECOWAS, and the Comprehensive Africa Agriculture Development Program (CAADP). Key prerequisites to achieving this goal will include (i) increasing access to regional market for its products by identifying niches for new or improved exportable product while improving productivity of its existing potential such as in agriculture (see Chapter 3);<sup>40</sup> (ii) improving trade facilitation by alleviating administrative barriers and logistics constraints to exporters. Mali will need to continue simplifying trade regulations and reducing border crossing time; and (iii) consider introducing instruments designed to promote export finance operations (for example, guarantees schemes for exporters). Within the previous policy context described above, Table provides more detailed areas of intervention and policies.

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<sup>39</sup> "Plan Stratégique Opérationnel (PSO) 2015-2018" relies on three areas of interventions: i) attract foreign investments ii) Improve business climate, iii) Improve the capacity of the CTRCA

<sup>40</sup>"In the agricultural sector a gradual approach is required, predicated on reducing the gap between current and potential productivity levels. Growth prospects should be exploited first within existing value chains with expansion predicated on producing basic products that are relatively low in economic complexity and close to what already is being produced; then, to diversification to high value production and increased value addition". Mali livestock sector development support Project Concept Note, 2017.

Table 2.8. Key policy recommendations

Objectives	Focus area	Short term	Medium term
<b>Easing entry and operation of businesses</b>	Business creation	-Make available for online or within the OSS website standard company statutes for easy retrieval by potential entrepreneurs.	<p>Pursue the computerization of "RCCM" the Commercial and Credit Registry within the clerk's office to speed up registration at the commercial court. Facilitate information exchanges among institutions registering a new firm: National Office of Statistics, INPS, Tax &amp; National Employment Office. Reduce notary fee / or make the notary intervention optional. Remove Stamp duty CFAF 9,750 for the registration of the statutes. Harmonize regulations governing construction permits for consistency, Review the building code, in particular procedures related to the quality control of buildings, in order to comply with international best practices, including a mapping of risks. Eliminate the environmental impact statement from the list of documents to be provided, especially as it is required at the time of fragmentation. Strengthen the implementation of the reform on "Implementation of a simplified environmental impact assessment for non-complex commercial buildings. "</p>
	Construction permits	<p>Reduce the number of days required to obtain the geotechnical study.</p> <p>Reduce the number of days required to obtain a building permit by streamlining the inspection procedures and the time required for the application/extension of the permit.</p> <p>Eliminate the costs of connection to water.</p> <p>Reduce the number of days required to obtain the certificate of compliance: Implement a schedule of inspections; Eliminate inspections during construction. Make the final inspections mandatory; and Review the certification procedure for engineers.</p>	
	Taxes	<p>Introduce a streamlined process for obtaining building permits for smaller buildings (single window).</p> <p>Introduce a single form for payment of INPS (<i>social security</i>).</p> <p>Reduce frequency of tax payments (4 vs. 12 returns).</p>	<p>Introduce bank transfer for the payment of taxes.</p> <p>Introduce self -filing and telepayment for large enterprises with computerized accounts.</p>
<b>Improving Governance - Restoring trust in the judicial</b>	Protecting investors (mostly regulated by the OHADA Uniform Act on rights of corporations/economic interest groups)		<p>Give minority shareholders the opportunity to use legal recourses in cases where a regulated agreement is prejudicial to them, so they be able to obtain reparation for damages: improve the rules governing civil procedures (Shareholders Suits Index). This could facilitate the suits of shareholders against the directors. Besides, authorize the plaintiff to request the communication of evidence in general terms (indicating categories of evidence); and authorize the plaintiff to examine the defendant or witness directly.</p> <p>Adopt procedures that apply severe sanctions for the use of delaying tactics (and ensure the application of existing rules).</p>
	Making commercial courts more efficient/impartial	Eliminate technical procedures that allow recalcitrant debtors to delay enforcement of the judgment. It	

Objectives	Focus area	Short term	Medium term
		<p>could be useful to limit abuses of the procedures for challenging or reclaiming the confiscated goods.</p> <p>Reduce delays on proceedings of trials, judgments and enforcements through the mapping of court proceedings to identify bottlenecks</p> <p>Establish an electronic business management system to: automatically update the status of filings reviewable by courts; allow rapid detection of cases that have remained inactive for a predetermined period; assist judges in assessing their performance and, secondarily, in improving productivity; and provide more detailed statistics &amp; minimize delays due to or classification of documents.</p> <p>Evaluate the performance of the commercial court on the basis of the number of cases handled, the number of appeals, the time to resolve cases.</p>	<p>Develop tools that allow the magistrates to systematically refer small disputes (those whose stakes do not justify the costs of litigation) to a venue with a simplified process favoring mediation.</p> <p>Improve magistrate through specialization (for commercial cases mainly) and introduce continuous trainings for judges and court personnel.</p>
<p><b>Improving efficiency of factor market</b></p>	<p>Registering property</p> <p>Access to credit: improving collateral and credit information</p>	<p>Establish a register of guarantees with a rank.</p> <p>Distribute positive and negative information. (information on current loans as well as payments).</p> <p>Collect information from institutional lenders (e.g. water and electricity co.) rather than only from financial institutions.</p> <p>Allow each individual registered to access his information.</p> <p>Distribute data history over more than two years.</p> <p>Reduce the threshold of loans subject to being catalogued at the credit registry to 1% of annual income per person.</p> <p>Simplify the process of reviewing applications, and the time to issue an excavation permit</p>	<p>Reduce monopoly in management of land transaction by reducing notaries' role.</p> <p>Introduce standardized contracts to allow operators to skip notary service and fees.</p> <p>Establish a transparent and predictable tax base assessment mechanism.</p> <p>Decrease the cost of legal fees associated with transferring property (notary's cost could be fixed per page/capped (not only calculated as a % of transaction volume).</p> <p><i>Pursue reforms within the framework of the BCEAO with respect to improving credit information:</i></p> <p>Reduce the threshold of loans subject to being catalogued at the credit registry to 1% of the annual income per person (this threshold is currently 5 millions CFA).</p> <p>Distribute positive and negative information (information on current loans as well as payments).</p> <p>Collect information from institutional lenders (such as water and electricity companies) rather than only from financial institutions.</p> <p>Allow every individual registered to consult the information that concerns him/her.</p>

Objectives	Focus area	Short term	Medium term
			Distribute data history over more than two years.
<b>Improving the provision of energy for private operators</b>	Electricity	<p>Reduce deadline to get quote online from 30 to 5 days max.</p> <p>Make operational the procedure of reduction of the delays of 120 to 20 days for the connection to the electricity of a warehouse to the grid for a subscribed power of 160 kVa.</p> <p>Post connection costs online: Conduct an in-depth analysis of all costs incurred in connection with electricity grid.</p> <p>Establish tool to measure the reliability of supply, duration and frequency of power outages, restore power supply).</p> <p>Communication: set guide in the EDM website for transparency and ease of access to electricity tariffs.</p>	
<b>Improve trade</b>	Export/Import transactions	Conduct a media campaign on implementation of the Sydonia word. Reduce the time and procedures required to obtain a letter of credit. Undertake a mapping of import transactions procedures.	<p>Set group to design 2nd generation reform roadmap for export /import transactions.</p> <p>Further improve coordination among the customs office, banks, and port authorities.</p>

## Chapter 3. Exploring Mali's Opportunities for Exports Diversification<sup>41</sup>

### 3.1 Introduction

92. **Mali is one of the countries with the highest export concentration in the world, which prevents its potential to grow faster and diversify.** Mali's exports are largely dominated by very few primary goods and that trend has not changed since the 1970s. Until 1990s, cotton was Mali's almost sole export product, accounting for more than 85 percent alone. In the past two decades, however, Mali's exports became dominated by gold, followed by cotton; and both products remain as the main source of export earnings. In 2015, about 80 percent of Mali's export revenues came from just two products: gold (59 percent) and cotton (21 per cent). This makes the country susceptible to price fluctuations and changes in global external demand. Overall, Mali lags as the 147th largest export economy in the world and the 99th most complex economy according to the 2015 Economic Complexity Index (ECI).<sup>42</sup> And the situation is not improving: During the last five years the country's exports had increased at an average annual rate of 10.6 percent, but experiencing a deceleration in 2014 and 2015 (growing an average of 3.8 percent). As explained above, prospects for rapid growth in Mali require a higher rate of exports growth arising from their needed diversification.

93. **In light of Mali's stagnant industrialization and slow structural change (see Chapter 1), this chapter assess its potential to move away from exporting just a few primary products to more diverse and higher-value added goods.** Studies have shown the strong relationship between export diversification and economic growth (Hausmann et al, 2007; and Hausmann and Rodrick, 2009). Per the ladder of export diversification described above (see Chapter 1), the underlying diversification strategy should bring the country to gradually move from existing few products to other agri-exports and develop more complex (agro) light industries that are reasonably within reach of its current capabilities. Hence, Section 2 presents a brief overview of the country's export structure; while Section 3 assesses trade logistics and costs. Moving to more detailed product-specific analysis, Section 4 evaluates Mali's exports revealed comparative advantage (RCA) to identify on which export products and services the country has advantage; while Section 5 presents the economic complexity of Mali and Section 6 uses the product space approaches to complement the evaluation of exports' RCA and complexity of Mali. Finally, Section 7 presents Mali's opportunities for diversification.

### 3.2 Overview of Mali's Exports Structure

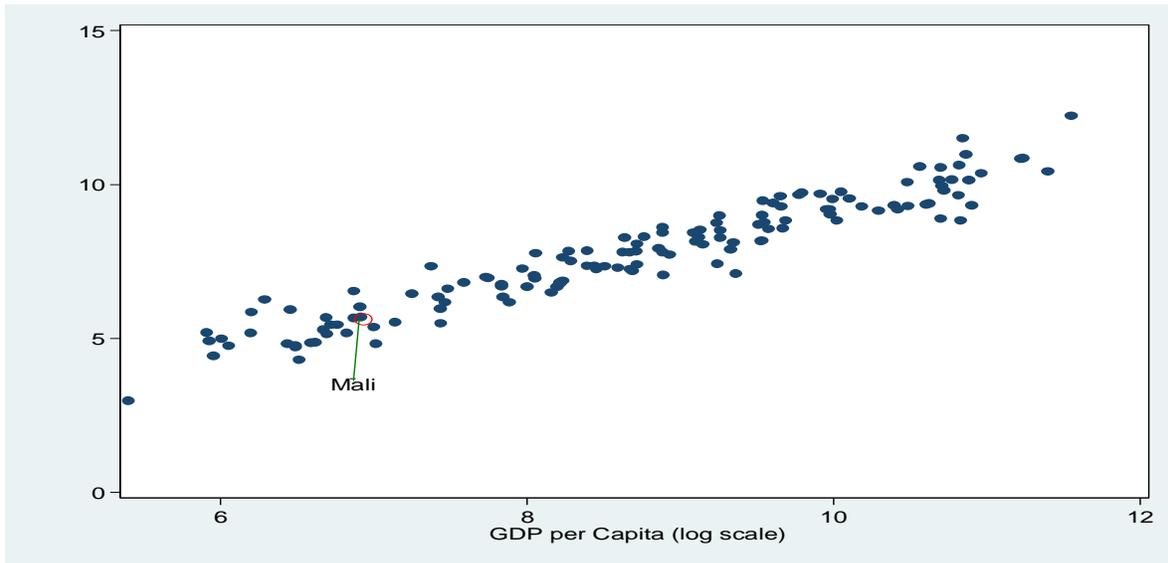
94. **A high export per capita is often associated with a high GDP per capita, and Mali's exports per capita are among the bottom twenty lowest in the world (Figure 3.1).** A clear lack of dynamism in manufacturing has resulted in Mali's export basket being dominated by primary products (over 90 percent), including gold, cotton and oily seeds. Reliance on these handful products has made the export sector vulnerable to fluctuations in world market prices and the vagaries of weather. Figure 3.2A illustrates the erratic trend in Mali's export growth, which is largely determined by the price fluctuation and external demand variability for Mali's exports. Furthermore, in light of Mali's narrow export base, the main underlying cause of its trade balance (Figure 3.2B) is the lack of economic diversification.

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<sup>41</sup> This chapter is based on Khebede (2017) background paper for this study.

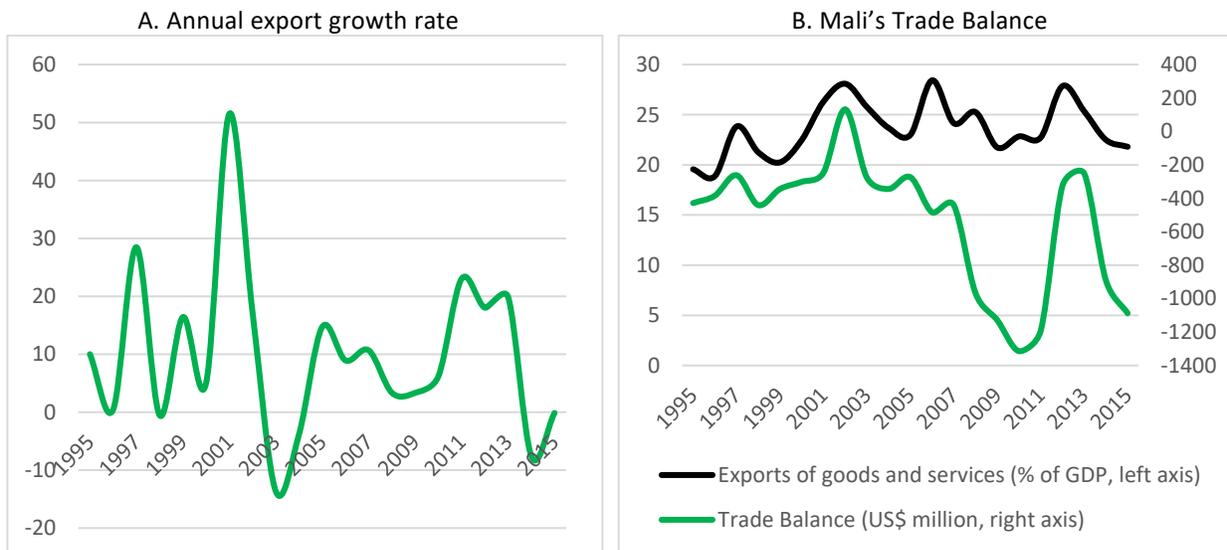
<sup>42</sup> The economic complexity index (ECI) is a holistic measure of the production characteristics of economic systems, usually countries. The goal of this index is to parametrize the complexity of an economic system as a whole rather than the sum of its parts (see section V and Annex A).

Figure 3.1. GDP and export per capita, 2015



Source: WDI, UNCTAD and Bank staff calculations.

Figure 3.2. Mali's export growth, current account and trade balance, 1995–2015

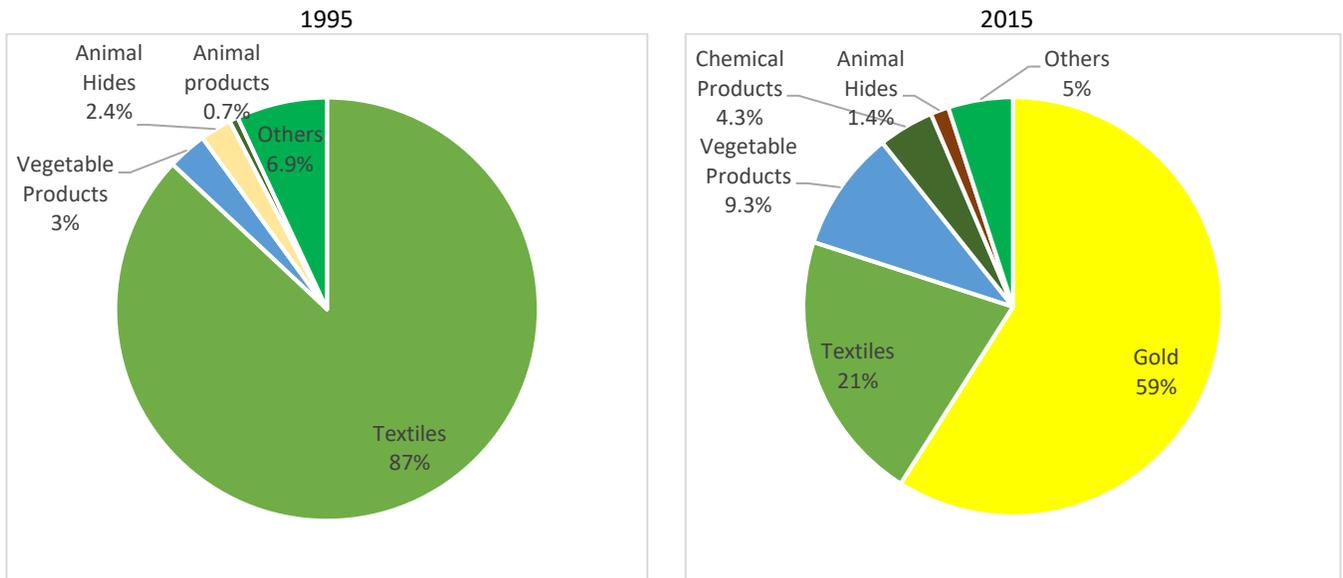


Source: WDI, UNCTAD and Bank staff calculations.

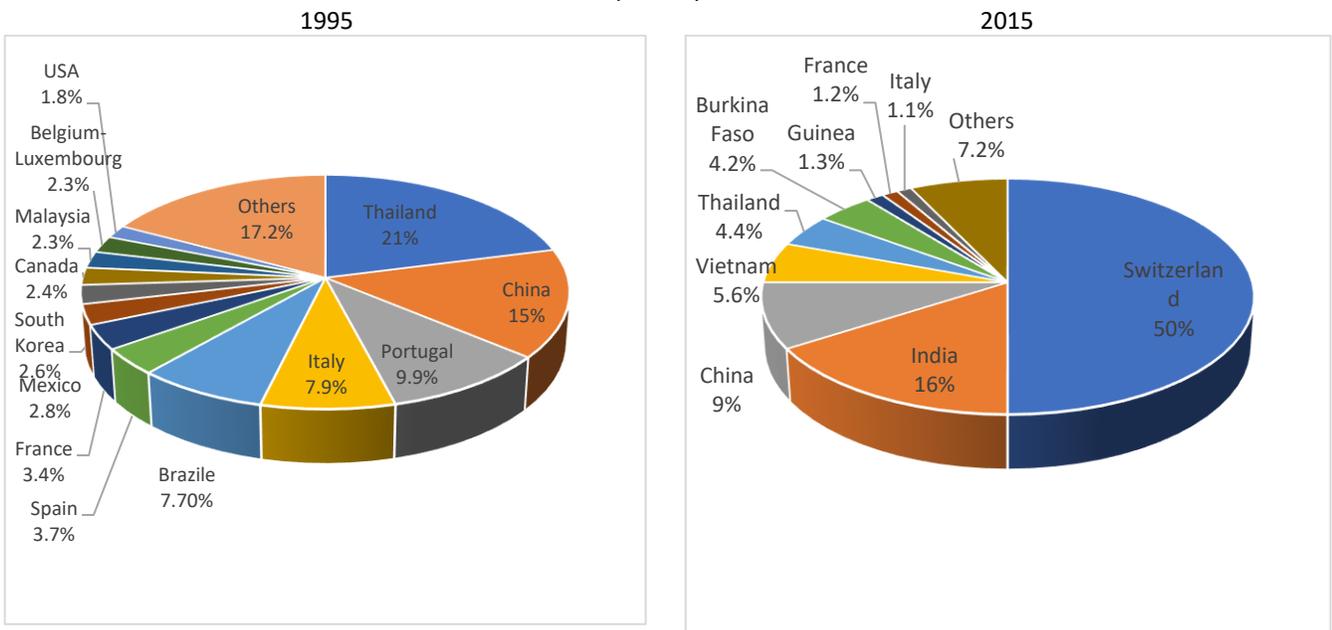
95. Trade composition shows a few marked changes in the shares of primary products in total exports, but remains highly concentrated on few commodities. Nowadays, Mali's merchandise export basket is dominated by natural resources and other primary products (over 95 percent): in the order, Precious Metals (59 percent), textiles (cotton) (21 percent), Vegetables (9.3 percent) Chemical products (4.3 percent), and Animal hides (1.4 percent) (Figure 3.3A). However, the most notable change of the last two decades is the overwhelming increase in share of exports in precious metals, which only accounted for 0.2 percent in 1995, compared to 59.2 percent in 2015. This increase is largely at the expense of textile, whose share fell from 87 percent in 1995 to just 21 percent in 2015. The share of vegetable products has also increased from 3 percent to 9.3 percent during the same period. Overall exports in services accounted for about 14.1 percent of Mali's total exports in 2014, a slight decline from their 1995 share of 16.5 percent.

Figure 3.3. Mali's exports by product and destination

A. Mali's exports by product



B. Mali's exports by destination

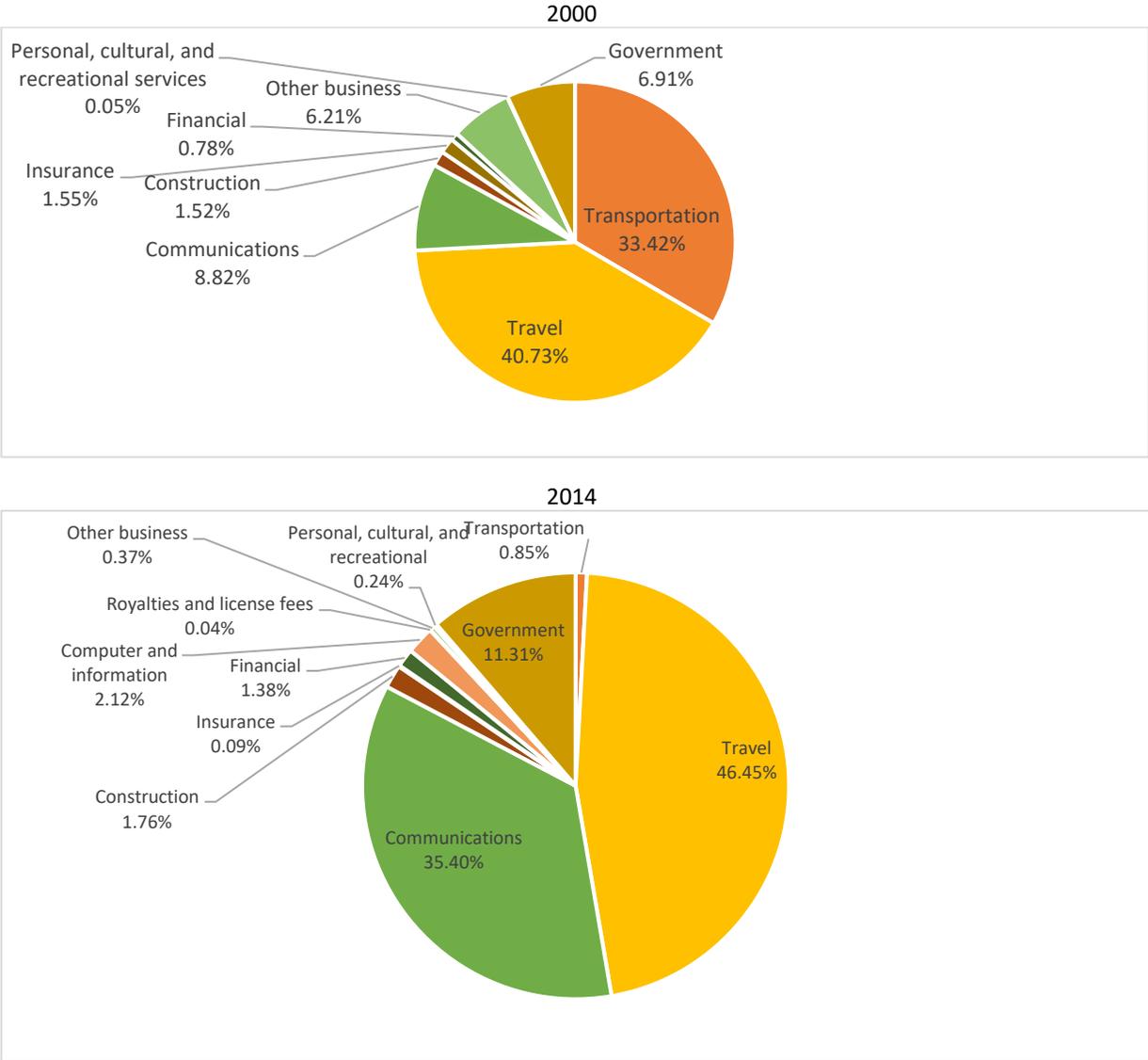


Source: Observatory Economic Complexity.

96. Among exported goods, gold, sesame seeds, and nitrogen-phosphorus-potassium fertilizers saw a marked increase in their share in total exports of goods between 1995 and 2014. This went, respectively, from 0.19 percent to 59 percent, from 0.03 percent to 7.2 percent, and from nil percent to 3.7 percent. On the other hand, cotton, experienced a significant decline, as its share dropped from 84 percent to just 21 percent. The change in the composition of goods exports translates into a change in Mali's export destinations. Newcomer gold is exported to four countries, namely South Africa, Switzerland, Dubai and India. And while Asia still remains as the main destination for Mali's cotton exports, India has emerged as its most important market, whose share increased from 0.31 percent in 1995 to 33 percent in 2015. There is also a significant change in oil seeds exports, which have made China as its main destination (95 percent

in 2015), compared to Japan (100 percent) in 1995. Bovine meat is exported namely to Cote d’Ivoire, Senegal, Burkina Faso, Guinea and Niger. Overall, in the last two decades, Mali’s external demand has become more concentrated: (i) its share of exports to North and South America has declined from 14.8 in 1995 to less than 1 percent in 2015; (ii) the largest shares of the country’s exports go to Switzerland and India; and (iii) the share of Mali’s exports to Africa remain low (7.2 percent), even slightly from its share (8.2 percent) in 1995. However, Burkina Faso emerged as an important export destinations in 2015, with a share of 4.2 percent of Mali’s total exports (a major increase from just 0.51 percent in 1995 (Figure 3.3B). Mali’s exports to African countries (largely Burkina Faso and Guinea) are dominated by fertilizer (99 percent).

**Figure 3.4. Mali’s services exports composition in 2000 and 2014**

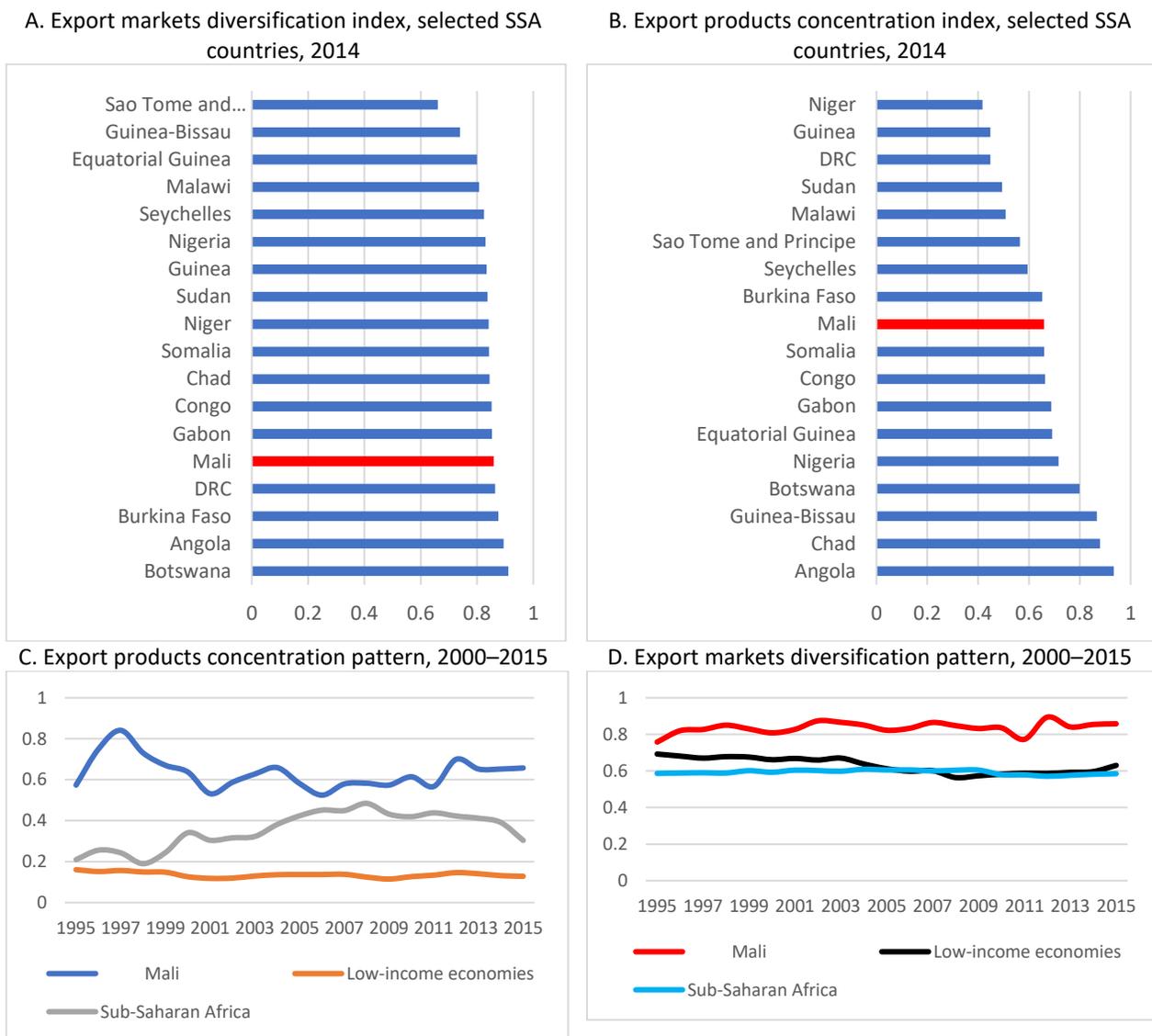


Source: COMTRADE, UNCTAD and Bank staff calculations.

97. In contrast, there has been significant change in the composition of exports in services. While travel remains as Mali’s largest services sector exports, accounting for 40.7 in 2000 and 46.5 percent in 2014. communications emerged as the second most important sector among exports of services, increasing

its contribution from just 8.8 percent 2000 to 35.4 percent in 2014. The financial and computer and information sectors have also experienced slight increase in their contributions in total exports in services, respectively increasing from 0.78 percent in 2000 to 1.38 percent, and from nil to 2.2 percent. At the same time, the contribution of transportation has declined alarmingly from 33.4 percent in 2000 to just 0.85 percent in 2014. (Figure 3.4).

**Figure 3.5. Mali's export products concentration and markets diversification indexes**



Source: UNCTAD database and Bank staff calculations.

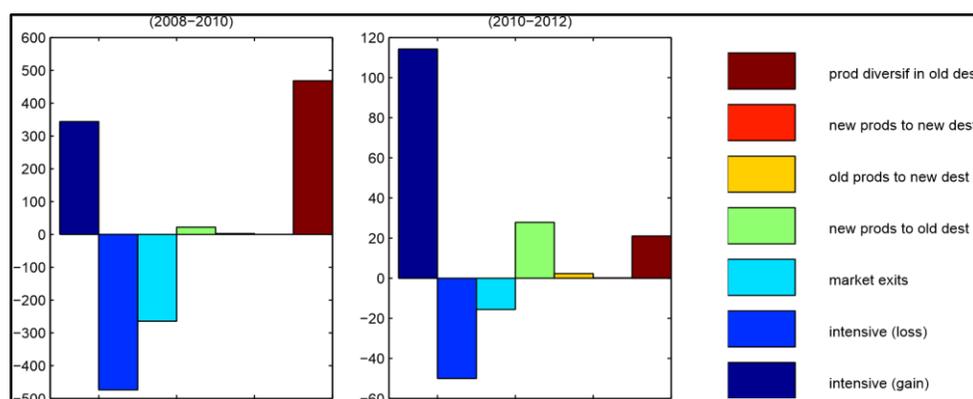
98. Ultimately, Mali is the 5th less markets diversified and 10<sup>th</sup> most products concentrated economy in SSA (Figures 3.5A-D). According to UNCTAD the export markets diversification and products concentration indexes indicate that Mali remains highly dependent on few export markets and commodities. More particularly, Mali's export product concentration<sup>43</sup> have increased from 0.57 in 1995

<sup>43</sup> Product concentration and diversification indexes. The markets diversification index indicates whether the structure of exports markets of a given country or country group differs from the world pattern. The product concentration index shows how exports of individual countries or country groups are concentrated on a few products or otherwise distributed in a more homogeneous manner among a series of products.

to 0.66 (which is, currently, five times higher than low-income average and four times higher than SSA) in 2015, indicating that Mali's exports markets have become significantly more concentrated today than it was 20 years earlier. Similarly, Mali's market concentration is well above other low-income countries averages—0.84 for Mali and 0.63 for low-income countries. Even by SSA standard (which has an average index of 0.59), Mali's export market concentration is very high.

99. **The analysis of Mali export growth through the criteria of intensive and extensive margins further underscores their high degree of concentration.**<sup>44</sup> Intensive margin driven export growth refers to the growth of exports in products already exported to the same destination countries. Alternatively, export growth driven by new export products or destinations is referred to as extensive margin of trade – i.e. diversification in goods or destinations. Figure 3.6 shows the contribution to export growth of intensive and extensive margins over the 2008 and 2012, split in two sub-periods, 2008-2010 and 2010-2012. Overall, export growth decomposition shows the predominance of intensive margin. While it had remained moderate – especially over the 2010-2012 sub-period – the contribution of extensive margin to export growth took place mainly through export diversification in goods – toward old destinations over the first sub-period, and new destinations, in the second sub-period.

**Figure 3.6. Contribution of intensive and extensive margins to Mali exports growth**



Source: Author's calculations using COMTRADE data

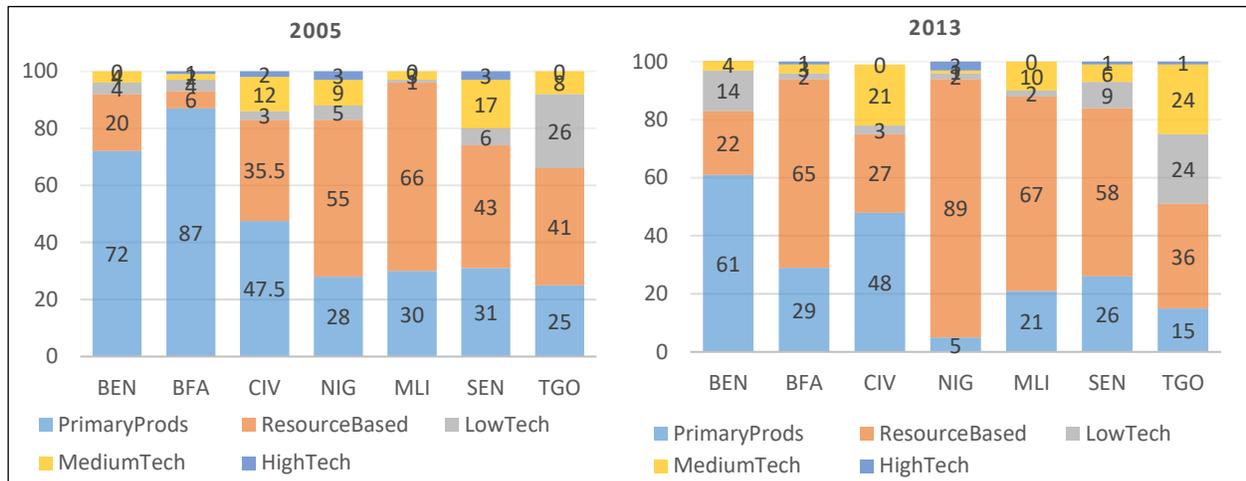
100. **Mali's exports are dominated by resource-based and primary products though their technological content has slightly improved over the 2005-2013 period.** The type of goods countries produce, and how they are made, matters for export-led and sustained growth. Goods that incorporate higher value-added earn higher prices in world markets. Likewise, countries exporting more sophisticated goods tend to experience higher and more sustained economic growth. The classification proposed by Lall (2000) to decompose exports technological content utilized in Figure 3.7 indicates that resources-based and primary goods accounted for 88 percent of Mali's exports in 2013 down from 96 percent in 2005. While the share of resource-based products in exports remained roughly constant at two-third, primary goods contribution declined from 30 percent in 2005 to 21 percent in 2013 in favor of medium-technology products.

101. **Mali is among WAEMU countries whose export goods are the least sophisticated.** The country's performance is considerably lower than that of Togo and Côte d'Ivoire but is close to that of Senegal and Benin. However, Mali outperforms peer Sahelian countries such as Burkina Faso and Niger – the region's worst performer with resource-based and primary goods accounting respectively for 89 and 5 percent of exports in 2013. The share of medium technology products exported by Mali has also increased noticeably

<sup>44</sup> The next paragraphs as well as the section on trade logistics and costs was prepared by Arsene Kaho.

to 10 percent in 2013 up from less than 1 percent in 2005 making the country the third best performer after Togo and Côte d'Ivoire with regards to this indicator.

**Figure 3.7. Technological classification of Mali exports (2005 and 2013)**



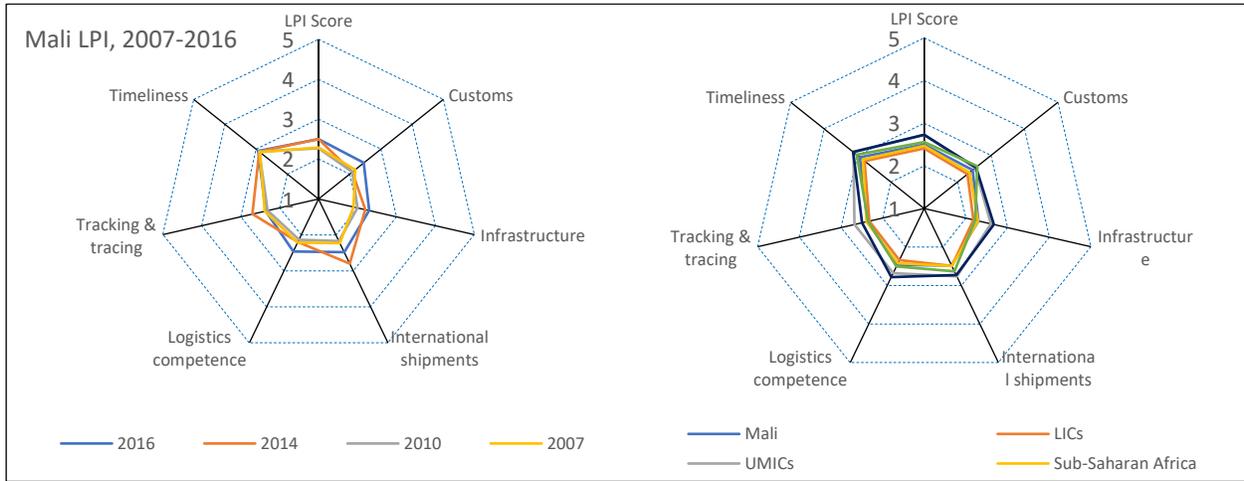
Source: Author's calculations using COMTRADE data.

### 3.3. Trade Logistics and Costs

#### Logistics and connectivity

102. **The Logistics Performance Index (LPI) of Mali is low compared to international standards but has improving since 2007.** The country's 2016 LPI is below the global average of 2.88 but has increased from 2.27 in 2010 to 2.5 in 2014 and 2016, enabling a significant progress in the global ranking from the 139 to 109 place (Figure 3.8). This performance was mainly underpinned by sustained improvements in terms of efficiency of the clearance process by customs administration, the quality of trade, and transport related infrastructure, and the competence and quality of logistics services. Mali notably eliminated redundant inspections of imported goods and took steps to reduce the time for documentary compliance for both export and import operations by introducing an electronic data interchange system. Despite the progress made, the major weaknesses in Mali's logistics system lie in the tight constraints to arranging competitively priced shipments and lack of timeliness of shipments as well as limited ability to track and trace consignments. Although Mali's performance in 2016 is slightly higher than the average for sub-Saharan African and low-income countries, it remains comparable to the average performance of West African countries. Apart from Benin, Mauritania and Senegal, all the other coastal countries in the region, as well as the two neighboring Sahel countries, Burkina Faso – the regional top performer – and Niger, have a higher LPIs than Mali.

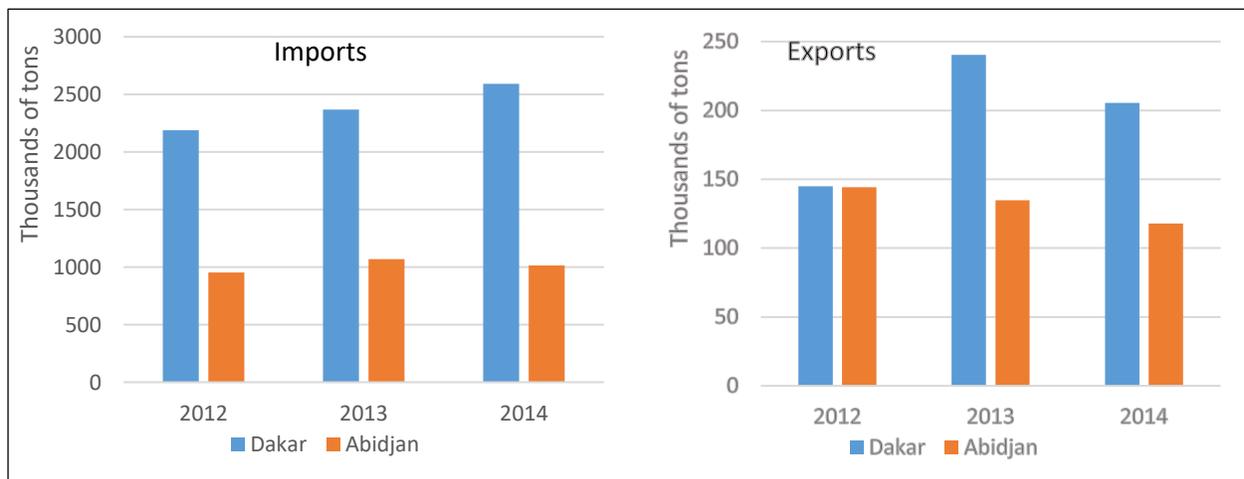
**Figure 3.8. LPI of Mali and selected comparators countries**



Source: World Bank LPI database.

103. Mali’s international trade is carried out through various means of transport, by land, rail, sea, or air, depending on the type of goods and geographic location of trade partners. Mali is linked to regional markets of ECOWAS countries via road and rail while the connection to global markets takes place by air or sea via land transport to coastal countries ports. Goods flows are shipped from and to Mali principally through the ports of Dakar in Senegal, and Abidjan in Cote d’Ivoire, and to a lesser extent through the ports of Lomé in Togo, and Tema in Ghana (Figure 3.9). Almost 95 percent of Mali’s international trade volume is carried out by sea while 5 percent – essentially gold – is transported by air. However, since gold is exported by airplanes, the value of goods transported by this means exceeds 67 % of the total value of Mali’s exports. Thus, as a landlocked country, addressing the challenges to the road and railway transport sectors in terms of regulation and institutional framework as well as infrastructure capacity and quality is key to improve Mali access to global markets and trade performance.

**Figure 3.9. Volumes of Mali trade through Bamako-Dakar and Bamako-Abidjan corridors**



Source: Ministry of Equipment, Transport and Disenclaving.

104. The road transport sector is characterized by relatively passable quality paved roads to major regional ports and a multitude of trucking companies operating in a poorly competitive and conducive environment. The sector is dominated by a large number of individual or family-type transporters, with

generally aged and in poor maintenance fleet, while freight companies are estimated to account for less than 20 percent of transporters. The international freight-sharing quotas schemes signed with the coastal transit countries, coupled with the queuing system and cartels practices, constitute strong obstacles to increased market access and undermine transport service quality in Mali. Given the existing supply overcapacity, this leads to longer waiting and turnaround times which negatively affect transport costs and sector profitability. To reinvigorate the sector, it will be necessary to overhaul the management system of international freight and to steer towards a gradual liberalization of market access by repealing the freight-sharing and queuing systems in place.

105. **There is only one railway line for freight traffic in Mali which connects the country to the port of Dakar but confronts severe exploitation difficulties since 2007.** At its climax in 2001, the Dakar-Bamako railway system carried out about 77 percent of the freight from Senegal to Mali and approximately 95 percent of cotton from Mali to Dakar port. As of 2013, only about 12 percent of the freight between the two countries had been shipped by railway. The railway system concessioned in 2003 to the Transrail Consortium was run inefficiently leading to poor operational, commercial and financial performance due to investment and maintenance of equipment shortfalls. The system is plagued with delays, derailments and informal payments, leading to the drop of freight shipments as traders have increasingly opted for road transport ensuring greater regularity and reliability, especially for time-sensitive shipments<sup>45</sup>. The line is in the process of being rehabilitated and is currently recouping its capacity to transport freight. The rehabilitation of the railway system is expected to increase the efficiency of freight transport on the Dakar-Bamako corridor by further reducing the transit time of goods and by improving the reliability of transport. It should also enable to contain the inflation of road freight prices, which had risen with the waning competition from the rail system. Overall, the development of rail transport in Mali would benefit from a large market and strong competitive advantage in the current context of rising energy prices, especially if the rail interconnection projects in West Africa materialize.

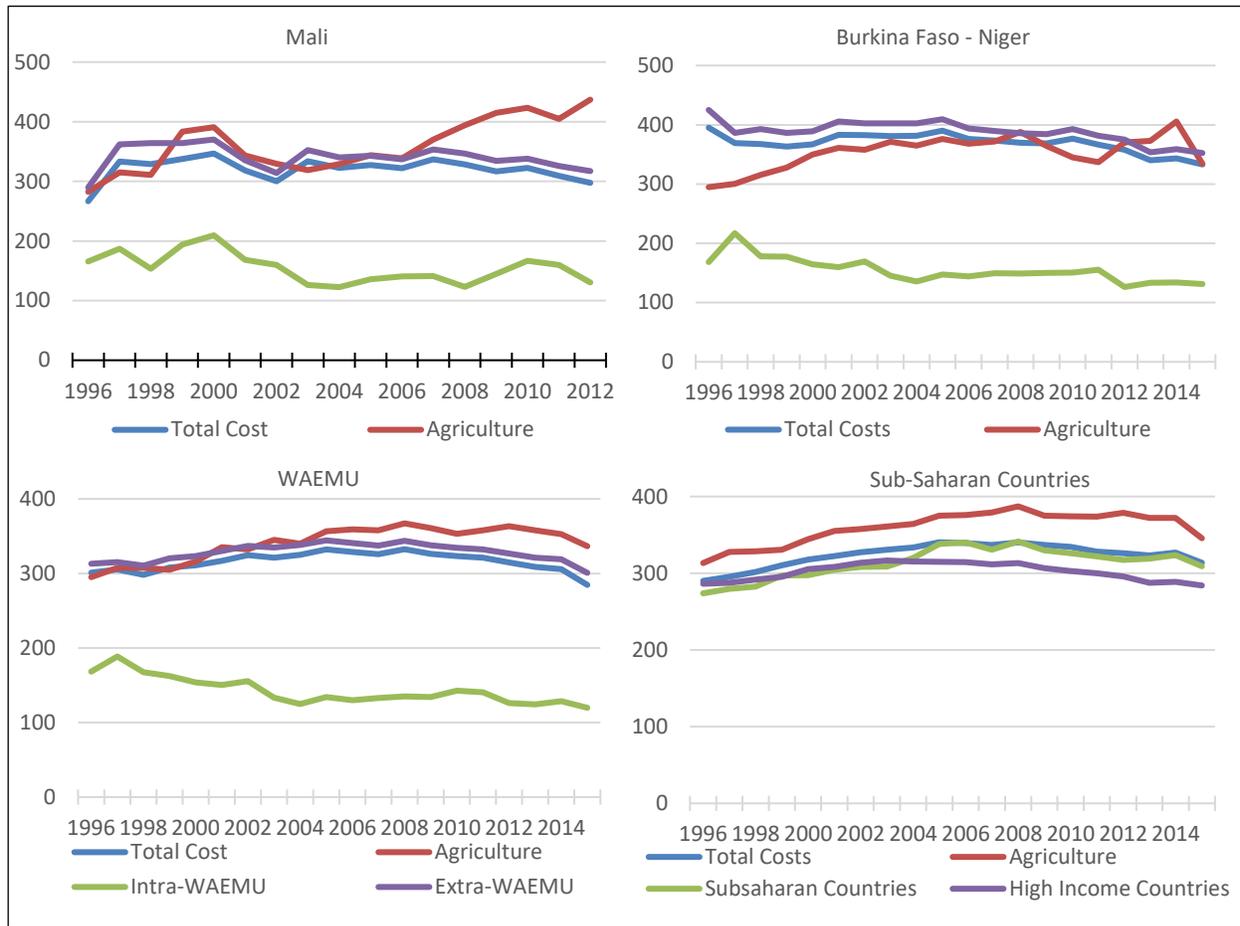
#### Trade costs dynamics

106. **Like in most developing countries, trade costs remain high in Mali despite the trend decline observed since 2003.** Based on ESCAP data, Mali's trade costs in Mali are significantly lower than the average of sub-Saharan and WAEMU countries and significantly lower than those of its two neighboring Sahelian countries, Burkina Faso and Niger. Their level is comparable to the average of lower middle-income countries (Figure 3.10 and Annex 3H). However, these costs were 20.2 percent higher in 2012 than in high-income countries and only 3.6 percentage points higher than in upper middle-income countries. Trade costs in Mali registered a downward trend that started earlier in 2003 than in other sub-Saharan countries owing to the Government's efforts to liberalize trade in agricultural products in 2000 – particularly in cereals – which resulted in a substantial drop in trade costs during that period. Mali's trade costs with neighboring WAEMU countries are on average half as much as those with non-WAEMU countries which are yet the main trading partners of the country.

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<sup>45</sup> The relative competitiveness of the road freight transport compared to the rail system has even more increased as the number harassment at check points has significantly decreased since 2009 – notably in Senegal – as evidenced by the Improved Road Transport Governance initiative reports (2013).

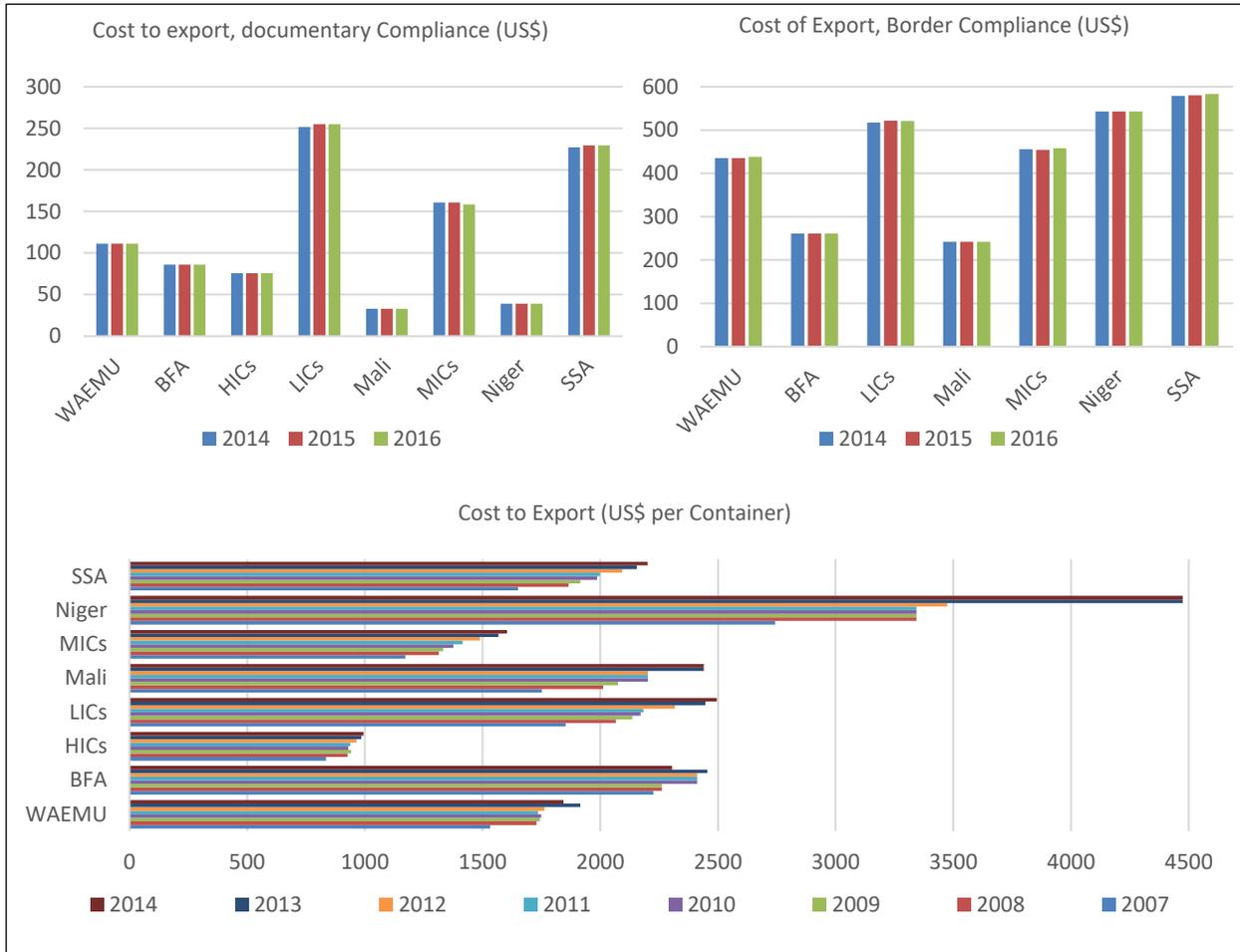
Figure 3.10. Trade costs in Mali and selected countries



Source: Author's calculations using ESCAP data.

107. **Doing Business indicators corroborate Mali's good performance at the regional level in terms of cross-border trade costs.** The costs associated with documentary and border compliance during the process of exporting goods are far lower in Mali compared to the average in other WAEMU and SSA countries; the country's performance is even higher than the average of MICs and HICs even though the distance to frontier remains considerable at 26.7 percent (Figure 3.11). However, the cost to export (measured in US\$ per container) is higher in Mali than in the average in WAEMU and SSA countries implying that the cost of domestic freight transport in Mali is also higher in light of the country's performance in terms of documentary and border compliance costs. Compared to other landlocked and Sahelian countries in the West African region, Mali's performance is below that of Burkina Faso but far superior to that of Niger.

**Figure 3.11. Trading across borders costs in Mali and selected comparators countries**



Source: World Bank Doing Business database.

Note: BFA (Burkina Faso)

108. The costs of freight transport in Mali varies dependent to the type of goods exported, the destination country, the modes of transport and the corridors. According to a USAID study, the total freight transport costs of selected Malian exports, as a percentage of market value, ranged from less than one percent for gold, 13 to 19 percent for cotton, to approximately 74 percent for mangos shipped by air. A large portion of the total transport cost to exporters occurs within Mali and/or the port country prior to international shipment by ocean freight, exceeding 60 percent for a number of goods and routes. Freight transport at export is generally slightly more expensive on the Bamako-Abidjan corridor than on the Bamako-Dakar corridor (both by road and rail). And for its part, the price of road freight transport is high not only because of the lack of competition in the sector and the high number of non-tariff measures applied by the Malian authorities, but also because of road harassments which leads to additional costs and delays. The Improved Road Transport Governance (IRTG) initiative's reports show that, in the West African region, these hindrances – in terms of number of checkpoints, bribes, and delays during the shipments of goods from gateway to the place of delivery – are more important in Mali, even though their magnitude has significantly decreased over the recent period (Table 3.1). The gap between Mali and Togo, the country in the sub-region where road freight transport undergoes the least harassments, remains substantial: on average, there is almost three times more controls on Malian roads and the bribes paid by transporter is more than 6 times higher, while the delays are nearly four times higher.

**Table 3.1. Road harassment in selected West African countries**

	Number of Road Controls per 100 km		Bribes per 100 km		Delays per 100 km Trip	
	2005	2013	2005	2013	2005	2013
Burkina	5.5	1.6	4,410	2,140	22	17
Côte	-	1.9	-	2,675	-	8
Ghana	2	1.8	1,960	679	21	18
Mali	4.6	2.6	12,250	3,775	38	26
Sénégal	-	1.3	-	1,614	-	14
Togo	1.5	0.9	1,470	597	16	7

Source: Author’s calculations using IRGT Initiative data

### 3.4 Measuring Mali’s Exports RCA

109. **The preceding section suggests that Mali’s export basket has been highly concentrated on few commodities and hasn’t been able to make significant progress.** The country has not been able to develop other sectors to sustain its development as well. Several studies have shown that this is due to the fact that dependence on commodity-based exports is not conducive to development (Hausmann, Hwang, and Rodrik, 2007; Plümper and Graff, 2001; and Dalum et al., 1999) as such products are not only vulnerable to external shocks, but inapt to technological progress. Hence, regarding non-natural resource products, it is important to explore the structure of comparative advantage of Mali to assess the extent to which some of its export commodities might compete in the global markets.

110. **A parameter of RCA has been used to assess a country’s exports potential.** The RCA indicates whether a country is in the process of expanding the products on which it has trade potential, as opposed to a situation in which the products on which it can competitively export are static. This parameter also provides useful information about potential trade prospects with new partners. Countries with similar RCA profiles are unlikely to share common high bilateral trade intensity unless their intra-industry trade is ensured. Finally, RCA measure, if estimated at high levels of product disaggregation, can focus attention on other nontraditional products that could be successfully exported (Annexes 3A-3B).

111. **In general, Mali has lost competitiveness across all sectors except for few agriculture products (cotton and fruits) and the losses are largest in textile industry (Table 3.2)** More broadly, in 2015, Mali exported over 780 commodities (with values ranging from \$1,000 to \$570 million). Out of these export commodities, Mali has relative comparative advantage in just 66 of them (Annex 3.C). This means that Mali’s share of world exports in these 66 commodities is larger than what would be expected from the size of its export economy and from the size of a product’s world market. At present, Mali’s highest comparative advantage is in the leather products. Goat or kid skin leather (RCA=592) and sheep or lamb leather (RCA=395), followed by sesame seeds (RCA=378) and cotton, not carded or combed (RCA=278). are at the top of the ranking (Table 3.1). Commodities that rank among the top 15 according to the RCA index are to some extent dominated by agriculture related products. There are three animal (skin) products, three textiles, two natural gums, two fruits, two fruits, one vegetable, one foodstuff, one chemical product, and one wood product. Clearly, there are more agricultural related products among the 15 commodities with highest RCA values. Out of the 15 commodities with highest comparative advantage in 1995, only three (natural gum Arabic, goat or kid skin leather and cotton) maintained their position in 2015, while the remaining 12 commodities like other live animals, smoked fish, beans, roots and tubers, hides and skins of goats, and raw skins of sheep and lambs dropped out of the top 15 set. Annex 3C provides a detailed list of products with their RCAs.

112. The number of commodities for which Mali has relative comparative advantage declined between 1995 and 2015. As a percentage of its total exports Mali enjoyed comparative advantage in only about 8 percent of its total exports (66 commodities) in 2015, although the total number of export commodities has increased almost threefold (from 268 in 1995 to 783 in 2015). This is significantly different from 1995, when Mali had relative comparative advantage in 35 percent (95 commodities out of 268) of its total exports. Overall, Mali gained relative comparative advantage in 49 commodities, but lost in 78 in 2015. Of the 95 most competitive commodities for Mali in 1995, only 17 retained their advantage in 2015 (Table 3.3). Nonetheless, these commodities accounted for only 29.9 percent of Mali's total exports in 2015. Furthermore, out of the 78 commodities that Mali lost comparative advantage in 2015, some of the commodities (like hides and skins of goats and beans) were in the top 15 most advantageous set in 1995. In sum, Mali lost comparative advantage in some of the commodities that were in the top 15 in 1995.

**Table 3.2. Mali - 15 most competitive sectors over 1995–2015**

1995				2015			
HS Code	Sector	Product Description	RCA	HS code	Sector	Product description	RCA
520100	Textile	Cotton, not carded or combed	382	410619	Leather	Goat or kid skin leather, (excl. further prep	592
410310	Leather	Hides & skins of goats or kids, fresh or pres	369	410519	Leather	Sheep or lamb skin leather, (excl. further prep	395
520299	Textile	Cotton waste, nes	343	120740	Crops	Sesamum seeds	379
70820	Crops	Beans, fresh or chilled	143	520100	Textile	Cotton, not carded or combed	278
71490	Crops	Roots & tubers with high starch content, fres	96	130190	Crops	Natural gums, resins, gum-resins and balsams (e	123
410612	Leather	Goat or kid skin leather, pre-tanned, (excl. fur)	74	130120	Crops	Natural Gum Arabic	91
80450	Crops	Guavas, mangoes & mangosteens, fresh or dried	72	310520	Mineral	Mineral or chemical fertilizers with nitrogen,	86
410320	Leather	Hides and skins of reptiles, fresh or preserved	65	80450	Crops	Guavas, mangoes and mangosteens, fresh or dried	86
10600	Animal	Other live animals, nes	64	410229	Leather	Skins of sheep or lambs, without wool, not pick	48
130120	Crops	Natural Gum Arabic	59	710812	Mineral	Gold in unwrought forms non-monetary	35
30549	Foodstuff	Smoked fish (excl. salmon and herrings)	54	551419	Textile	Woven fabrics, <85% synthetic staple fibres + c	30
71339	Crops	Dried beans, shelled, nes	45	520710	Textile	Cotton yarn (excl. sewing), put up for retail s	22
410619	Leather	Goat or kid skin leather, (excl. further prepar	33	200899	Foodstuff	Other fruit, and so on, prepared or preserved, nes	17
410611	Leather	Goat or kid skin leather, vegetable pre-tanned	33	440399	Wood	Wood, nes in the rough..., (excl. treated)	15
410210	Leather	Raw skins of sheep or lambs, with wool on	27	200799	Foodstuff	Other jams, fruit jellies, marmalades, and so on, be	13

Source: Observatory Economic Complexity and Bank staff calculations.

113. However, Mali's main comparative advantage mainly comes from agriculture-related products ahead of extractive sector. Gold accounts for a larger share of Mali's exports, but per RCA index it is ranked as 10th most advantageous product for Mali. Skin leather products of goat and sheep as the most advantageous products for Mali 2015, while sesame seeds emerged as the third most advantageous product. Cotton, on the other hand, remained as the one of the most advantageous product in both 1995 and 2015. In 1995, sesame seeds was ranked in the bottom list of Mali's exports with a RCA value of just 3, compared to 379 in 2015. Export earnings from this commodity have also multiplied from just \$70.8K to 70M in the same period. Similarly, other products (like nuts, cashews and other dried fruits) emerged among the top 15 most advantageous products in 2015 with a RCA value of 86 and 17, respectively, Natural gum Arabic is among the three products that retained its position in the top 15 most advantageous products. Although out of 15 products, which Mali has comparative advantage, 12 are agriculture based products, one single extractive product (gold) dominates the country's exports with 59 percent of its total exports. On the other hand, foodstuff products like jams and jellies made of fruits; with total export value of \$1.7M in 2015) emerged among Mali's top 15 most advantageous products. This reflects the potential

for expansion of this products and others similar agri-processing industries to follow. Similarly, cotton-related commodities like woven fabrics and cotton yarn (which appeared in the top 15 most competitive Mali's export) indicate that Mali has some potential to expand such activities. Such opportunity is not yet developed. In 2015, Mali earned about \$200 million from its textile product exports, but 99 percent is from raw cotton.

**Table 3.3. Mali's export commodities that kept comparative advantage between 1995 and 2015**

Product code	Export value	RCA 1995	Product description	Export value	RCA 2015
410619	\$285,172	33	Goat or kid skin leather	\$5,600,000	592
80450	\$1,300,000	72	Guavas, Mangoes and mangosteens	\$12,000,000	86
130120	\$519,966	59	Natural Gum Arabic	\$2,000,000	91
80450	\$180,000,000	382	Cotton, not carded	\$200,000,000	278

Source: Observatory Economic Complexity and Bank staff calculations.

**Table 3.4. RCA in services exports**

Product description	2000		2014	
	Share in total service exports	RCA	Share in total service exports	RCA
Transport	33.42	1.4	0.74	0.03
Travel	40.73	1.29	41.09	1.68
Computer and Communications (ICT)	8.82	4.5	42.3	16.39
Construction	1.52	0.69	0.00	0.00
Insurance	1.55	0.837	2.17	0.7
Financial services	0.78	0.12	2.64	0.48
Other business services	6.21	0.3	0.94	0.04
Personal, cultural and recreational services	0.05	0.05	0.38	0.4
Government services	6.91	3.46	9.7	5.74

Source: UNCTAD and Bank staff calculations.

114. Mali's services exports accounts for a significant share of total exports and its main comparative advantage comes from information and communication technology (ICT), travel and government services. The ICT sector has made remarkable improvement both as a share of total services exports and as a RCA value, while the travel sector maintained its importance (Table 3.4). The share of the ICT sector has increased from just 8.82 percent in 2000 to more than 42 percent in 2014. Correspondingly, the RCA value has increased from 4.5 to 16.4, indicating Mali's stronger comparative advantage in this sector. The travel sector, which accounts for about 41 percent of total services exports seems to generate positive RCA, as its RCA value is just above 1. This is not surprising, given the large size of the travel sector worldwide as one of the most traded services globally. Although data detail on the government's service exports are not available, it is interesting to observe that government services play some part in total services exports.

### 3.5 Economic Complexity

115. Economic complexity is a relatively recent concept in trade theory underscoring that the productive structure does matter for growth and what a country produces today (local knowledge) affects

**what it could produce tomorrow**<sup>46</sup> (Hausmann, Hwang and Rodrik, 2007; Hidalgo and Hausmann, 2009; Hausmann and Klinger, 2006; and Hidalgo et al. 2007). Since individuals are limited to the knowledge they have accumulated, to expand it requires to facilitate the interaction of individuals through complex networks in order to make new products. To achieve this, the Economic Complexity Index (ECI) combines metrics of the diversity of countries and the ubiquity of products to produce a measure of the relative complexity of a country's exports. Economic complexity is measured based on the mix of the products that the country produced. For instance, high tech products like computers or smart phones embed considerable amounts of knowledge and they are the outcomes of complex networks of people and organizations. Such products cannot be made in small economies like Mali or Niger as they lack most of the parts of the network that producing them encompass.

116. **The Economic Complexity Index (ECI) reflects the composition of a country's productive output and the corresponding measure for its products gives us the Product Complexity Index (PCI).** The PCI is a number unique to each product that captures how much "productive knowledge" such product requires. The ECI is a number unique to each country that measures the amount of productive knowledge contained in the country. Countries with a high ECI are well diversified countries exporting, on average, high-PCI products. A Technical note (Annex 3D) provides an explanation of how these indicators are created.

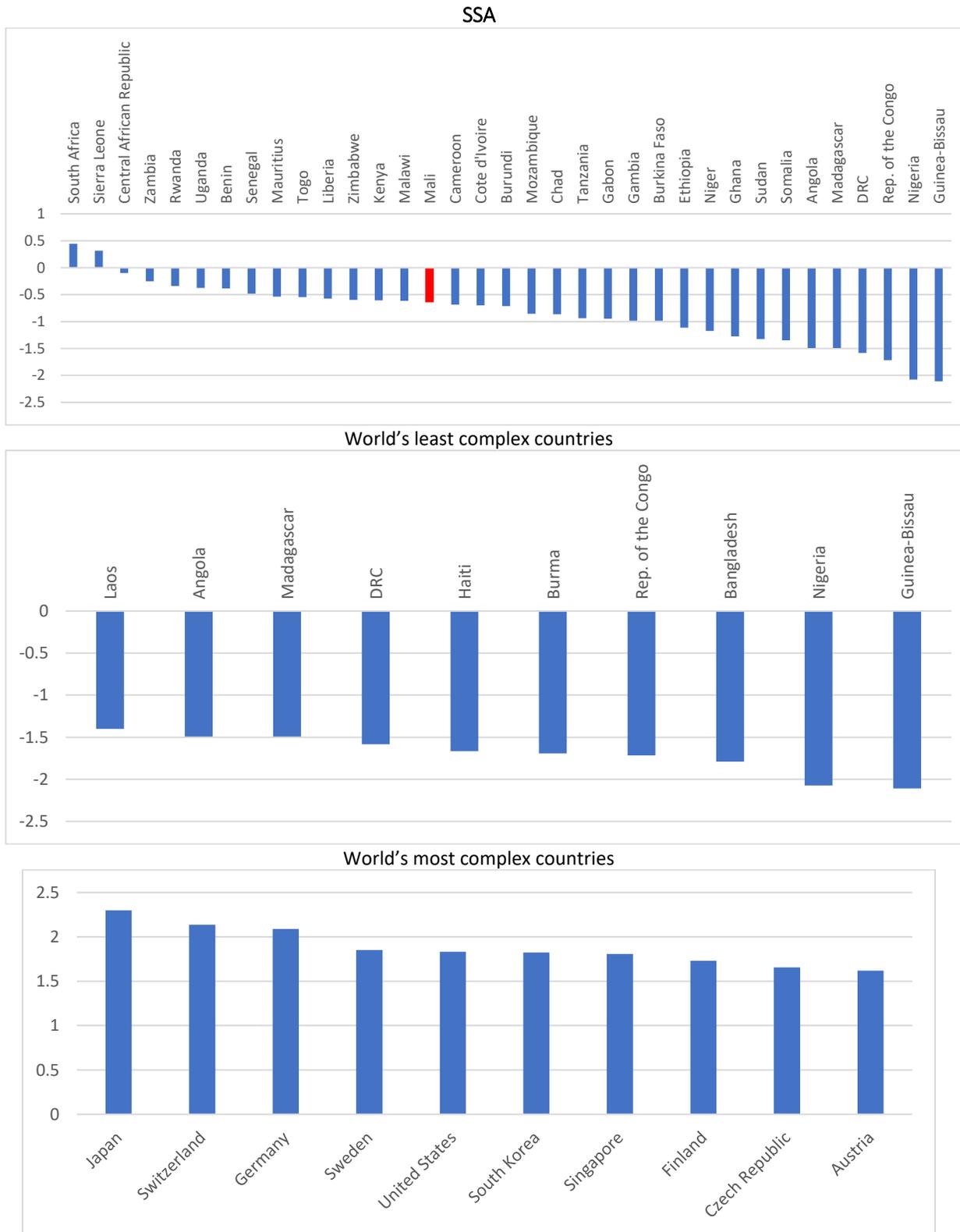
117. **Mali ranks poorly at the ECI.** According to the *Observatory of Economic Complexity* index, Mali is ranked as the 99th most complex out of 141 ranked countries in the world and 14th most complex country out of 35 SSA countries for which data is available. Figure 3.12 show the countries with the lowest and highest levels of economic complexity in 2015, respectively. Not surprisingly, six out of ten most complex countries are in Europe, while six out of ten least complex countries are in SSA. In addition, the only two SSA countries with positive value of complexity (0.45 and 0.32) are South Africa Sierra Leon, ranked 46th and 56th, respectively, in the world. Although Mali is not among countries with the very lowest economic complexity, its ECI value of  $-0.647$  is very low and places it in the bottom 50 least complex economies.

118. **Given the strong correlation between the countries' per capita income and complexity, poor countries like Mali, with low productive diversity and low level of development, tend to have low level of complexity.** Figures 3.13A,B shows the correlation between GDP per capita and economic complexity. It shows that economic complexity can explain about 75 percent of the variation in income. That is, countries with high ECI tend to have higher per capita income. Mali appears significantly below the prediction line, indicating that it has a relatively high level of complexity for its level of income. Furthermore, countries whose economic complexity is greater than what one may expect based on their current economic state tend to grow faster than those that are rich but have low level of economic complexity. Thus, given Mali's relatively high economic complexity for its level of income, there is high prospect for Mali to grow faster in the near future under conducive and supporting regulatory conditions.

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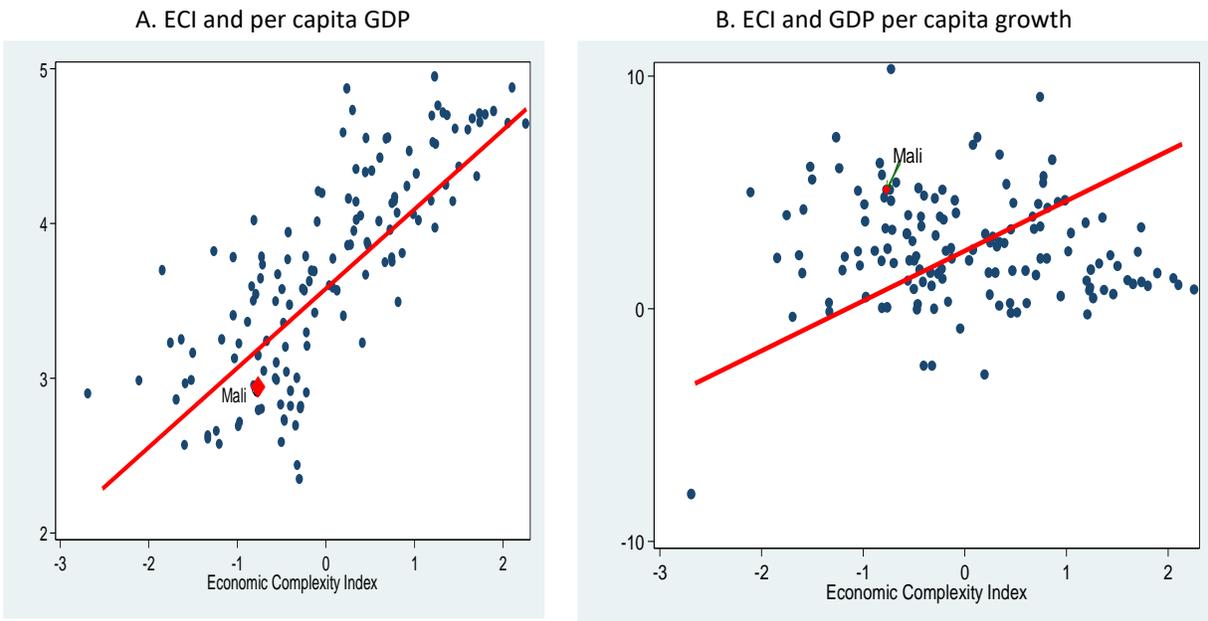
<sup>46</sup> Traditional models of trade theory suggest that the initial pattern of specialization of a country has little or no effect on its future evolution, as it merely reflects its deep underlying characteristics, such as factor endowments and technological differentials, i.e. the structure of the product portfolio of a country does not create sources of path dependence.

Figure 3.12. Economic complexity - SSA, ten least and most complex countries in the world, 2015



Source: Observatory Economic Complexity and Bank staff calculations.

Figure 3.13. Economic complexity index and GDP per capita



Source: Observatory of Economic Complexity, WDI and Bank staff calculations

### 3.6 The Product Space of Mali

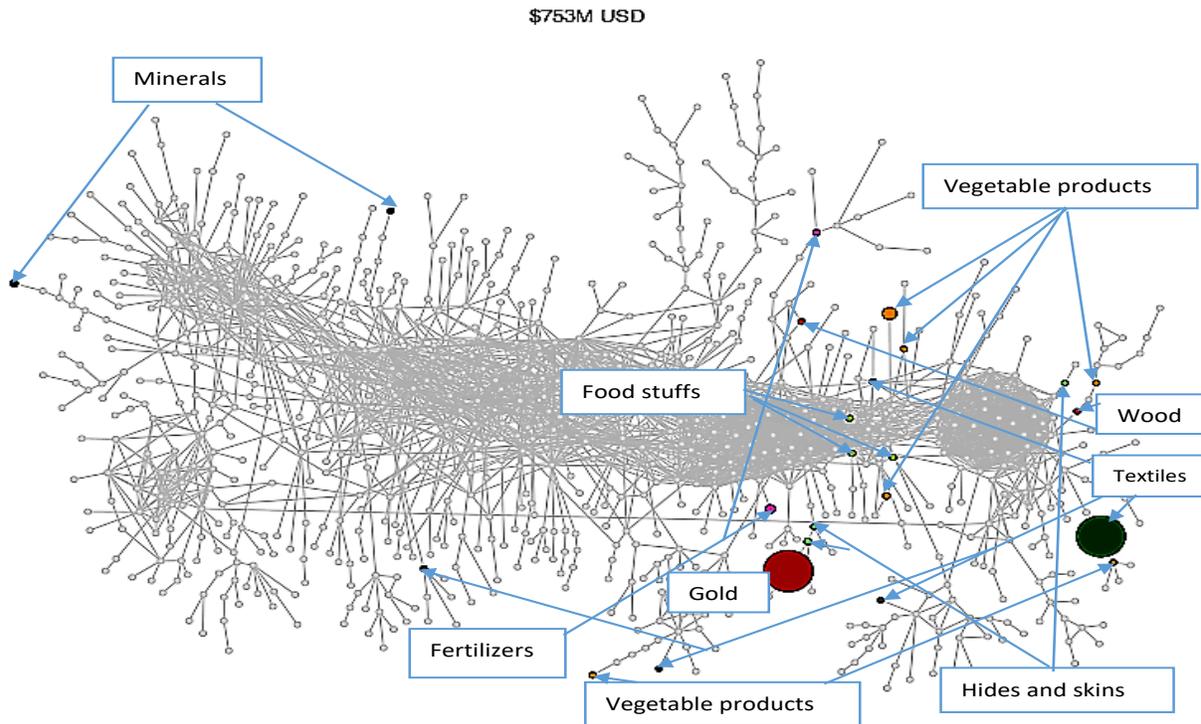
119. This section uses the RCA to define a so-called **Product Space of the alternative choices a country has in adopting new exports**. In the previous section, it was explained that the level of economic complexity is related to a country's income and that at each moment in time an economy faces a set of possibilities to develop new industries and that it needs to select among them, assuming no constraints on the demand side. This section adopts a simple intuitive methodology that informs policymakers on how to choose which ones are more convenient, given its productive endowment. The core assumption is that it is impossible to develop new industries if the required "productive knowledge" is absent and, to address this problem, countries tend to move from products that they are already producing to new products that are nearby in terms of the productive knowledge they require. Thus, it acknowledges that it is easier to move from producing chairs to car seats, than from chairs to cars. This is so, simply because in terms of technological requirements and markets characteristics (productive knowledge), chairs are closer to car seats rather than to cars. While the RCA provides a measure of the individual value associated with each possibility, together combined these metrics define the Product Space, a network of goods that allows countries to identify attractive avenues for diversification; attractive according to the degree of similarity of required productive capabilities among existing and possible products, the feasibility of making new products and their export possibilities. Annex 3E defines the product space of a country in more rigorous terms.

120. **Based on the RCAs values, a threshold is initially set for evaluating the proximity of a country's exports.** Based on the values of RCA, which indicate a country's capability to competitively export a good, Hausmann and Klinger (2007) define the proximity between two goods. More specifically, proximity is calculated by comparing how many countries that export product  $j$  with  $RCA > 1$  also export product  $i$  with  $RCA > 1$ . For example, if 20 countries export product  $j$  with  $RCA > 1$ , and 10 out of those 20 countries also export product  $i$  with  $RCA > 1$ , then the proximity (or the general probability to export) for product  $j$  in relation to product  $i$  is 0.5 (10/20). The focus here is to examine the probability of moving from a given set of products (the current set of export products) to a new yet to be produced or exported competitively product  $i$ . Following Hausmann and Kinger (2007), we use the aggregate measure of proximity (distance).

The product space implies that the process of accumulating productive knowledge is not random but rather path dependent: that is, those products that a country produces today define what it may be able to develop in the near future.

121. **Figure 3.14 shows the visual representation of Mali’s product space.** The colored nodes represent products that Mali exported with RCA greater than one in 2014. The pale nodes are those in which Mali did not have a significant presence ( $RCA < 1$ ) in 2014. Two products are connected by links based on their probability of being co-exported by the country. These links define the structure of the product space. In turn, this structure is what affects the ability of countries to move into new products. Products that are close together share a significant amount of the requisite capabilities/knowhow. As such, countries will find it relatively easy to move to nearby products. It should be noticed that natural resource products and agricultural products are less inter-connected and often peripheral in the product space. This suggests that the inputs required for the production of these goods are less frequently found in the production of many other goods.

**Figure 3.14. Mali’s product space, 2015**



122. **Mali’s current position in the product space is relatively sparse, peripheral, and scattered, but it provides some clues as to possible future paths of diversification.** Gold and raw cotton products, the country’s largest export sectors by value, have a peripheral location in the product space (bottom right and bottom far right), meaning that they do little to facilitate diversification into other products. In the center right and top right of the product space we find Mali’s staple exports of sesame seeds, guava, mangos and mangoteens, as well as other vegetables and fruits. While these products are also relatively peripheral,

scattered nearby to the center and right top are few processed and non-perishable vegetable products (dried legumes, vegetable oils, tropical fruits, jams and jellies, dried fruits and pasta) as well as few animal products (live sheep and goat and skins and hides). In the processed foodstuffs category, we see emergent exports of pasta, jams and jellies fruit juice, and vegetable oils.

123. **There is a clear difference between the product spaces of Japan and Mali: Japan is a highly diversified economy and present in almost every sector (see Japan’s product space on Annex 3F).** Mali, on the other hand, has far fewer products exported competitively, which is heavily dominated by the primary commodities. For Mali to become more complex it will need to build upon the capabilities it already has to diversify into new industries.

124. **Mali also has RCA>1 in a number of simple products.** For instance, although the cumulative export value of textile products other than raw cotton amounted to less than \$1m in 2015, Mali would be able to leverage some of the know-how used by this sector for its future diversification. Indeed, Mali is already exporting some textile products like blouses and shirts and had significant comparative advantage in 1995 in these products; with some support, it could enhance its competitiveness by increasing its productivity as well as quality of its product. Similarly, although currently Mali doesn’t have comparative advantage in leather products, in light of resources availability (skins and hides) and some knowhow in producing footwear, the country can leverage some of the existing capabilities.

### 3.7 Opportunities for Export Diversification

125. **This section combines multiple criteria for identifying Mali’s potential industries with export diversification potential based not only on RCAs, but on their recent export value and growth performance (another proxies for diversification potential).** Generally, in both 1995 and 2014, sectors where Mali is advantageously placed lie predominantly in vegetable, animal and textile products. Vegetables account for a larger share in terms of both RCA value and the number of products with relative comparative advantage. The analysis of changes in RCA also reveal that gold and fertilizers have become dominant commodities in 2015, compared to raw cotton in 1995. In fact, these two products were not among Mali’s export basket in 1995. Overall, the number of goods where Mali used to have RCA has declined over time and exports have become highly concentrated, constraining Mali’s much needed export diversification.

**Table 3.5. Animal products and leather**

HS-Code	Product description	Export value, 2015	CAGR	RCA
10420	Live goats	\$45,772	-37.0	2
10600	Other live animals, nes	\$655,530	29.8	8
410229	Skins of sheep or lambs, without wool, not pick	\$128,722	30.4	48
410320	Hides and skins of reptiles, fresh or preserved	\$129,152	-25.0	7
410390	Other hides and skins, fresh or preserved, not	\$96,138	44.4	4
410519	Sheep or lamb skin leather, (excl. further prep	\$7,700,000	10.4	395
410619	Goat or kid skin leather, (excl. further prepar	\$5,600,000	7.0	592
410729	Leather of reptiles, nes	\$144,720	2.3	7

Source: Observatory Economic Complexity and Bank staff calculations.

126. **Exports of most animal products have increased in the past five years.** Leather products of goats and sheep, in which Mali has the highest comparative advantage, have increased by an average of 7 percent during 2010 and 2015 (Table 3.5). Exports of unprocessed or fresh hides and skins of sheep and other animals have also increased by an average of 44 percent in the same period. Clearly, the value of processed leather products is about 60 times higher than unprocessed hides and skins. Similarly, exports of leather

product of reptiles has increased by an average of 2.3 percentage points, while exports of hides and skins of reptiles declined fast by an average of 25 percent. This indicates that, although Mali lacks connectivity potential to new industries (peripheral location in the product space), it has the potential to improve quality of these products and expand the sector by targeting a global supply chain. Mali can also consider shifting the live animal industry from goat to other live animals, as it appears to have increased its value by about 30 percent (and is 14 times higher than live goat exports) in the past five years and provides higher comparative advantage to Mali.

**Table 3.6. Crops and vegetables**

HS-Code	Product description	Export value 2015	CAGR	RCA
130120	Natural Gum Arabic	\$2,000,000	33.0	91
130190	Natural gums, resins, gum-resins and balsams	\$3,600,000	69.7	123
152190	Beeswax, other insect waxes and spermaceti	462083	8.0	44
120740	Sesamum seeds	\$70,000,000	27.2	379
100820	Millet	\$15,947	-63.9	2
80130	Cashew nuts, fresh or dried	\$391,996	-25.4	1
120210	Ground-nuts in shell, not roasted or otherwise	\$137,326	-18.6	7
71490	Roots and tubers with high starch content	\$90,731	-19.0	3
80450	Guavas, mangoes and mangosteens	\$12,000,000	-3.0	86
81340	Other dried fruit	\$136,160	25.9	3

Source: Observatory Economic Complexity and Bank staff calculations.

127. **Some agricultural products are already well established with export volumes of multiple industries exceeding \$1 million in 2015 (Table 3.6).** Some products like sesame and natural gums offer very feasible expansion opportunities given Mali's existing capability stock and their fast growth in the past five years. While they are among Mali's top six most advantageous products in 2015, they also provide export earnings of more than \$75 million. And even on some of the most advantageous products that have seen some decline (3 percent) in recent years -- like guava, mangoes and mangosteens -- Mali still is a competitive exporter of those products, and their feasibility for expansion is still relatively high. In contrast, export of other crops like millet, nuts, and roots and tubers have witnessed significant decline in the past few years; and in light of their low export value as well as their declining trend and weak comparative advantage, it is less feasible to consider these products as having potential for diversification.

128. **The product space analysis above has already indicated that Mali's competitive food exports offer few immediate diversification opportunities given their peripheral position.** Yet growth in export volumes of some of the products suggests food products' potential to reduce Mali's reliance on the price fluctuations of the extractive sector. The largest export is jams and fruit jellies, and marmalades, which has seen a 321 percent increase in the past five years (Table 3.7). Similarly, other cereal products have also increased by about 48 percent in the same period. Among foodstuffs, these two products not only have high export value, but also provide strong comparative advantage to Mali. In light of its ample endowment with fruits and existing knowledge base, Mali can focus on the expanding jam and juice industries in terms of both quality and quantity. In fact, the country is already a competitive exporter of these products. Mali can also consider reviving the pasta industries, where it has relative comparative advantage although the sector has been declining in recent years.

**Table 3.7. Foodstuffs**

HS-Code	Product description	Export value 2015	CAGR	RCA
100890	Other cereal	\$457,370	48.4	10
110290	Other cereal flour	\$67,360	-4.6	3
190230	Other pasta	\$311,534	-19.1	2
200799	Other jams, fruit jellies, marmalades, and so on.	\$1,700,000	321.0	13
200980	Juice of other single fruit, unfermented, not c	\$208,616	7.9	1
220210	Waters (incl. mineral and aerated), with added	\$698,808	-17.2	2
30549	Smoked fish (excl. salmon and herrings)	\$43,528	-19.5	2

Source: Observatory Economic Complexity and Bank staff calculations.

**Table 3.8. Textiles**

HS-Code	Product description	Export value 2015	CAGR	RCA
520100	Cotton, not carded or combed	\$200,000,000	2.1	278
520299	Cotton waste	\$231,304	6.6	13
520300	Cotton, carded or combed	\$104,495	-75.6	6
520790	Cotton yarn (excl. sewing), put up for retails	\$5,866	31.8	1
520839	Dyed woven cotton fabrics, with >=85% cotton	\$175,272	33.7	3
551419	Woven fabrics, <85% synthetic staple fibres	\$190,839	150.3	30
620322	Men's or boys' ensembles of cotton	\$40,352	18.6	2
620422	Women's or girls' ensembles of cotton, knitted or crocheted	\$50,610	15.3	5

Source: Observatory Economic Complexity and Bank staff calculations.

129. As noted above, textiles is a well-connected component of the product space: Capabilities in textiles offer easy jumps to new textile products, though the sector as a whole is relatively isolated from other industries (Table 3.8). Mali has an attractive opportunity to develop its woven fabrics industry, which has the potential to open up further textile products in the future. As with crops and food, this can help reduce Mali's reliance on extractives. Although raw cotton dominates Mali's current textile industry, other textile products have already shown significant development with notable comparative advantage. It is thus imperative to suggest that Mali can expand its textile industry by focusing on potential garment sectors.

130. Mali's ICT industry has made remarkable strides both in its share of Mali's service exports and in its RCA (Table 3.9). In the past few years, the industry has grown at an average rate of 12.5 percent, and it emerged as the most advantageous service sector. Despite its recent decline, the travel industry is another sector in which Mali has relative comparative advantage while generating the highest export revenues in services. Assuming security concerns phase out, reviving the sector would provide another opportunity for diversification. Moreover, looking beyond ICT and travel, insurance and financial services offer much more potential for capability upgrade, given their high complexity. With export volumes increasing at higher rates, they present opportunities for Mali to become competitive in these industries. Finally, Mali can benefit from expansion of its transport services. While this industry is of low complexity, transport infrastructure development is crucial to support diversification in light agri-manufacturing sectors highlighted above.

**Table 3.9. Services**

Product description	Export value, 2014	CAGR 5-yr	RCA
Transportation	\$24,820,000	-36.2	0.03
Travel	\$211,796,000	-7.3	1.7
Communications services	\$82,816,000	12.5	16.4
Insurance services	\$1,544,000	37.6	0.7
Financial services	\$2,972,000	25.7	0.5
Other business services	\$18,260,000	-28.9	0.04
Personal, cultural, and recreational services	\$612,000	16.9	0.4

Source: UNCTAD and Bank staff calculations

131. To support the operationalization of The National Agency for the Promotion of Exports to Mali, the International Trade Center (ITC) prepared a report that examines Mali’s export potential (ITC, 2010). In addition, the Ministry of Agriculture laid out strategic profile for the development of Mali’s Agricultural Competitiveness and Diversification Program (PCDA, 2006). Both reports provide valuable information on the state of the agriculture sector and main constraints to the development of the sector. The reports identified 11 products in which Mali has high potential to export (Table 3.10).. However, our findings, which is based largely on Mali’s comparative advantage and its current knowledge base show that Mali has much greater opportunities to diversify its export portfolio in both goods and services. Based on our findings, we propose short- and medium-term export diversification strategies for Mali. The following section discusses their feasibility and transformative potential, as well as their alignment with current government priorities.

**Table 3.10. ITC and PCDA selected products for diversification**

Sector	ITC and PCDA recommendations
Agriculture	Mango, Gum Arabic, Sesame seeds, Green beans, potato, rice, Karite, Sugar, Fish
Textile	Cotton
Chemicals	Fertilizer

Source: ITC and PCDA.

### Short-term strategy: Fostering existing productive export products

132. **The short-term focus should be centered on Mali’s already existing competitive products (see Box 3.1).** With the exception of gold, Mali’s competitiveness still arises from agriculture, livestock and textile products. The strategy would prioritize about 40 new products (some of them manufactured) with an export value of above \$10,000 and already appear as competitive. A tentative list follows. *First*, pasta, jams and jellies, and fruit juice would add value to existing agricultural products and are increasingly being exported by Mali. *Second*, Mali has strong competitive advantage in a variety of agriculture and livestock-related products that also have strong job-creation potential: sesame seeds, cashew, nuts, beans, guava, mangos, mangoteens, dried fruits, and pastoral products like goat and sheep skins and hides and, live animals (goat and sheep). *Third*, Mali maintains competitive advantage in exporting some textile products including: raw cotton and woven cotton. Although it is very small and at its infant stage, the emergence of agro-processed products can be taken as a sign of Mali’s slow progress towards industrialization. *Finally*, new extractive and chemical products have surged in Mali’s export basket: gold and fertilizers.

133. **Well-targeted policies require concerted actions to foster and materialize the existing potential of such export products.** Gradually, nurturing a higher complexity export bundle will also enhance the sophistication of Mali’s export products, as measured by the Product Complexity Index (PCI). Initially, Mali’s traditional exports, including its top 15 exports, even if some have low product complexity Index (PCI)

ranking. Later, fostering selected Mali's light agro-based light industries can gradually play important role in Mali's industrialization process in products like sesame seeds, guava, mangos, mangoteens, beans, cashews, and nuts, and help build resilience in the agriculture sector, developing its capability stock, and opening up new opportunities for diversification in the future. In sum, more formally, the short-term strategy should be centered on emerging agricultural products, also including those with demonstrated agro-based light manufacturing potential as explained in Box 3.1.

### Box 3.1. A short-term export diversification strategy

*The initial focus should be on products that Mali already has the productive knowledge and relative comparative advantage.* While some of these exports are raw products (like mangos and sesame seeds), other agro-based light manufactured products (like pasta, jams and jellies, and juice) on the lower end of the complexity spectrum are feasible given Mali's capability stock. These are within Mali's current reach and fostering these products will somehow increase manufacturing skills that are a pre-requisite for a follow-up accelerated diversification into more sophisticated products. This strategy is rather easy to implement and will lay the foundation for acquiring more sophisticated technical skills necessary for large scale manufacturing. Labor-intensive light manufacturing led the economic transformation of many of the most successful developing countries.

Country-specific advantages in light manufacturing include: (i) low labor cost, and (ii) abundance of natural resources that supply raw materials such as variety of fruits, skins and hides, and cotton for the foodstuffs, leather and garment industries; and (iii) opportunities to increase yields on cultivated land. Key options are next:

- *Focus on agro-processing products.* Other agro-processing industries include cereals (including pasta), jams and jellies, and juice, sugar, and vegetable oils. Currently, the processed food industry is still young and growing. Even if these products have relatively higher levels of sophistication, strengthening these industries could be instrumental in diversifying the economy.
- *Upgrade the quality of existing agricultural and livestock exports (so as to compete not just on price).* Sesame seeds, tropical fruits, and live animals (sheep and goats) can benefit from it. Livestock rearing is practiced by more than 85 percent of the active population as their main activity or as secondary activity, after agriculture. Enhancing the productivity and quality of these products will lay the foundation for more sophisticated diversification. Furthermore, to succeed internationally, it is important to identify new niches and exploit a wider range of market opportunities.
- *Strengthen two services, the transport and ICT sectors, that have shown some progress and are critical to be globally competitive.* The most pressing challenge is to tackle the need for competitive transportation and telecommunication infrastructure, with market based pricing, private sector participation and appropriate regulation. Expanding the ICT sector also requires provision of skilled labor force. The provision of customized education and skills training with more attention to vocational and technical education is vital for the rapid development and success of the ICT sector. This will also facilitate opportunities for other service sectors, particularly financial and professional services.

### Medium-term strategy: Expanding toward new higher-value added export products

134. **Mali should step up its diversification efforts by targeting a few more sophisticated products.** Key lessons learned from successful diversification experiences in benchmark countries are in Annex 3G. *An underlying requirement is for Mali to encourage the upgrading and expansion of small scale enterprises.* Mali's manufacturing sector is small (single digits to GDP--see above) but can expand. Light manufacturing in Mali is characterized by a few small-size formal firms providing products to niche or protected markets and by a vast number of small, low-productivity informal firms providing low-quality products to the domestic market. These enterprises provide low-paying jobs, little in foreign exchange earnings, and few productive employment opportunities for young Malians. Principal manufactured goods are cooking oil, batteries, cigarettes, fabric, flour, plastic shoes, and carton. Import competition for these goods is currently minimal, representing less than 5 percent of domestic consumption; while their exports account for less

than 3 percent of total production. Accelerating Mali's economic transformation will require expanding these firms' productive knowledge beyond existing productive capabilities. This means that in addition to strengthening the existing product lines, Mali needs to find and develop a few new strategic products, based on its current productive knowledge, and commit to export them competitively. Being selective is a must as diversifying into more sophisticated product lines is time-costly and requires highly skilled labor force, significant investments in infrastructure and so on.

135. **Mali's product space can be informative on such selection.** Many manufactured products require a productive knowledge that is quite different from Mali's current exports. For example, the closest products to pasta are tableware, kitchenware, other household articles and hygienic or toilet articles. On the other hand, some of its current agro-processing industries are well connected with other potential products. For example, jams and jellies and fruit juices are well connected with chocolate and other food preparations made of cocoa (which is produced in Mali in relatively large scale), fruits, nuts and other edible parts of plants otherwise prepared or preserved, vegetable juices, waters including mineral and aerated. Besides these products, there is potential for other like soups and broths, coconut milk, and vegetable oils. The textile industry has also ample potential to diversify, although currently Mali's export is largely dominated by raw cotton and woven fabrics and yarn. In light of availability of raw material, this sector can expand producing garments, such as shirts, blouses and babies clothing that are distantly connected to the existing products (see Box 3.2).

### Box 3.2. A medium-term export diversification strategy

*The most critical challenge for Mali's medium term diversification is acquiring a sufficiently large pool of local industrial skills/capabilities, which cannot be imported or developed in a short period of time necessary to produce more sophisticated agro-based light manufactured exports.*

Key types of product focus

- **Apparel products.** Mali's textile sector currently generates about US\$200 million in exports but largely of raw cotton. Given the availability of the productive knowledge and skills required to manufacture garments (such as, woven fabrics), there is palpable potential for domestic firms to increase their share in the domestic and global clothing markets. A significant labor cost advantage,<sup>47</sup> offers Mali the opportunity to expand its apparel industry. Foreign direct investment can accelerate the process of ramping up production and exports. Mali's potential for expanding its production of high-quality cotton enhances the potential benefits associated with expanded production of clothing. To do this, particular attention will need to be given to the potential constraints on Mali's competitiveness in apparel has been poor trade logistics, which would wipe out its labor cost advantage and cut it off from the higher-value, time-sensitive segments of the market. Establishing a green channel for apparel at customs, providing free and immediate access to foreign exchange, reducing the cost of letters of credit, and setting up an industrial zone close to the Koilikoro on Niger River or Abidjan (Mali's main seaport, as the country is landlocked) would resolve the most important trade logistics issues. Facilitating access to low-cost electricity would also remove some constraints to the sector. It is highly recommended that the government should address this problem as its long term objective.
- **Leather products.** Mali has significant potential in leather, which is more labor intensive than apparel. Currently, Mali has handful tannery but targeted policy support could enable Mali's large animal herds to produce vast amounts of some of the best leather in the world. Furthermore, the penalty of poor trade logistics is less serious because leather products are less time sensitive than apparel. The immediate constraint is limited access to high-quality processed leather. Supporting the exports of leather would increase incentives to invest in the Malian leather supply chain. The challenge is to expand the commercial production and sale of high-quality animal hides. Facilitating access to rural land for good practice animal farms will open the door to large-scale commercial herding enterprises. Promoting better breeds, controlling cattle diseases, and enabling the use of cattle as collateral would expand the capacity of small-scale operators to contribute to a larger supply of quality hides. And improving trade logistics along the same lines as apparel would further enhance competitiveness.
- **Upgraded agribusiness products :**
  - Mali exports agriculture products (mainly fruits and vegetables worth of \$90 million, and foodstuffs worth of 21 million in 2015). Besides what was considered in the short term strategy, Mali must stimulate its agro-industry by increasing agricultural productivity as well as by minimizing post-harvest losses resulting from inadequate storage, packaging and transport facilities. To unleash the vast potential of agribusiness, the government should also (i) facilitate private sector investments in key input markets, such as fertilizers and hybrid seeds; (ii) pilot in key locations the use of land and cattle as collateral; and (iii) facilitate access to rural land for good-practice investors.
  - Given its large dairy cattle population, an upgraded milk industry is also an option.
- **Other services:** Mali also has immense opportunity to grow its tourism sector, with its ancient caravan cities, Neolithic rock art, and medieval settlements. However, the poor road condition couples with security situation and other shortcomings in tourist-friendly factors (such as limited supply of hotels and restaurants) to make it still off limits to visitors. But the potential is there and, as soon as security improves, to stimulate the tourism sector Mali will need to empower private operators and improve on the accessibility of key tourist attraction areas.

## Chapter 4. Upgrading Mali's Global Value Chains in Sesame Seeds and Cashew Nuts<sup>48</sup>

### 4.1 Introduction

136. **In the Global Value Chain (GVC) taxonomy, Mali is considered as an “agricultural seller” (Taglioni and Winkler, 2016).** Global value chains refer to the sequence of value-added activities that include the creation, delivery, and end-use of economic sub-sectors, products or services. Agricultural sellers are predominantly specialized in agricultural production. Mostly their production is upstream and they have little foreign value-added content in their own products. Low income countries, including most SSA, are considered agricultural sellers. Their typical characteristics are: (i) they are strongly integrated into perishables GVCs on the selling side, as this is their obvious market opportunity; (ii) have a negative trade balance gap (import minus export), unless related manufacturing exports develop; (iii) their majority moves toward light manufacturing through agricultural upgrading, even though a minority has rather become more concentrated agricultural sellers; and (iv) their typical upgrading trajectory is to become some type of light agro-manufacturing diversified sellers and/or buyers with a stronger service sector (Taglioni, 2017).

137. **As an agricultural seller, strengthening Mali's participation in global value chains requires densification and economic upgrading to higher value added activities.** “Densification” is about engaging more local actors (firms and workers) in the agricultural GVC network. This contributes to the overall goal of increasing a country's value added as it creates spillovers across sectors and resilience to external shocks (likely to increase with greater export orientation). Densification could even mean that performing lower value-added activities on a large scale can generate large value-addition for the country. In turn, “economic upgrading” is about gaining competitiveness in higher value-added products, tasks and sectors. Three types of economic upgrading exist: (i) moving into new and more sophisticated products; (ii) increasing value-added shares in existing GVC tasks with technology; and (iii) moving into new – multi products - value chains with higher value added shares/markets. Thus, Mali's policy makers and private investors need to decide which type of economic upgrading (products, functional, process, market/chain) they want to pursue.

138. **Externally, factors such as demand and product specifications and actors such as international commodity traders, and retailers from North America and Europe shape the relationships in the chain.** At the same time, emerging shifts in the geographies of supply and demand are creating new opportunities and challenges. For example, Russia and Ukraine are now the leading suppliers of grains to emerging markets in the Middle East and North Africa (MENA) region and Asia (Ahmed, Hamrick et al. 2014). Increasing global demand for oil seeds and nuts is increasing production in Africa while processing is expanding in Asia. Growing demand from countries in MENA and Asia is putting pressures on global supplies of food, is creating a new consumer requirements and creating new opportunities for innovation and production (Ahmed, Hamrick et al. 2013). These shifts are creating a different set of actors in the emerging supply and demand regions and pushing several multinational corporations to develop the logistics, processing and marketing segments in GVCs in countries such as Russia, Indonesia, Egypt, Nigeria and Côte d'Ivoire to be closer to demand markets. For example, Cargill is investing in soybean processing in Egypt; and Olam is now a lead player in Africa with sourcing, processing and marketing operations covering a wide range of products (Ahmed, Hamrick et al. 2014).

139. **Domestically, the industrial and agricultural markets in Mali are largely informal with tradesman and intermediaries that connect producers to markets.** Retail activity depends on street and informal trading with the Marché Rose and Street Market as the key locations. Almost 70 percent of industrial activity is in

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<sup>47</sup> According to a study on selected African countries, wage levels remain the most important cost element for Africa's competitiveness (Doing Business, 2016).

<sup>48</sup> This chapter is based on Ahmed and Fandohan (2017) background paper to this study.

the capital city Bamako and the main industrial zone is the Sotuba Industrial Zone with limited storage and logistics (Knight 2017). Trade logistics relies on three regional corridors that link Mali to the sea: Tema–Ouagadougou– Bamako, Dakar–Bamako, and Abidjan–Ferkessedougou–Bamako. Due to the security situation in Côte d’Ivoire, which traditionally provided Mali with access to the sea, transit patterns have shifted to other corridors/ports. Mali is also part of the Transahelian road corridor (Nouakchott–Njamena), which is expected to gain relevance for intraregional trade in the ECOWAS region. The rail network of the region is essentially disconnected. Electricity, logistics and infrastructure are some of the biggest constraints to developing the private sector and agribusiness (African Development Bank 2017).

140. **Mali has two main reasons to expand sesame seeds and cashew nuts production.** On the one hand, sesame seeds are part of the edible oil seed sectors and ranks seventh in the world production and area harvested of edible oil seed crops. Trading in sesame seeds reached over 2.5 billion USD in 2015 (AJG Simoes and Hidalgo 2017). The crop grows mostly in tropical and sub-tropical countries, is draught tolerant and grows well in cotton producing areas. Sesame adds value to crop rotation and takes only about 35–40 days to bloom (Ray Langham and Wiemers 2007). The oil content of sesame seeds is high at about 50 percent and protein content is about 25 percent, which makes the seeds highly desirable for human consumption and healthy diets. High global demand, particularly from Asia, is driving growth in production especially in Africa. Sesame is a valuable cash crop in Africa which contributes over 70 percent ( in volume) of global trade with some African countries experiencing almost 20 percent growth (Fages 2016). On the other hand, among 12 edible tree nuts in the world including almonds, Brazil nuts, cashews, hazelnuts, pistachios and walnuts, shell raw cashew nuts’ (RCN) production is the largest and its consumption is growing fast at 6.4 percent annually and might exceed 1 million tons by 2020, with the highest demand coming from Europe and North America (Mishara and Martin 2016) and supply deficits projected to continue increasing. In all nuts, cashew prices are volatile but continue to increase due to limited production and growing demand. In sum, both industries have considerable potential for growth and can contributing to addressing export diversification, food security and poverty challenges.

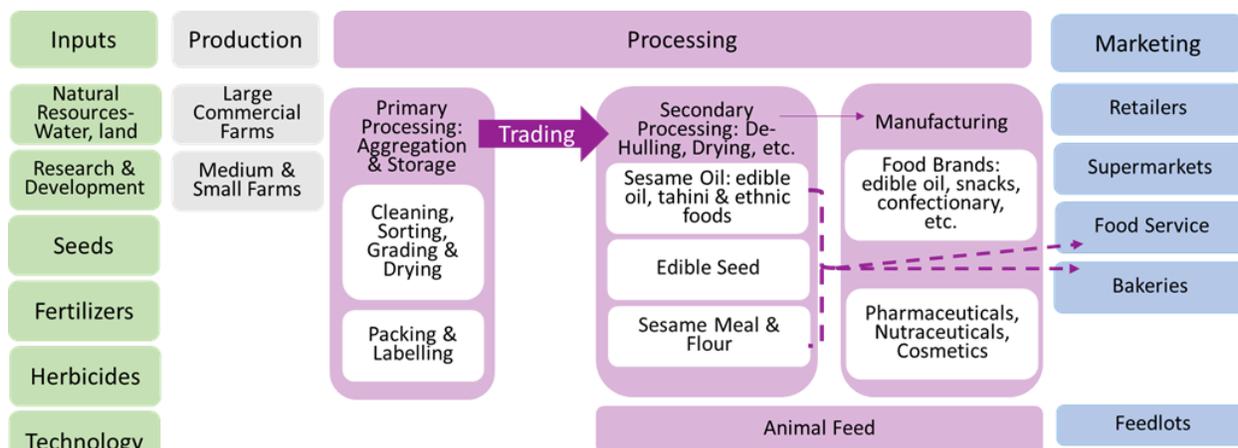
141. **The Government is already stimulating initiatives that it implemented prior to the 2012 political and social unrest.** It relies on the “Agence pour la Promotion des Exportations du Mali” (APEX-Mali) to promote exports, and the AGOA committee to increase exports to the United States. There are four policy frameworks that guide the agricultural development in Mali (Rural 2001, Republique Du Mali 2006, Minister de L’Industrie 2011, Mali 2013, Nhliziyo 2015, USAID 2015). These initiatives are described in Annex 4A.

142. **This chapter analyzes the Malian sesame seeds and cashew nuts GVCs to identify upgrading pathways for the country.** Research summarized was undertaken in 2017. The country case study examines the current state of the sesame seeds and cashew nut industries, regional trade dynamics and determine possible upgrading trajectory.

## 4.2 The Sesame Seed Global Value Chain

143. **The sesame seed chain has four main segments: inputs, production, processing and marketing** (Figure 4.1). Multinational processors and retailers drive the value chain. The production segments are in developing countries. Processing, branding and retailing is concentrated in developed and emerging economies. Profit margins in the chain vary with brokers making about 0.5–2 percent, importers about 5–20 percent and refiners making over 230 USD per ton (CBI 2017). The highest value in sesame is in the processed and branded products. Large global trading houses and processors such as Olam, Mitsui, Wilmar, Cargill, ADM and COFCO are the lead players in the chain that connect producers to food and industrial manufacturers and retailers.

Figure 4.1. Sesame seeds' global value chain map



Source: Authors.

144. The sesame seed markets include the United States and Europe’s food industry, Asia’s edible oil and condiments industries and the Middle East’s tahini, snack and bread industries. Globally, demand for oilseeds will continue to increase while price volatilities will also rise. At the same time, regulation and buyer requirements will continue to become more stringent with an increasing emphasis on food safety, traceability and quality. Producer countries such as India and China are shifting strategies to focus on upgrading in processing and trading segments of the chain while shifting to sourcing raw oil seeds from Africa. Strategic government policy, establishing and enforcing standards, private sector development, education and developing producer and processor organization are some of the key elements to upgrading in the chain to the processing segments.

- Inputs:** The chain requires very little fertilizer and agrochemicals. A balanced commercial fertilizer during planting can help improve production in low fertility areas. There are not any agrochemicals specifically made for sesame and the crop is sensitive to herbicides. Seeds quality is important for better yields and the quality of the harvest. The plant is drought tolerant and uses less water than other crops. Human picking is the ideal harvesting method. Agricultural services and research are key to develop new seed varieties, improve farming practices, increase yields and develop industry linkages.
- Production:** Countries enter the chain producing the seed and starting to export it. Small holders as the main growers of sesame seeds. Growers benefit from scale economies in input purchases, logistics and marketing, which makes the role of farmer organizations important to achieve this. The crop works well for rotation after cotton, maize, sorghum and other staple crops. Mechanization is low in harvesting and many farmers only use a machete to cultivate the crop. Good storage keeps low levels of moisture. Sesame farms produce many varieties: white, red, brown and black. Farmers can produce organic seeds. Sesame farmers need good horticulture, mechanical, managerial and market skills. Farmers sell their crops through local markets and intermediaries or traders. Export product quality certifications and niche certifications occur at the farming and processing segments. Organic and fair trade sesame is one of the fastest growing niche markets for buyers in North America and Europe.
- Processing:** Countries upgrade by entering the primary processing segment and then exporting or moving the seed to secondary processing for oil extraction, food manufacturing and other industrial processes. Cooperatives and/ or traders are involved in primary processing. Actors in this stage clean, sort, bag and label the seeds for buyers in secondary processing such as food manufacturers and

exports. Processors also ensure that the seeds are free from aflatoxins and salmonella. The seeds are sometimes toasted to increase their oxidative stability for oil extraction. This stage is mechanized and technology applications are important for traceability, quality and meeting standards. Primary processors involved in exports have to ensure that their operations meet international regulations such as HACCP and ISO. Processors have to protect seeds during storage against moisture and pests.

- **Marketing.** Sudan Ethiopia, Tanzania, Burkina Faso, Mali and Nigeria are the largest producers and exporters. African sesame yields are low at about 150–250 kg per hectare. Factors such as knowledge gaps, poor crop management practices, and use of appropriate technologies contribute to low yields and quality. African countries in the chain grow sesame almost exclusively for exports. Tanzania is the largest producer of sesame globally, while it was barely a small producer in the early 2000s. On the other hand, India and China are shifting from being the largest producers to expanding their processing segments to higher value activities in the chain. China’s shift from being the largest exporter in 2005 to one of the largest importers is driving fast production growth in Africa. Lead firms such as Olam and development programs such SNV sesame have been instrumental in raising production and assisting developing countries enter the sesame global value chain (Box 4.1). The company is establishing processing facilities in key producing countries such as Nigeria and more recently Burkina Faso.

#### **Box 4.1. Olam's sustainable villages program**

**Olam has been instrumental in growing African sesame production.** The company ran campaigns educating farmers on how to grow sesame and preserve the quality in the limited infrastructure of Africa and hosted training programs using model farms. This ‘Train the Trainer’ program helped some countries achieve a CAGR as high as 20%. Olam provided farmers with liquidity in the form of working capital and set them up with end-users.

Production in countries such as Ethiopia and Sudan is continuing to increase. Sudan is the largest producer of sesame in Africa, with more than 2.1 million hectares of production area. In addition, countries such as Nigeria, Burkina Faso, Mali, Tanzania and Mozambique are experiencing a fourfold growth in sesame production in only eight years.

Olam launched the “Sustainable Villages Program” in Nigeria 2011 to improve the yield ratios of sesame production and the deliver a value-based agro-enterprise across the production chain. The crop from this program was channeled to Olam’s processing facility in Sagamu, Ogun State. The project involved some 1,500 farmers in 2016 and 39 percent of them were women. Olam trained the farmers on good agricultural practices and provided them with free seeds and inputs such as fertilizer and herbicides. The project revealed a high correlation between farmer education and the yield increase. Olam’s program also included farmer quality and traceability certifications, training on sustainable agriculture and investments in education, water and sanitation and infrastructure.

*Source:* Sharma 2016, Adefeko 2017.

- **Secondary processing.** It usually takes place in importing countries such as Japan, India, China and Mexico to produce sesame oil for domestic consumption and exports. The Middle East and North Africa processes sesame seed imports into pulp, tahini, halva and other branded foods that are exported globally. Over 80 percent of the sesame goes into sesame oil production and tahini based products. The food processing industry is the primary buyer of sesame seed as an ingredient to produce semi-finished and finished products. Factors such as ethnic tastes, health and consumer preferences are driving demand globally especially in Europe and North America.
- **Marketing.** Climatic conditions are affecting production in the last few years making Asian sesame expensive and shifting production to Africa. Tanzania, India, Myanmar, India, China and Sudan produce 70 percent of the global sesame seed (Table 4.1).

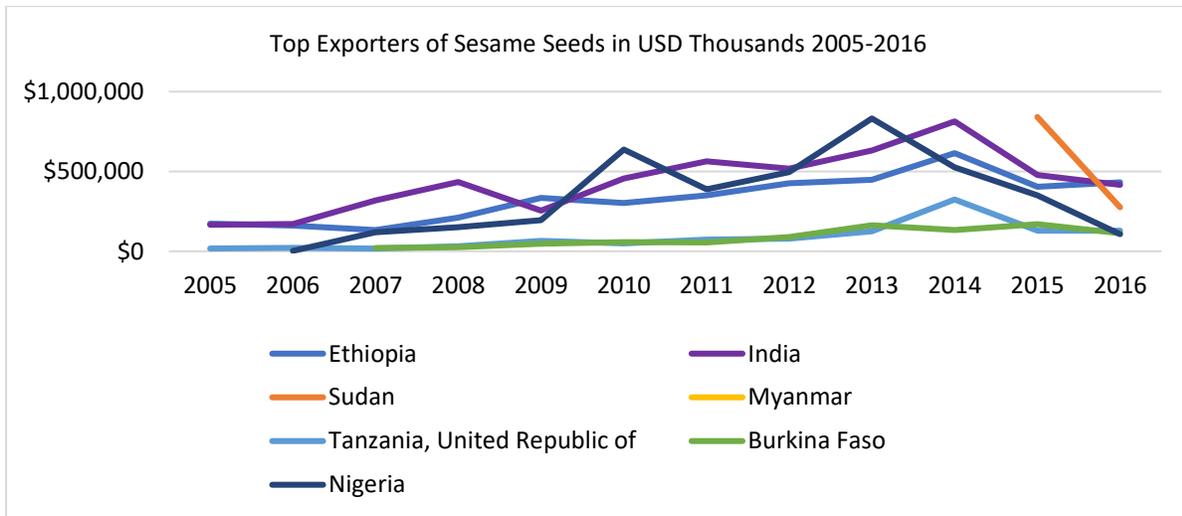
**Table 4.1. Top ten producers of sesame seed (in tons)**

Country	2013	2014	% Change
United Republic of Tanzania	1,050,000	1,138,920	8%
India	636,000	811,000	28%
Sudan	562,000	721,000	28%
China	624,831	632,108	1%
China, mainland	623,492	629,900	1%
Myanmar	539,800	519,400	-4%
Nigeria	584,980	434,990	-26%
Burkina Faso	137,347	321,837	134%
<i>Ethiopia</i>	<i>220,216</i>	<i>288,770</i>	<i>31%</i>

Source: FAO 2017.

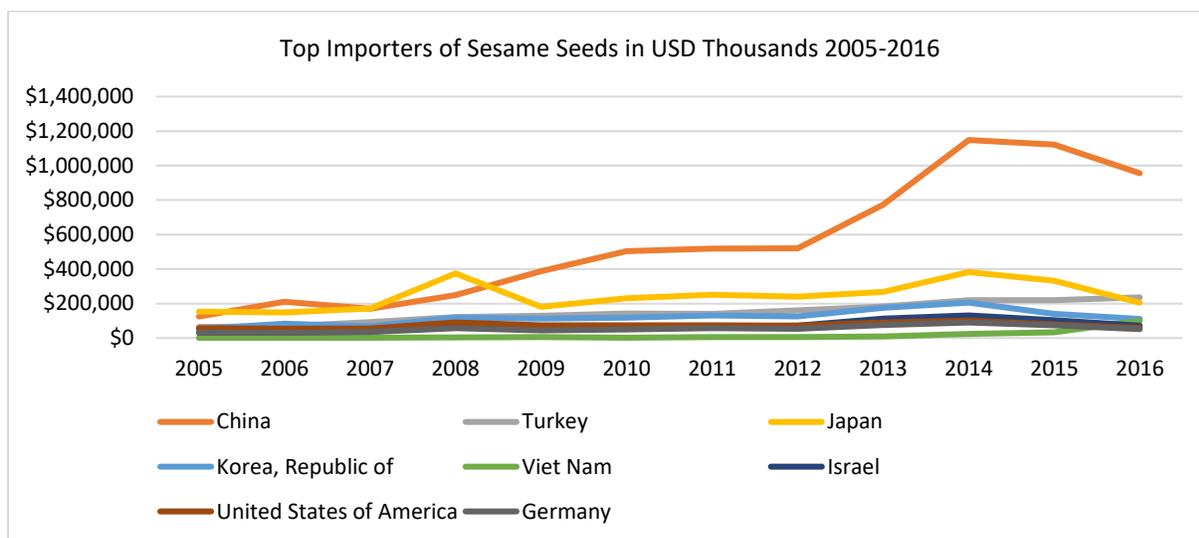
145. Major sesame seed exporting countries include India, Ethiopia, China, and Myanmar (Figure 4.2). Major importing countries include China, Japan, Turkey, France, Germany, Australia, Brazil and the United States of America (Figure 4.3). The demand for organically grown sesame seeds is growing worldwide with Germany and Japan providing good opportunities for growth in this segment. For its part, Japan is the world's second largest sesame importer. Sesame oil, particularly from roasted seed, is an important component of Japanese cooking and traditionally the principal use of the seed. China is the second-largest importer of oil-grade sesame. China exports lower-priced food-grade sesame seeds, particularly to Southeast Asia. Other major importers are the United States, Canada, the Netherlands, Turkey, and France. In 2015, trading in sesame seeds exceeded USD 2.5 billion (AJG Simoes and Hidalgo 2017).

**Figure 4.2. Top exporters of sesame seeds**



Source: ITC 2017.

Figure 4.3. Top importers of sesame seeds



Source: ITC 2017.

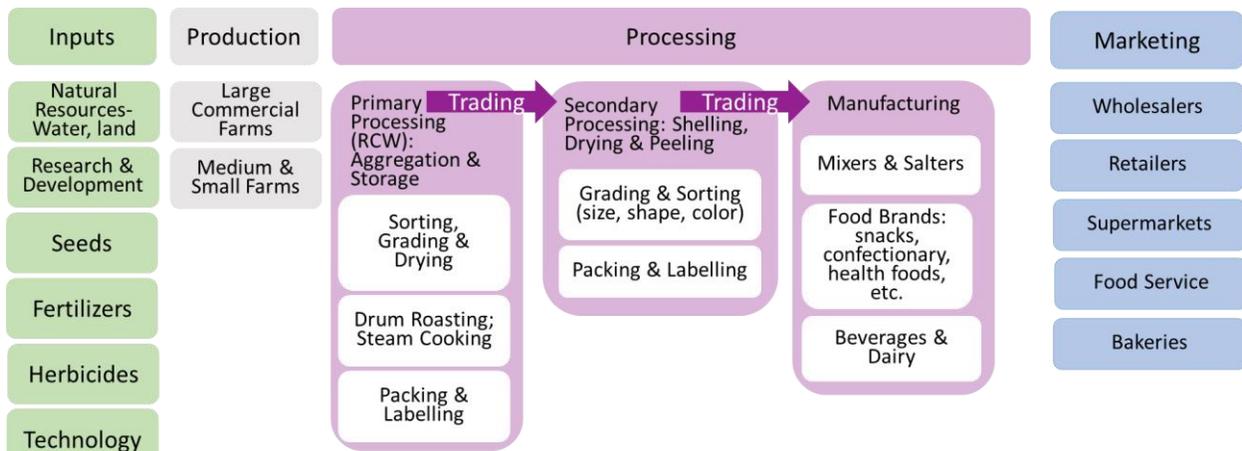
### 4.3 The Cashew Nut Global Value Chain

146. **There are about 12 edible tree nuts in the world including almonds, Brazil nuts, cashews, hazelnuts, pistachios and walnuts.** In shell raw cashew nuts' (RCN) production is the largest compared to other tree nuts. Cashew consumption is growing fast at 7.4 percent annually and might exceed 1 million tons by 2020 with the highest growth coming from Europe and North America (Mishara and Martin 2016). At the same time RCN production has been increasing at a rate of about only 6.4 percent and supply deficits are projected to continue increasing. Similar to other nuts, cashew prices are volatile but continue to increase due to limited production and growing demand.

147. **The cashew nut global value chain (GVC) has four main segments: inputs, production, processing and marketing (Figure 4.4).** Value chain actors upgrade by entering the processing segment, which can be capital and technology intensive. Commodity trading houses that are in processing, multinational food, confectionary and beverage manufacturers and retailers are the main buyers and have power in the chain. Lead firms in the chain include Olam, Blue Diamond Growers, Arimex Limited, Cargill and Archer Daniels Midland Company. Food processing companies purchase cashew nuts in bulk and process them into semi-finished state for inputs (as ingredients) to other industries such as chocolate and packaged nuts. Standards, certifications, health regulations and traceability are critical to entering and upgrading in the chain. The African Cashew Alliance is the leading organization working on promoting the sector in Africa. The organization works with companies, countries, international organizations and other stakeholders to develop African cashews (Alliance 2017).

- **Inputs:** Alternatives to chemical fertilizers include the use of animal and crop waste, or organic farming practices, which eliminate the use of artificial fertilizer products. Growth in nut consumption worldwide is leading to burgeoning demand for machinery, along with specialized equipment required for nut growers. However, in developing economies nut harvesting depends primarily on manual labor.

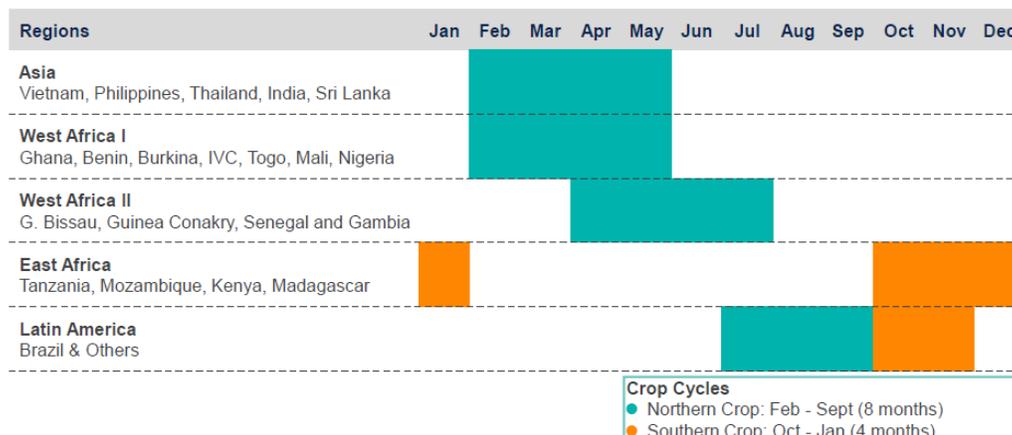
Figure 4.4. The global cashew nuts value chain map



Source: Authors.

- Production:** Cashews are a drought resistant cash crop that mostly grows in tropical and sub-tropical regions cultivated by small holders. Farmers’ harvest the nut during the dry season (Figure 4.5). When the cashew apples are ripe they separate the nuts from the fruits and sun dry them for 2–3 days (Global Cashew Council 2016). Small holders sell directly to collectors, traders and intermediaries. Small holders in Asia and Africa cultivate over 80 percent of the cashews on about 0.5–5 ha. farms. Medium and large-scale plantations represent about 10–15 percent of the cashew production (Global Cashew Council 2016). Weather conditions, age of orchards, seed quality and pests influence production and yield.

Figure 4.5. Cashew nut production season



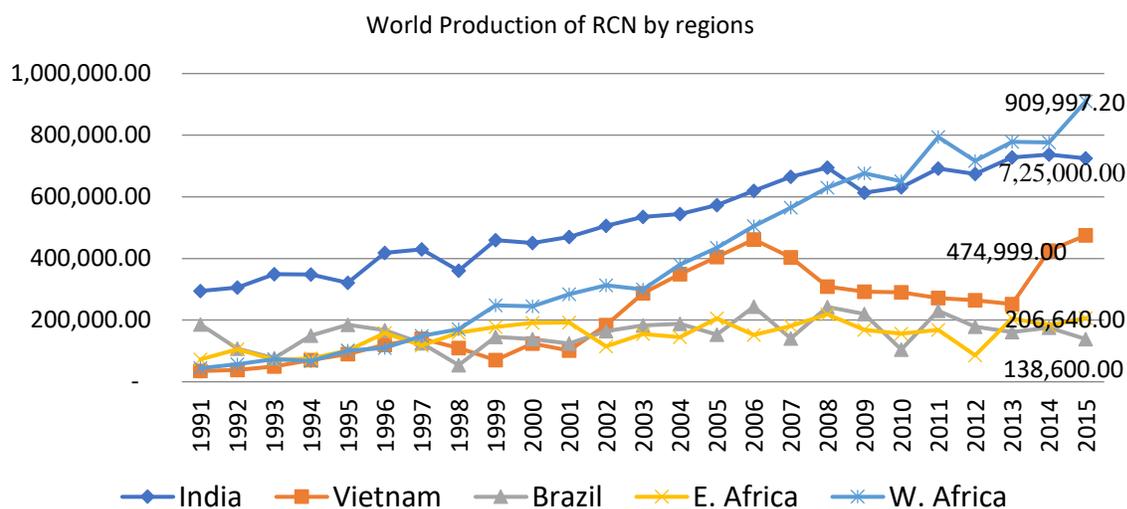
Source: ITC 2015, Mishara and Martin 2016.

- Processing:** *Primary processing* begins after harvesting to maintain their quality and properties. Farmers separate the drupe from the cashew apple and sun dry them. Cashew apples are usually too fragile for transport and are more suitable for local consumption. Small holders and artisanal processors make jams, syrups and sauces from cashew apples. Primary processors roast and water damp the raw cashews to neutralize toxins in the shells and obtain the nut kernels. The liquid in shell contains anacardic acids which is an input to the pharmaceutical and cosmetic industries. The shelling process is mostly manual and labor intensive. However, technology adoption is increasing with leading countries such as India are targeting a reduction in cashew breakage (INC Congress 2017).

Processors then sort, grade and package the shelled cashews according to quality, size, color and shape. Product packaging and storage are fundamental to maintain the quality of nuts, avoid product damage, deterioration and contamination. Cashews in shell and kernel are stored in dry (<65 percent relative humidity), dark, cool (<10 °C/50 °F), and well-ventilated conditions. Cashew processing is concentrated in India, Brazil and Vietnam. India processes about 55 percent of global production for domestic consumption and exports (Global Cashew Council 2016). Olam is the largest processor and trader with about 20 processing facilities in countries in Africa and Asia that are HACCP and BRC certified and follow high traceability standards (Olam 2017). *Secondary processing* targets export markets and downstream firms in food manufacturing. Cashew processed become food ingredients, snacks, beverages, baked goods, and other industries. There are large food processors and brand owners such as Olam, Mondelez International, Planters, Breyers, Silk, Ulker, Kellogg and others. Companies apply innovation and use food technology to come up with new flavors and uses of cashew nuts. Branding and retailing of cashew products are the highest value segments.

- Marketing.** Global production of cashews is between 470,000 and 580,000 metric tons (kernel basis) per year. India is the largest producer with 150,000–190,000 metric tons of annual production, followed by Côte d’Ivoire and Vietnam with 70,000–95,000 metric tons each, and Brazil with 40,000–60,000 metric tons (Figure 4.6). Vietnam has the highest growth in productivity rates among leading cashew producers followed by West Africa with yield improvements in Nigeria, Cote d’Ivoire and Benin. Investments by Olam, international development assistance and strategic policies that specifically target higher yields and quality have been instrumental in improving West African cashew performance in global markets (Tables 4.2 and 4.3). India, followed by Vietnam, is a special case (Figure 4.7). The country is simultaneously a major importer, processor, consumer and exporter of cashews. At the same time, less than 10 percent of global cashew production is processed in Africa. Raw cashew exports compete with processed cashews.

**Figure 4.6. Global production of raw cashew nuts**



Source: R.K. Bhodes 2016.

**Table 4.2. Top producing countries of raw cashew nuts (in thousand tons)**

Country	2013	2014
Nigeria	866,510	894,368
India	753,000	753,000
Cote d'Ivoire	488,268	531,488
Viet Nam	275,439	245,003
Benin	198,172	201,818
Philippines	146,289	170,853
Guinea-Bissau	134,907	155,538
Indonesia	116,000	131,200
United Republic of Tanzania	127,947	130,124
Brazil	109,679	107,713

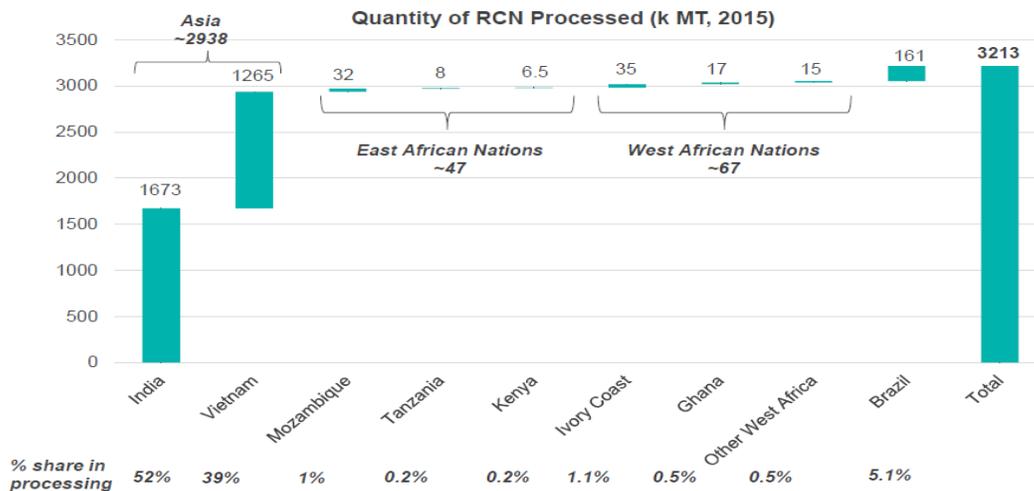
Source: FAO Stat.

**Table 4.3. Global cashew kernels production estimates in metric tons**

Country	2015/2016	2016/2017	Percentage Change
Cote d'Ivoire	162,222	167,000	2.9%
India	172,700	159,600	-7.6%
Viet Nam	113,000	96,000	-15.0%
Guinea-Bissau	55,556	56,000	0.8%
Tanzania	26,667	54,000	102.5%
Benin	17,778	34,000	91.2%
Nigeria	38,889	32,000	-17.7%
Brazil	33,000	27,200	-17.6%
Cambodia	19,000	23,800	25.3%
Mozambique	19,433	21,100	8.6%

Source: Global Cashew Council 2016, R.K.Bhodes 2016, INC Congress 2017.

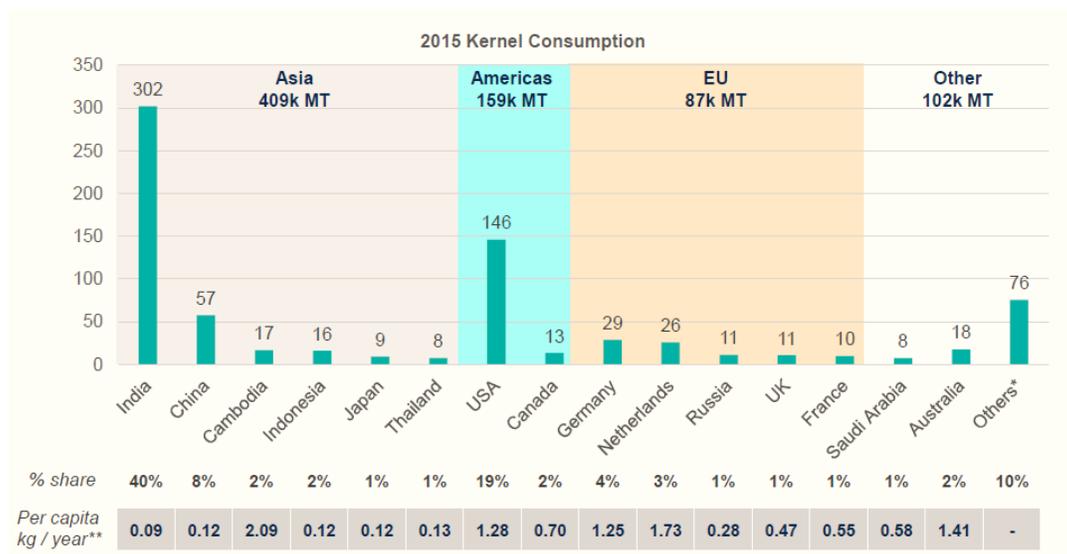
**Figure 4.7. Global processing of cashew nuts**



Source: Global Cashew Council 2016, Mishara and Martin 2016, INC Congress 2017.

- **Global consumption of cashew kernels is growing fast with high value markets in the United States and Europe accounting for third of the consumption.** These markets are growing at a rate of about 6 percent and expected to reach about 350,000 tons by 2020 while global demand will be about 1 million tons (Global Cashew Council 2016, Mishara and Martin 2016, INC Congress 2017). India is the world largest consumer followed by the USA (Figure 4.8).

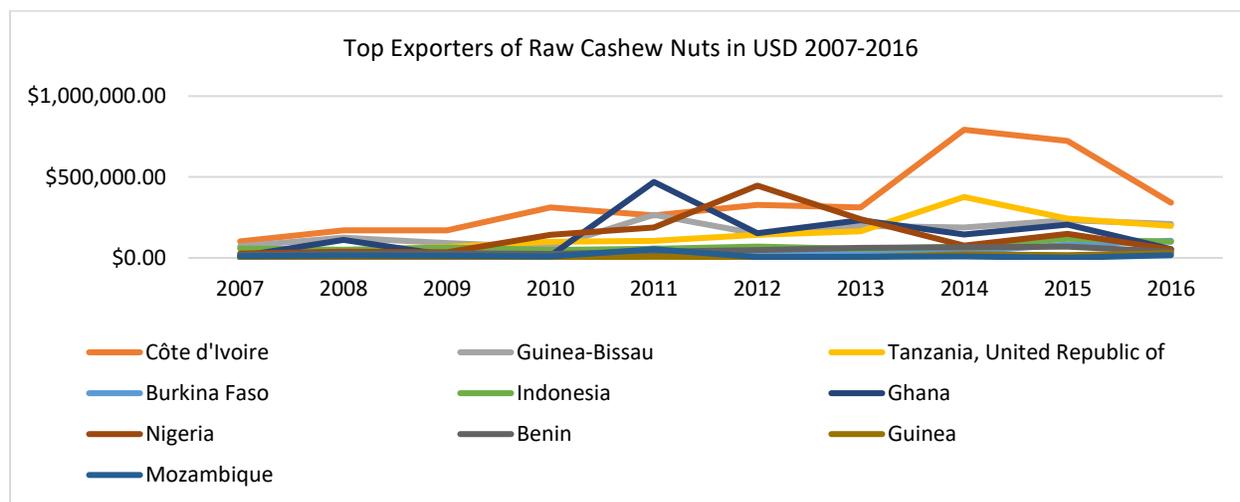
**Figure 4.8. Global per capita consumption of cashew kernels**



Source: Global Cashew Council 2016, Mishara and Martin 2016, INC Congress 2017.

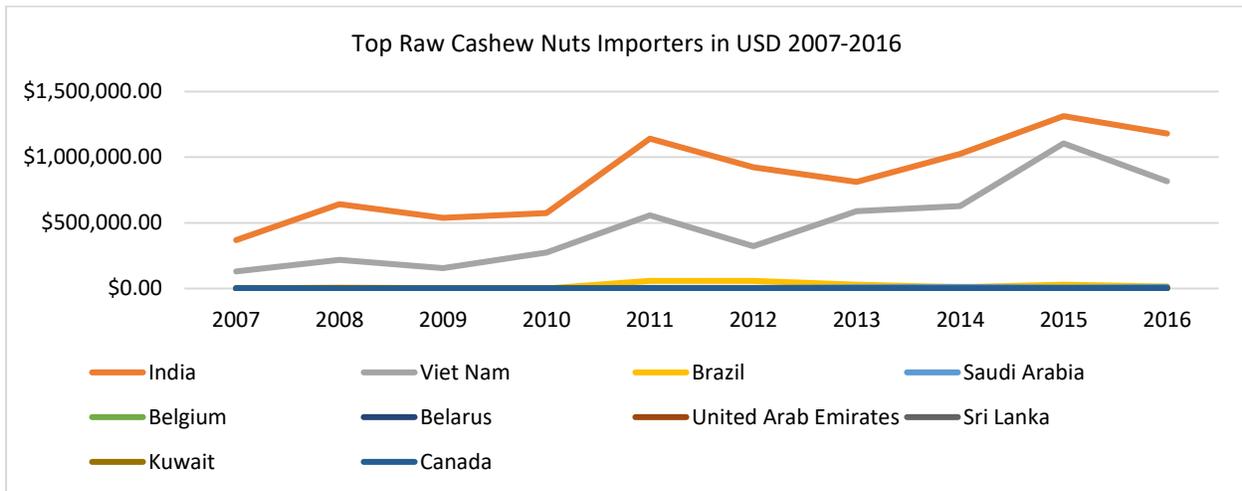
- **Exporters and Importers.** While nine countries in West Africa make 35–40 percent of global production, Côte d’Ivoire, Guinea-Bissau, and Benin are among the world’s top five exporters of raw cashew nuts (Figure 4.9). India and Vietnam are the leading exporters of raw cashew nuts, top processors and are in the higher value cashew exports. The largest cashew importers in terms of value are Vietnam, India, and the US accounting for about 85 percent of cashew imports. Other importers include EU, Brazil, UAE and Saudi Arabia (Figure 4.10).

**Figure 4.9. Global lead countries in raw cashew nuts exports 2007–2016**



Source: ITC 2017.

Figure 4.10. Global lead countries in raw cashew nuts imports 2007–2016



Source: ITC 2017.

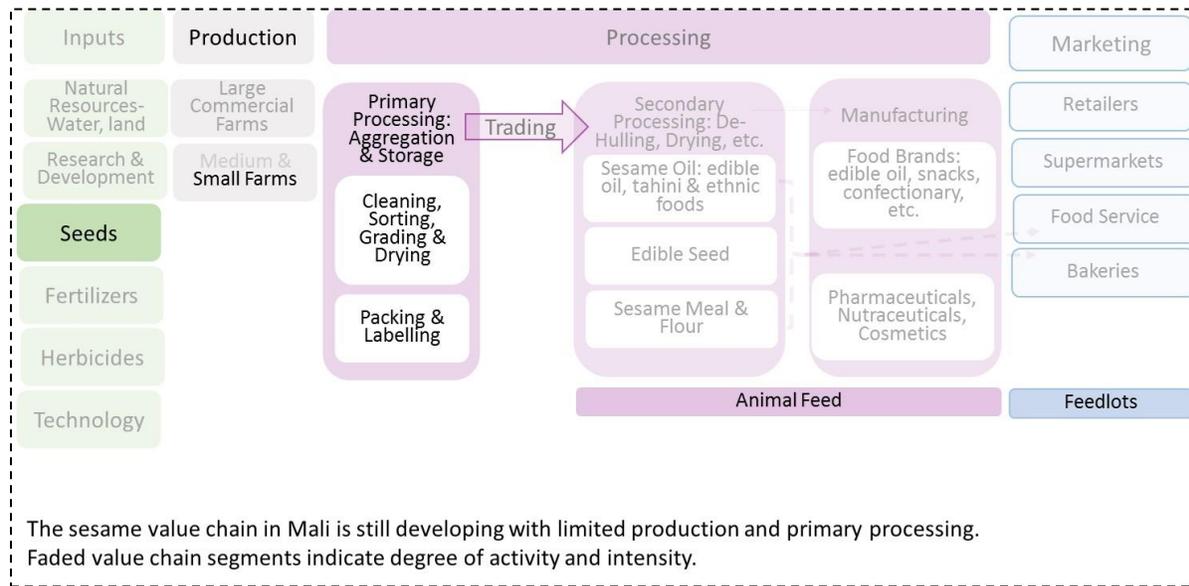
#### 4.4 The Case of Mali – Sesame Seed and Cashew Nuts Value Chains

148. **The production of Sesame and Cashew are in the southern parts of Mali.** More than 80 percent of sesame production is located in the regions of Koulikoro (40.8 percent), Ségou (17.2 percent), Sikasso (14.5 percent) and Kayes (8.7 percent). The Mopti region (center of the country partially affected by the crisis of 2012) holds 18.8 percent of the national production of sesame. The main constraints to sesame and cashew sectors include lack of data, crop politics, low production volumes, lack of agro processing capacity and the slow development of its agro-foods value chains. Public investments and strategic policies that improve the productive and processing capacity including extension and advisory services, research and technology development, logistics, and the organization of stakeholders seem to offer the greater potential to upgrading and to play a bigger role in regional and global value chains. The Malian government is implementing policies to promote direct investment and export-oriented businesses (see Annex 4A). However, in consultations held for this study, sesame and cashew stakeholders view the overall agricultural policy environment as disjointed, does not adequately respond to challenges that small holders are facing and is not helping them capture growing global demand.

##### Sesame

149. **Mali entered the global value chain in the early 2000s by exporting to Burkina Faso, Senegal, France, and China by 2006** (Michigan State University Food Security Team 2011). Area of production increased by almost 250 percent from 12, 961 hectares in 2000 to about 32, 394 hectares by 2010. High global demand especially from China, volatility in the cotton market and the relative ease of growing sesame compared to other crops are some of the drivers that are increasing production areas in Mali. Increasing demand and high global prices are attracting cotton growers to diversify into sesame production. The sesame global value chain in Figure 4.11 shows that the industry is still developing. Farmers, cooperatives and a number of traders and processors are the main actors in the chain. The sesame industry employs about 200,000 Malians who are mostly in the informal sector (Common Fund for Commodities 2013, Gildemacher, Audet-Bélanger et al. 2015). Cooperatives are relatively new and are still developing. The processing segment is limited to few actors who are involved in primary processing and exports. Artisanal processors are mostly small women owned enterprises that produce small quantities of sesame oil, soaps and animal feed for the local market.

Figure 4.11. The Malian sesame seeds value chain map

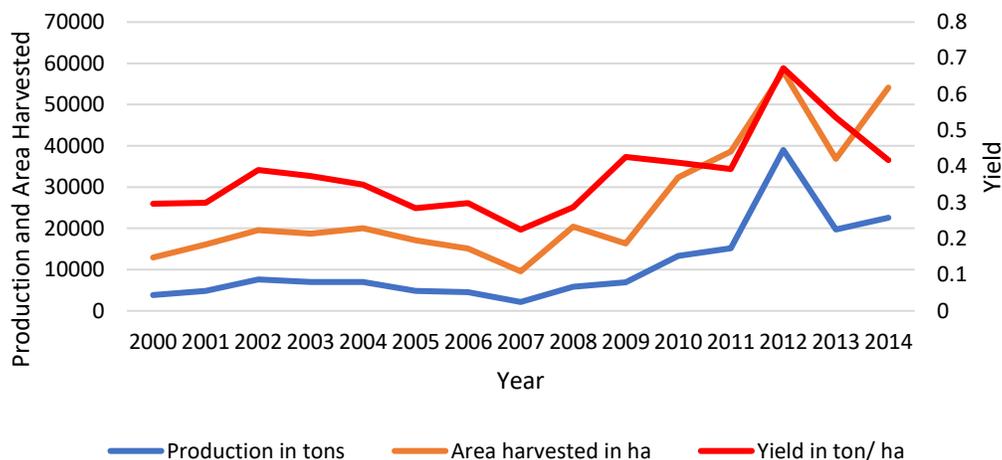


Source: Ahmed and Fandohan 2017.

- Inputs:** Sesame producers believe that they do not need to use fertilizer for sesame seed production. However, international and regional experience indicates that fertilizer use can improve yield. Crop response to fertilizer depends on tailoring the amounts to soil characteristics, land use and other factors. Some Malian producers are not using fertilizers to target organic production. Most farmers obtain their seed from their harvest which usually bears a mixed variety of sesame that meets the acceptable quality. Using certified and pure seeds can improve yields and produce a higher quality of sesame. Malivet and Mali Protection of Cultures (MPC) are the largest suppliers of inputs in Mali.
- Production:** Farmers plant sesame seed in the rainy season in late September and harvest from the end of October to the end of November (Michigan State University Food Security Team 2011, Common Fund for Commodities 2013, Gildemacher, Audet-Bélanger et al. 2015). There are five main producing areas in Mali: Segou, Mopti, Sikasso, Kayes and Koulikoro (Table 4.4). In 2010–11, average yields in Kg per HA. varied between 353 in Koulikoro, 364 in Kayes, 367 in Sikasso to 435 in dryer Mopti and 534 in Segou (Audet-Belanger et al. 2015). The upsurge in sesame seed production is often attributed to the decline in cotton markets in the late 1990s. The Compagnie Malienne pour le Développement des Textiles (CMDT) at one point was providing extension services and supporting other crops in cotton producing areas. In 1999, sesame production involved over 4,600 farms with 2,775 women producers and about 11,000 hectares (Michigan State University Food Security Team 2011). CMDT stopped supporting the sector, which might explain declining yields (Figure 4.12). The extension services are mainly provided by the international and local NGOs. The government’s public delivery services have a limited capacity in improving yield through research and developing producers’ skills. Farmers are increasing production by expanding the harvest areas while yields are stagnant at about between 0.3T/ha–0.4T/ha. The Assemblée Permanente des Chambres d’Agriculture (APCAM) is helping producers organize to access services and set up their interprofession. There are over 450 cooperatives representing the sesame producers and processors (Michigan State University Food Security Team 2011, Gildemacher, Audet-Bélanger et al. 2015, Fages 2016). Producers shell and bag their sesame. They sell their harvest to traders from neighboring countries, cooperatives, field brokers, local traders and processors. Most farmers prefer to sell their harvest quickly and have little information about market prices, which show high variation, and

requirements such as quality. High poverty and illiteracy rates and lack of training are major constraints among producers. Table 4.4. also provides prices estimates for producers in Mali and other chain actors.

**Figure 4.12. Sesame production, area harvested and yield in Mali 2000–2014**



Source: FAO 2017.

**Table 4.4. Price estimates of sesame seeds in Mali**

Buyer	Producer sale shares in 2013 (%)	Average Price FCFA/KG
Field broker	17	358
Village Buyer	8	n.a.
Cooperatives	50	391
Trader	23	433
Local Market	2	400

Source: Gildemacher, Audet-Bélanger et al. 2015, Fages 2016.

- Processing:** There are approximately five to seven processors involved in some basic primary processing. There are few women owned artisanal firms who are making sesame oil, soaps and animal feed for the local market. Prosema, El-Hak Industrie and Iprofam are the leading primary processors. These organizations mostly clean and bag sesame seeds for exports. They export to countries such as China, Turkey, Israel, the Middle East, India, and France. Prosema is the only lead processor and exporter that is actively upgrading and seeking to professionalize sesame production in Mali. Currently, the sesame processing segment is undergoing a supply deficit in Mali. Malian processors are competing with traders from Burkina Faso and other countries in the region that source sesame from Mali. The high rate of informal trade in Mali, lack of warehousing and trading receipts, lack of reliable data and corruption are some of the factors that processors and producers are attributing to the supply deficit.
- Upgrading in primary processing.** Prosema is upgrading in the chain by seeking higher value certifications such as ISO 1400, HAACP, organic and fair trade certifications and is implementing a traceability system. The company realize is seeking the adoption of a quality traceability system in response to the Salmonella scares that are influencing trade. The processor is modernizing its processing facility in FANA, which has a capacity of about 45 tons per day. However, the facility is operating at only 10 percent of its capacity because of sesame supply shortages. The company works with a network of famers directly to procure its sesame supply ad future buys from farmers. Producer prices fluctuate between 300 FCFA / kg to over 500 FCFA / kg. The Common Fund for Commodities,

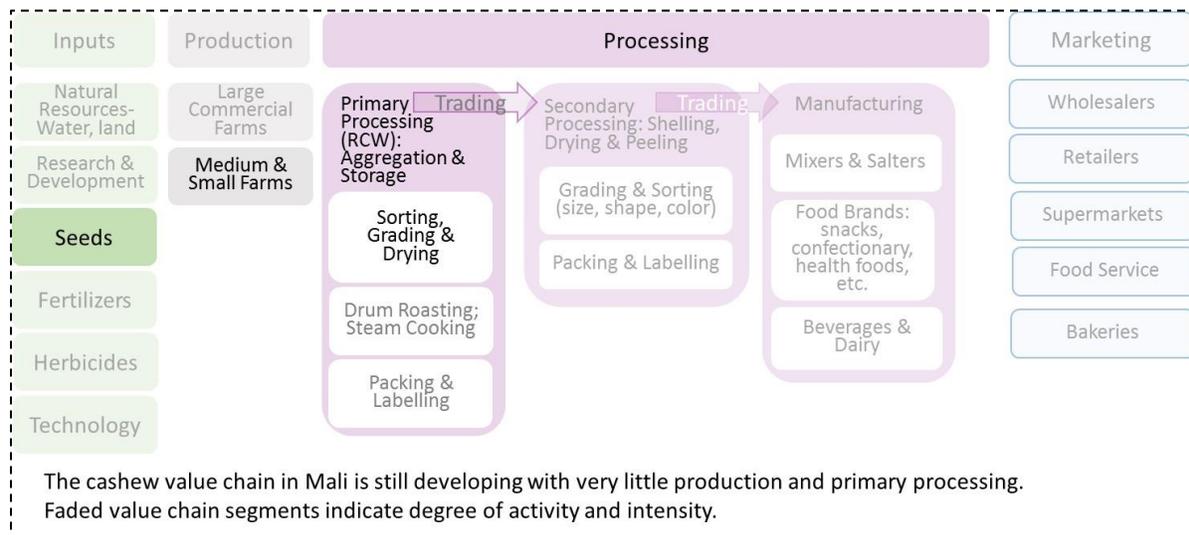
the Royal Tropical Institute (KIT) in Amsterdam, the Syngenta Foundation and the Netherlands-funded DEBPEA Project are some of Prosema’s partners in upgrading (Sharma 2016).

- **Trading:** Producers sell their products locally to basic collectors and local traders or intermediaries / trackers. The local traders and intermediaries are agents working for large operators based in Bamako. They work on targeting sesame seeds in large quantities, are in contact with producers and are important players in connecting farmers to exporters and foreign operators. Most traders and exporters are working with several commodities such as cashews and cotton. Exporters in Mali contract with major importers in the region and few deal directly with importers in other countries such as China. The exporters collaborate with the market intermediaries and traders who ensure purchases and groupings of products for them. The exporters have access to cash and can future contract to secure supply. The importing agents represent large multinationals and work with the Malian exporters and traders. These agents are operating from major ports in West Africa and are sourcing sesame from SSA.

### Cashew

150. **The Malian cashew nuts value chain is in its infancy stage** (Figure 4.13). The cashew tree was introduced in the 1960s as a cash crop and as a hedge tree to slow winds and prevent animals from entering and grazing on agricultural land. High global demand for cashews and high prices are driving growth in cashew production among small holders in Mali. The Malian chain uses few inputs, is limited to small holders, is export oriented and little primary processing occurs in Mali. The chain is less organized than the sesame chain.

**Figure 4.13. The cashew nut value chain map in Mali**

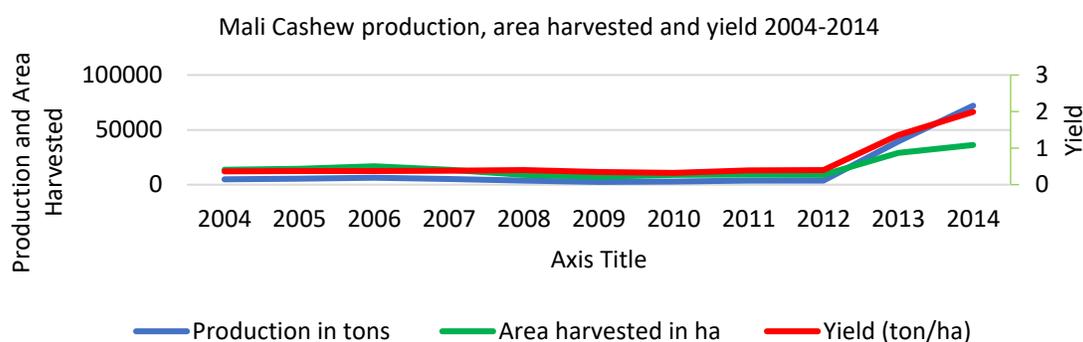


Source: Authors’ estimates.

- **Inputs:** Producers use very few inputs. Many growers select the seeds themselves from their harvest or source them locally. Producers are introducing improved nut varieties by buying Ivorian and Ghanaian seeds (AECID 2016). Most producers do not use any fertilizers. Other inputs such as harvesting, processing equipment and packaging are not commonly used due to their high costs and the low awareness among actors.
- **Production:** The production is mostly in Sikasso, Bigouni, Kolondiéba, Yanfolila, Kadiolo and Koutiala. There are about 12,000 small-sized farms that produce almost 3,500–7,000 tons of raw cashew nuts and 12,000 tons of cashew apples (Bass 2011). Only about five percent of the farms over are 20 years

old and fifty percent are established in the last 10 years. Production volumes and yields are low and cashew orchards are young (Figure 4.14). Malian orchards produce yellow and red varieties of cashew apples (AECID 2016). The main value chain products are raw nuts and cashew apples which are used to make juices and sauces. The Commercialization et Transformation de l'Anacarde dans la Région de Sikasso Project (CTARS) evaluations show the cashew production area at about 76,417 hectares and harvesting at almost 40,000 tons with yields ranging 200 kilos to over 400 kilos per hectare depending on the region. The project estimates that production can reach 50,000 tons in Yanfloia, Bigouni and Kolondiéba. Annual increase in production is about 11 percent compared to a little over three percent global average. Production season is from February to June. Producers in the chain sell their raw cashew nuts locally to collectors, traders and intermediaries. Some of the trading intermediaries are buying Malian cashews directly for Cote D'Ivoire and Burkina markets. Farmers also sell their nuts at weekly local markets. The National Agriculture Directorates coordinate activities with the Rural Economy Institute to increase production and yields. In 2014, producers established the National Federation of Cooperatives of Malacca Producers of Mali (FENACOPAM) to develop production, organize and support producers and market Malian cashews. FENACOPAM has five unions of cooperative in Kolondiéba, Bougouni, Yanfolila, Sikasso and Kadiolo (RABANY, RULLIER et al. 2015, AECID 2016). Farmer cooperatives are new and industry organization is low

**Figure 4.14. Cashew production, area harvested in Mali 2004–2014**



Source: FAO 2017.

- Processing:** The processing segment of the chain is in its infancy. Malian cashew processing is one of the least developed in West Africa. About 90 percent of Malian cashew exports are raw (AGRO Services 2014, RABANY, RULLIER et al. 2015, AECID 2016). This production is too small to meet the minimum efficient scale of processing and be price competitive (AECID 2016). On the other hand, Burkina Faso is growing its edible nuts and sesame processing industries and has large processors that transform Malian cashews. The handful of processors in Mali are very small and are mostly artisanal. Women entrepreneurs are playing a role in the production, processing and cooperatives (see Box 4.1). Agrotrans, is one of the few small processors that emerged and has plans for setting up a processing unit in Kolondiéba (d'Almeida 2016). Other firms (Mouhabat Group Sarl, Descon Sarl, Sodepam SA Bamako, Mali Exim SARL) plan to establish small processing units in Bamako, Bougouni and Sikasso (Market Insider 2015, AECID 2016).
- Trading:** Producers sell their products locally to basic collectors called local traders or intermediaries/trackers. The local traders and intermediaries are agents working for large operators based in Bamako. They work on targeting nuts in large quantities and are important players in connecting farmers and exporters. Exporters in Mali contract with major importers based in the region and other importers such as India. They collaborate with the market intermediaries and

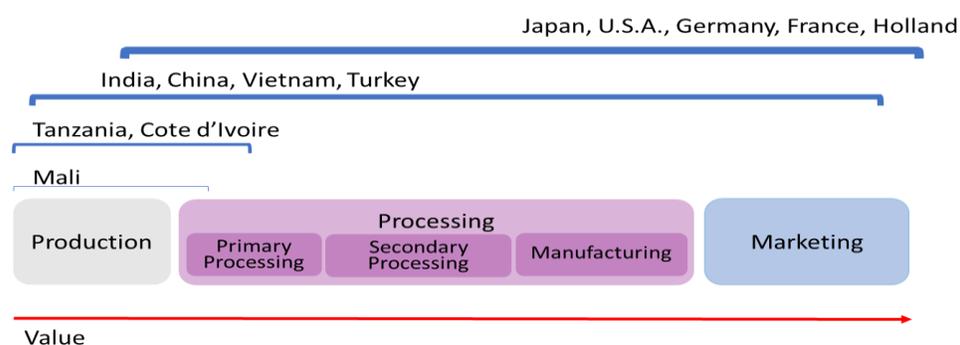
traders who ensure purchases and groupings of products for them. The exporters have access to cash and can future contract to secure supply. The importing agents represent large multinationals and work with the Malian exporters and traders. These agents are operating from major ports in West Africa and are sourcing edible nuts from the entire region (Market Insider 2015, AECID 2016). As a promising development, in 2014, the Association Malienne des Exportateurs de cajou (Malian Cashew Exporters association,) was created to represent the interests of cashew growers with the government, domestic traders and international buyers and to promote the Malian cashew globally. The association is a member of the African Cashew Alliance. The Association of Cashew Exporters has started negotiations with the African Cashew Alliance in order to obtain financial assistance for both the increase of local processing capacity and the certification of kernels. It is also trying to obtain governmental support for export financing by local banks. Without the financial assistance of the banks, Malian cashew exporters can hardly face the international market competition and promote the "Mali" origin label (Market Insider 2015).

#### 4.5 Policy Recommendations

151. **Mali can benefit from a long list of best practice country cases worldwide at developing GVCs (also including some in Africa).** An extensive section covering the cases Ethiopia, Tanzania, Mozambique and Cote d’Ivoire is included in Annex A4B. Multiple lessons extracted from them allows to formulate the next policy options.

152. **Mali has a low position in both the sesame seeds and cashew nuts’ value chains and lags behind other African countries in terms of strategic policies and investments that target their development (see Figure 4.15 and Table 4.5).** We estimate that Mali’s opportunity cost for not upgrading in the sesame sector by increasing production and improving primary processing amounts to over USD 49 million by not exporting to the Middle East and exceeds USD 67 million for not exporting to the United States and Europe. At the same time, Mali’s opportunity cost for not upgrading by increasing cashew production and processing amounts to over USD 7.8 million for foregoing market opportunities in the Middle East and USD 10.9 million for export opportunities in the European and North American markets.

**Figure 4.15. Mali’s position in the sesame seeds and raw cashew nut value chains**



\*Line thickness indicates degree of participation in the global value chain.

\*Tanzania and Cote d’Ivoire are Africa’s largest producers and are in the early stages of entering primary processing.

\*India, China, Vietnam and Turkey are large primary and secondary processors

\*Japan, U.S.A. and Germany, France and Holland are large importers, primary and secondary processors and food brand leaders.

Source: Ahmed and Fandihan 2017.

**Table 4.5. Comparative GVC upgrading in Mali, Ethiopia, Tanzania, Mozambique and Côte d'Ivoire**

<b>The Sesame Value Chain</b>			
<b>Upgrading type</b>	<b>Mali</b>	<b>Ethiopia</b>	<b>Tanzania</b>
Process – production	Low	Lead producer	Lead producer
Process – quality, certification, traceability	Not available	Low	Low
Process – market information and trading	Not available	Ethiopia Commodity Exchange	Developing Tanzania Mercantile Exchange
Process – institutional and organization of actors	Undeveloped	Early development	Early development
Product – primary processing	Undeveloped	Early development	Early development
Product – secondary processing	Not available	Low / developing	Low/ developing
Presence of lead firms	Undeveloped	Olam, Wilmar, East Africa Holdings	Olam, TATA and ETG
<b>The Cashew Value Chain</b>			
<b>Upgrading type</b>	<b>Mali</b>	<b>Mozambique</b>	<b>Côte d'Ivoire</b>
Process – production	Undeveloped	Lead producer	Lead producer
Process – quality, certification, traceability	Undeveloped	Low	Low
Process – market information and trading	Undeveloped	Mozambique Commodity Exchange (MCX)	Early development
Process – institutional and actors	Undeveloped	Early development Incaju	Early development
Product – primary processing	Very low	Early development	Early development
Product – secondary processing	Undeveloped	Low	Not available
Presence of lead firms	Undeveloped	Olam, MozaCajú, Sunshine Company	Olam

Source: Authors.

153. **Mali’s participation in the sesame seeds and cashew nuts’ value chains is characterized by capacity constraints in the production quantity, quality and yield, lack of institutional and policy support, underdeveloped cooperatives and lack of lead firms investing in upgrading.** Low production volumes and inconsistent quality are a challenge for Malian traders working with international firms and are a disincentive for lead firms such as Olam to invest in the Malian market. Value chain actors revealed that they do not perceive the government, financial and educational institutions as supportive or responsive to the development of the chain. In terms of regulatory conditions, it seems that the State is not sufficiently promoting the sector (both are sensitive and young sectors) compared to the politically sensitive crops such as rice, maize and cotton.

154. **Value chain governance seems very low which explains crop leakage through informal channels, opportunistic trading and lack of certification.** For example, during the first year of business with a new international customer, a local exporter was sending 48 kg bags of uncleaned sesame seeds as 50 kg bags. The bags that were sold as white sesame seeds had only a small layer of white sesame on top and the rest was low quality multicolored seeds (Michigan State University Food Security Team 2011). Lack of information and proper procedures is leading to a significant amount of informal cross border trading with countries such as Burkina Faso and Cote d'Ivoire that re-export Malian sesame and cashew as originating from their countries.

155. **None of the traders in Mali achieved international certifications, and there is no single organization that offer training and certification on international standards.** The overall level of stakeholder organization

is very low and the cooperatives lack training to improve production, coordination between chain actors and market linkages. Producers, cooperatives and exporters are eager to identify ways to upgrade to improve production, market information, comply with standards and participate in the processing segment. Table 4.6 presents the strengths and weaknesses of both chains.

**Table 4.6. Strengths, weaknesses, opportunities and threats in Mali’s sesame seeds & cashew nuts value chains**

Strengths	Opportunities
<p>Mali has ideal agronomic conditions for producing sesame and cashew.            Players are exporting to key markets in Asia and the Middle East            Some producers are targeting the organic sector</p>	<p>Global and regional demand is increasing in high value markets            Potential for investment from Singaporean and Indian firms            Stakeholders are keen to improve the sector            International assistance and government policies are starting to support high value agriculture</p>
Weaknesses	Threats
<p>Low aggregate amounts constrain exports and upgrading            Insufficient orientation toward quality, certification and traceability            Poor research and lack of extension            The sesame consuming nations (Japan and China are key markets) and cashew markets (U.S.A and Europe) demand a high quality product that has been properly dried, cleaned, sorted and so on            Farmers are unable to meet standards            The sectors are not a government priority and are not receive sufficient policy support.            Deficits in logistics, infrastructure and complicated exports procedures            Lack of investment across the chain            Lack of private sector participation            Weak and insufficient associations and collaborations            Fragmented and low market organization            Lack of training and development</p>	<p>Competitor countries could replace the supply that Mali cannot develop            Loosing export share            Low aggregate amounts constrain exports and upgrading            Security concerns            Sector informality            Crop politicization</p>

Source: Authors.

156. **The potential upgrading trajectories for Mali’s sesame seeds and cashew nuts value chains focus on building the country’s capacity to adopt an agricultural diversification strategy.** By strengthening the sesame and cashew nuts’ forward linkages to improve production volumes, yields, traceability and market organization these chains can become more competitive in the short to medium term. Process upgrading improves the fundamentals of both chains, will expand Mali’s export market share in these commodities and can lead to product upgrading in the medium to long term. Currently, the only significant primary processing is in countries that are lead producers, traders and processors such as India. African countries in these chains are starting to develop their primary processing.

157. **Mali can develop its primary processing segment as well by developing the policy incentives, institutions and capacity building for attracting lead players such as Prosema.** This would allow to continue making progress, while improving the enabling environment to attract foreign investors and entrepreneurs to enter the market. Table 4.7 below summarizes the proposed upgrading trajectory and the next section provides the recommendations. Detailed explanations on the implications of each Policy recommendation are in Annex 4C.

**Table 4.7. Upgrading trajectory in Mali sesame and cashew nuts' value chain**

<b>Upgrading in New Crops</b>		
<b>Time Frame</b>	<b>Key actions in Upgrading</b>	
Short to Medium Term	Process and Product	Establish a rural research, economic development and sustainability council (RESC)
Short Term	Process	Design and create agricultural cooperatives taskforce
Medium Term	Process and Product	Develop a Center for Agricultural and Development Cooperation (CADC)
Short to Medium Term	Process and Product	Develop a Regional Food Producer's Innovation and Productivity Program (R-FIPP)
Medium Term	Process	Develop a national agricultural trading accountability system
<b>Upgrading in the Sesame Value Chain</b>		
<b>Time Frame</b>	<b>Upgrading</b>	
Short Term	Process	Develop an oilseed sector strategy that prioritizes the sesame seed subsector and create/ recognize sesame seeds local and national organizations and stakeholders
Short to Medium Term	Process	Define Mali's sesame sector priorities and strategies. Create the Sesame Seeds Council and the Malian Sesame Seeds Federation.
Short Term	Process	Professionalization of sesame seeds organizations and stakeholders
Short to Medium Term	Process	Improve farmers value added by improving yield using better seeds, enhancing agricultural technics and controlling plant disease
Short to Medium Term	Process and Product	Ensure that Mali's sesame seeds sector produces traceable, certifiable quality sesame seeds to be sold internationally
Short to Medium Term	Process, Product and Market	Increase local processing power and consumption of sesame seeds in Mali
Short to Medium Term	Process and Product	Improve farmers value added by increasing demand for Mali's sesame seeds through adequate market assessment, strategy design and targeting new and existing markets
Short to Medium Term	Process	Improve infrastructure and services such as logistics, storage, testing and certification labs and processing facilities.
<b>Upgrading in the Cashew Value Chain</b>		
<b>Time Frame</b>	<b>Upgrading</b>	
Short Term	Process	Develop edible nut sector strategy prioritizing cashew sub-sector to recognize local/national organizations/stakeholders
Short Term	Process	Define Mali's cashew sector priorities and strategies. Create the Cashew Nuts Council/Malian Cashew Nuts Federation.
Short term	Process	Professionalization of cashew organizations and stakeholders
Short to Medium Term	Process	Improve farmers value added by improving yield using better seeds, enhancing agricultural technics and controlling disease
Short to Medium Term	Process and Product	Ensure that Mali's cashew sector produces traceable, certifiable quality that can be sold on international market
Medium Term	Process and Product	Raise Mali local processing power & consumption of cashew
Short to Medium Term	Process and Product	Improve farmers value added by increasing demand for Mali's cashews through market assessment, strategy design and collaboration with the African Cashew Alliance
Short to Medium Term	Process Upgrading	Improve infrastructure and services such as logistics, storage and processing facilities

Source: Authors.

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