

# **What Will It Take for Jordan to Grow?**

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## What will it take for Jordan to grow?

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*Working Paper for Discussion*

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## Executive Summary

**This report aims to answer the critical but difficult question: “What will it take for Jordan to grow?”** Though Jordan has numerous active growth and reform strategies in place, they do not clearly answer this fundamental question. The Jordanian economy has experienced more than a decade of slow growth. Since subdued growth was coupled with a large population increase, driven primarily by a large wave of refugees fleeing conflict in Syria, per capita incomes in Jordan today are lower than they were prior to the Global Financial Crisis. The persistent problem of low growth in Jordan can be traced to several external shocks which have together transformed the structure of the Jordanian economy and eroded most sources of foreign exchange generation. The Jordanian economy has lost productivity, market access, and the ability to afford high levels of imports as a share of GDP. Significant efforts toward fiscal consolidation have further constrained aggregate demand, which has slowed the growth of non-tradable activity and the ability of the economy to create jobs. Labor market outcomes have worsened over time and are especially bad for women and youth. For Jordan to grow, there is no viable option of returning to past engines of growth. Rather than closing an output gap, Jordan’s potential output must expand. To achieve this, Jordan must produce more goods and services that are sold externally to sustain growth of the domestic economy and support a larger supply of jobs.

**Jordan faced a deep growth problem even before the onset of the COVID-19 pandemic, which made the economic shock of COVID-19 a major macroeconomic risk.** Just as the COVID-19 virus itself poses greater risks to individuals with pre-existing health conditions, the economic shock posed greater risks to economies with pre-existing weaknesses. Compounding the impacts of preceding shocks, the pandemic introduced its own temporary supply shock and a longer-term demand shock due to its persistent impact on global travel and tourism, which is a key source of Jordan’s foreign exchange generation. Even as Jordan experiences a gradual recovery across sectors following initial, acute economic impacts from lockdowns and global trade disruptions, and even as short-term macroeconomic pressures have been effectively managed, the economy remains under contractionary pressure from the dual challenges of fiscal consolidation and continued impacts of COVID-19 on the global economy. Nonetheless, Jordan’s forward-looking macroeconomic reform program, supported by the IMF, relies heavily on a (modest) growth acceleration over the next several years. This challenge is framed in Section I of this report. To put its debt-to-GDP trajectory on the desired path, Jordan must not only identify new sources of fiscal adjustment but must also reach a sustained, higher pace of growth than was experienced prior to the pandemic. This begs the question of where that growth will come from.

**Jordan’s comparative advantages have narrowed over the last decade as external shocks and responses to these shocks have changed the productive structure of Jordan’s economy.** The role of specific shocks and the identification of key constraints through growth diagnostic tests are discussed in Section II of this report. Constraints of high electricity costs and low water availability

especially limit Jordan’s comparative advantages for globally competitive production. Meanwhile, Jordan’s linkages to the regional economy leave it vulnerable to continued shocks and long-term pressure on oil-dependent economies. Loss of regional markets and trade routes contributed to the hollowing out of Jordan’s export capacity over the last decade, and growth in Jordan has been historically closely related to the price of oil through linkages in grants, investment, and remittances with oil-rich neighbors in the region. There are clear challenges ahead in this reliance, given the accelerating pace of global decarbonization.

**However, there are clear and significant opportunities for Jordan to enable new engines of growth that can transform the economy and position it better for the future.** Jordan has several comparative advantages on which to build new engines of export growth, which is essential for accelerating growth and job creation overall. Previous research by the Growth Lab in Jordan has highlighted strong productive capabilities for high-skill business services, healthcare, education, creative industries, and several other sectors, as well as opportunities to benefit from underutilized female labor and renewable energy technologies. As global impacts of COVID-19 continue to persist, not all these opportunities have strong global demand and market access. Yet, some opportunities have strengthened with the emergence of remote work and the reorganization of global supply chains. The push to decarbonize the global economy — aided through the rapid emergence of new technologies — also enables new green growth pathways that align with Jordan’s comparative advantages. Roughly two years into the COVID-19 pandemic, one can now see very clear indications of resilience in certain sectors of the Jordanian economy that align with these opportunities. The challenge for COVID-19 recovery is moving from resilience to capitalizing on opportunities for rapid growth in some sectors.

**Jordan’s growth and reform strategies are wide-ranging and ambitious, but they are oriented much more around reforms than growth.** Section III of this report discusses current strategies — focusing on Jordan’s Reform Matrix, Government’s Indicative Executive Program, and Government’s Economic Priorities Program — and explores whether the hundreds, or possibly thousands, of actions outlined under these strategies would be sufficient to address the causes of Jordan’s slow growth and to enable new engines of growth. This report argues that there is a very large risk that these ambitious strategies do not elicit the private sector response that is desired and upon which a growth acceleration will depend. A detailed look at reform details within the pillars and areas where there is more, and less, reform momentum suggests that the reform agenda is too broad and yet overlooks critical tools for better ensuring that reform actions lead to robust private sector responses.

**This report argues that there is need for a paradigm shift in Jordan’s growth strategy to focus more attention and resources on activating “agents of change” around key growth opportunities.** This shift centers on public-private coordination mechanisms and initiatives that address information asymmetries and provide targeted public goods to enable firm entry and catalyze innovation by the private sector, including both domestic and foreign companies. The

shift entails institutional innovations within the Government of Jordan focused on key opportunities that would be unlikely to emerge based on current reform approaches. It also creates opportunities for donor innovation through programs that move beyond technical support on reforms to directly enable new private sector actors and better support strategic infrastructure and initiatives. This shift can seem abstract but becomes specific when focused around clear, evidence-driven growth opportunities.

**This report details three areas of opportunity to drive a growth transformation in Jordan, even under COVID-19 and fiscal circumstances, but which require this paradigm shift to come to fruition.** These areas are: (1) telework and its relation to high-skill services; (2) expanding goods exports markets through focused targeting of export promotion activities; and (3) four key pathways of green growth potential. Each area is discussed in detail in Section IV of this report and each subsection aims to clarify additional actions and stakeholders will be needed to capitalize on the opportunities. This section concludes with a discussion of tools and principles for acting on these opportunities, including: the role of central ministries and agencies, the potential need for new institutions for public-private coordination in targeted areas, infrastructure considerations, and the power of public procurement targeted toward innovation. There are important synergies across these opportunity areas, but the agents of change required to act on opportunities are largely different. In some cases, opportunities align very closely with segments of Jordan’s potential labor force — women and youth — that have been excluded from opportunity in the past. These opportunities also vary in their regional focus within Jordan.

**After discussing key opportunities to accelerate growth, this report comments on inclusiveness challenges and opportunities along the dimensions of female employment, youth employment, and regional economies.** The analyses in Section V show that accelerating growth is a pre-requisite to expanding jobs and opportunity for youth and women, but that overcoming inclusiveness challenges also require additional actions. Much momentum has been established by the Government of Jordan toward overcoming long-term drivers of exclusion of women, but the depth of the labor demand shortfall for youth suggests a need for innovative actions to directly supplying transitional job opportunities for young people. A program concept is presented toward this end, which is the subject of further design work. Finally, analysis is presented on the nature of regional economies across Jordan, which highlights a large gap in productive capabilities between Amman and other governments. This reality is important to internalize into policymaking and planning. This is also an area for continued research, which could help to clarify promising strategies for investment promotion through matching local productive capabilities with the needs of global companies, using new research methods with newly available global data.

# I. Why Does Growth Matter?

## Growth, Jobs, and Wellbeing

**Growth matters because an increase in purchasing power is required to achieve greater levels of opportunity and wellbeing.** Although per capita income may not be the end goal of national development, growth in GDP per capita is a necessary condition for societies in developing countries to afford higher standards of living. Individual wellbeing entails more than income and wealth — including conditions of health, security, access to opportunity, community and more — and societal wellbeing requires inclusiveness along these dimensions, as well as relatively low inequality and poverty. Sustainability of wellbeing further requires that gains in a society’s wellbeing today do not reduce wellbeing in the future. Numerous approaches have been taken to measure wellbeing, including through surveys of happiness, and composite indices like the Human Development Index and the broader Social Progress Index. Likewise, there are numerous indicators to track multi-dimensional poverty. While all these approaches provide important insights for national strategies, economic growth is a necessary condition for reducing poverty and improving most dimensions of wellbeing, especially at lower levels of national income (Pritchett, 2022). At Jordan’s current level of GDP per capita of around US\$4,300 — or just over US\$10,000 in purchasing-power parity terms — high levels of wellbeing across society are not attainable, and thus economic growth is needed.

**Jordan’s challenge is not only accelerating growth but reversing a long-term decline in per capita incomes.** As will be discussed in this report, GDP per capita has declined for more than a decade in Jordan. At the start of the pandemic, Jordan had already experienced roughly twelve years of subdued economic growth, persistently high rates of unemployment and low rates of labor force participation, and very low wage growth in the private sector. The slowdown in growth from previously high rates preceded by several years the conflict in neighboring Syria and the very large numbers of refugees that fled to Jordan as a result. However, very low economic growth in combination with rapid population increase resulted in a reduction in GDP per capita. Consistent with this loss of material resources, international surveys conducted prior to COVID-19 show that Jordanians were significantly less happy at the end of the decade versus the beginning (World Happiness Report, 2020) and, as of 2018, Jordanians were increasingly dissatisfied with the level of economic opportunity in the country and increasing desired to emigrate for that reason (Arab Barometer, 2019).

**Growth alone will not guarantee the expansion of good jobs and opportunity, but an acceleration in the growth process is a necessary condition.** Past episodes of growth in Jordan have not always provided more jobs for Jordanians, especially for some segments of the population, including women and youth. The unemployment rate remained stubbornly high — averaging over 14% — during a period of rapid economic growth in Jordan from 2000 through 2008. Employment outcomes of women in Jordan have remained amongst the lowest in the world

for decades and have been disconnected from trends in overall growth. This has been the subject of intensive research to identify underlying causes (see Growth Lab, “Female Labor in Jordan: A Systematic Approach to the Exclusion Puzzle,” 2019). However, there is no known, sustainable path to expanding job opportunities that does not entail growth in the productivity and size of the private sector. Within conditions of low growth, competition within the labor market for scarce jobs will continue to result in worse employment outcomes for historically excluded portions of the population. Therefore, the path forward for Jordan must include a growth acceleration along with supporting policies and initiatives to improve employment outcomes. This is not a challenge that is particular to Jordan, as the inability for growing economies to provide sufficient, good jobs for workers has led to new attention toward strategies for increasing the supply of middle-income jobs in the context of growing economies.<sup>1</sup>

### Macro-Fiscal Sustainability

**The slowdown in growth undermined macroeconomic balance in Jordan, causing debt levels to spike and necessitating a large fiscal adjustment under consecutive IMF support programs.** While macro-fiscal developments are the subject of a separate Growth Lab report (see Growth Lab, “Jordan: Fiscal Update and Outlook,” 2021), the connection between growth and macroeconomic stability is important to summarize. Starting in 2008, multiple shocks — which are discussed in detail in the next session — undermined Jordan’s sources of external income. This led to a widening current account deficit that was not financed through capital inflows, leading to pressures on reserves and a collapse in imports as a share of GDP. Whereas capital inflows, primarily via foreign direct investment (FDI) helped finance the current account deficit in previous years, these inflows also declined substantially. To provide a countercyclical response, the Government of Jordan increased primary spending, while domestic revenue declined. This caused Jordan’s debt-to-GDP to rise, a trend that was made worse by emergency adjustment of the electricity system in response to loss of natural gas access from Egypt in 2011. Jordan’s debt-to-GDP ratio increased from about 58 percent in 2009 to 75.5 percent in 2013, before the government initiated a large fiscal consolidation program.

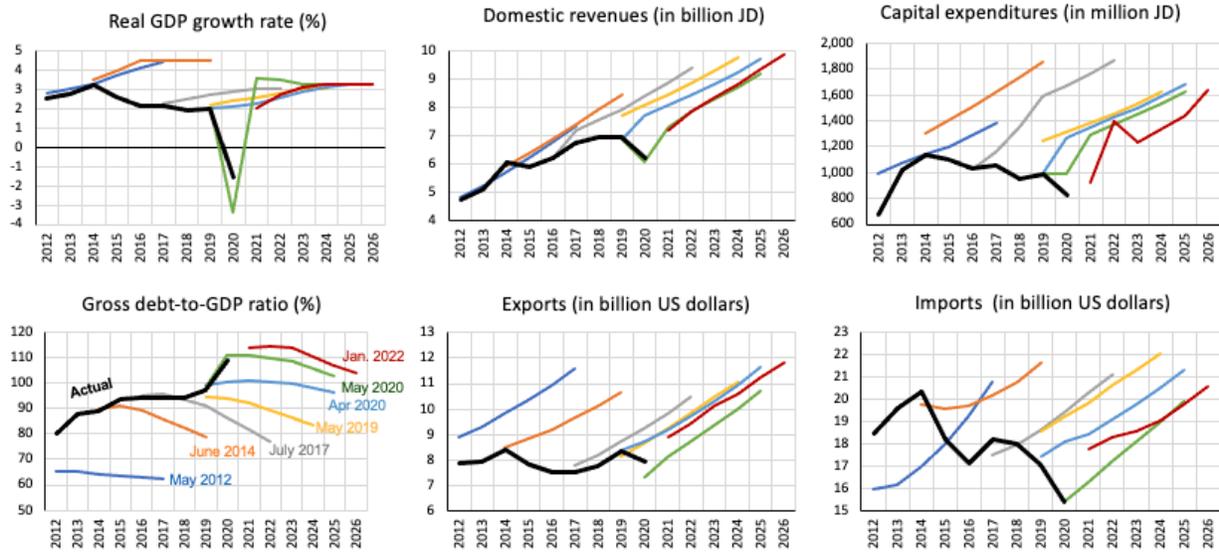
**The fiscal consolidation efforts presented a major challenge for a growth recovery amidst continued regional shocks.** Over 2012 to 2019, Jordan reduced the primary deficit of the general government by more than 9 percentage points, which undermined any possible recovery in growth in the context of conflicts in the region and a region-wide slowdown tied to low oil prices. Jordan’s general government primary deficit shrank from 11.8 percent of GDP in 2012 to 1.4 percent in 2018 before rising to 2.4 percent in 2019. However, reversing the trajectory of debt-to-GDP was challenging given low economic growth. After substantial increases in the overall debt between 2010 and 2015, the debt-to-GDP ratio began to decline between 2016 and 2018. In 2020, the pandemic added nearly 12 percentage points to the debt-to-GDP ratio (or 10 percentage points to

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<sup>1</sup> See, for instance, Rodrik and Stantcheva (2021)

the debt-to-GDP ratio net of Social Security Corporation (SSC) holdings) as domestic revenues fell and COVID-19 increased the need for health and relief expenditures, while GDP contracted slightly. Throughout the fiscal consolidation, capital spending has consistently been reduced downward versus expectations in response to lower-than-expected revenues and grants, and this has continued throughout the pandemic. Figure 1 summarizes key macroeconomic trajectories in comparison to IMF projections throughout the years. Prior to COVID-19, growth consistently came in below expectations of an acceleration. Even though domestic revenues trended upward, and capital expenditures were reduced versus expectations year after year, debt-to-GDP did not turn sharply downward as expected and desired. This report will highlight how subdued growth relates to the lack of export growth and the necessary import contraction shown here.

**Figure 1:** Macroeconomic trajectories versus IMF Projections, 2012–2020



Source: IMF Article IV and Program Reports

**An acceleration in economic growth is key component of the fiscal adjustment program, which aims to substantially reduce Jordan’s debt-to-GDP ratio over the next five years.** Now that acute impacts from the pandemic have subsided and uncertainty has reduced, Jordan is continuing an ambitious fiscal adjustment supported through an IMF Extended Fund Facility (EFF) program. Moving forward, the IMF program foresees an economic recovery in 2021 (real GDP growth of 2.0%), followed by a small growth acceleration over the next three years to reach 3.3% annual growth over 2024 through 2026. This acceleration is projected despite fiscal consolidation, with the fiscal adjustment requiring not only improvements from already-identified revenue and expenditure adjustments but also unidentified fiscal measures that are backloaded in the final years of the program. The combination of higher growth and backloaded fiscal consolidation would cause the debt-to-GDP ratio (net of SSC holdings) to peak in 2022 and fall by nearly 16 percentage points in total between 2021 and 2026.

**Accelerating growth is more critical to the debt-to-GDP trajectory than ambitious program targets for fiscal adjustment through currently unallocated measures.** A sensitivity analysis of the fiscal outlook underscores the importance of economic growth materializing. Figure 2 shows the projected change in the debt-to-GDP ratio if the growth projections and planned fiscal measures materialize only partially. If both the fiscal adjustment and growth acceleration were to be fully achieved (100%), this would result in a 15.9 percentage point reduction in debt-to-GDP (net of SSC holdings). This would put the level of debt-to-GDP (net of SSC holdings) at 75.8%, which would be several percentage points below the pre-pandemic level registered in 2019 of 78.0%. If the fiscal adjustment was to be fully achieved (100%) but growth was to amount to only 60% of what is projected, rather than achieving a 15.9 percentage point reduction in debt-to-GDP (net of SSC holdings), Jordan would only see a reduction of 7.1 percentage points (to reach a level of 84.6%), which would be well above the pre-pandemic ratio level. On the other hand, if unidentified fiscal measures achieved only 60% of what was planned and growth was to accelerate as projected, debt-to-GDP (net of SSC holdings) would fall by 12.2 percentage points, which would put the level closer to what it was prior to the pandemic.

**Figure 2: Sensitivity Analysis of Fiscal Outlook**

**Change in debt-to-GDP ratio (net of SSC holdings); 2026 vs.2021  
(percentage points)**

		Real GDP growth relative to IMF program				
		60%	70%	80%	90%	100%
Unallocated discretionary fiscal measures (% of IMF program measures)	60%	-3.1%	-5.4%	-7.7%	-10.0%	-12.2%
	70%	-4.1%	-6.4%	-8.7%	-10.9%	-13.1%
	80%	-5.1%	-7.4%	-9.6%	-11.8%	-14.0%
	90%	-6.1%	-8.4%	-10.6%	-12.8%	-14.9%
	100%	-7.1%	-9.3%	-11.6%	-13.7%	-15.9%

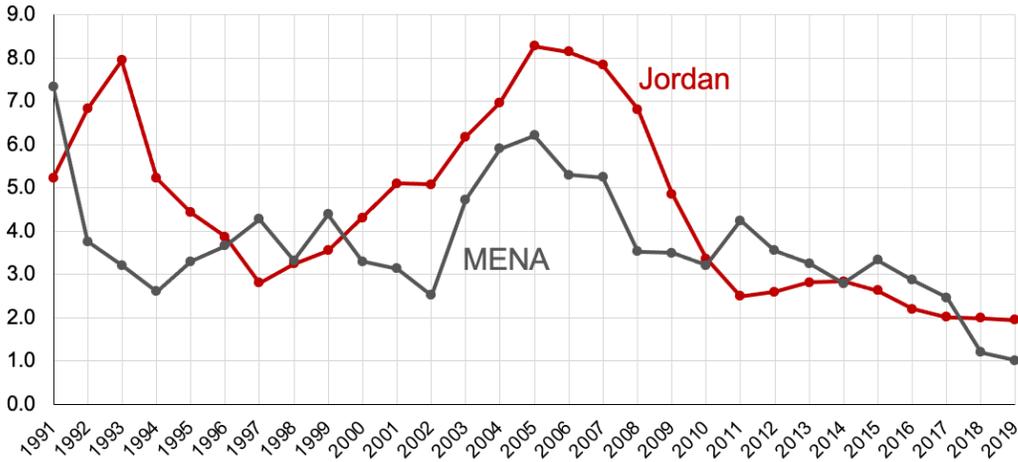
Note: Projected reduction in Debt-to-GDP net of Social Security Corporation holdings is from 91.7% in 2021 to 75.8% in 2026, which is larger than that of the total Debt-to-GDP reduction projected (see Figure 1).

## II. Constraints on Growth

### Growth Slowdown

The Jordanian economy has been experiencing slow growth for more than a decade, dating back to the Global Financial Crisis, following a general pattern seen across MENA. But Jordan has seen a contraction in per capita income. After enjoying accelerating growth over the previous decade to a very high level (upwards of 8%) in the few years preceding the GFC, growth has collapsed (Figure 3). Growth was more rapid than the MENA region as a whole over 2000-10 but collapsed to a lower level than the region as a whole for much of the last decade. Figure 4 highlights the common pattern of a slowdown in growth for all middle-income MENA countries not experiencing military conflict at the time, in terms of GDP growth and growth in GDP per capita in the eight-year period prior to 2008 versus the subsequent period from 2008 to 2019 (the year prior to the COVID-19 pandemic). While the slowdown was common across these countries, it was especially stark for Jordan, as well as Lebanon and Iran (which faced international economic sanctions during this period). Moreover, given rapid population increase driven by refugees fleeing the conflict in Syria, per capita GDP growth over this later period was negative for Jordan and Lebanon. In practical terms, this amounted to a prolonged recession, with fewer economic resources per person each year. Therefore, Jordan and Lebanon entered the pandemic effectively poorer than they were a decade prior.

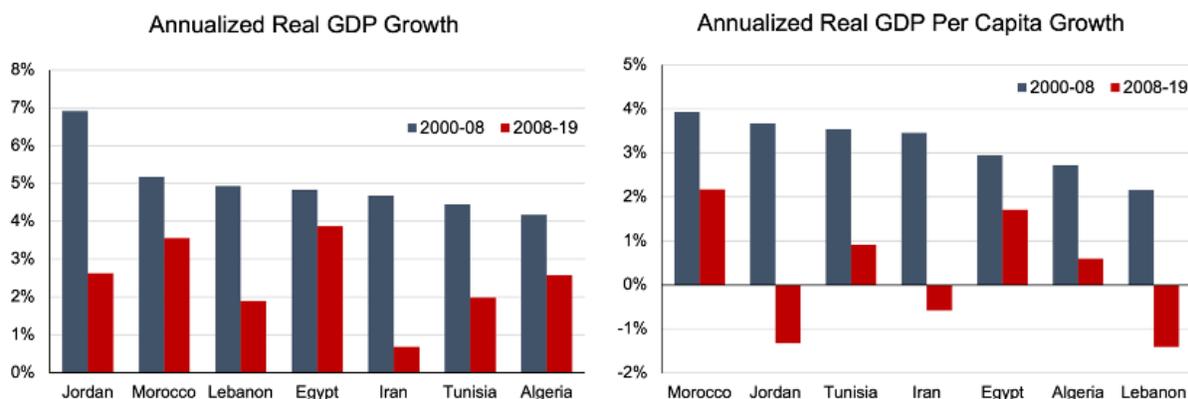
**Figure 3:** GDP Growth (3-Year Moving Avg.) for Jordan and MENA (in percentages)



Note: Two-year average taken for 2019 to capture pre-COVID trend

Source: World Bank WDI

**Figure 4:** Period GDP and GDP per Capita Growth Rates for Jordan and Regional Comparators



Source: World Bank WDI

**Leading into 2020, when the COVID-19 pandemic struck, growth had registered very close 2.0% for four straight years, 2016 to 2019 — a very low apparent steady state.** During this recent period, population growth had begun to stabilize, with few refugees returning to Syria but few entering Jordan as well. The exact rate of population growth for any year is difficult to determine under the context of regional conflicts and high rates of economic migration within the region, but this level of economic growth was in line with population growth overall, meaning that per capita growth was close to zero. Consequently, per capita resources in Jordan remained lower than they were prior to the GFC. This is consistent with the declining wellbeing of Jordanians as expressed in international surveys. More comprehensive accounting of Jordan’s wealth over time also finds that depreciation of natural capital in Jordan as added to the problem of declining wealth of Jordanians (World Bank’s Jordan Economic Monitor, Fall 2021).

**There are deep reasons why growth during the decade preceding COVID-19 averaged just 2.4% per year when it had averaged close to 6.5% over the ten years prior.** Jordan faced a series of shocks — global, regional, and national — throughout the last decade that resulted in the *permanent* erosion of Jordan’s previous engines of economic growth. Key shocks are summarized in Box 1 and several important longer-term consequences on the structure of Jordan’s economy are discussed in the next section. Critically, each of these shocks negatively impacted Jordan’s external balance — i.e., its balance of trade, investment, remittances, and grants with the rest of the world. Figure 5 shows the collapse of several key drivers of growth, which are also key sources of foreign exchange. Exports of goods never recovered as a share of GDP after the GFC and in fact continued to decline throughout the decade. Service exports fell as a share of GDP in the middle of the last decade and had begun to grow until COVID-19 introduced an unprecedented shock to global travel and tourism. Meanwhile, remittances, foreign direct investment (FDI) and foreign grants all fell systematically as a share of GDP over the last decade.

### **Box 1: Summarizing Key External Shocks**

Jordan faced series of interacting global and regional shocks during the economic slowdown. The following list is not exhaustive, but these shocks had profound impacts on Jordan's growth process and economic structure.

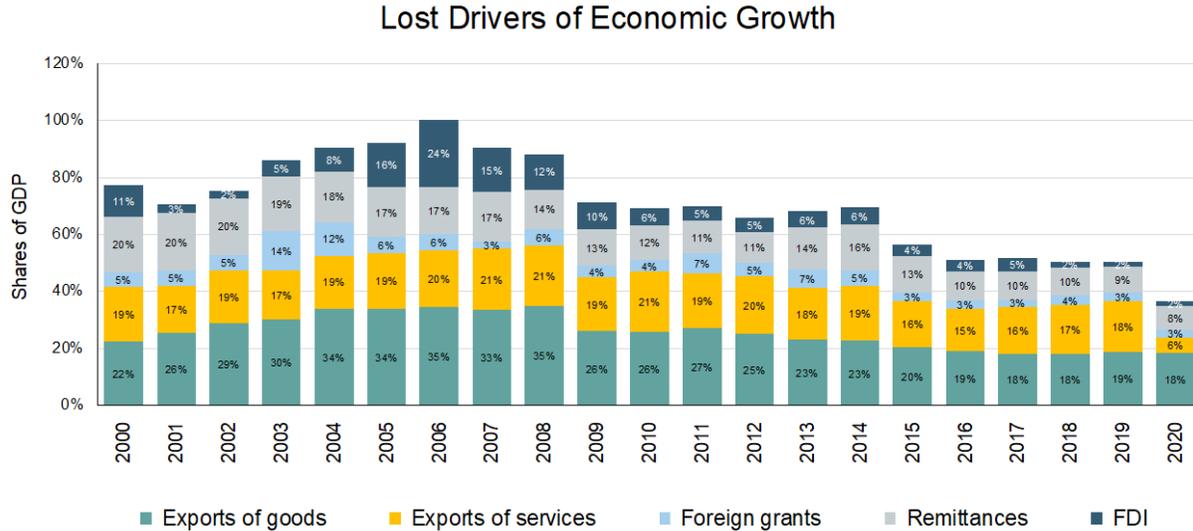
**Global Financial Crisis:** The GFC depressed global demand for key Jordanian exports, including garments, and effectively put a halt to Jordan's export-led growth process of the 2000s. The GFC also caused a drop in the price of oil, which shocked the region as a whole and consequently reduced investment, grants, and remittances from Gulf countries to Jordan. Imports and aggregate demand fell in Jordan as a result.

**Natural Gas Disruption:** Whereas other countries in the region recovered relatively quickly as the price of oil rebounded, Jordan suffered a critical shock amidst the Arab Spring when its physical access to low-cost natural gas from Egypt was severed in 2011. This had a profound and lasting impact on Jordan. Government responded to the crisis to ensure supply by importing heavy fuels to meet its energy system demand in the immediate term, at a time when the price was now higher, and made costly investments in adapting its energy-related infrastructure to run on imported LNG in subsequent years. This also had longer-term economic effects as electricity tariffs were raised across business sectors to pay some of the cost increase as well as fiscal and financial impacts as the National Electric Power Company (NEPCO) — backed by the government — still had to borrow substantially. Although lower cost LNG and expansion of renewable energy supply began to bring down the cost of electricity supply since 2015, the legacy of this adjustment has forced average electricity prices to remain high. Jordan now has a problem of oversupply in the electricity system with long-term and high-cost power purchase agreements that crowd out the ability of the system to fully benefit from low-cost renewable generation technology.

**Neighboring Conflicts:** Regional conflicts have also had significant impacts on key growth sectors in Jordan and weighed on the overall investment environment. Conflict in Syria and Iraq were a shock to demand for Jordanian exports and disrupted trade routes through the region. The impacts on tourism in Jordan were particularly severe. The number of tourist arrivals dropped by nearly half over 2010 to 2016, and what had been rapid growth in tourism value (from roughly 1 billion USD to 4 billion USD over 2002-12 to amount to roughly 12.5% of GDP and 28% of export value) remained flat over 2012-16. While tourism had begun to recover since, through significant adaptation within the sector to stimulate tourism demand, other key exports to the region (for example, pharmaceuticals) continued to stagnate.

**COVID-19:** COVID-19 has been the latest and most severe shock. One of the impacts of the pandemic on Jordan's pre-existing economic weakness is that it has crippled tourism, the main engine of export growth over the last few years. As a result of previous shocks, exports collapsed from 56% of GDP in 2008 to 34% of GDP in 2016, but export recovery had begun, led by tourism, as exports climbed gradually each of the next three years.

**Figure 5: Key Sources of Growth and Foreign Exchange as Share of GDP, 2000-2020**

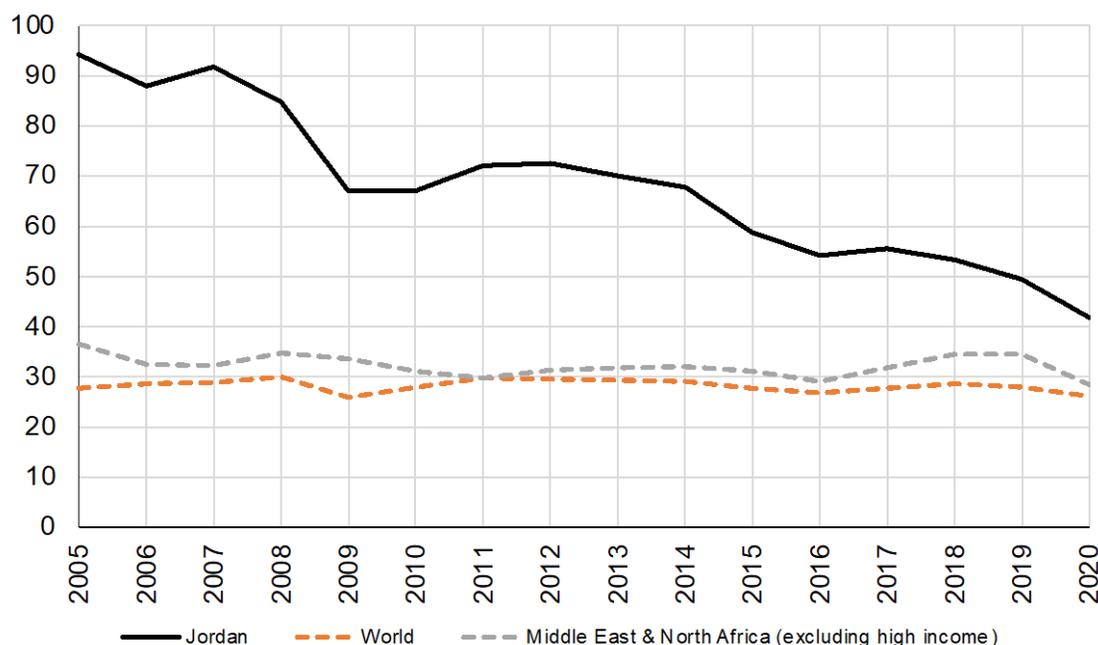


Source: IMF

**One direct consequence of this long-term collapse in foreign exchange generation was an accompanying drop in imports as a share of GDP (Figure 6).** In the absence of drawing down of foreign reserves, foreign exchange inflows and outflows must balance in any given year. With lower foreign exchange inflows, even with an increase in external borrowing by the Government of Jordan, the Jordanian economy could afford fewer goods and services from the rest of the world. Imports collapsed in very close alignment with foreign exchange sources shown in Figure 6, from 85% of GDP in 2008 to 55% of GDP in 2016 and still further to below 50% in 2019 — the lowest level they had been in Jordan since records began in 1976. COVID-19 forced exports and imports still lower in 2020. Interestingly, Jordan’s import capacity as a share of GDP is not low by international standards now, rather it was very high in the past. But as foreign exchange inflows declined, all the incomes derived from these flows from abroad fell as well (at the same time as the *fiscal impulse* declined, as described later in this section). This resulted a contraction in aggregate demand for non-tradable goods and services in the domestic economy, which was forced to contract, and this impacted the bulk of jobs held by Jordanians. Under a floating exchange rate, import prices would have adjusted upward automatically in these circumstances. Though Jordan’s nominal exchange rate remained fixed throughout the slowdown and served as an important anchor to macroeconomic policy, scarcer imports still necessarily translated into relatively higher costs of living, which was coupled with added pressure on some markets, including housing, due to refugee-led population increase across several urban areas.<sup>2</sup>

<sup>2</sup> Note that most refugees in Jordan are not housed in refugee camps but instead able to move freely and reside in the country. Policies regarding the freedom of refugees to work in Jordan have changed over time and vary by sector and occupation.

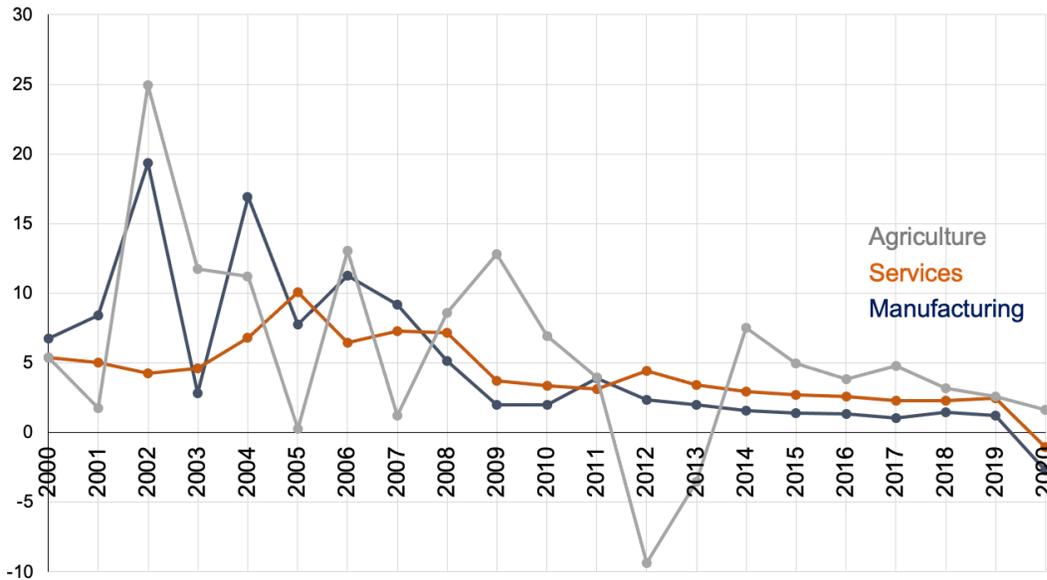
**Figure 6: Imports of Goods and Services, Jordan and Aggregates (% of GDP)**



Source: World Bank WDI

**The growth collapse can also be categorized as manufacturing-led (Figure 7) with several related patterns that imply slow growth potential moving forward.** The decline in value added growth from the manufacturing sector was the sharpest, with services value added growth loosely tracking manufacturing. Meanwhile, agriculture value added growth has been more volatile over the long term. Over the last decade, agriculture — which is small as a share of the economy (~5% of GDP) — first experienced a sharp drop during the start of the conflict in Syria consistent with disruptions to trade routes through Syria, followed by relatively high but decelerating growth in value added. The slowdown is also reflected in declining productivity as reflected in negative total factor productivity (TFP) growth over 2009-18 (World Bank’s Jordan Economic Monitor, Spring 2021), as well as declining economic complexity (Atlas of Economic Complexity). Jordan was the 47<sup>th</sup> most complex economy in the world in 2009, based on the composition of its exports, and had fallen to 65<sup>th</sup> by 2019. This level of complexity in relation to Jordan’s GDP per capita implies an annualized growth projection over the next ten years of 2.5% — slightly above the *de facto* steady state. Based on multiple filtering techniques, the Jordanian economy also showed declining potential output over several years leading into the pandemic and a positive and increasing output gap, indicating that the Jordanian economy was operating *above* potential (World Bank’s Jordan Economic Monitor, Spring 2021). This is an indication that accelerating growth would not merely require closing an output gap but rather increasing potential output.

**Figure 7: Value Added Growth (%) by Sector in Jordan, 2000-2020**

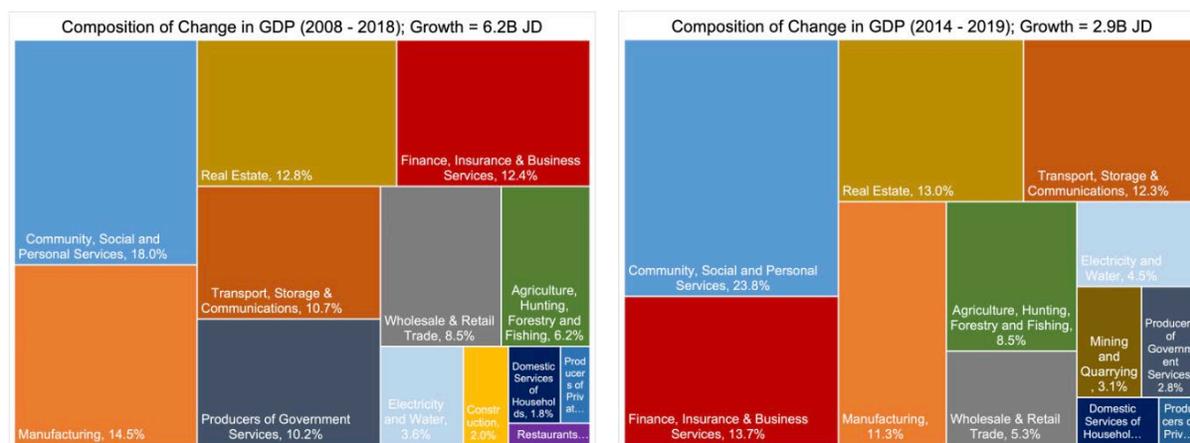


Source: World Bank WDI

**To make matters worse amidst this slowdown, Jordan entered a period of fiscal austerity — extreme by global standards — to address resulting macroeconomic and fiscal vulnerabilities from the slowdown itself.** The *fiscal impulse*<sup>3</sup> — defined as expenditures minus external debt payments minus domestic revenue — is a measure that helps to capture the overall contribution of fiscal policy to economic growth. As discussed in the Growth Lab’s report “Jordan: Fiscal Update and Outlook” (September 2021), the fiscal impulse fell from a peak of 10% of GDP in 2011 to between 4% and 5% of GDP over 2017-19. This further depressed aggregate demand and job creation and decreased fiscal space for the Government of Jordan to make capital investments and to expand public services as needed to serve a rapidly growing population with growing expectations and demands. One direct result of the decline of the fiscal impulse can be seen in the composition of GDP growth (Figure 8). The Jordanian economy expanded by 2.7% per year on average over the ten-year period of 2008-18 (6.2 billion JD in total), and roughly one-tenth of that expansion came directly from expanded production of government services. However, in the five years preceding COVID-19, when the economy expanded by 2.1% per year on average (2.9 billion JD in total), it had to do so with a much lower contribution from government services. Production of government services accounted for less than 3% of total growth. Looking ahead, the fiscal impulse, which jumped to 8.7% of GDP in 2020, is projected to fall sharply to below 2% of GDP by 2026 according to IMF program projections, even as growth is projected to accelerate.

<sup>3</sup> The Growth Lab’s calculation of the fiscal impulse also subtracts unidentified fiscal measures projected within the IMF program for future years projected through 2026.

**Figure 8:** Composition of GDP Growth by Sector in 2008-18 (left) and 2014-19 (right)



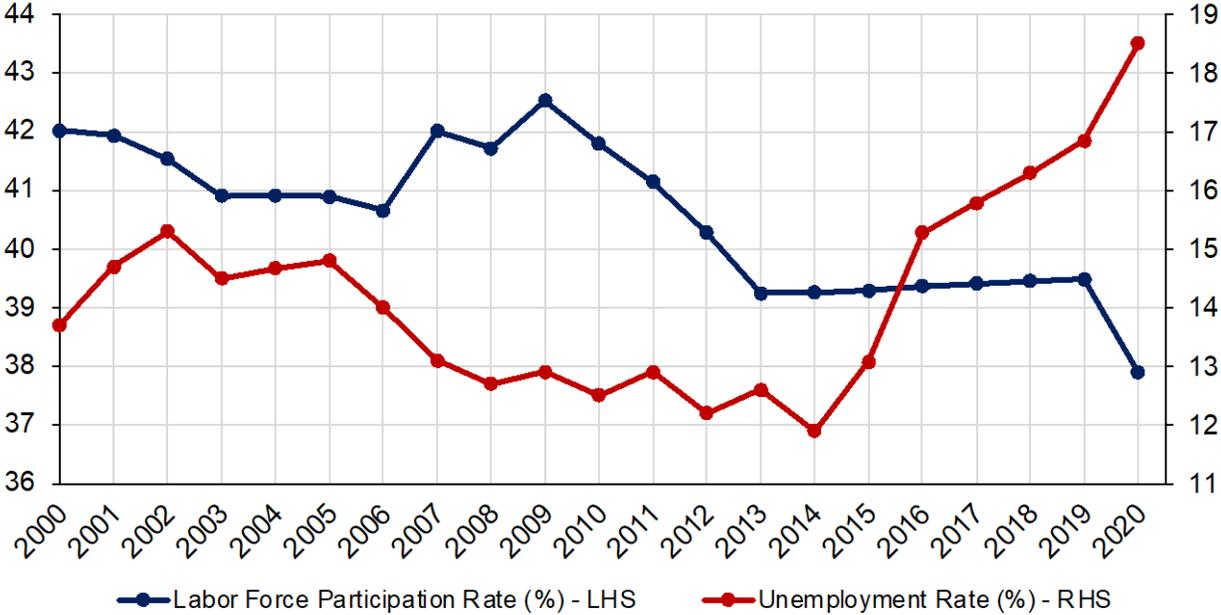
Source: Department of Statistics, National Accounts

**Jordan’s prolonged slowdown has been tied closely to growth conditions in the region, but also Jordan-specific factors.** The connectedness of outcomes between Jordan and the rest of the region is not a new pattern. Even though Jordan lacks oil wealth, the ways in which its fortunes are tied to the oil-rich economies of Gulf Cooperation Council (GCC) countries have been well studied and mapped. Over the long-term, Jordan’s fortunes and volatility have been tied to the price of oil through channels of external income (grants, investment and remittances) from GCC countries (See IMF Working Paper (2011): “Oil Prices, External Income, and Growth: Lessons from Jordan”), and Jordan has historically been buffered from the cost of energy imports when oil prices rise through low-cost energy agreements with its neighbors. The shocks summarized above were consistent with these past patterns on the downside as the GFC shock coincided with a rapid decline in the price of oil and as a low oil price has re-emerged since 2015. However, Jordan was not buffered from the cost of energy imports when the price oil rebounded after the GFC, which limited the upside effects, especially as this coincided with neighboring conflicts. In fact, Jordan was uniquely exposed at the time the price was high. Problematically, this known interrelatedness with regional economic prospects has not been incorporated within the fiscal adjustment process or within guiding frameworks of IMF programs in Jordan, which do not tie domestic fiscal adjustment with regional growth drivers. This exacerbates a disconnect between envisioned growth and fiscal adjustment trajectories.

**Slow growth has been reflected in a weak labor market, compounding historic challenges in job creation.** Following the Global Financial Crisis, there was first a sharp decline in labor force participation and then a sharp increase in unemployment since 2014 (Figure 9). Meanwhile, previous growth episodes have not always led to greater jobs and opportunity for Jordanians. Unemployment remained stable throughout much of Jordan’s growth acceleration in the 2000s, only trending downward with the labor force participation rate trending upward between 2005 and 2008-09. As growth fell after 2008, the unemployment rate remained on a downward trend all the

way to 2014. The labor market adjustment during the growth slowdown instead took place through fewer working age people participating in the labor force. From 2013 onwards, labor market participation has increased slightly while the unemployment rate has increased rapidly. In 2020, labor force participation dropped, and unemployment jumped sharply. According to Department of Statistics figures (which differ in levels from ILO estimates), the unemployment rate continued to rise in the first quarter of 2021 but remained well above the pre-pandemic rate as of the latest quarterly data available for Q3 2021. Unemployment is especially high for youth, and this is discussed further in Section V of this report.

**Figure 9:** Labor Force Participation Rate (left axis) and Unemployment Rate (right axis)



Source: World Bank WDI, ILO

**The role of low-wage migration and hosting of refugees is not fully clear in these labor market trends.** It is likely that high growth prior to 2008 did not bring unemployment down to lower levels because the sectors leading growth — particularly garment exports and agriculture— employed high rates of foreign labor in jobs that Jordanian workers were largely unwilling to accept at prevailing wages, which remains true today. This was not a necessarily a simple matter of foreigners *taking* Jordanian jobs, however, because foreign workers provided essential skills to support the emergence and productivity of these sectors and it is not clear if these sectors, which contribute significantly to Jordan’s exports, would be globally competitive at higher wage levels. Meanwhile, there is clear evidence that restrictions on high-skill immigration have undermined growth and job creation for Jordanians, including in key areas of opportunity for export-oriented growth (Growth Lab, “Jordan: The Elements of a Growth Strategy,” 2019).

## Lasting Constraints

**Although the growth slowdown has been driven by a series of shocks — and worsened by fiscal austerity — returning is to a higher rate of economic growth will not be a simple matter of emerging from the original shocks.** Several shocks — and interactions between them — have permanently altered the productive structure of the economy. This section discusses how several constraints have worsened in Jordan and how these constraints limit the potential for re-emergence of past drivers of growth. Shocks have had a lasting impact on constraints related to electricity, transport, and trade barriers, which have tightened and differentially impact segments of the economy. Meanwhile, water supply remains a critical, long-term constraint which is interrelated with the electricity system. Recognizing and responding to these lasting constraints is important for strengthening growth strategy moving forward.

### *Electricity*

**In the aftermath of the natural gas disruption, the cost of electricity became an increasing challenge to competitiveness across the economy.** As Jordan pursued a strategy of ensuring reliable supply, it was forced to pass on some of the substantially higher price of electricity production to electricity users. Electricity tariffs were increased over a period of several years and tariff increases were focused on productive uses and high-consumption households in order to maintain low tariffs to most households (Figure 10). These cost increases were large enough to become a prominent constraint reported by firms in internationally comparable firm surveys. Figure 11 shows that many more firms in Jordan reported electricity as their top constraint and/or as a major issue among others in 2019 in comparison to in 2013.<sup>4</sup> In comparison to other countries, Jordan has relatively high electricity consumption per capita, which is unchanged over the period, but Jordan went from a position where consumption was high while the constraint was low in 2013 to a position where consumption and the constraint are both high in 2019. These stark results confirm expectations that this constraint would be highly problematic for firms due to Jordan’s relatively high energy-intensity of its manufacturing sector (Growth Lab, “Jordan: The Elements of a Growth Strategy,” 2019).

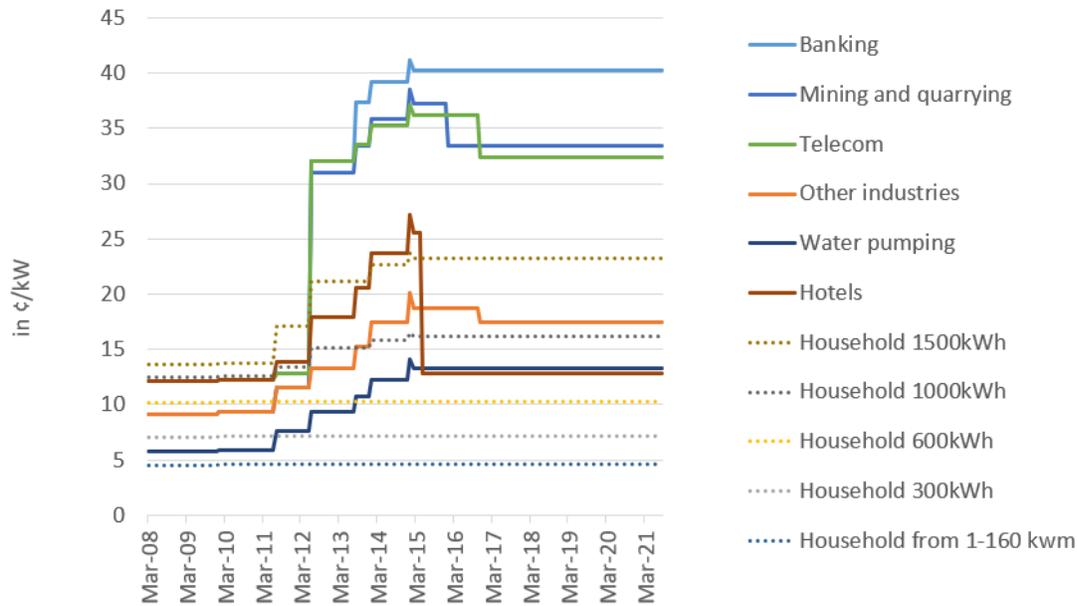
**While the pain of electricity price increases was widely felt, the constraint hit some sectors harder than others — especially manufacturing outside of food and garments and the retail sector.** Figure 12 shows that all parts of the private sector reported a dramatic increase in electricity as a major constraint (right panel) but that other manufacturing and retail saw the largest increases in electricity as their top constraint (left panel). While this was expected for the manufacturing

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<sup>4</sup> In several graphs in this section, a handful of peer countries are highlighted to serve as a collective, synthetic counterfactual. These countries – Albania, the Dominican Republic, Guatemala, Lebanon, and Morocco – were selected based on economic similarity to Jordan in terms of population size, GDP per capita, and export composition.

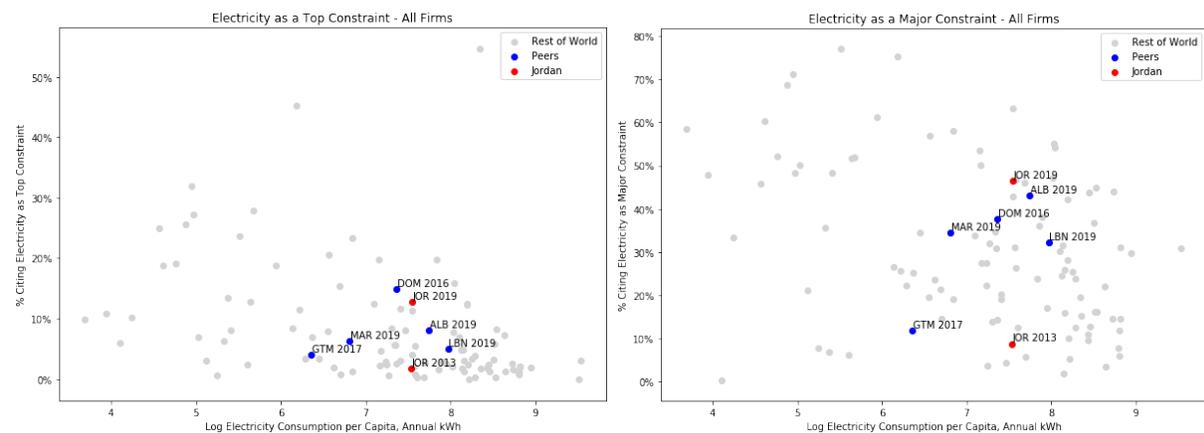
sector, it was not obvious that the constraint would be so prominent within the retail sector. This constraint is especially concerning given that these sectors are major employers in Jordan. Manufacturing has also been, historically, a key engine of economic development and exports in Jordan.

**Figure 10: Electricity Tariffs in Jordan over Time**



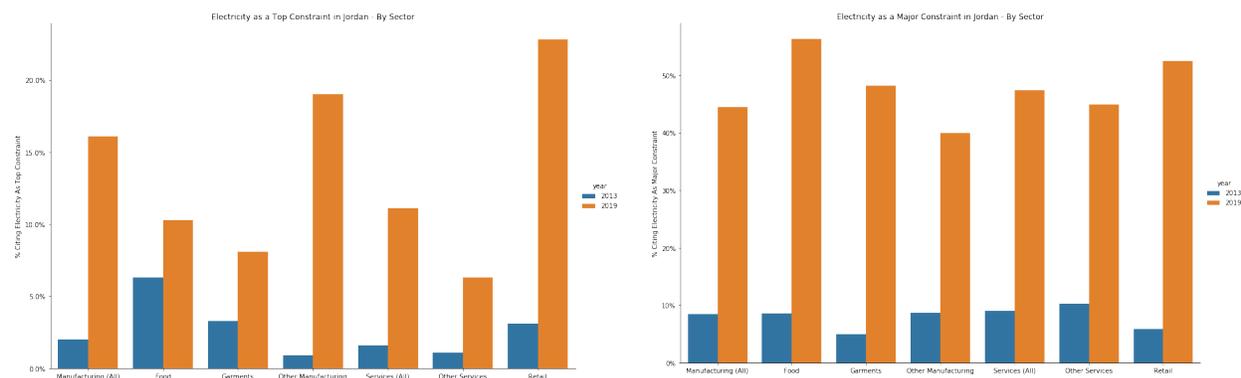
Source: EMRC

**Figure 11: Electricity as a Business Constraint in Jordan and Other Countries**



Sources: World Bank Enterprise Surveys, World Development Indicators

**Figure 12: Electricity as a Business Constraint in Jordan by Sector**



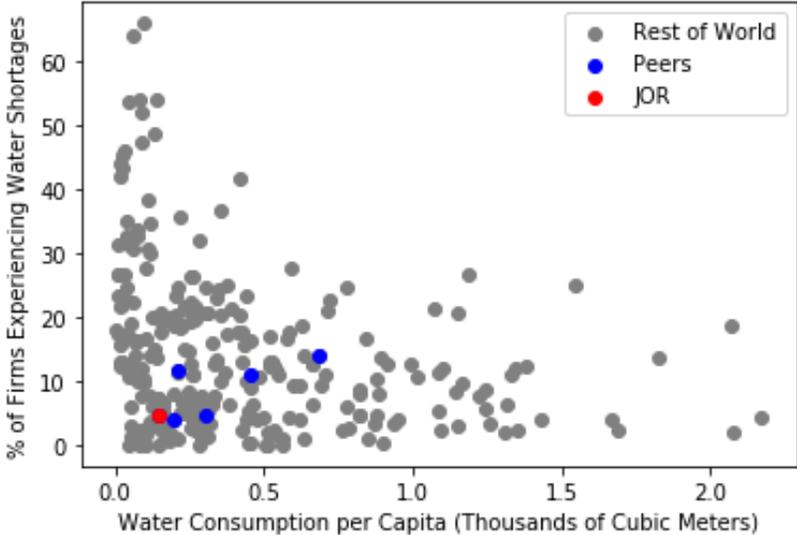
Source: World Bank Enterprise Surveys

### Water

**Overall water scarcity continues to tighten in Jordan and the costs of water are tied to the costs of electricity.** It has been widely studied and reported that Jordan is among the world’s most water-scarce countries and water availability continues to decrease to critical levels.<sup>5</sup> Water has long been a comparative disadvantage in Jordan to the point that — unlike electricity — the productive structure of the country has evolved to concentrate in activities that require relatively little water. As shown in Figure 13, water use is low in Jordan, but firms rarely report water shortages as a key problem. Outside of the agriculture sector, which is small but uses an outsized amount of water (though its water intensity is declining), firms have long faced the challenge that water is rationed through when it is delivered and hence water must be stored on site. As a result, the productive structure has already evolved in line with this comparative disadvantage. Electricity price increases have also resulted in a more than doubling of the price of pumping water, which might be influencing greater losses in the water system (non-revenue water) despite numerous initiatives by the Government of Jordan, with the support of donors, to reduce the problem of water losses. Even though firms are not actively reporting water as a constraint in high numbers, water is an increasing comparative disadvantage. Desalination is considered the only technological solution to Jordan’s critical water supply problem.

<sup>5</sup> See, for example, Nature, “A land without water: the scramble to stop Jordan from running dry” (Sept. 4, 2019)

**Figure 13:** Water Consumption and Shortages as a Reported Constraint



Sources: World Bank Enterprise Surveys, World Development Indicators

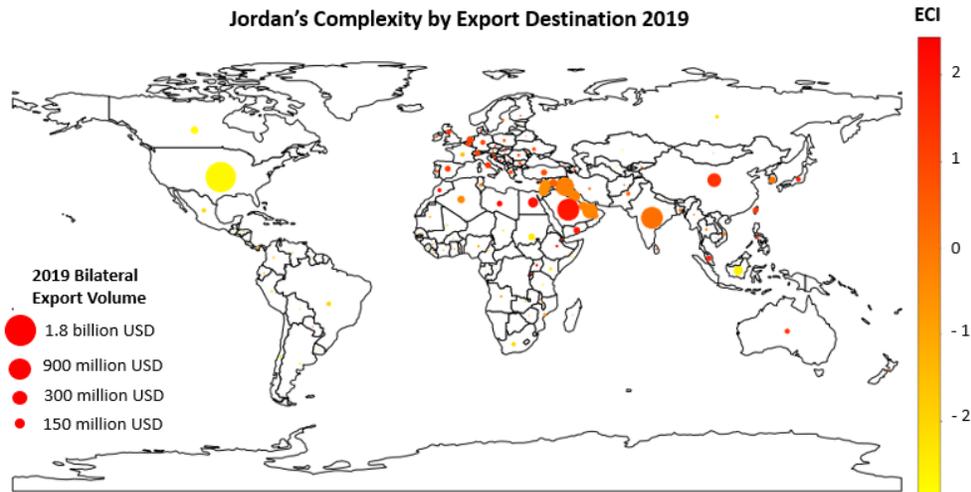
*Transport*

**Regional conflicts have had a direct impact on many sectors through their impacts on trade.** Important portions of Jordanian trade used to run through, as well as to, Syria and Iraq. The Syrian Civil War and the Daesh conflict in Iraq disrupted these markets and trade routes. While recovery of the Iraq market has begun, the same is not true in Syria. This has had a very direct consequence on exports and jobs in Jordan. Jordan exports a more diverse and more complex mix of exports to its neighbors than it does the rest of the world, and the United States in particular (Figure 14), and Iraq was a large destination for Jordanian exports prior to the Daesh conflict (15-20% of Jordan’s goods exports). With the shocks to these markets and trade routes, exports were forced to contract and many of Jordan’s higher complexity — and hence higher-wage — export industries were impacted. Exports to some other markets did grow, but these tended to be focused within lower complexity — and hence lower-wage — products. For example, export growth to the United States continued but these were highly concentrated in garments.

**Regional conflicts have also had lasting impact on the transportation sector and transport as a constraint.** The disruption in these markets left many firms with the challenge of either shutting down or finding new markets. However, one of the competitive advantages that firms had enjoyed in serving these markets was connectivity via roads. Figure 15 shows how Jordanian exports became less concentrated in goods that depend highly on truck transport over the course of the 2010s. Figure 16 shows how this shift can be explained by a shift in export composition away from goods traded with Syria and Iraq, which have depended heavily on truck transport. As these traditionally important trade partners collapsed, the concentration of exports shifted, most prominently to the United States, and to other MENA markets in more recent years. These exports

depended less on truck transportation and thus Jordanian exports overall became less dependent on truck transit. This caused a spillover impact to the transportation sector and left existing business activity that had relied on international trucking to be competitive at a new competitive disadvantage in reaching new markets.

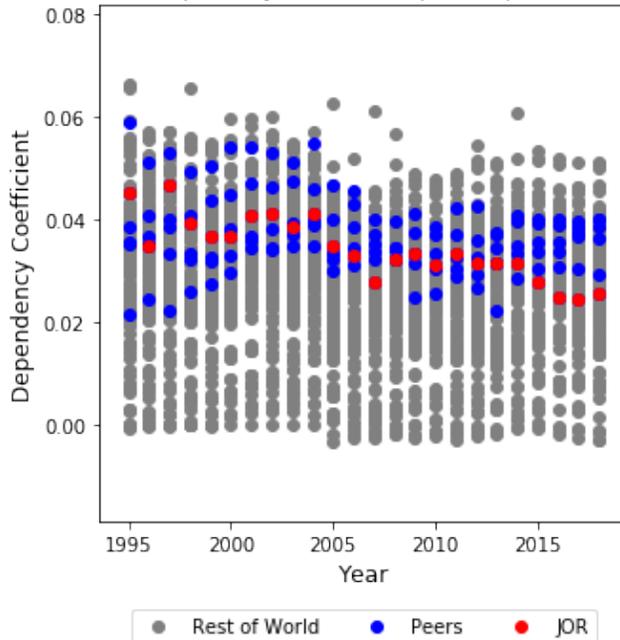
**Figure 14:** Size and Complexity of Jordan’s Exports by Destination



Sources: UN COMTRADE, Atlas of Economic Complexity

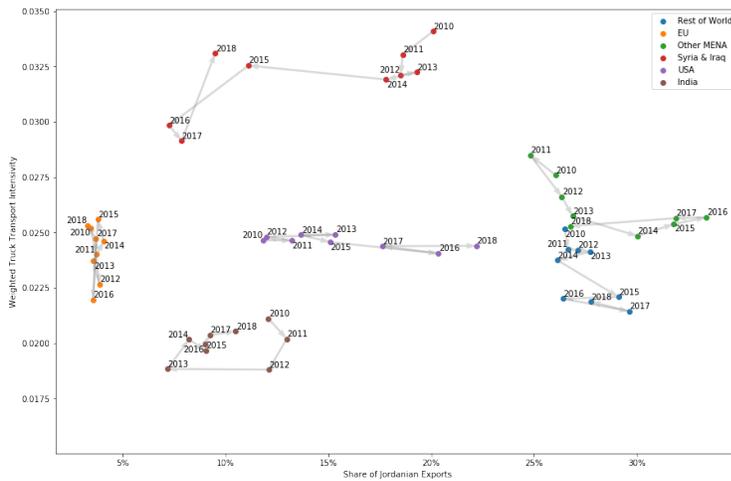
**Figure 15:** Intensiveness of Jordanian Exports in Truck Transport

Concentration of Exports by Truck Transport Dependence, 1995 - 2018



Sources: UN COMTRADE, US Bureau of Economic Analysis

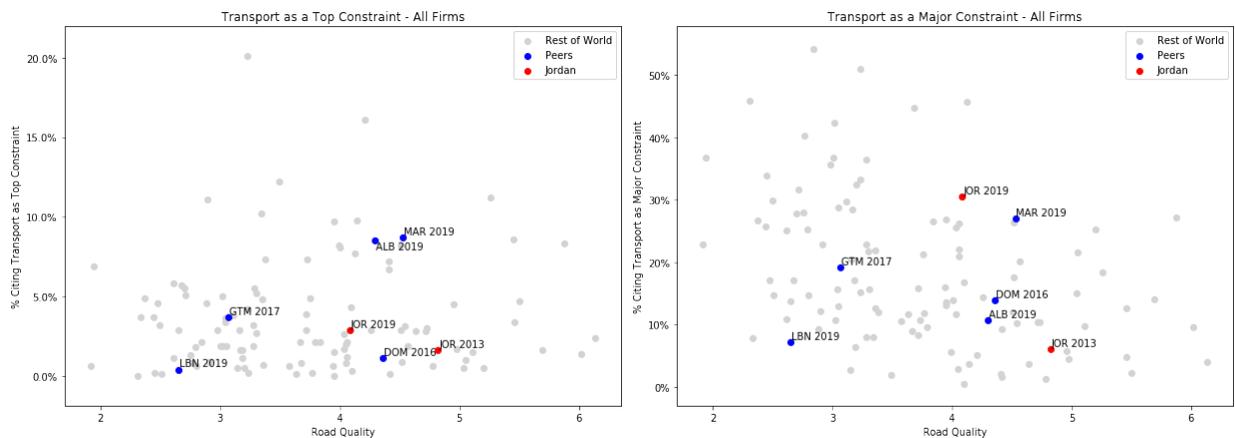
**Figure 16: Compositional Shift of Exports and Respect to Truck Transport Intensiveness**



Sources: UN COMTRADE, US Bureau of Economic Analysis

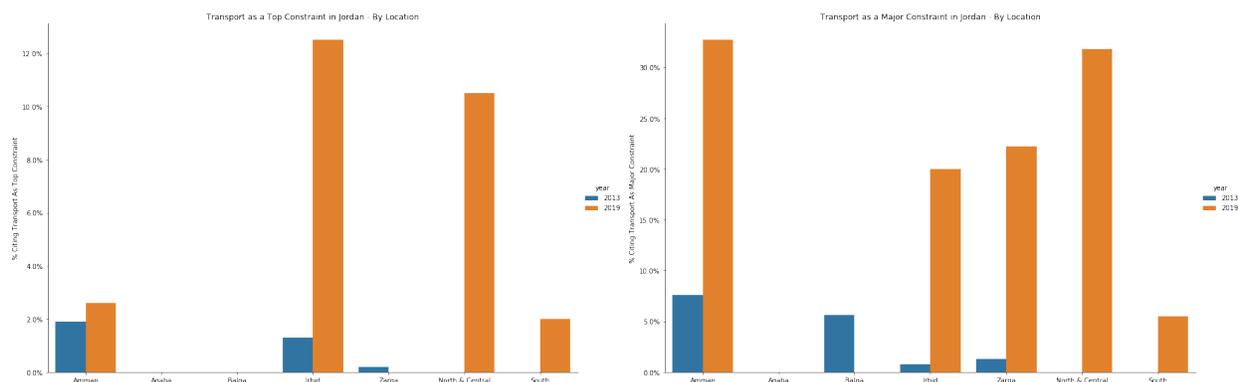
Given the loss of traditional trade routes to Syria and Iraq, it is unsurprising to see that Jordanian firms came to see transport as a more severe business constraint in 2019 than 2013 (Figure 17). Firms may have needed to both shift existing exports toward the Port of Aqaba and pivot production to new exports that could be passed through the port or travel via air. However, such changes in production and markets are not easy, especially as firms that were located near Iraq and Syria were far from the Port of Aqaba. This may explain the increasing severity of transport as a reported constraint between 2013 and 2019. The increase in the constraint was primarily reported in central and northern regions of the country and not near the southern port (Figure 18).

**Figure 17: Transport as a Business Constraint in Jordan and Other Countries**



Sources: World Bank Enterprise Surveys, World Development Indicators

**Figure 18: Transport as a Business Constraint in Jordan by Region**



Source: World Bank Enterprise Surveys

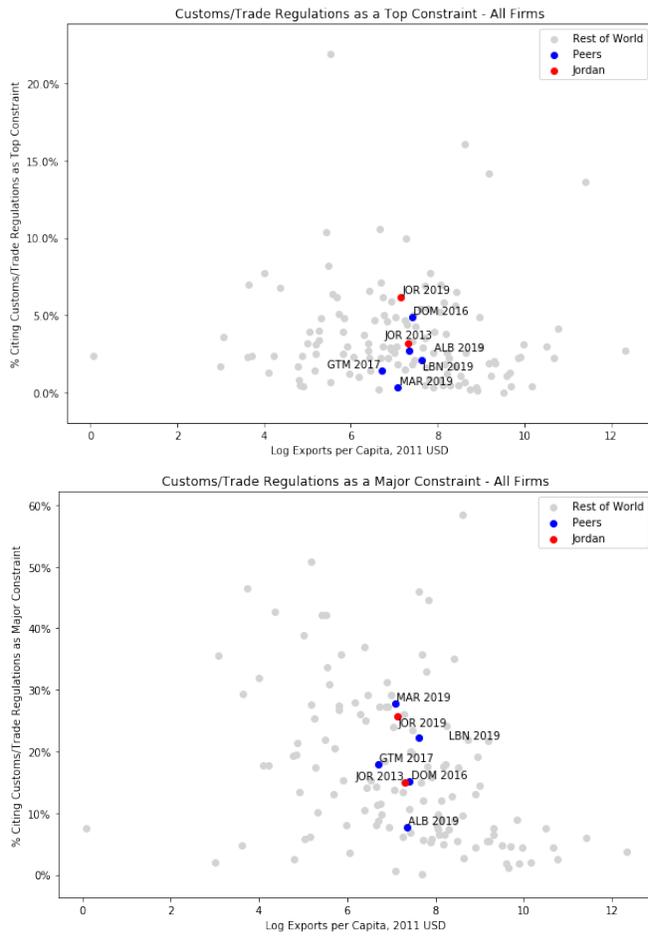
### *Trade Barriers*

**In addition to the above constraints, where the mechanism through which shocks have impacted lasting constraints is relatively clear, recent (pre-COVID) firm surveys also suggest an increasing constraint related to trade barriers, where mechanisms are not entirely clear.** Jordanian firms reported customs and trade regulations as a more severe constraint in 2019 than 2013 (Figure 19). This issue was especially pronounced within the service sector, including within the retail, but was not a key constraint for most of manufacturing, outside of garments (Figure 20). Yet, key logistical facets of customs and trade regulations in Jordan do not seem especially constraining. Cost of compliance with trading across borders are low and the time to trade is not significant either, especially for exporting (World Bank Doing Business Indicators). A more likely barrier that firm surveys may be reflecting has to do with high tariffs for certain products. This issue has been reported for garments and textiles,<sup>6,7</sup> and tariffs on imported goods may be increasingly problematic for the retail sector within the context of declining national purchasing power to afford imports. Figure 21 shows that tariffs on garments in Jordan are high compared to other goods coming into Jordan and compared to garments coming into other MENA countries. This does not appear to be a major constraint at present but may be worth understanding further and tracking given the notable increase in firms reporting the constraint and the importance that the retail sector plays in employment.

<sup>6</sup> See: <http://www.jordantimes.com/news/local/jordan-clothing-tariffs-among-highest-world>

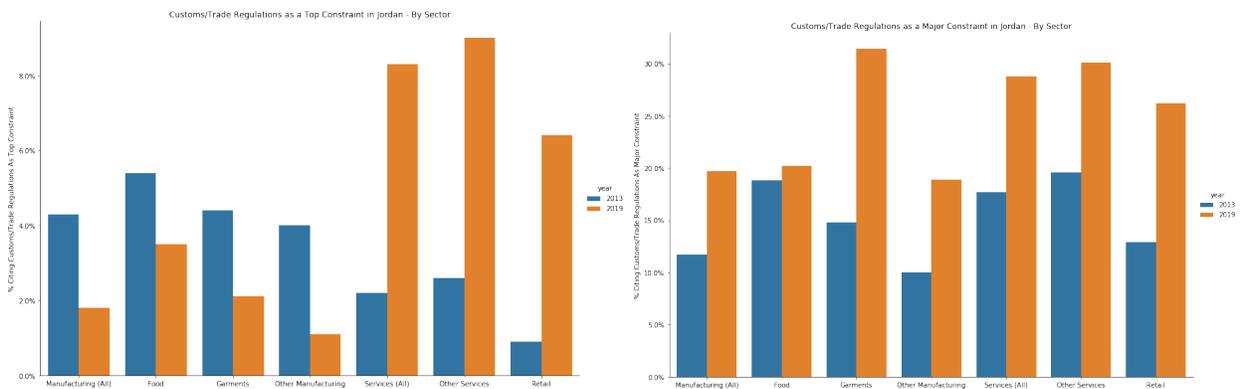
<sup>7</sup> See: <https://www.just-style.com/features/soaring-costs-could-slow-jordan-garment-export-growth/>

**Figure 19: Customs/Trade Regulations as a Business Constraint in Jordan and Other Countries**



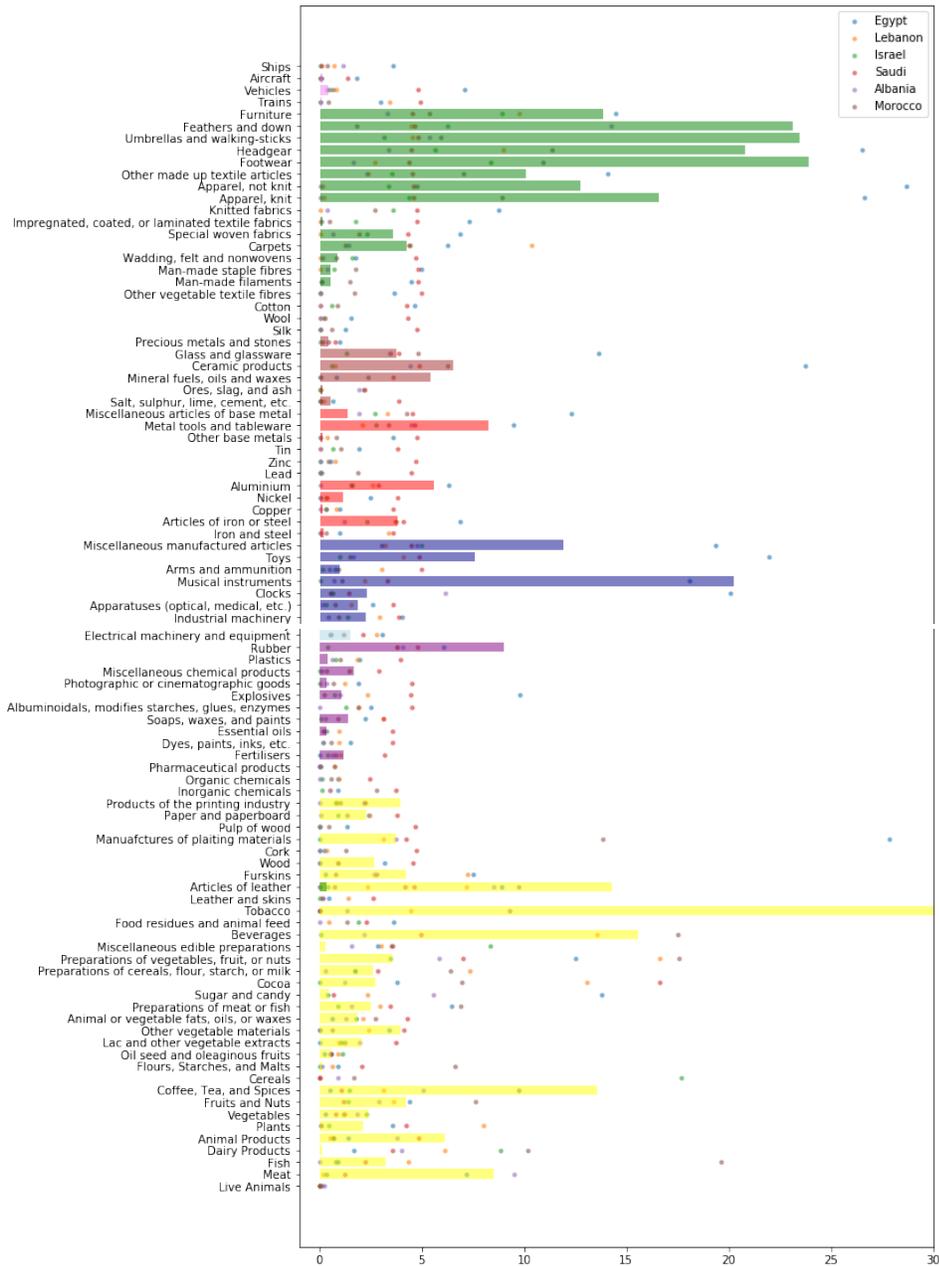
Sources: World Bank Enterprise Surveys, World Development Indicators

**Figure 20: Customs/Trade Regulations as a Business Constraint in Jordan by Sector**



Source: World Bank Enterprise Surveys

**Figure 21: Effective Tariff Rates on Categories of Imports for Jordan and Other MENA Countries**



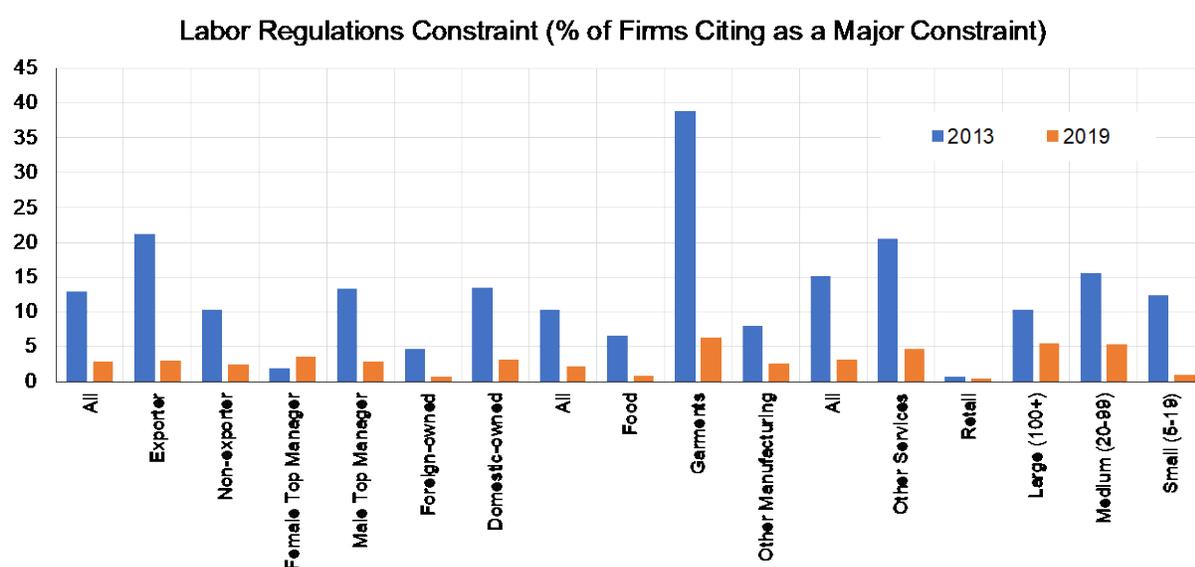
Source: UN COMTRADE

### *Diminishing Constraints*

**While several constraints have tightened in Jordan, it is also important to recognize that there is strong evidence that many constraints have weakened, often through government actions.** Growth strategy should be oriented toward not only addressing key constraints but also

around capitalizing on advantages, including as a result of recent improvements. It is noteworthy that fewer firms are reporting that they are constrained by access to finance, land availability, labor regulations and workforce education. These subjective improvements are also in line with objective data and ongoing government reform efforts.<sup>8</sup> Although the continued growth slowdown shows that these reforms and improvements have not been sufficient to re-orient the economy to accelerate growth, they may unlock new growth opportunities that were previously not viable. Some improvements appear especially broad based, such as with labor regulations (Figure 22). Even though firms in Jordan commonly complain about severance pay and social security fees, for instance, these and other regulatory costs are relatively low in comparison to other countries. Their salience may therefore be a symptom of the overall low levels of productivity and private sector dynamism in Jordan.

**Figure 22:** Decrease in Labor Regulations as a Constraint across All Segments of the Economy



Source: World Bank Enterprise Surveys

## COVID-19

**When the COVID-19 pandemic hit in 2020, Jordan’s economy had clear pre-existing conditions.** As discussed in preceding sections, Jordan experienced more than a decade of low economic growth and an overall fall in per capita income levels versus 2008 as it absorbed a very large influx of refugees into the population. Jordan experienced a series of economic shocks that did not just depress growth temporarily; they had permanent impacts on productive sectors of the economy and tightened lasting constraints. These impacts hollowed out Jordan’s export capacity,

<sup>8</sup> Numerous specific reforms have been tracked by the World Bank Doing Business Indicators: <https://www.doingbusiness.org/en/reforms/overview/economy/jordan>

which necessitated a collapse in imports and a contraction in the non-tradable economy. Job creation was very low, which exacerbated longstanding challenges for women and youth. Jordan's economic fortunes were largely tied to the region, but fiscal austerity at home and challenges in the electricity system worsened Jordan's economic outcomes. Jordan did have important pathways to overcome the fundamental causes of slow growth by evolving its exports to be in line with its current comparative advantages, especially well-educated workforce — a key strategic asset that had been underutilized. Jordan was also seeing a meaningful rebound in tourism, which could be complemented through targeting foreign business investment across several specific opportunities (Growth Lab, “A Roadmap for Export and Investment Promotion: The Case for Jordan,” 2019), as well as expanding comparative advantage through expanding low-cost renewable electricity generation and a range of other activities.

**Jordan responded to the pandemic quickly with a comprehensive lockdown in March-April 2021, which forced a sharp reduction in most in-person economic activities but managed to keep Jordan protected from the virus for several months and develop its health system capacity.** Jordan also initiated numerous measures to mitigate the economic harm through fiscal and monetary policy to support households, lend to businesses programs, and reduce job losses. These responses helped to cushion the overall economic shock of COVID-19 and contributed to a relatively small contraction of -1.5% in 2020. Jordan's pre-existing conditions made it especially vulnerable to COVID-19 from a macroeconomic and fiscal stability perspective, but — counterintuitively — may have also limited the shock to economic growth. This is because the economy was already in a depressed state and employment was disproportionately oriented to the public sector in comparison to other countries.

**The pandemic has had an evolving impact on the economy that has varied across sectors.** The unprecedented shock to mobility that COVID-19 induced undermined the very estimation of economic activity in the short-term across many countries, leading to widespread use of new “nowcasting” methods. Short-term impacts were more acute than traditional GDP estimation methods can capture, but this challenge lessened over time. Over several quarters, the impacts of COVID-19 on different parts of the Jordanian economy became clear through national accounts data published by the Department of Statistics. Figure 23 tracks that sector output throughout the pandemic up to the latest available quarterly data available. Each cell in the table shows sector output benchmarked to the same quarter in 2019. So, for example, manufacturing output returned to its pre-COVID level as of Q3 2021. For some sectors, including “transport, storage & communications” and “restaurants & hotels”, the pre-COVID output levels have not yet been recovered, but the shock has clearly moderated. While estimation methods in such unusual circumstances may not be able to fully capture the short-term reduction in economic activity,<sup>9</sup> the

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<sup>9</sup> The impacts of reduced international travel and the lockdown in the second half of March 2020 did not show a clear impact in national account statistics for Q1 2020. However, acute impacts were reflected in the first full quarter of COVID-19 in Q2 2020, which was spent mostly in lockdown.

patterns across sectors are useful to track over time, including to differentiate temporary versus more permanent impacts of the shock.

**Figure 23:** Sector Output vs. Same Quarter in 2019 at Constant (2016) Prices

Economic Activity	Sector Output vs. Same Quarter in 2019							Share of GDP (2018-19)
	2020 Q1	2020 Q2	2020 Q3	2020 Q4	2021 Q1	2021 Q2	2021 Q3	
Manufacturing	1.00	0.95	0.97	0.98	0.99	0.98	1.00	20%
Producers of Government Services	1.02	1.01	1.01	1.01	1.03	1.02	1.02	15%
Real Estate	1.02	1.01	1.00	1.00	1.03	1.03	1.01	12%
Community, Social and Personal Services	1.03	0.94	0.96	0.96	1.00	0.96	0.98	10%
Transport, Storage & Communications	1.01	0.91	0.94	0.94	0.99	0.95	0.97	10%
Wholesale & Retail Trade	1.01	0.95	0.97	0.97	1.01	0.99	0.99	9%
Finance, Insurance & Business Services	1.03	1.03	1.03	1.03	1.07	1.07	1.07	8%
Agriculture, Hunting, Forestry and Fishing	1.02	1.01	1.02	1.01	1.05	1.04	1.05	5%
Construction	0.99	0.94	0.96	0.97	0.97	0.99	1.00	3%
Mining and Quarrying	0.99	0.98	1.04	1.03	1.15	1.03	1.15	2%
Electricity and Water	1.01	0.97	0.99	0.98	1.00	1.00	1.01	2%
Restaurants & Hotels	1.00	0.87	0.91	0.92	0.93	0.92	0.96	2%
Domestic Services of Households	1.01	1.00	1.00	1.00	1.01	1.01	1.00	2%
Producers of Private Non-Profit Services to Households	1.02	0.96	0.98	0.98	1.00	0.97	1.00	1%
<b>Gross Domestic Product at Market Prices</b>	<b>1.01</b>	<b>0.96</b>	<b>0.98</b>	<b>0.98</b>	<b>1.02</b>	<b>1.00</b>	<b>1.00</b>	

Source: Department of Statistics, National Accounts

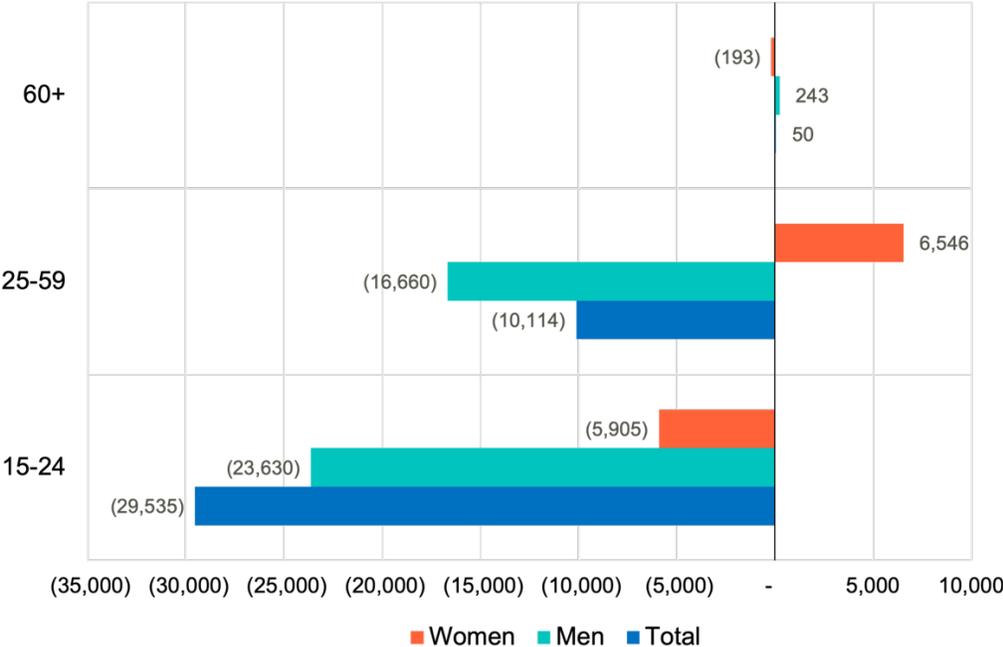
**The initial shock, not surprisingly, most affected sectors of the economy where in-person interactions were critical.** This included restaurants and hotels; transport, storage and communication; community, social and personal services; construction; manufacturing; and wholesale and retail trade. Meanwhile, finance, insurance and business services — a sector that could both operate remotely and supported the lending response — continued to grow. Several sectors were able to remain roughly at their previous-year size, including government services and agriculture.

**Over the remainder of 2020, there was a clear pattern of moderating economic impacts across all sectors, even as Jordan experienced multiple waves of COVID-19 spread.** Restaurants and hotels remained heavily impacted throughout the next three quarters, but this sector is estimated to be a very small share of the economy according to national accounts. The largest single sector, manufacturing, recovered over the year but somewhat more slowly than the global manufacturing recovery starting in 2020. The moderating trend was persistent across all sectors that experienced the initial shock most severely. Government services grew slightly versus the previous year across quarters while finance and business services and agriculture thrived during 2020 despite COVID-19. Mining, which is a sector that tends to be volatile saw sharp growth in Q1 2021, which helped the economy for that quarter grow overall versus Q1 2020.

**Notwithstanding the noteworthy economic resilience shown by national accounts statistics and policy responses to support firms and protect workers, COVID-19 was an unavoidable shock to jobs.** World Bank rapid phone surveys across a range of countries reveal that Jordanian firms were among the hardest hit in terms of temporary and permanent closures and firm sales,

particularly in the service sector, which had impacts on the labor market. Unemployment rates have increased — though by less than many other countries — to 25% overall as of the latest estimate from Q2 2021 (DOS), but that only tells part of the story. In terms of total jobs available, DOS statistics showed approximately 40,000 fewer jobs at the end of 2020 versus the end of 2019. As shown in Figure 24, this lower supply of jobs especially affected young people. Because employment is low for women in comparison to men, most of the lost jobs were lost by men, but the highest percentage loss is for young women. A closer look into these statistics shows that the largest reductions in jobs were in the public sector. Thus, the public sector did not contract as a in terms of contribution to GDP but did contract in terms of employment in response to COVID-19.

**Figure 24:** Absolute Changes in Jordanian Employment (Q4 2020 vs. Q4 2019)

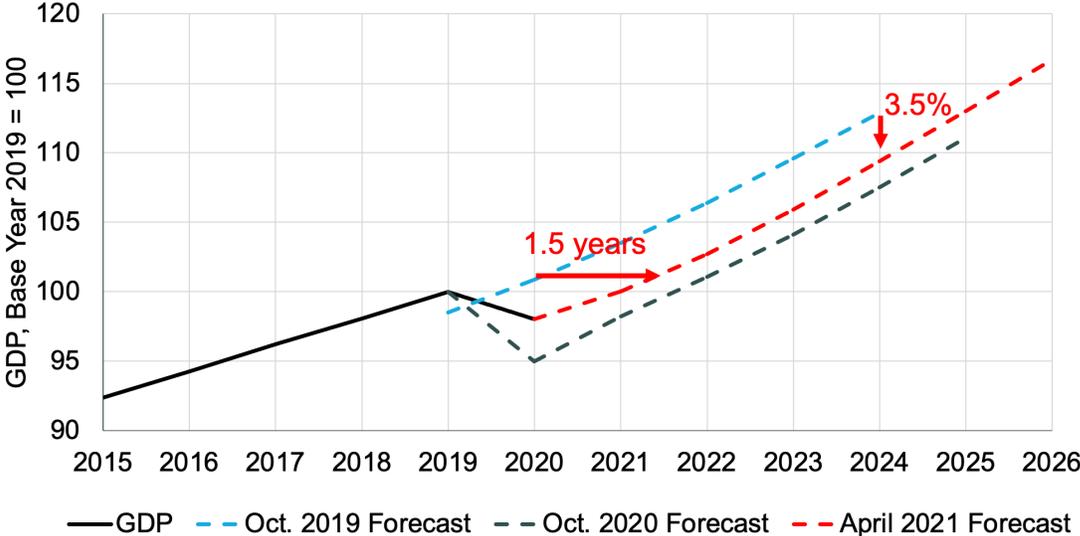


Source: Department of Statistics

**There are different ways to measure the permanent shock and the future may not be sufficiently clear to make a strong estimate.** It remains unclear when global travel will accelerate given the rise of COVID-19 variants and challenges of waning vaccine immunity and vaccine hesitancy in developed countries alongside enormous inequality in vaccinations globally. This remains critical to Jordan’s full recovery given the importance of tourism to Jordan’s balance of payments and hence its capacity to import and support growth of the non-tradable economy. As of summer 2021, before the peak of the Delta variant globally, international tourism arrivals were only one-third of their pre-COVID level globally and arrivals in the Middle East were at only one-fifth of their pre-COVID level (UNWTO Tourism Recovery Tracker). Domestically, vaccinating as much of the population as possible is likely the most important step for strengthening the recovery that is in Jordan’s control. At the time of writing this report, Jordan has fully vaccinated

35% of the population and the pace of vaccination has clearly slowed over the past several months. Notwithstanding uncertainties, semi-annual growth projections by the IMF for all countries are useful for sizing the shock (Figure 25). The IMF’s GDP estimate for 2020 and projections moving forward as published in April 2021 represented a large upward adjustment versus that of October 2020. The IMF April 2021 projections effectively amount to a Jordan’s economy reaching the size that would have been expected for 2020 in the absence of COVID-19 a year-and-a-half late and, in the medium-term, the size of the 2024 economy being 3.5% smaller than would have been expected in the absence of COVID-19.

**Figure 25: IMF Projected Growth Trajectory before and During COVID19**

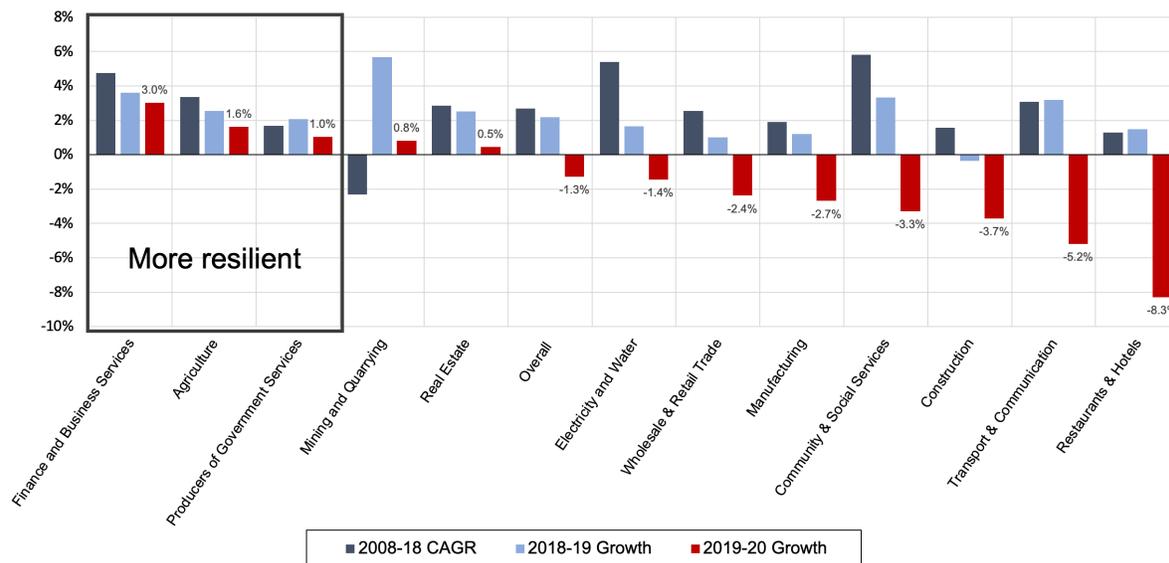


Source: IMF World Economic Outlook

**While the future remains unpredictable and thus it is important to continue to adapt COVID-19 response strategies, there are some patterns that should inform growth strategy moving forward.** Figure 26 uses national accounts estimates once again but provides added perspective by showing year-on-year growth rates by sector alongside growth in the previous year and long-term growth over the last 10 years. This allows for several observations.

- **Finance and business services** and **agriculture** stand out as critical sectors given their resilience throughout COVID-19 together with their persistent growth over the preceding decade amidst low overall growth. Each of these sectors are tradeable, yet they face different challenges in expanding in their reach across global markets. Agriculture faces constraints to production, including water stress, and challenges in reaching markets, especially amidst global supply chain disruptions. Finance and business services could experience more rapid growth if constraints to the movement and employment of talent are lifted, especially in the context of telework, which has accelerated dramatically as a result of the pandemic.

**Figure 26: Sector Growth Rates in Jordan: Long-Term, Pre-COVID & 2020**



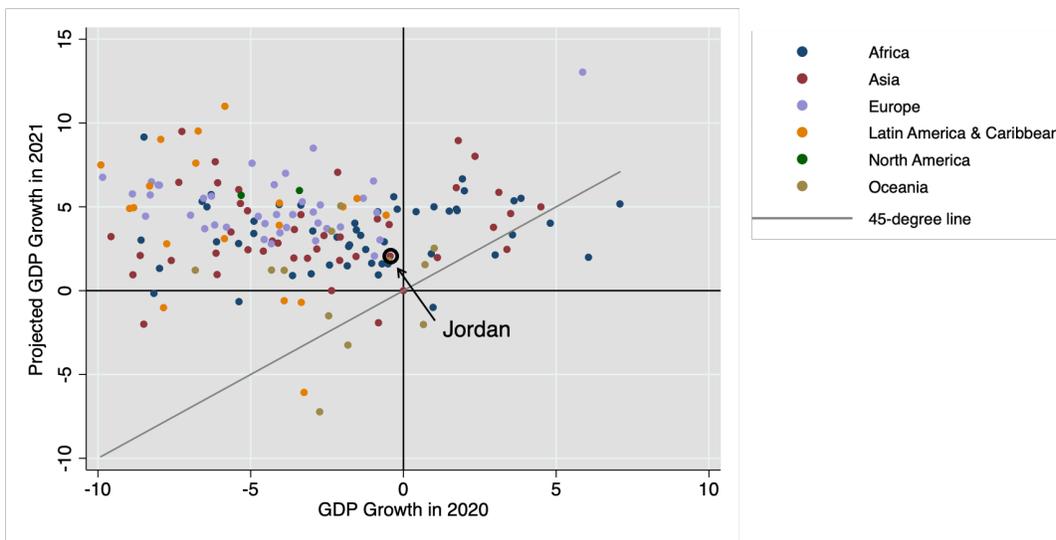
Source: Department of Statistics, National Accounts

- On the other end of the spectrum, the recovery of **transport, communication and storage** as well as **restaurants and hotels** will depend at least partially on global recovery of travel and tourism, which is outside Jordan’s control, meaning that these sectors need to survive in the near term and position toward the future.
- Meanwhile, given the nature of the lasting constraints discussed above and the disruption of COVID-19, the **manufacturing** sector warrants targeted strategies informed by both challenges for competitiveness in Jordan and changing supply chains and global demand.
- Finally, **electricity and water** deserve a special focus within any growth strategy, not only because of the current constraints of electricity prices and water supply, but also because of rapidly changing technologies. The electricity system is currently on a low-growth, high-price path with inertia toward old generation technologies. However, Jordan has enormous potential to benefit from new renewable technologies — supported through climate finance — to move to a high-growth, low-price path that includes exports of renewable energy to other countries where electricity demand is growing and, potentially, to spur demand in Jordan.

**Cross-country growth and fiscal projections provide further perspective on the COVID-19 shock on Jordan’s economic growth, fiscal revenues, and government expenditures.** Figure 27 graphs estimated GDP growth in 2020 and projected GDP growth in 2021 for all countries in the IMF’s World Economic Outlook database. Jordan’s contraction in 2020 was smaller than the bulk of countries, while some countries managed to grow in 2020 with most of these in Asia,

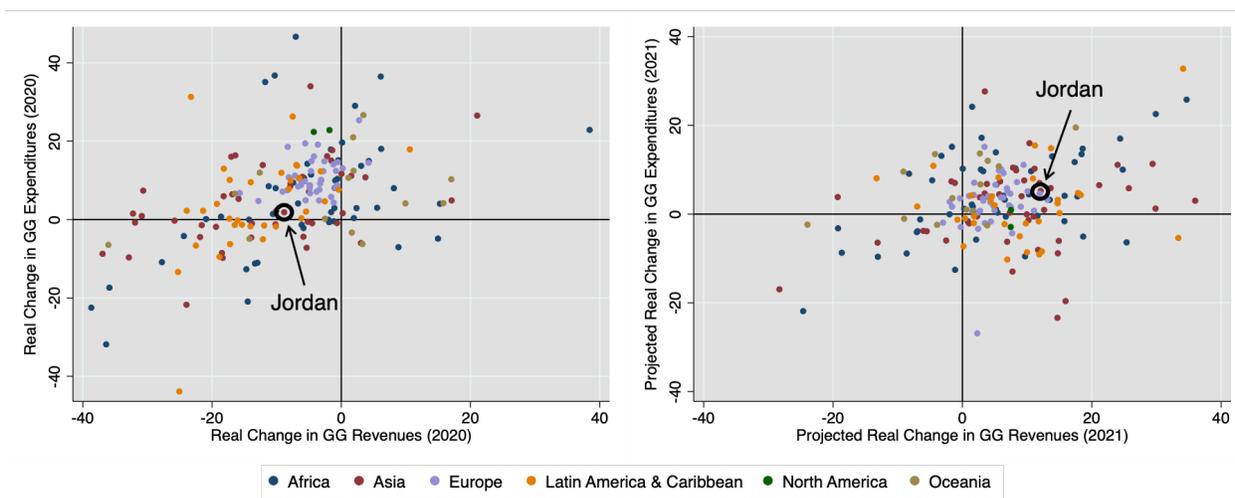
Africa, and Oceania. Meanwhile, Jordan’s projected growth for 2021 was also slower than the bulk of countries. Nearly all countries are the above the 45-degree line, meaning that 2021 growth is projected to be higher than in 2020, and nearly all countries were also projected to grow in 2021. To broadly capture fiscal responses, Figure 28 shows real changes in revenues and expenditures for all countries in 2020 (left panel) and in 2021 (right panel). Most countries were in the top left quadrant in 2020 as revenues fell and expenditures grew. Jordan is in the top right quadrant, but its loss of revenues was much larger than its growth in expenditures. In 2021, Jordan, like most countries, is projected to be solidly in the top right quadrant, representing growing revenues and growing expenditures. At this time, as the pandemic persisted, achieving expenditure growth remained important for supporting economic growth.

**Figure 27: GDP Growth in 2021 (projected) vs. 2020 for All Countries**



Source: IMF WEO Oct. 2021

**Figure 28: Real Revenue and Expenditure Growth in 2020 (left) and 2021 Projection (right)**



Source: IMF WEO Oct. 2021

### III. Aligning Growth Strategy with Constraints

**Having discussed the causes of persistently low growth, key constraints, and the evolving shock of COVID-19, we can explore if existing growth and reform strategies are sufficient to jumpstart a stronger growth process.** Jordan’s productive structure and comparative advantages have fundamentally changed versus past episodes of growth. For Jordan’s growth to accelerate not just to its pre-COVID trend but to a higher level, it needs more than just to close an output gap. In other words, growth potential must expand. The GOJ is implementing a very extensive reform agenda that aims to address many past challenges and accelerate growth potential, though accelerating growth is not the only goal of the reform efforts. This section reviews key reform strategies closely to understand how well they are positioned to help Jordan’s economy adapt to and overcome current constraints. We argue that Jordan’s current growth and reform strategies are enormously significant, but there is high risk that the massive reform effort does not result in increased growth. We therefore argue for a paradigm shift to increase the potential for private sector response to the current approach to growth reforms.

#### Current Growth and Reform Strategies

**Over the last three years, the Government of Jordan has developed and continuously implemented an ambitious reform agenda that aims to enable stronger, more sustainable and more inclusive growth.** Led by the GOJ, and with strong support by the World Bank and the donor community, these efforts have been guided by an expansive reform matrix. The Reform Secretariat of the Ministry of Planning and International Cooperation (MOPIC) was created to coordinate implementation of hundreds of reforms and other actions organized through this matrix.<sup>10</sup> This reform agenda also structures policy support from the World Bank through its development financing instruments and a multi-donor trust fund to aid in implementation. The matrix has coordinated broad donor support through the “London Initiative,” which emerged from a donor summit held in February 2019, where Jordan initiated this reform agenda guided by the creation of the reform matrix.

**Growth and reform strategies were updated and expanded in 2021, including in response to COVID-19.** In early 2021, the reform matrix was expanded and updated with additional pillars of action and action plans were laid out extending through 2024. In early 2021, Jordan also launched a larger economic development program, known as Government’s Indicative Executive Program (GIEP) for the period 2021-2024. GIEP provides a broader framework that encompasses the updated reform matrix together with numerous other areas of governance and investment. Together, the reform matrix and GIEP aim to orient the government’s role in post-COVID economic recovery and build a stronger foundation for long-term growth. In late 2021, the GOJ

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<sup>10</sup> See MOPIC’s website for information on the Reform Secretariat and for reform matrix documents and reviews: [https://mop.gov.jo/EN/List/Reform\\_secertariat?View=1088](https://mop.gov.jo/EN/List/Reform_secertariat?View=1088)

also launched the Government's Economic Priorities Program, which is more focused on COVID-19 recovery over the period 2021 to 2023. The following subsections summarize each of these three current growth and reform strategies.

### *Reform Matrix*

**The Reform Matrix is structured as a set of cross-cutting (horizontal) and sectoral (vertical) pillars, which structure a set of actions defined for each year.** The Reform Matrix originally covered included around 250 actions organized nine pillars (six horizontal and three vertical) over the years of 2018 to 2022. In July 2020, the Reform Secretariat conducted a detailed midterm review of implementation progress, the results of which reflected clear focus on matrix actions, even during the shock of COVID-19. In 2021, two additional pillars were added and upwards of 100 actions were identified across all pillars to extend the reform matrix out to 2024. The ultimate objective of the Reform Matrix continues to be to improve the competitiveness of the economy, stimulate growth and create employment opportunities. It is worthwhile to describe each of the eleven pillars in the matrix and note implementation progress as per the Reform Secretariat's midterm review.

**(1) Pursuing macroeconomic adjustment** – The matrix includes several components on fiscal framework planning, revenue generation, reforms to improve the quality of public investment, and debt management that align with the IMF program and the structural benchmarks that fall under it. The midterm review found that 20 reforms were achieved as of July 2020, putting reforms on pace overall. Meanwhile, the pipeline of additional reforms continues to expand in line with the ambitious IMF adjustment program.

**(2) Improving public sector efficiency and governance** – An expanded focus of the updated reform matrix directs actions toward increasing government transparency and accountability, public procurement reform, good regulatory practices, digitization of government services and access to information. Several of these actions also align closely with the IMF program's goals and structural benchmarks.

**(3) Reducing business costs, improving regulatory quality and increasing competition** – These reforms are being undertaken to maximize the space for private sector investment to grow and the midterm review showed reform momentum to be on track. These widespread actions to improve the business environment in Jordan are consistent with improvements in the World Bank's Doing Business Indicators as well as other international benchmarking systems. However, based on the above diagnosis, it is not clear that these weaknesses that are being addressed are significant constraints on the growth process.

**(4) Driving FDI and promoting export development of products, services, and markets** – Actions under this pillar include clear steps to address known barriers faced by potential foreign

investors and exporters and generally to reduce frictions in processes that are burdensome for each group. Actions under this pillar are relatively narrow in scope, but they aim to pave the way for success in the broader and more active strategies for catalyzing investment in productive sectors, including through the new GIEP. In the midterm review, this pillar reflected one of the strongest areas of reform momentum. However, returns from these actions taken are not yet clear as FDI and exports have continued to struggle.

**(5) Deepening access to finance from banks and non-bank financial institutions** – As with business costs, these actions may not respond to direct causes of Jordan’s low growth, but they were included with the aim to maximize growth potential, particularly of SMEs that tend to face constraints to accessing finance that larger firms do not. The midterm review showed that the pace of reform was largely on track on this pillar as well.

**(6) Creating more flexible labor markets for job creation** – This pillar includes critical actions to increase access to labor market access for historically excluded groups — including women and youth — so that the Jordanian economy can benefit from the diverse and complementary skills of its full labor force. Actions under this pillar also aim to address policies that exacerbate informality. Finally, newly added actions under this pillar aim to understand and address the increasing imbalance between public and private sector wages. While reform momentum has been on track, and quite impressive given historic gaps, it is clear that these actions will largely serve to make the labor market more equitable rather than expand the overall supply of jobs. This means historically excluded groups may struggle to find opportunity even under more fair and inclusive regulations.

**(7) Expanding and improving social safety nets to better protect the poor and vulnerable** – In alignment with the last component of the GIEP (see below), this pillar includes actions to expand and improve cash transfers for the poor, better protect poor households against tariff increases, and enhance the social safety net. These reforms and actions were also on pace as of mid-2020 and have proven especially important due to the unexpected shock of COVID-19 and its impacts on poor households.

**(8) Improving public transport efficiency and access** – Also consistent with the broader GIEP, this pillar outlines specific measures to improve public transportation. Among all pillars of the reform matrix, this is one that showed the lowest measurable progress in the midterm review. This may have contributed to several adaptations of planned actions to in the updated matrix. Additional actions have been added with the recent update focused on the trucking industry, which has been impacted by shocks discussed previously, and has been heavily affected by COVID-19 most recently.

**(9) Increasing energy efficiency and access** – This pillar includes a large set of integrated actions to address issues of financial sustainability, market design, supply cost, grid operations, regulatory processes, energy security, and efficient end-use. Success across this pillar is important for

overcoming the electricity constraint discussed previously, which would expand Jordan's comparative advantages substantially in both exporting and non-exporting. However, not all actions within this pillar are equally aligned with the key end goal of a lower cost electricity system. This is also a pillar in which reform progress was slower as of July 2020.

**(10) Promoting water security and agribusiness** – This pillar includes both a large set of integrated actions to address water security as well as a variety of broad goals to improve the productivity and potential of agribusiness. As previously noted, water scarcity continues to be a pressing challenge in Jordan. Meanwhile, agribusiness is already a growth sector, but it is relatively small. Thus, reform measures aim to allow for more rapid growth in scale and potentially for greater diversification of agribusiness. Like the other two vertically oriented pillars above (on transportation and energy), the midterm review showed slower progress in actions completed by July 2020.

**(11) Strengthening the tourism sector** – Given the scale of damage done to the tourism sector by COVID-19, this pillar was added to the reform matrix this year. It outlines numerous actions, developed in concert with the private sector, to help the tourism industry weather the shock and to position it to rebound quickly and stronger as global travel and tourism eventually recovers.

#### *Government's Indicative Executive Program (GIEP)*

**GIEP provides an overarching strategy for maximizing the government's role in post-COVID economic recovery and setting a foundation for long-term growth.** The GOJ launched GIEP with a broader structure, including both growth and improved governance objectives. GIEP was motivated in part by the changing circumstances and evolving impacts of COVID-19. GIEP therefore incorporates new challenges including the economic contraction during 2020, increased unemployment, and the fiscal and health pressures of the pandemic. GIEP aims to strengthen synergies between economic, macro-fiscal, and other strategies. It outlines several macroeconomic targets, including an increase in GDP growth (from -3% in 2020 to +3.3% in 2024) together with targets for the budget deficit, public debt, and the current account deficit. GIEP envisions at least 6.5% growth in exports and tripling annual FDI from JD 0.5 billion in 2020 to JD 1.5 billion in 2024. Under GIEP, goals and reform actions are organized around seven pillars as summarized below.

**(1) Structural and economic reforms** – This pillar is grounded in the two core reform programs of the IMF Extended Fund Facility (2020-2024) and the expanded Reform Matrix (2018-2024). Much of the reform plan under the IMF program is designed to address tax evasion, tax avoidance and reduce inefficient tax expenditures, while also expanding Ministry of Finance capabilities to better manage and address fiscal risks. IMF technical assistance is being leveraged across various fronts toward these ends. The success of this program is critical as a foundation for long-term growth as macroeconomic stability is a necessary condition for a sustainable and well-functioning

economy with manageable levels of investment risk. The Reform Matrix, as discussed above, aims to address structural issues that prevent the economy from growing more robustly. Each reform program continued at full pace despite the COVID-19 shock. In fact, both programs have been expanded and adapted to better address new challenges from the pandemic.

**(2) Political development, rule of law and combating corruption** – GIEP also puts focus on empowering political diversity and supporting greater political participation, equal justice, freedom of expression, and transparency. These goals may not be directly binding for economic growth, but they are important for achieving fiscal sustainability and are essential for improving quality of life. It is noteworthy that the latest wave of the Arab Barometer survey in Jordan in late 2018 found corruption to be the second most common response to the question “What is the most important challenge facing your country today?” (17% of respondents) — lower than the top answer of the economy (71%) but much higher than the next most common answer of public services (4%). Levels of trust of public institutions are low in Jordan, but especially so for Parliament, according to this survey.

**(3) Transforming into a digital and green economy** – These are two key drivers for economic transformation, which are especially well-matched with Jordan’s comparative advantages. The global challenges of COVID-19 and climate change have accelerated the global shift in each to the point where middle-income countries that are not evolving toward digital and green economic structures risk being left behind as generational shifts in global trade take place. However, for Jordan, these dimensions are particularly important given their alignment with identified growth sectors and with Jordan’s abundant clean energy potential. A strategy has been adopted by the Government of Jordan for ICT development and digitization, and Jordan is preparing a National Strategy for Green Growth to launch in 2021. However, as discussed in the next session, these strategies may not be well oriented to maximize clear opportunities for short-term growth.

**(4) Investment and productive sectors** – A sustainable growth acceleration in Jordan requires that growth include private investment in productive activities. Importantly this must include growth in exports (to afford imports) and in currently nascent industries with the potential to drive future growth. But the COVID-19 crisis also demands scaled up government attention and coordination with large existing productive sectors, including tourism, chemicals, pharmaceuticals, garments, industrial manufacturing and electronics manufacturing. Support from the World Bank through a “COVID-19 Private Sector Recovery and Resilience” project aligned with this need and was structured, appropriately, on phases that would move from emergency support programs to more collaborative public-private problem solving over time in order to maximize private sector growth and take advantage of emerging opportunities. Jordan Exports is a key new institution to house such capabilities. Meanwhile, the Jordan Investment Commission has a critical role to play in attracting global companies that can thrive in Jordan into the future. Each of these critical institutions may be significantly underutilized at present. Under this GIEP pillar, the GOJ is also leveraging new vehicles to expand investment potential, including a

Sovereign Investment Fund, an Agriculture Map that identifies available land for local and foreign investment, and a pipeline of PPP projects related to strategic infrastructure investment.

**(5) Public infrastructure services** – To expand Jordan’s comparative advantages the Government of Jordan has prioritized a public investment program focused on increasing water supply, reducing energy costs, and improving the quality of public transportation. These focus areas are consistent with weaknesses that have narrowed Jordan’s ability to support globally competitive manufacturing in water- and electricity-industries as discussed earlier in this note. The focus on public transportation quality, timeliness and safety is also consistent with a critical weakness in the efficiency and cost of mobility in Jordanian cities, which has impacts on female labor force participation and inclusiveness more broadly. Reliable public transportation is a missing capability in Jordan that reduces quality of life, underpins inequality, and may undermine the duplication of highly productive business clusters like King Hussein Business Park in Amman.

**(6) Social services** –GIEP also puts a focus, with substantial fiscal resources, toward the health and education sectors. These sectors are not only essential for quality of life and societal wellbeing; they are also promising engines of economic growth for Jordan that happen to employ high rates of women as well. Both sectors are poised for innovation and can generate foreign exchange through medical tourism and hosting foreign students. As discussed later in this report, innovation in each sector can be accelerated through forward-thinking government procurement that challenges the technology sector to help solve emerging challenges, including meeting the needs of refugees and other vulnerable populations as well as continuing to improve remote healthcare provision and learning. In doing so, the Government of Jordan can also support the growth of Jordan’s strong but nascent ICT industry and catalyze the development of valuable tools and intellectual property that the industry would export to the region and to the rest of the world.

**(7) Employment and poverty alleviation** – The final component of GIEP focuses on employment and poverty through programs that aim to serve individuals and families that inevitably fall through the cracks, even in a growing economy. This component is especially important in the context of COVID-19 and focuses on enhancing social protections and resource allocations to the poor, including the newly poor as a result of the pandemic. This component includes continuous adaptation in vocational training, direct employment initiatives, and innovative programs to serve individuals who have fallen temporary or permanently out of the labor market, those whose jobs are at risk due to technological change and other factors, and those who have suffered from long-term exclusion through discrimination, including many women.

#### *Government’s Economic Priorities Program*

**The Government’s Economic Priorities 2021-2023 program was launched in the second half of 2021 to build on the above strategies and with a focus on COVID-19 recovery.** In comparison with GIEP and the Reform Matrix, this program was developed in closer consultation

with the private sector and is designed to be revisited and updated more frequently — every 6-9 months — and covered just a two-year period to start. This is consistent with the goal of COVID-19 recovery and the recognition that the global pandemic and its impacts continue to evolve in unpredictable ways. Despite being nominally grouped into three pillars, this program is also extensive, with an initial breakdown of 53 different priorities. As a result of the process involved, many of the approaches of this program are oriented around private sector opportunities. There are funding allocations attached to each priority in program planning and these amounts vary greatly. This program is coordinated by a Delivery Unit at the Prime Ministry, responsible for implementation and oversight.

**(1) Improving the Business Environment** – This pillar covers many actions, which are broken down further into five areas as follows, each of which is quite extensive. “Regulatory Environment” includes the drafting of an Omnibus Law and six specific procedures to simplify regulations or digitize regulatory services. “Enhancing Competitiveness” includes tackling electricity costs, import tariffs, microfinance issues, and a Loan Guarantee Corporation. “Digitization” includes priorities on numerous public services as well as a system for government digital payments and accelerating steps toward a national broadband network. “Investment” priorities focus on attracting mining and downstream industries, promotion services, the Government Investments Management Company, and a national capital market. Finally, “Mega Infrastructure and PP Projects” includes specific projects with vary greatly in size and type for 2021 and 2022.

**(2) Enhancing Competition and Increasing Employment** – The second pillar is more limited in scope and is focused in two areas. First, “Free and Fair Markets” includes the priority of reviewing and amending government procedures and supporting a more active role of regulators toward enhancing competition. Second, “Employment and Skills Development” prioritizes Social Security rate reductions for new entrants, more flexibility in the Labor Law, the extension of the Istidama Program (through which government makes payments to workers in hard hit industries) until June 2022 and launching a new “National Employment Scheme”. The second half of this pillar is very oriented around protecting jobs and reducing administrative and other costs for hiring and retaining workers. The new National Employment Schemes was not outlined in detail in the initial outline of the Government’s Economic Priorities Program.

**(3) Supporting Priority Sectors (Tourism, IT, Agriculture, and Industry)** – The priorities under this program outline actions related to several sectors of the economy with much alignment with the GIEP and Reform Matrix but with additional strategies as well. Supporting tourism focuses on enabling low-cost carriers, key legislation, enhancing Jordan’s international brand, adding new tourism products, developing a risk fund, and targeting key markets for attracting tourists. Supporting information technology includes enabling 5G spectrum, attracting global companies to operate out of Jordan, and an entrepreneurship strategy. Supporting agriculture revolves around loans to promote modern practices, the creation of an agricultural marketing

company, and supports to expand food manufacturing. Supporting industry includes a focus on “catalytic infrastructure,” increasing competitiveness, focusing on sector linkages, and a Support and Development Fund. The IT strategies here are especially forward thinking, whereas the agriculture strategies target tools and approaches with a long history. Financial resources attached to these strategies differ substantially. For example, tourism actions appear to come with more substantial resource levels to support the stated goals than do industry support actions.

### Paradigm Shift to Activate Agents of Change

**The Government of Jordan’s guiding growth and reform strategies are extraordinarily extensive and are coordinating widespread, praiseworthy reform actions.** The GOJ’s reform ambition is unquestionable across the pillars outlined above. This ambition has translated into clear action steps, guided by the explicit actions mapped across years in the reform matrix, and reflected in midterm assessments of progress. Progress has also been monitored by the World Bank in its development policy programs. Furthermore, early actions were captured by improvements across dimensions of international benchmarking tools including the World Bank Doing Business Indicators (2020) and World Economic Forum Global Competitive Index (2019). Organized reform progress across hundreds of actions not only continued through COVID-19 but plans were expanded to include more action areas and hundreds more specific actions after COVID-19.

**GOJ’s own reporting shows that horizontal areas of the Reform Matrix have moved forward more substantially than vertical reforms, which may be a problematic trend.** These vertical reforms include key areas of public goods — electricity, water and transportation — and touch on important tradable industries — agriculture, transport services, and tourism (recently added). This is potentially problematic as these reform pillars map closely to key constraints that have intensified during the last 12 years of shocks, whereas many of the horizontal pillars that have advanced by more over the last few years — including regulatory quality, access to finance, and social safety nets — were not as binding on the process of economic growth, both before COVID-19 and now. Also, where actions have been taken on vertical pillars, the nature of the reform actions may not be poised to durably address key constraints. For example, though actions have been taken on the water system, availability continues to tighten and clear progress toward large-scale water access through desalination has been limited at best. Meanwhile, electricity tariff reforms have been a focus of policy attention, and have been lowered for some uses, but the underlying cost of the electricity system appears to have increased as more expensive oil shale generation comes online at the cost of lower-cost, renewable generation expansion.

**There are also issues across horizontal pillars of two types: (1) where actions prioritized are misaligned with the fundamental problems, or (2) where the actions and goals are aligned but outcomes will hinge on other changes that are not covered in plans.** Some pillars that would be expected to strengthen private sector entry and productivity (see Pillar 4 of the Reform Matrix) have not yet born fruit. On this pillar, numerous actions have been noted, but there are no

indications that JIC (an established investment promotion agency) or Jordan Exports (a new export promotion organization) have yet begun to reverse negative trends in exports and foreign direct investment (FDI) through their new activities. The more recent creation of a Ministry Investment may be responsible for success moving forward. Meanwhile, several bold actions have been taken to reduce barriers to female participation in the labor force (see Pillar 6 of the Reform Matrix). However, this pillar is largely oriented to encourage fairness within the labor market. This will improve (and increase) competition for already scarce jobs in the short-term. An increase in employment outcomes for all segments of the labor market will require the private sector itself to grow.

**GIEP is oriented around important government capabilities and new strategies, but the approach appears unlikely to jumpstart the growth process.** GIEP pillars 3-5 respond to important observed weakness of the Reform Matrix in relation to constraints on growth, but these new focus areas also show key gaps. Transforming into a digital and green economy (GIEP Pillar #3) may serve a foundational role in the long-term, but its focus on strategy setting may miss a window of opportunity for capitalizing on emerging private sector investment opportunities in digital and green spaces that would be could *today* with more targeted and government coordination with the private sector in the very short term. Investment and productive sectors (GIEP Pillar #4) as a focus appears pivotal to jumpstarting growth. However, key areas of focus within the pillar — a Sovereign Investment Fund, an Agriculture Map, and a pipeline of PPP projects related to strategic infrastructure investment — would do little to capitalize short-term export and efficiency-seeking investment opportunities. These actions have donor appeal but may do very little to incentivize productive investment because they do not address the key shortage of knowhow in the private sector. Alternative actions that would center on filling this gap, appear to be lesser priorities, such as fully resourcing and empowering JIC and Jordan Exports to lead highly targeted investment and export promotion efforts, respectively. Public infrastructure services (GIEP Pillar #5) are critical to medium- and long-term growth, but success will depend on the extent to which new strategies and institutions accelerate major infrastructure improvements in water and a clear pivot in the evolution of the electricity system well beyond the switch to renewables that has already occurred.

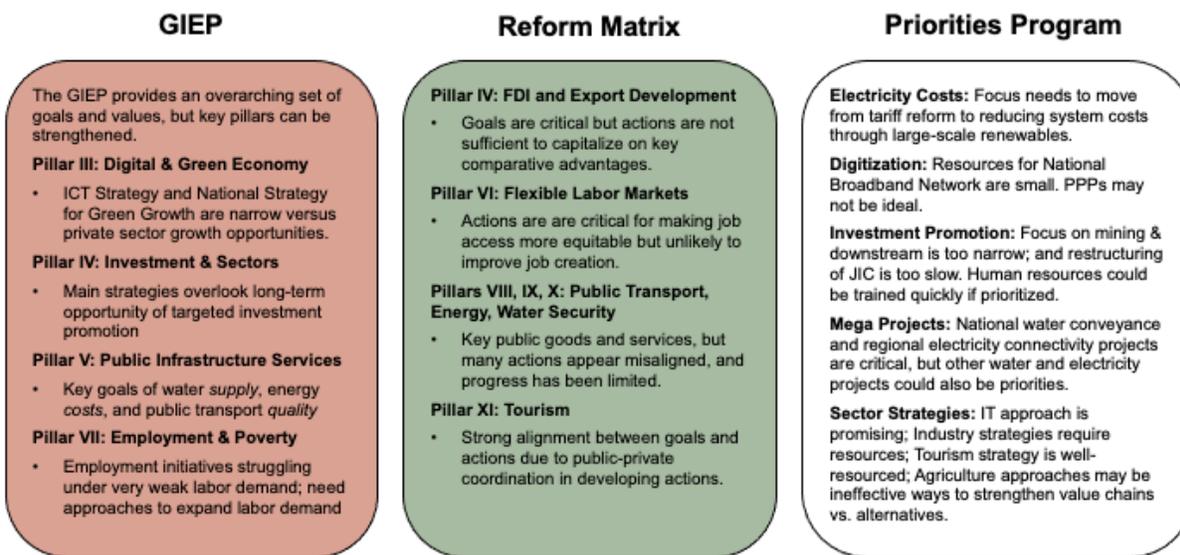
**The Government's Economic Priorities Program, which is scheduled to be updated in the very near future, outlines several promising priorities but also continues the approach of expanding an overwhelmingly large reform portfolio.** The reality of reform processes is that more reforms are not always better. When there are conditions of scarce fiscal — and more importantly, human — resources, a longer list of reforms can often result in less impact in the ultimate problems a government is aiming to solve. This includes because scarce resources tend to be focused on the priorities and reforms that are more easily measurable, which are not always the ones that are the most important, while more important problems are often more complex and progress toward addressing them is not as easily measured. This Priorities Program has several dimensions that could help to jumpstart new (export) growth engines that can replace those that

have been lost over time. The continued priority of addressing electricity costs is clearly important based on growth diagnostic tests, yet short-term measures to reduce costs to some sectors are not as important as long-term measures to reduce systemwide costs through the expansion of low-scale generation, especially through renewable energy. Digitization, investment promotion, mega projects, and sector strategies are also all aligned with constraints. However, resources for some areas (such as national broadband) are small, some strategies are narrow (such as the investment promotion focus on mining and downstream industries), and not all projects are equally strategic. Mega projects on national water conveyance and regional electricity connectivity are highly strategic and additional water and electricity projects may be more strategic than others that map to substantial fiscal resources.

**Overall, current growth and reform strategies hold the substantial risk that very ambitious and difficult reform actions do not result in the anticipated payoff in growth.** By the very nature of how widespread reform efforts are, they spread resources and attention thin. This may explain why progress in horizontal Reform Matrix pillars has tended to be more substantial than on vertical pillars. Horizontal actions are relatively more straightforward, whereas vertical problems tend to be more complex and map less easily to discrete actions that can be identified in a matrix in advance. The overall donor-support architecture is more helpful in motivating and mobilizing regulatory changes and the creation of strategies, which can be counted and measured, than in addressing more complex problems — like in water and electricity systems — where actions need to be multi-faceted and adaptive over time. Moreover, the actions under both the Reform Matrix and GIEP ultimately focus very heavily on public actions, including PPPs, in the anticipation that “structural reforms” will cause emergence of the productive businesses that choose to operate and expand in Jordan. This is a major risk, as there is no guarantee that the private sector — domestic and international — respond to these reforms as desired. Relatively low engagement with the private sector deepens this risk as it increases the chances that the reforms that are moved forward fail to address the constraints that firms face in practice (and instead address constraints that government and donors *think* that firms face).

**Given this risk, this report argues for a paradigm shift in growth strategy moving forward with two key components.** The first component would be to work toward consolidation (rather than expansion) of reform strategies. Resources and reform actions should be aligned with binding constraints on the economy overall and initiatives that have clear potential to cause a short-term response in private investment in sectors with the potential to drive growth. Consolidation would require that progress is measured not only by indicators that capture how many planned actions are being taken but also by indicators that test whether actions are having their intended consequences on private sector behaviors. Figure 29 summarizes Growth Lab observations on key areas for success within current programs. The second component — and the focus of the remainder of this report — would be for the Government of Jordan to organize much more around catalyzing emerging private sector opportunities. Major opportunities exist but many of which will not materialize on their own. Government actions must therefore target “agents of change.”

**Figure 29:** Growth Lab Suggestion of Key Areas for Success Across Existing Programs



**A paradigm shift focusing on “agents of change” could position Jordan to better reap the benefits of current and planned reform actions through enabling greater private sector responses.** Generating new growth processes requires even more than ambitious structural reforms, institutional changes, and strategies alone can deliver. It requires that private sector decision-makers take new risks to invest and operate within Jordan, especially to serve markets beyond Jordan. For growth to be high quality in terms of the job opportunities it creates some of these private sector actors must be in economic activities that pay higher wages than currently offered in Jordan. These private sector decision-makers, as well as the public institutions that coordinate directly with them can be thought of as “agents of change” on the structure of the economy. There are tools that would allow the GOJ to position its growth and reform strategies to elicit a stronger private sector response. A useful way to think about these tools are that they would empower more “agents of change” in the economy. Where existing strategies require numerous actions by the GOJ — arguably too many to be strategic and effective — an “agents of change” focus would organize more actions by the private sector, often in close coordination with the public sector. This also naturally implies more space for adaptation and iteration than can be captured in forward-looking policy matrices.

**The paradigm shift would aim to accelerate knowhow diffusion and transform the private sector through coordinated actions centered on key opportunities.** There are several large opportunities for private sector expansion (see next section for examples) where Jordan has clear comparative advantages and where there is robust global demand — even amidst the COVID-19 pandemic. But the current path of horizontal and vertical reform actions appears unlikely to crowd in private sector activity and job creation across these opportunities in the short-term. The GOJ should put a dedicated focus on empowering agents of change around these opportunities. A key

component of doing this includes creating structures that allow the public and private sectors, as well as other actors, to interact closely to understand and address problems.<sup>11</sup> A greater focus is needed on building knowhow agglomerations, trade relationships, and pushing private sector innovation. This requires a renewed focus on attracting global companies to operate out of Jordan, particularly through targeted investment promotion as well as with support through new donor programs and diaspora engagement. An important policy goal here is facilitating (and, in fact, attracting) high-skill immigration, which is an important enabler for high-skill (and low-skill) Jordanian employment (Growth Lab, “Jordan: The Elements of a Growth Strategy,” 2019). There are also many untapped opportunities for existing firms in Jordan to expand their exports of high-complexity products. However, finding and effectively supporting these various agents of change requires smart targeting by public institutions, including Jordan Exports. Jordan can also more strategically utilize government procurement as demand for innovation, especially digital platforms. In doing so, GOJ can better address today’s challenges (water management, refugee services, etc.) while also incentivizing private sector innovation around those problems in Jordan that may become a driver of global innovation in the future.

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<sup>11</sup> In this respect, the Reform Matrix pillar on strengthening the tourism sector is a positive example. Out of urgency given COVID-19, this pillar includes actions that were identified with substantial involvement by various actors within the tourism sector. Implementation will require continuously close coordination to adapt to COVID-19 circumstances, which is built on a history of frequent public-private coordination within this sector in Jordan through the Jordan Tourism Board as well as the Ministry of Tourism and Antiquities.

## IV. Key Opportunities to Accelerate Growth

**As discussed in Section II, even before COVID-19 struck the world, Jordan needed an economic transformation to accelerate the pace of growth.** External shocks undermined several critical sectors of the economy — especially key export sectors outside of garments — and worsened a set of lasting constraints that undermined Jordan’s global competitiveness. COVID-19 has intensified this challenge by constraining global travel and tourism, which represented over 40% of Jordan’s exports of goods and services prior to 2020. Previous Growth Lab research, conducted before the pandemic, identified several promising new engines of growth, especially in the tradeable sector, that were aligned with Jordan’s comparative advantages. These findings provide a starting point for exploring key opportunities that could lead growth in the aftermath of COVID-19, with several important adjustments given the persistent impacts of the pandemic.

**Previous research identified eight areas of opportunity consistent with Jordan’s productive structure.** Past shocks have made Jordan’s competitiveness skew toward services overall as opposed to manufacturing, given water scarcity, electricity prices, and disruptions. Thus, detailed economic complexity analysis (see for instance Jordan Strategy Forum research in 2017 and 2020, as well Jordan’s Country Profile on the Atlas of Economic Complexity) can tend to miss important opportunities in tradeable services. For this reason, the Growth Lab undertook a complexity analysis inclusive of service industries. This research identified many specific sectors, which grouped naturally into eight export themes, that were consistent with Jordan’s capabilities — both expressed and latent productive capabilities — and showed indications of being competitive at higher wage levels. These opportunities ranged across the *intensive* and *extensive* margins of Jordan’s economy. Activities on the *intensive* margin are those already highly present in Jordan, though they might not effectively reach export markets, whereas activities on the *extensive* margin are those that are nascent or yet to appear but where there are strong indications that Jordan has capabilities to support them based on patterns of industry co-occurrence globally. These extensive margin opportunities are where agents of change become particularly important toward catalyzing growth since new actions are needed to support the emergence and early-stage growth of firms. The research identified 119 specific, tradeable industries across these eight themes:<sup>12</sup>

1. Business, IT and Professional Services
2. Education Services
3. Healthcare Services
4. Creative Industries
5. Transport Services

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<sup>12</sup> In addition to the Growth Lab’s Working Paper, “A Roadmap for Export and Investment Promotion: The Case for Jordan” (2019), these themes can be explored through an interactive online tool: <https://growthlab.app/jordan-tool>

6. Construction Services
7. Tourism
8. Agriculture and Food

**These substantial industry opportunities were further analyzed to explore which were most aligned with key, known competitive advantages in Jordan.** One such advantage is Jordan’s highly educated labor force, especially its highly educated youth and female population that would like to work but cannot find sufficient (or sufficiently attractive) employment opportunities. Meanwhile, electricity and water are key disadvantages for industries that intensively use those inputs. The Growth Lab’s online tool allows a user to visualize the 119 industry opportunities in relation to their patterns in employing women and college graduates globally, their relative use of water and electricity, their current presence in Jordan and peer countries, their prevalence in global and regional FDI flows, and several other relevant variables that contribute to an industry’s viability and attractiveness in Jordan. This tool was designed to inform national (and subnational) export and investment development efforts in Jordan, as well as for global businesses to use when evaluating destinations in which to expand export-oriented operations, particularly in the Middle East.

**Many of the identified sector opportunities reflected clear shifts in foreign investment patterns in Jordan and were less linked to regional and neighboring markets, which would tend to reduce volatility and exposure to shocks in the region.** Although several manufacturing industries appeared in the list of 119 opportunities, the export themes overall represented a shift away from manufacturing and extractive industries and toward business services, education and ICT for instance. Several of these opportunities (#1 – #4 in particular) reflected high potential to employ more women and highly educated young people given their makeup of employment currently in Jordan and in more developed countries. Meanwhile, others (#5 – #8) reflected broader-based employment opportunities and the potential for rapid export growth. Taken together, these opportunities outlined pathways toward a fundamental improvement in Jordan’s external balance and resulting multiplier effects in economic growth and job creation through the impact they would have on demand in the domestic non-tradable economy.

**The COVID-19 pandemic and other global changes make some of Jordan’s competitive advantages more able to support a growth acceleration in the next several years than others.** The shock of COVID-19 accelerated several shifts in global production and trade that appear likely to continue. These include a dramatic increase in remote work (or “telework”), as well as telehealth and online education, and re-orientation of supply chain decisions in search of resilience — what has been characterized by some as a change from “just in time” production to “just in case” production. Additionally, pre-COVID technological changes toward low-carbon production have coincided with increased urgency from firms and consumers to reduce their carbon footprints and thus reduce the speed and trajectory of global climate change. These trends align with several of

Jordan's competitive advantages that were already strong before COVID-19, including: (1) its highly educated labor force (at relatively low global wage levels); (2) its enormous natural potential for renewable energy generation given solar radiation and land; (3) its rich start-up ecosystem in the digital technology space; and (4) its unique market access through trade agreements and good geographic and physical connectivity to European, Asian and African markets. However, other advantages — most notably Jordan's high tourism potential due to its sustainable tourism offerings along with its internal and international accessibility — will be undermined by COVID-19 for the next year at least, and likely longer. Other industries that require close interaction between people and movement internationally — such as the film industry, which falls under the theme of creative industries — may face significant headwinds.

**Given global changes and observed resilience of some sectors in Jordan, a subset of previously identified strategic opportunities have become even more strategic than they were prior to COVID-19.** First and foremost, high-skill service sectors — which include not only business, IT and professional services, but also education and healthcare and some creative industries — now enjoy the potential to benefit from globalized telework. This makes the current resilience seen in the finance and business services sector noted earlier in this report only a low floor for what growth is possible. Second, Jordan's exports could expand within several markets and within several value chains where exporters already have an initial presence in line with the search for robust and resilient supply chains. Several of these opportunities can be observed through analysis of destinations to which Jordan historically under-exports given global patterns. Such opportunities include agriculture exports but cover a much larger breadth of industries and products as well. Third, any industries that can benefit from clean energy, including the export of clean energy itself, have grown as opportunities. In other words, there are rapidly emerging “green growth” opportunities that extend well beyond those that are being pursued within Jordan's existing Green Growth National Action Plans. These industries also overlap with latent market opportunities in many cases.

**The following subsections discuss emerging opportunities to lead a growth acceleration in Jordan within the current uncertainties of COVID-19.** For each of the three areas of telework and high-skill services, expanding goods exports markets, and “green growth” new analytical findings are provided, and policy suggestions informed by these new analyses are highlighted. A final subsection reiterates overall shifts in Jordan's growth strategy that would enable these opportunities.

### Telework and High-Skill Services

**Previous economic complexity analysis found an overwhelming opportunity across numerous high-skill service industries to lead growth in Jordan.** Many of the 119 industries that emerged as strategic for investment promotion based on Growth Lab economic complexity analysis can be categorized as “Business, IT and Professional Services.” It is important to note that

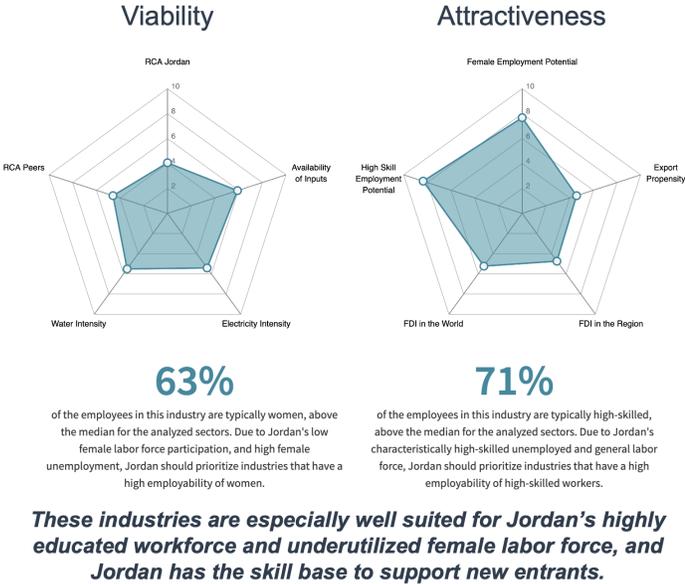
these industries emerged not because of qualitative evidence or direct identification of comparative advantage, but rather because of industry co-location patterns across the world. Numerous high-skill service industries showed either a high intensity in Jordan already based on a large dataset of firm locations globally (on Jordan’s *intensive* margin) or they tended to be present in other countries with similar industry compositions to Jordan, suggesting that these are aligned with existing “capabilities” of Jordan’s economic system (on Jordan’s *extensive* margin). To better understand these opportunities, the Growth Lab then built an online tool to explore some of the aspects of these industries that may explain this outcome. Figure 30 lists several noteworthy industries that were grouped under “Business, IT and Professional Services” and an example of the type of information that the online tool provides about their viability and attractiveness, using the example of accounting, auditing & bookkeeping, which can be a tradeable service if the services are performed for clients outside of Jordan. This can happen either between companies — selling accounting services to a client in the U.S. for example — or within companies — a global company based in Dubai doing its accounting services in Jordan for example.

**Figure 30:** Select List of Identified Business, IT and Professional Services Industries

# Business, IT and Professional Services

These opportunities were the most common among the opportunities that emerged:

- Headquarter Offices
- Engineering Services
- Accounting, Auditing & Bookkeeping** →
- Legal Services
- Advertising Agencies
- Management Consulting Services
- Research Activities
- Insurance Carriers and Agents
- Credit Reporting Services
- ...among others



Source: From “A Roadmap for Export Diversification: Jordan’s Complexity Profile” online tool, Harvard Growth Lab Viz Hub (<https://growthlab.app/jordan-tool>)

**The advent of COVID-19 has dramatically accelerated technology and business operations toward telework across the globe. This increases a key export opportunity for some developing countries in tradable services, where individuals in the developing country, like Jordan, work remotely for firms based abroad. At the height of the pandemic some 35% of US**

employees teleworked from home, according to the Bureau of Labor Statistics. The accompanying shift in technology and business mindset, both in the US and internationally, poses new possible growth opportunities across borders. It is now feasible that Jordanians work remotely, not just for companies located in Jordan, but also for international firms. Whether this is a significant opportunity for a country depends on quantifiable variables related to a developing country's existing and potential employment in tradeable service industries together with current wage differentials with higher income countries in "teleworkable" occupations and tasks. This section quantifies how feasible and attractive various industries would be for Jordan to expand via telework. This is done by calculating each industry's teleworkability as defined by its *de facto* propensity to be traded internationally, its overall size and salary differential, how proximate the industry is to Jordan's current productive structure, and the industry's potential for employing Jordanians who do not currently have a job.

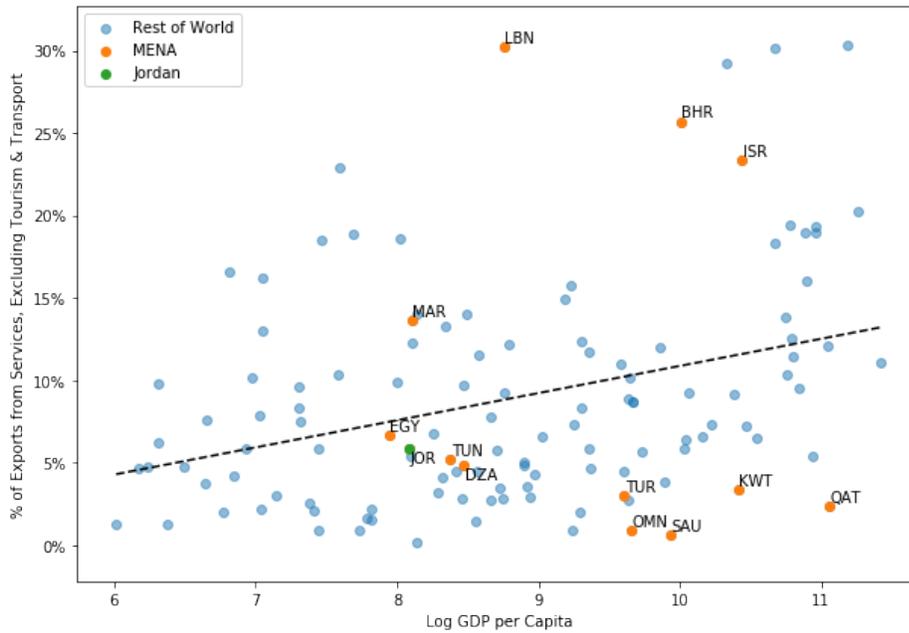
**Several factors suggest that Jordan should be in a strong position to expand employment and growth through cross-border telework.** Jordan has a high rate of tertiary education. With a gross rate of tertiary enrollment at 34% in 2018, this is above-trend given its level of GDP per capita. English fluency is also high as 45% of Jordanians speak English, the second-highest rate in the MENA region after Israel. Jordan is situated close to major European economies, which are already top importers of key services. Additionally, given its surplus highly educated labor, Jordan can offer these advantages at salaries that are very competitive internationally. Unemployment for tertiary-educated Jordanians is high at around 16% and GDP per capita in Jordan is an order of magnitude lower than developed countries. Jordan currently exports services outside of tourism and transport at a volume that is below expectation for its level of income, which suggests a very large upside potential through the telework opportunity but also low likelihood that this potential would be realized through *status quo* policy approaches. Many of the most desirable candidate industries are in STEM and business-related fields, which already employ women and youth at higher above-average proportions of women in Jordan. Work from home may effectively sidestep long-standing cultural norms that impact female employment, and remote work also means that employees do not face transportation constraints in getting to the workplace.

#### *Jordan's Current Participation in Service Exports*

**Jordan's current participation in service exports is relatively low.** The share of exports that Jordan obtains from services (excluding tourism and transport; and, importantly, including services that are *not* teleworked) is below expectations for its level of GDP per capita as shown in Figure 31. Notably, some countries from the Middle East and North Africa (MENA), such as Morocco, Lebanon, and Bahrain, specialize considerably more in these kinds of service exports. Although granular data on international service trade is limited, data from the United States can provide a partial picture of the composition of service exports. Jordan's service exports to the U.S. are largely concentrated in business and government-related services, with a significant presence in education, finance, and legal services as shown in Figure 32. These categories are in close alignment with

strategic opportunities identified through the Growth Lab’s earlier economic complexity analysis that was inclusive of service industries.

**Figure 31:** Income per Capita vs. Share of Exports from Services, 2014–2018



Sources: Atlas of Economic Complexity from UN COMTRADE, World Bank

**Figure 32:** Jordan’s Non-Tourism, Non-Trade Service Exports to USA, 2019

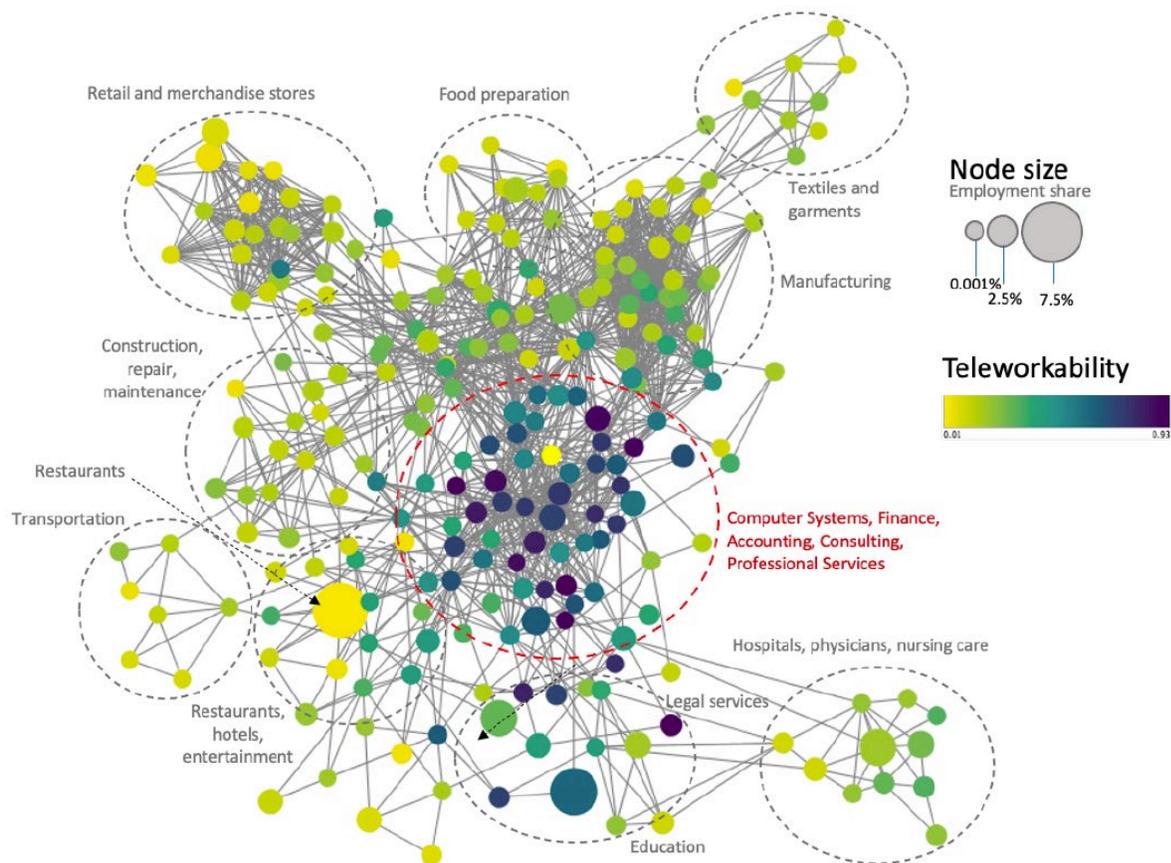


Source: US Bureau of Economic Analysis

## Identifying Teleworkable Service Opportunities for Jordan

We evaluate industries (coded in the NAICS classification system at the four-digit level of detail) to identify which could be major opportunities given the emergence of telework globally. Following the methodology of Bustos and Hausmann (forthcoming), each industry is evaluated according to quantifiable characteristics that capture the *feasibility* and *attractiveness* of the opportunity. Each such factor is described below. The first characteristic is the “teleworkability index” itself, which captures whether an industry involves a large share of jobs that can be performed remotely. Figure 33 shows this index on an industry space visualization to capture how teleworkability is higher among high-skill service industries. See section A.1 of the appendix for additional technical detail on each measure utilized. Each of the eight variables listed above is normalized so that they follow a common scale. The resulting values are then summed for each industry, so that industries that do well on many of these factors score highly.

**Figure 33:** Teleworkability Index Mapped on to Industry Space Network



Note: Industry space constructed using data from the Occupational Employment and Wage Statistics (OEWS) elaborated by the U.S. Bureau of Labor Statistics, and data from Dunn and Bradstreet for Colombia.

Source: Bustos & Hausmann (forthcoming)

## Feasibility Factors

<i>Factor</i>	<i>Variable Description</i>	<i>Data Sources</i>
<b>Teleworkability Index</b> – Does the industry employ many jobs that use teleworkable skills and tasks globally?	Determine if a job is teleworkable based on the tasks it requires, then check what share of jobs in an industry are teleworkable	O*NET, US Bureau of Labor Statistics
<b>Revealed Tradability</b> – Is the industry is <i>de facto</i> traded across borders?	U.S. imports of that industry as a share of total US output in that industry	US Bureau of Economic Analysis
<b>Revealed Comparative Advantage (RCA)</b> – Is Jordan’s employment structure is already specialized in that industry?	Jordan’s share of employment in an industry, divided by the global share of employment in that industry	Dun & Bradstreet
<b>Density</b> – Is Jordan’s employment structure specialized in related industries?	Based on the other industries Jordan participates in and their relatedness to the industry in question	Dun & Bradstreet

## Attractiveness Factors

<i>Factor</i>	<i>Variable Description</i>	<i>Data Sources</i>
<b>Wages</b> – Does the industry pay a high wage in developed countries?	Average U.S. wages in the industry	U.S. Bureau of Economic Analysis
<b>Scale</b> – Is the industry is large internationally?	Total U.S. compensation in the industry	U.S. Bureau of Economic Analysis
<b>Unemployed Groups</b> – Could the industry employ many Jordanians who are currently unemployed?	Modeled number of people employable in industry	Jordanian Labor Force Surveys, U.S. American Community Surveys
<b>Female Employment</b> – Could the industry could employ many female Jordanians who are currently unemployed?	Modeled number of women employable in industry	Jordanian Labor Force Surveys, U.S. American Community Surveys

**The table below shows the ten most promising industries for teleworkable service exports in Jordan and indicators (before normalization) for each.** While further work can be done to investigate each industry’s potential in more detail, this provides a practical starting point to orient government strategies and institutional innovations around such opportunities. Notably, many of the industries in this table are STEM- and business-related, and many align with past such that

they can be explored with the Growth Lab’s existing online targeting tool. Section A.2 of the appendix provides examples of large global companies in each of these ten industries.

### Ten Highest Scoring Telework Opportunities in Jordan

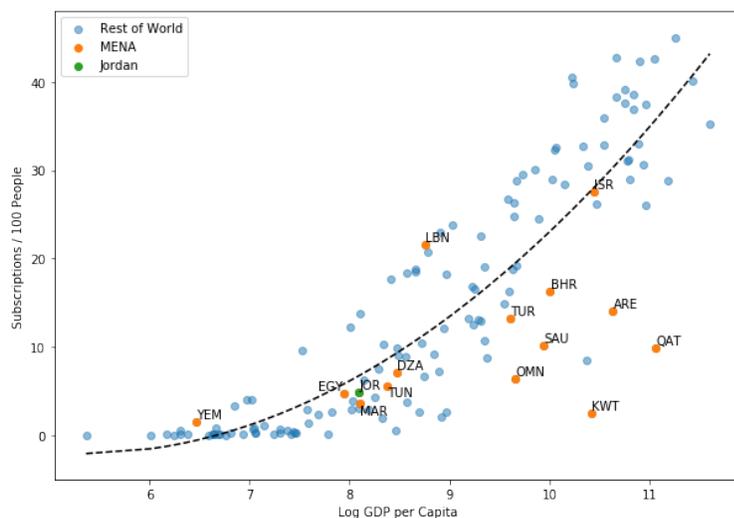
<i>Industry (NAICS)</i>	<i>% Jobs Tele-workable</i>	<i>Revealed Trade-ability</i>	<i>RCA</i>	<i>Density</i>	<i>Avg. U.S. Wage</i>	<i>Total U.S. Wage Bill (Billions)</i>	<i>Total Unemp. Employable</i>	<i>Unemp. Women Employable</i>
Computer Systems Design and Related Services (5415)	88.1%	0.03	0.24	0.12	\$40.81	\$246	12,165	3,490
Management, Scientific, and Technical Consulting (5416)	74.9%	0.21	0.12	0.16	\$35.10	\$113	7,207	2,027
Architectural, Engineering, and Related (5413)	68.2%	0.02	0.16	0.18	\$38.19	\$133	6,428	1,124
Scientific Research and Development Services (5417)	64.1%	0.10	0.13	0.15	\$38.87	\$245	2,685	733
Legal Services (5411)	92.9%	0.01	0.07	0.11	\$41.15	\$115	5,025	1,722
Accounting, Tax Preparation, Bookkeeping, and Payroll (5412)	83.2%	0.03	0.16	0.10	\$32.42	\$86	6,850	2,038
Software Publishers (5112)	89.2%	0.08	0.25	0.15	\$39.85	\$50	543	141
Sound Recording Industries (5122)	76.4%	0.54	0.00	0.13	\$32.02	\$2.0	119	24
Automotive Equipment Rental and Leasing (5321)	19.4%	0.04	5.92	0.19	\$22.46	\$8.0	360	105
Data Processing, Hosting, and Related (5182)	36.9%	0.01	0.62	0.13	\$36.91	\$14	436	126

## Actions to Enable Telework

**Seizing these opportunities will require close interaction between Jordan and the international business community.** Hiring a remote worker in Jordan from abroad may be cost-competitive in terms of salary but doing so still entails search and regulatory-legal costs. Policymakers should endeavor to build both informal links that connect Jordanians with businesses offering telework opportunities, and formal agreements as needed to facilitate hiring and teleworking. This is consistent with an overall need for scaling up targeted investment promotion as a priority for growth. The Government of Jordan should take advantage of this low-cost, high-reward area of growth strategy to coordinate with international businesses such that they find and capitalize on job-intensive investments in Jordan (including through telework). Global experience shows targeted investment promotion activities are critical attracting efficiency-seeking FDI (Harding and Javorcik, 2007), and such FDI is needed to support economic transformation in Jordan. Meanwhile, donor organizations can play a supportive role by helping businesses in their home countries to identify opportunities in Jordan, ideally through directing them to a responsive, empowered and adequately resourced unit within the Jordan Investment Commission.

**Digital infrastructure needs additional investment to expand the opportunity of telework, as well as overall competitiveness.** The rate of broadband internet access in Jordan, as displayed in Figure 34, is both low overall and below-trend for its level of GDP per capita. Additional infrastructure investment in broadband internet may be warranted, given its importance for the viability of telework, but greater access will have much larger benefits for competitiveness and household wellbeing as well. A more ambitious push toward universal broadband access across Jordan could be supported through donor financing, and this push could be coordinated with the push to develop business connections discussed above.

**Figure 34:** Broadband Subscriptions per 100 People, 2017



Source: World Bank

## Expanding Goods Exports Markets

**Given the acute shock to global trade in goods of COVID-19, followed by complex and evolving impacts on global supply chains, Jordan will have new opportunities to expand current exports.** By virtue of its location in the Middle East, Jordan has always had potential advantages in its reach beyond the region to European, Asian and African markets. Thanks to trade agreements, Jordan also enjoys trade access advantages to the U.S. and other developed markets. To reduce exposure to the volatility of neighboring markets, greater targeting of exporter support activities to reach more markets has always been warranted. Now, given the impacts of COVID-19, importers around the world are also searching for opportunities to diversify their supplier networks to make their own businesses more robust and resilient. Recently, the public-private agency, Jordan Exports, was established to, among other roles, help exporting firms reach new markets and help non-exporting firms reach international markets. Although the impetus for Jordan Exports preceded COVID-19, its establishment is well timed to help Jordan take advantage of this global change.

**A gravity model was used to analyze pre-COVID global trade and identify key market opportunities for Jordan's exports.** The gravity model, summarized in Appendix 2, uses global trade data to predict export volumes of every product (using the HS classification) between every pair of countries based on known predictors of trade such as geographical distance between the countries, GDP per capita levels, population levels, and whether the countries share a border, a language, and other indicators of their closeness. The term “gravity” is used because, like with the physical phenomenon of gravity pulling objects closer to one another, economies tend to trade with one another in relation to their masses (in this case population and purchasing power) and their closeness (both geographically and more generally speaking). The gravity model used in this case also uses the variable “density” which captures how related a product is to the exporter's overall export basket — in other word, how much of a “fit” this product is with what the country exports.

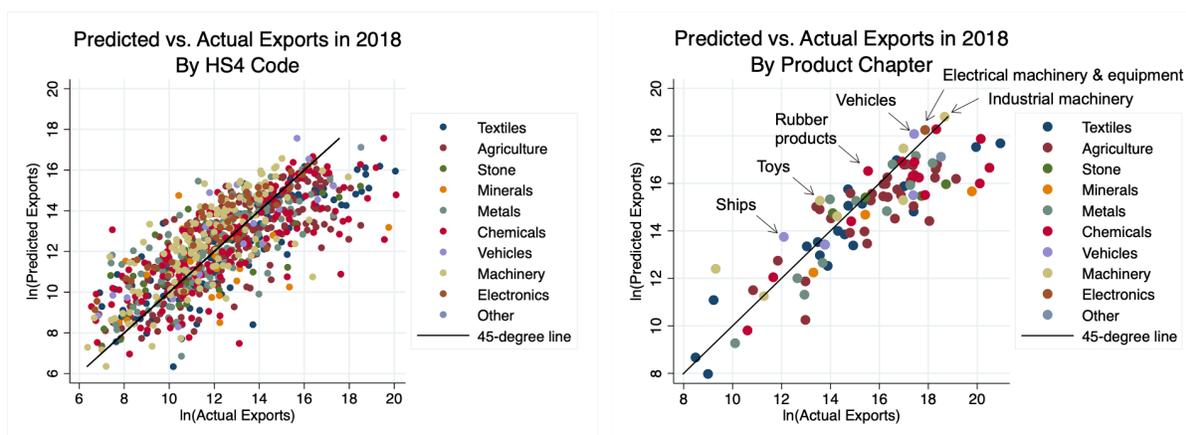
**The model helps to identify possible export market opportunities by comparing predicted trade with actual trade and identifying situations where Jordan “under-exports” to a particular market.** Not all cases where the model predicts higher trade will be real opportunities, but this does provide powerful information that Jordan Exports can use in coordination with other tools to identify critical firms and focus attention on supporting their growth and diversification. Since it aims to provide support to existing exporters and firms, Jordan Exports aims works on the *intensive margin* of opportunities. As such, Jordan Exports has the role of helping to jumpstart short-term export growth and, possibly, help nascent export industries to grow and diversify in the longer term. While this subsection highlights a few opportunities and approaches for targeting export facilitation using available data, much more information of this type is available to help Jordan Exports target scarce resources toward high impact uses. This subsection includes observations on goods exports, but similar analysis could be extended to services. Likewise,



exports are really concentrated in just a few commodity-based products related to phosphates and fertilizers. This pattern, where exports are skewed toward over-exports, implies weaker comparative advantages in exports. This is in line with recent export trends discussed earlier. Among under-exported markets, the gap in exports to Israel is enormous and easy to under-appreciate given the scale of the graph's axes. Whereas actual exports to Israel in 2018 (as captured by UN COMTRADE) were under US\$100 million, predicted exports were upward of US\$400 million. While there are clearly non-economic reasons for this outcome, the very large apparent economic potential is noteworthy.

**The pattern of higher-complexity under-exported products is an important indication of potential.** Figure 36 shows products again but this time colored by product category at both the 4-digit product classification (left panel) and the 2-digit product chapter (right panel). It is promising that higher-complexity exports are under-exported because higher complexity products will tend to support higher-wage jobs and be more promising for supporting future growth. Although being under-exported does not indicate that they will naturally grow. There may instead be important constraints that hold these exports back. Visually, one can see some patterns such as that many machinery products and electronics products are under-exported, whereas many textile (and garment) products are over-exported. This is consistent with some of the constraints to competitiveness that have intensified through shocks discussed earlier. Chemical products, as well as agriculture (and food) products, also tend to appear as over-exports versus the model.

**Figure 36:** Jordan's Actual and Predicted Exports by Product (left) and Product Chapter (right)



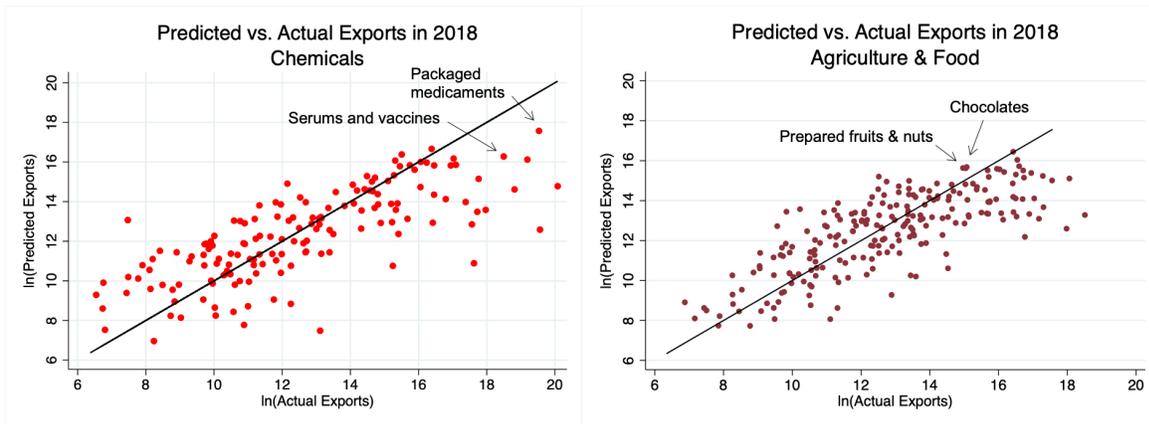
Source: Growth Lab Gravity Model using UN COMTRADE and Atlas of Economic Complexity

### *Exploring Product and Sector Patterns*

**One can look more systematically at what products are under-exported to explore opportunities and constraints and develop strategies as Jordan Exports.** Figure 37 shows predicted and actual exports for products within the chemicals category (left panel) and within

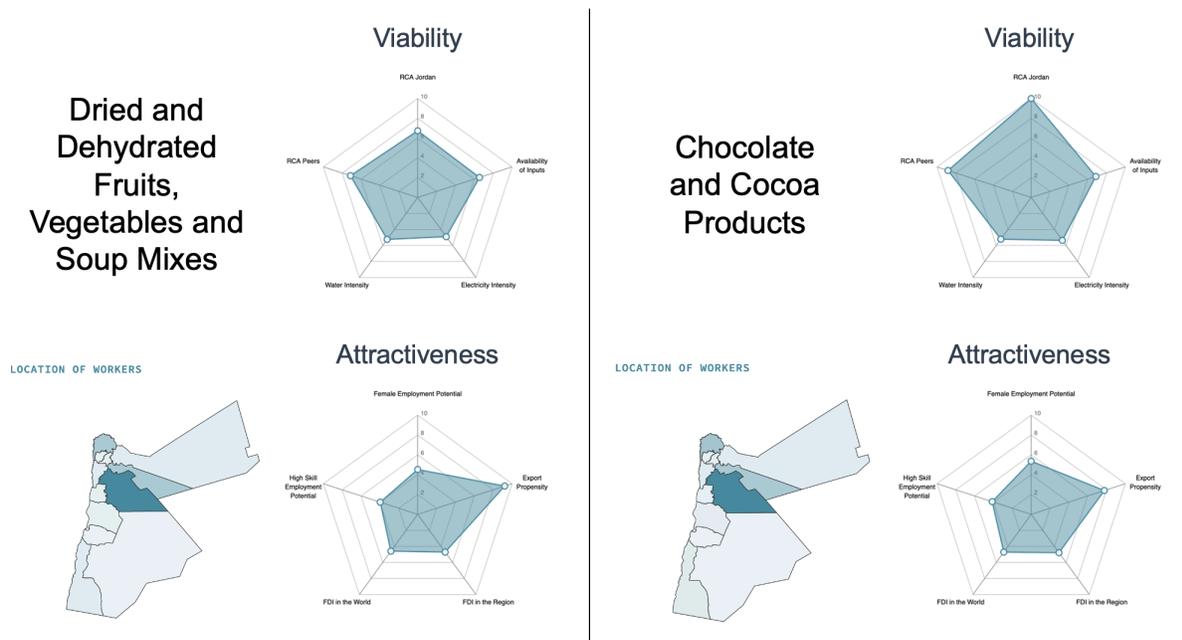
agriculture and food (right panel). For each of these product categories, many products appear to be exported well above potential at present. Thus, it might be unwise to overly focus scarce resources and attention on strategies related to these categories at large. However, there are numerous products within these categories that are under-exported — for instance, chocolates and prepared fruits & nuts. These two food products also appeared as strategic based the separate analysis done before COVID-19 (see Figure 38 for indications of why from the Growth Lab’s online tool for industry targeting in Jordan).

**Figure 37:** Actual and Predicted Exports in Chemicals (right) and Agriculture & Food (right)



Source: Growth Lab Gravity Model using UN COMTRADE and Atlas of Economic Complexity

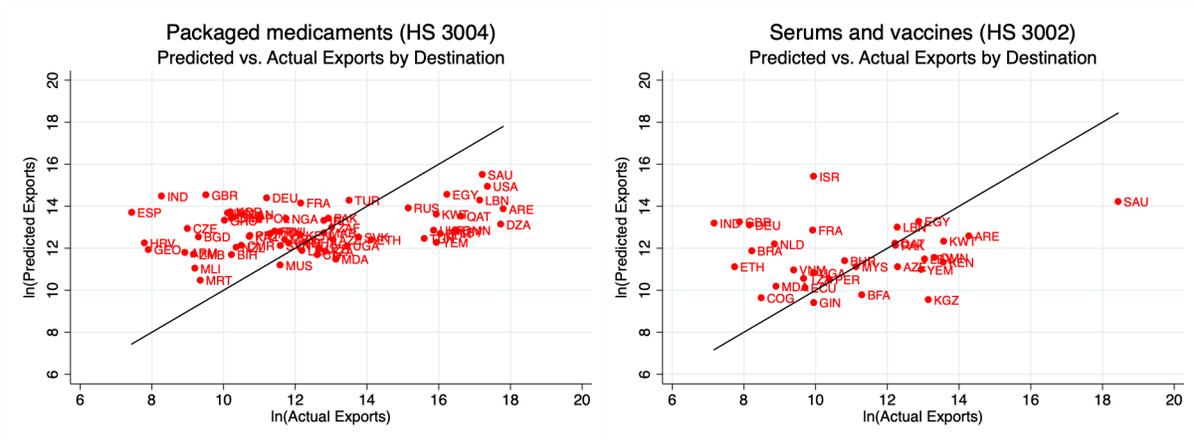
**Figure 38:** Select Visualizations from the Growth Lab’s Industry Targeting Tool for Jordan



Source: Growth Lab Viz Hub

Additionally, some of the products that appear as over-exports in total may still have key market opportunities that could be captured. Figure 39 shows, for instance, that packaged medicaments may have market opportunities in Turkey, France, Germany, and others, while serums and vaccines may have potential to grow in Israel or France. Therefore, it is important to take all results from the gravity model merely as information to investigate further with additional information and to interact directly with firms to learn more about the constraints that they face in pursuing their expansion strategies.

**Figure 39:** Actual and Predicted Exports by Market for Sample Chemical Products

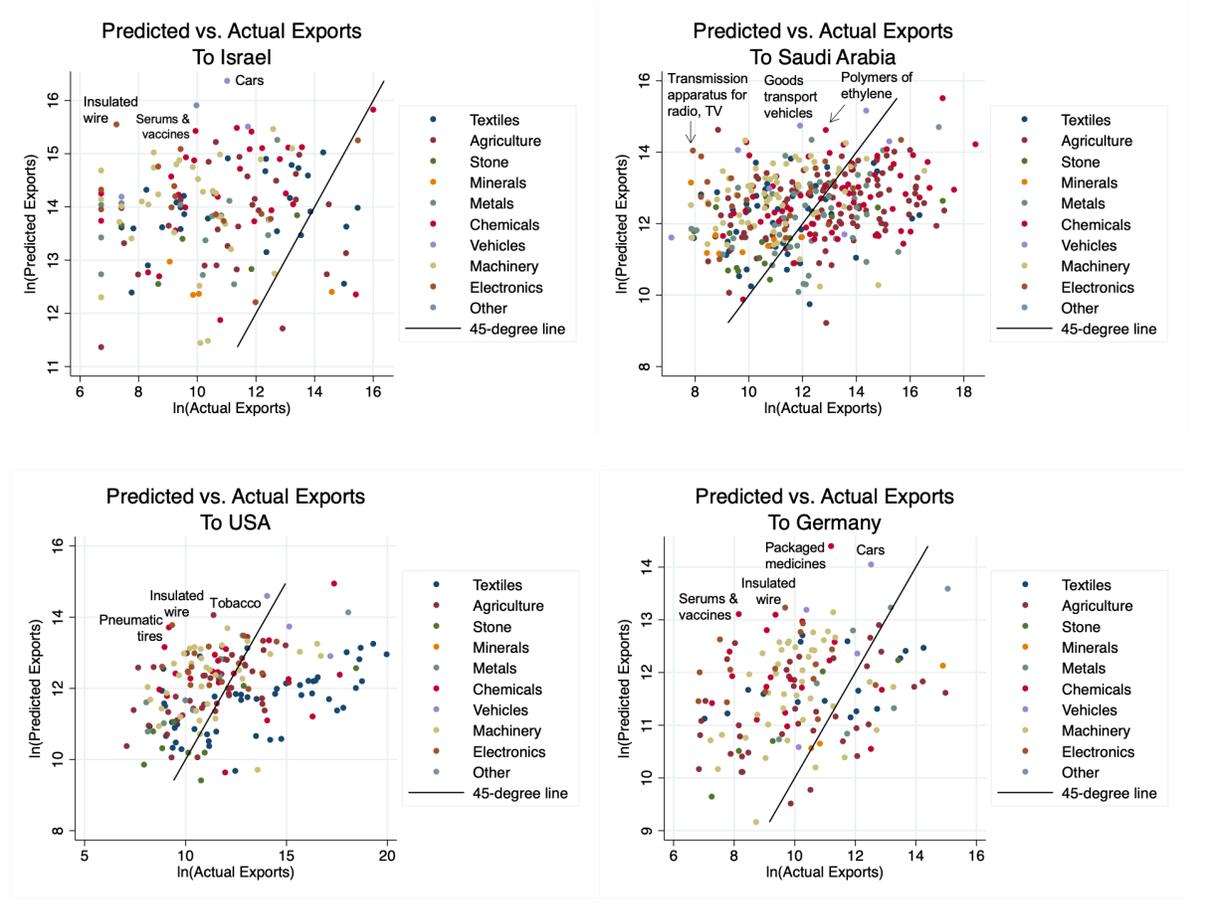


Source: Growth Lab Gravity Model using UN COMTRADE and Atlas of Economic Complexity

*Systematic Approach for Markets of Interest*

**This approach can also be utilized to develop strategies toward specific markets.** Within any trading partner, there may be strategic opportunities where Jordan Exports and domestic actors can enable growth. This could be strengthened significantly through work of in-country foreign offices and aided by donors, the Jordanian diaspora, and others with knowledge and connections of the markets. Figure 40 shows predicted versus actual exports for four important markets. Jordan’s exports to Israel reveal widespread under-exports across product categories. Exports to Saudi Arabia and the U.S. may be near saturated in some categories like chemicals to Saudi Arabia and textiles and garments to the U.S., but there may be viable opportunities for growth in other categories, notably machinery. Germany, like Israel, shows diverse opportunities where there are relatively small exports in comparison to the model’s predictions.

**Figure 40:** Actual and Predicted Exports to Four Markets: Israel, Saudi Arabia, USA, Germany



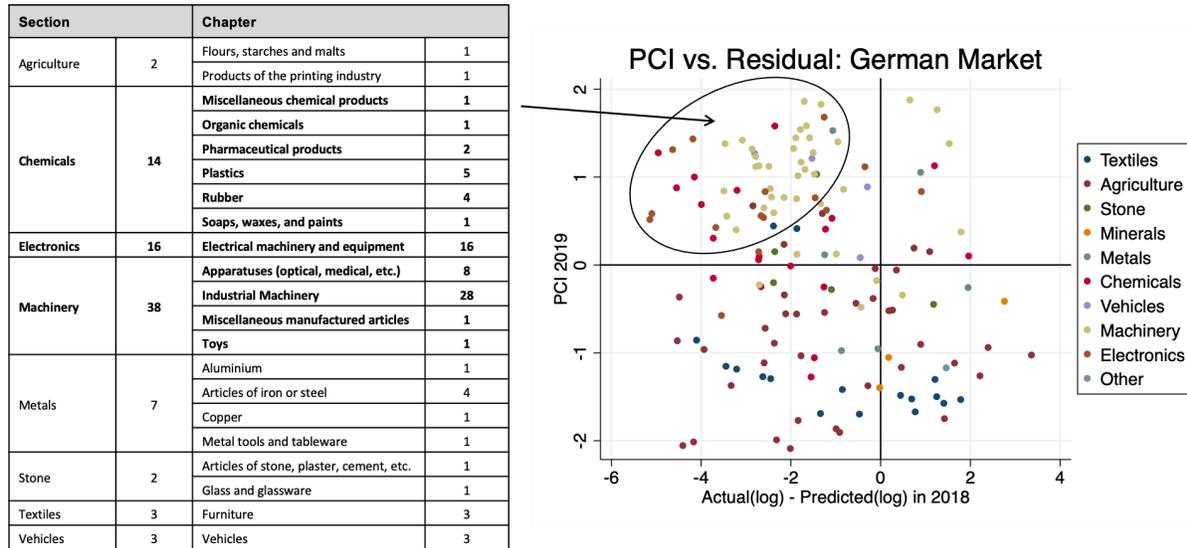
Source: Growth Lab Gravity Model using UN COMTRADE and Atlas of Economic Complexity

**We use Germany to show a systematic approach through which Jordan could explore market opportunities, but this or similar approaches could be used for any other trading partner as well.** One step to make further sense of the under-exported opportunities would be to look at the complexity of the specific products that are under-exported to Germany versus the model, as done in Figure 41. Exports to this market show the same pattern seen overall where under-exports tend to be higher complexity. One can focus attention on those products that are under-exported and are high complexity (and hence will tend to support higher wages). In the case of Germany, products like this come from several categories but are concentrated in industrial machinery; electrical machinery and equipment; and (to a lesser extent) across chemical product chapters.

**Given this concentration of opportunities, one could look more closely for alignment between the products that Jordan currently exports and those that Germany imports.** Figure 42 provides an example of this for the category of industrial machinery, where each observation is a 6-digit product. Products in the box in the top right of the graph are those which Jordan’s total exports (to the world) amounted to at least US\$1 million — showing clear capability to export by

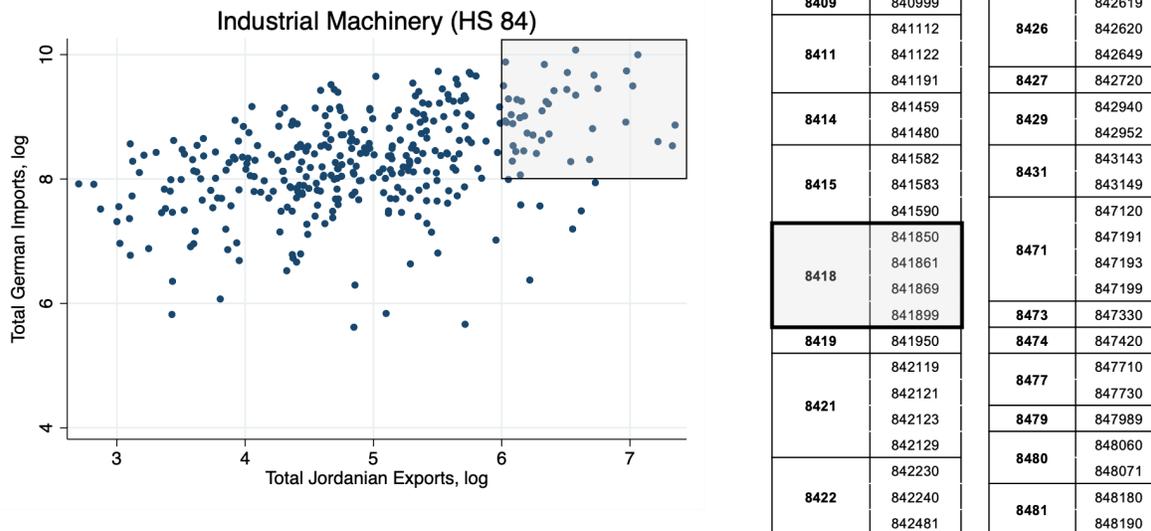
firms — and where Germany’s total imports (from the world) amounted to at least US\$100 million — showing large demand — in 2018. Product codes for these products that appear in that box are listed on the right. For example, four 6-digit products under the 4-digit product of refrigerators and freezers (HS 8418) meet this threshold.

**Figure 41:** Gravity Model Residual vs. Product Complexity for Jordan’s Exports to Germany



Source: Growth Lab Gravity Model using UN COMTRADE and Atlas of Economic Complexity

**Figure 42:** Jordan’s Exports vs. Germany’s Imports of Industrial Machinery Products (6-digit HS)

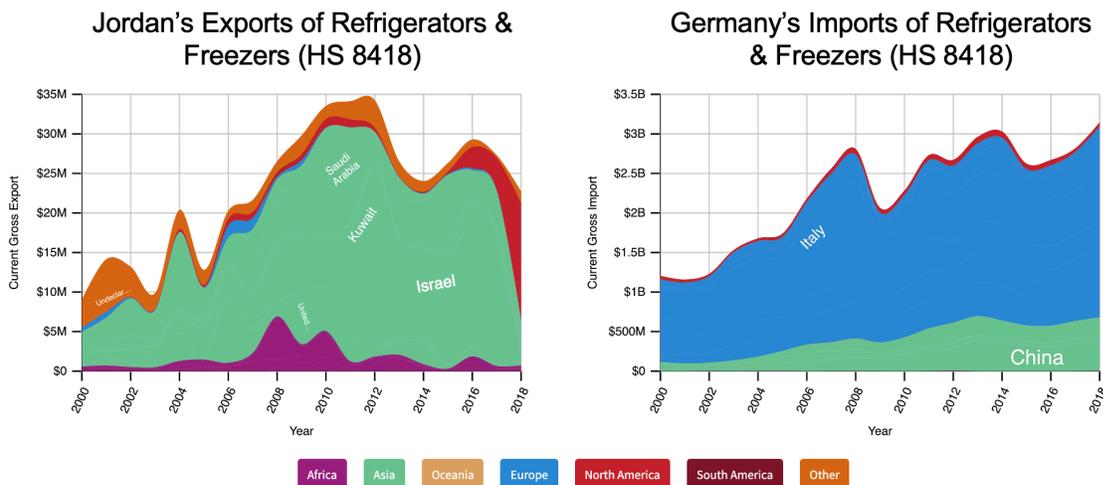


Source: UN COMTRADE and Atlas of Economic Complexity

**Any of these potential trade opportunities could be explored further to understand Jordan’s export dynamics and potential competitors in the market of interest.** Figure 43 shows the pattern over time of where Jordan is exporting refrigerators and freezers to (left panel) and where Germany is importing the product from (right panel). It can be seen here that Jordan’s exports had been growing, but primarily to neighboring markets up to 2012 and then fell. As they fell, they remained present in Israel and then reached North America (the United States, specifically). Meanwhile, Germany’s imports of refrigerators and freezers have been growing steadily, primarily from within Europe, but also from Asia, including China. Figure 44 shows Jordan’s exports over time for those four more specific (6-digit HS) products. This is a case where exporters seem to be facing a significant constraint or constraints that are causing exports to fall, but where firms may be adapting to re-focus and reach new markets, as can be seen with parts of freezing equipment (HS 841899). Other products listed here might show other patterns, and this all becomes information that Jordan Exports could use to take sophisticated approaches to export support that is targeted to key opportunities and the challenges that exporters face.

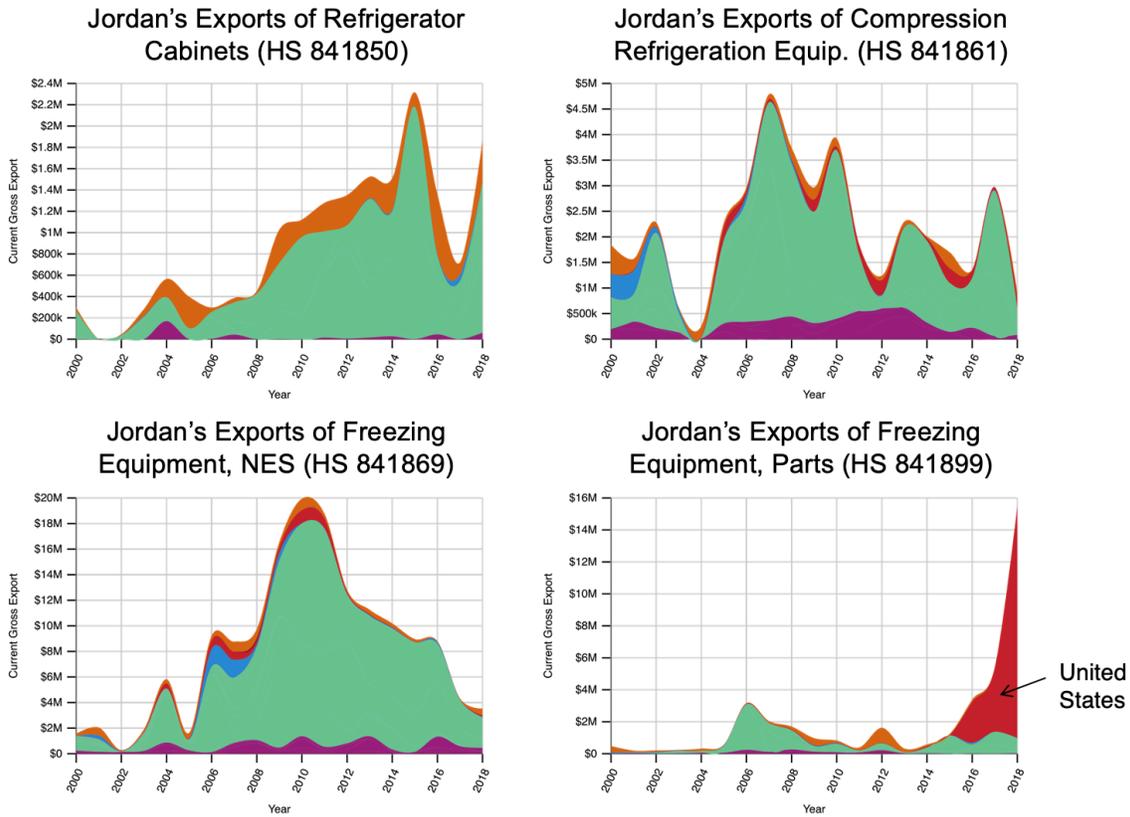
**Furthermore, Jordan Exports can utilize domestic data to understand where in Jordan relevant firms are located and begin to coordinate with them with the potential of supporting connections to the German market.** Figure 45 shows that, based on data from the Economic Establishment Census 2018, firms that produce domestic appliances are present across the country. Figure 46 shows that the subset of firms that export is only present in Amman, Zarqa and Mafraq. Even though the number of firms that export is much smaller than those that are geared toward the local market, these firms supply a significant number of the jobs in this industry.

**Figure 43: Jordan’s Exports and Germany’s Imports of Refrigerators & Freezers Over Time**



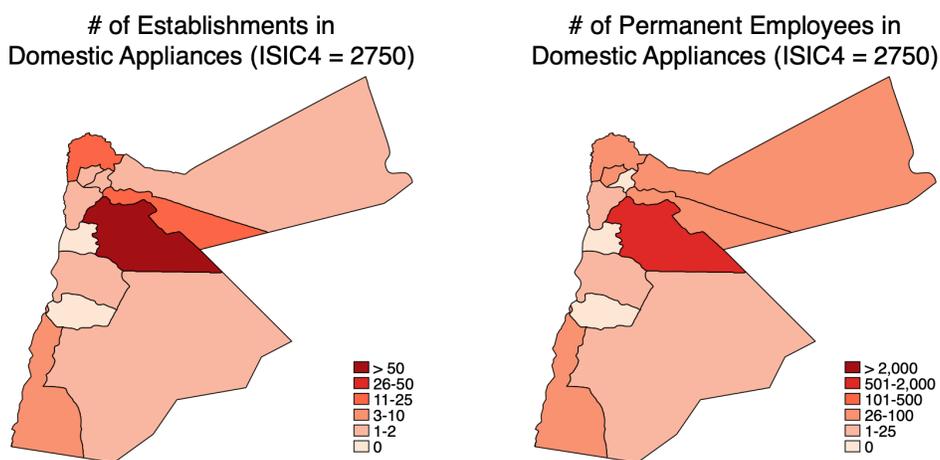
Source: Atlas of Economic Complexity

**Figure 44: Jordan's Exports of Select Refrigerator & Freezer Components Over Time**



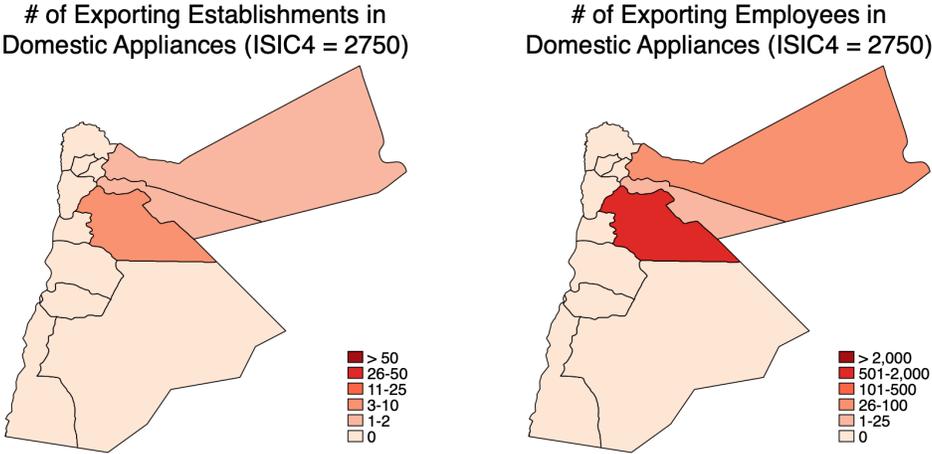
Source: Atlas of Economic Complexity

**Figure 45: Location and Employment of Firms Manufacturing Domestic Appliances**



Source: Economic Establishment Census 2018

**Figure 46:** Location and Employment of Exporting Firms Manufacturing Domestic Appliances



Source: Economic Establishment Census 2018

**Green Growth Defined**

**Across countries, much attention is now focused on the concept of “green growth,” but the dimensions of green growth strategies are only just beginning to take shape.** Given the accelerating impacts of climate change, increasing ambition to reach net-zero global carbon emissions, and the rapid emergence of low-carbon technologies, most countries have determined that they must embrace the potential of green growth. But given that this is a new frontier, there is no roadmap to follow. What is clear is that developing countries have an opportunity to identify ways in which their development pathways match with low-carbon demand globally and how they can enter growing, green global value chains (Hausmann, 2021). There is also a rapidly evolving system of climate finance — which includes both public and private sources — that countries can increasingly leverage. However, climate change itself is intensifying vulnerabilities of developing economies in complex ways that are particular to local climate risks, causing both long-term challenges and acute emergencies. A green growth agenda must seize opportunities and address risks as well.

**Jordan could be well positioned to jumpstart new engines of growth by capitalizing on its high potential for climate-resilient economic growth and existing policy environment.** Jordan was the first country in the region to launch a Climate Policy (2013-20), which has now updated to 2030. Based on this planning, Jordan set an initial nationally determined contribution (NDC) under the Paris Climate Agreement to reduce greenhouse gas emissions, which are already low for Jordan’s level of income, by 14% by 2030. This was recently updated to target a larger reduction of 31% by 2030. Jordan now has in place a US\$500 million Program-for-Results with the World

Bank on “Inclusive, Transparent and Climate Responsive Investments” that aims to strengthen Jordan’s climate-friendly investment environment. In 2020, Jordan launched Green Growth National Action Plans (GG-NAPs) across six sectors — water, energy, waste, transport, agriculture, and tourism — which include 86 projects and policy interventions. In 2021, Amman launched its own Green City Action Plan (GCAP) that includes a range of targeted investments in low-carbon mobility systems, resource-efficient waste management, integrated water resource management, resilient energy systems and buildings, as well as other climate adaptation approaches. These envisioned green growth projects vary greatly in scale and purpose but largely aim to tap into emerging low-carbon technologies that can respond to Jordan’s infrastructure gaps (desalination, wastewater, solid waste, low-carbon bus systems, etc.) and that expand upon Jordan’s clear opportunities for renewable energy generation. Expanding renewable energy generation, however, faces a problem of over-installed capacity and low electricity consumption growth that limits the renewable energy expansion and keeps electricity prices high overall.

**While Jordan has been a regional leader in climate change policies, truly capitalizing on green growth pathways will require more government innovation to crowd in more private sector innovation.** Jordan’s existing green growth agenda appears to be focused primarily on a collection of strategic investments. Some of these projects — such as desalination of seawater at the Gulf of Aqaba through renewable energy resources — are clearly major opportunities to address major constraints and may be poised to attract low-cost climate finance. However, additional pathways for green growth are taking shape, which will require different types of government action.

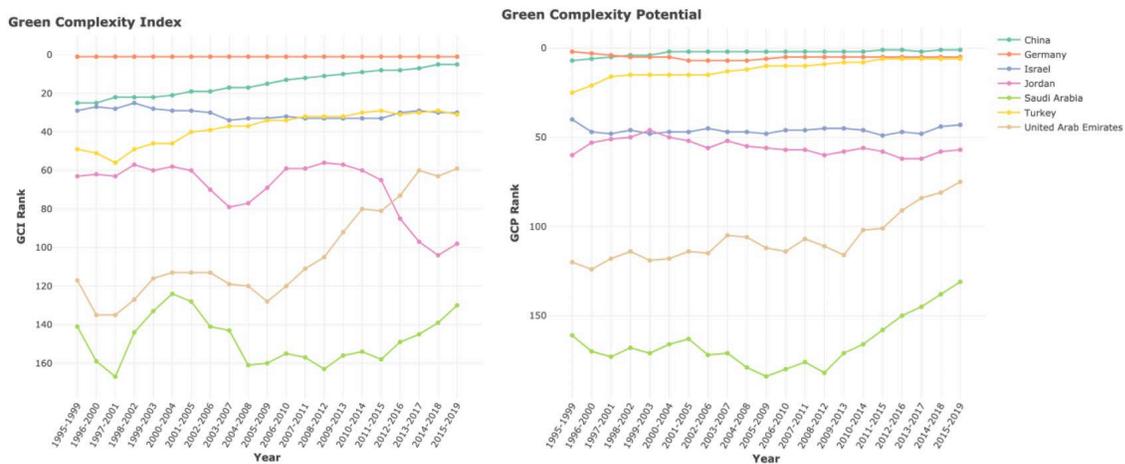
**We propose four key pathways for green growth in Jordan, which stretch well beyond existing strategies and action plans.** For each pathway to be acted upon, the Government of Jordan must structure institutional networks that allow for active problem solving and collaboration between the public sector, the private sector, local communities, international donors, and networks abroad who are responding to similar challenges and opportunities as those in Jordan. Each of these pathways is discussed briefly here and is the focus of continued research.

### **(1) Capturing growing market opportunities (green/low-carbon end uses)**

Global demand is already evolving in line with green end uses. While this shift is perhaps most prominent in a few areas like renewable energy technologies and electric vehicles, there are many other value chains that are expected to grow into the future. The Green Transition Navigator ([green-transition-navigator.org](http://green-transition-navigator.org)) is an online tool for exploring countries’ export capabilities in relation to such varied end uses including air pollution control, water supply, and many others in addition to renewable energy. This tool shows that Jordan has lost “green complexity” in line with its loss in overall economic complexity over the last several years but remains in a relatively strong position to diversify into green opportunities (see Figure 47).

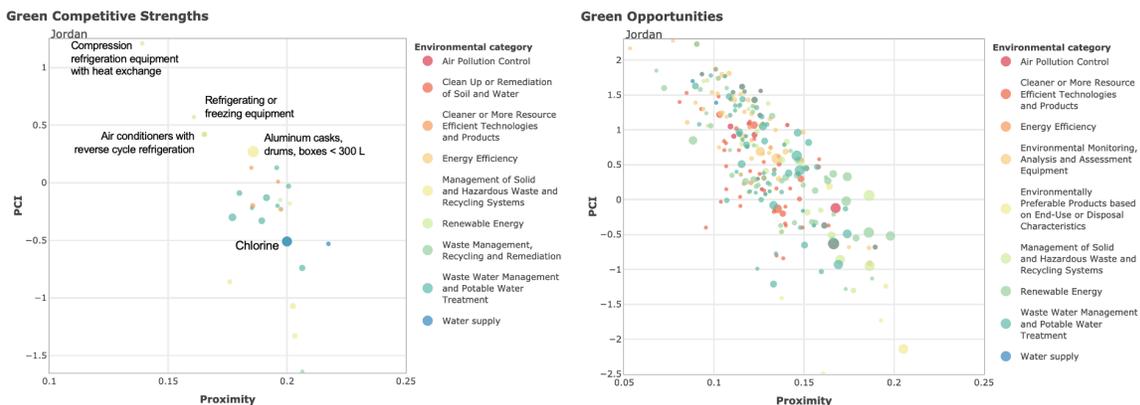
When looking at current green exports and diversification opportunities (Figure 48), current exports (top left) tend to be of lower complexity while diversification opportunities vary by proximity and complexity (top right). For example, environmental monitoring, analysis and assessment equipment products tend to be of higher product complexity but are further from (i.e., less proximate to) existing export capabilities (bottom left). Meanwhile, renewable energy products include many that are closer to existing capabilities and of medium complexity (bottom right). When developing export development strategies, as discussed in the preceding subsection, products that are likely to grow in demand because of their end uses can be given special attention. For example, when electrical machinery and equipment products in the German market are analyzed in the same way as the industrial machinery example discussed previously, two types of batteries emerge as promising, but one product (lead-acid accumulators) is showing low demand growth and the other (electric accumulators) is showing rapid demand growth (Figure 49). Jordan Exports should therefore treat these opportunities differently.

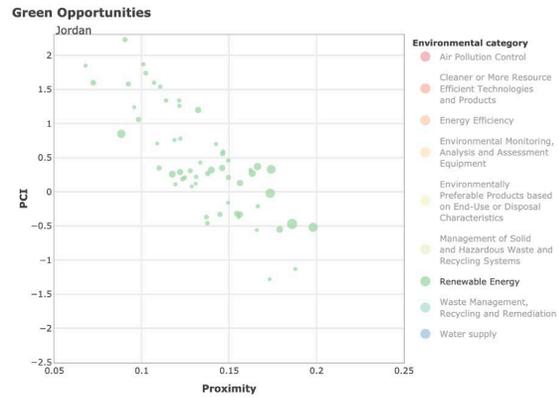
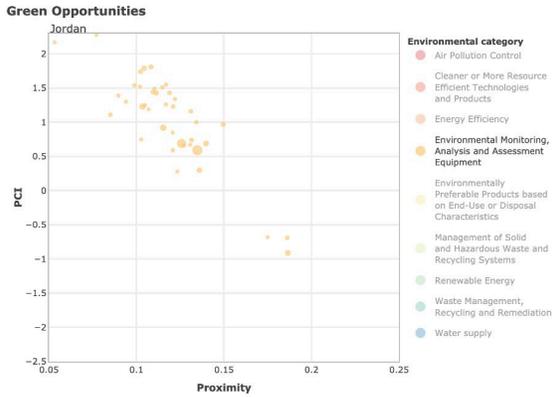
**Figure 47:** Green Complexity Index (left) and Green Complexity Potential vs. Comparators



Source: Green Transition Navigator

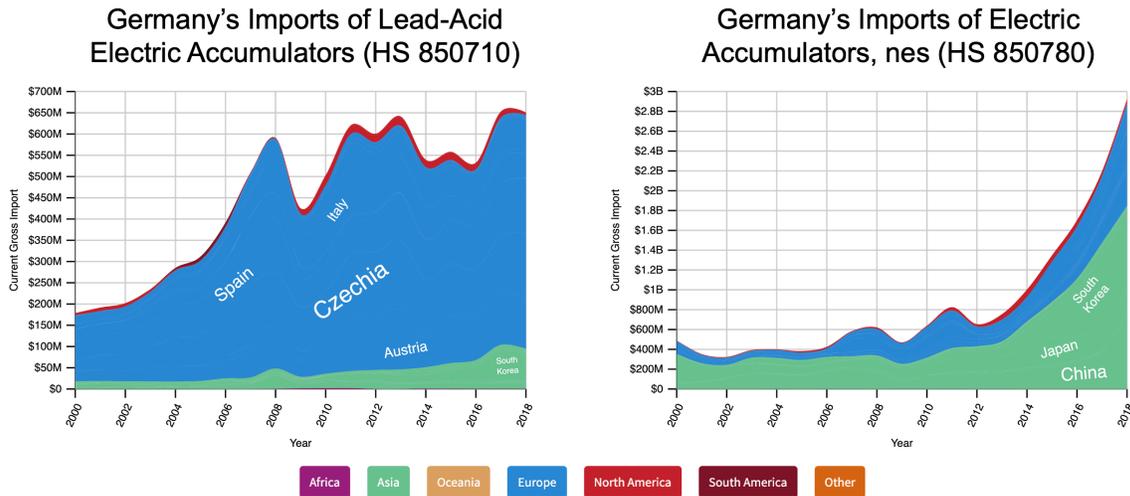
**Figure 48:** Jordan’s Current Strength in “Green” Products and Select Opportunities





Source: Green Transition Navigator

**Figure 49:** Germany’s Import Dynamics of Two Types of Batteries Exported by Jordan



Source: Atlas of Economic Complexity

**(2) Attracting energy-intensive investment via renewable energy (turning brown to green)**

In the long-term, capturing growing market opportunities will not just come from existing exporters but could come from diversifying into new export sectors. Over time, Jordan’s renewable energy potential could crowd in energy-intensive industries both because of low-cost renewable access in Jordan and the added market value of producing goods with a low carbon footprint. This becomes not only an opportunity for products with green end uses (as highlighted above), but also for products that will remain in demand but require high energy usage in their production (i.e., “turning brown to green”). For such projects, Jordan may create opportunities to host high-value production by supplying dedicated access to renewable energy for production — for example, within industrial parks with direct access to renewable energy supply. This strategy requires both

the public good of supply and coordinated investment promotion and coordination with the private sector, but this could overcome current challenges of electricity prices given the cost-competitiveness of renewable supply and the potential for new productive uses to overcome the challenge of low electricity demand growth. Given increasing global ambition to reduce carbon emissions, it is likely that production that does not produce carbon emissions will increasingly allow for firms to capture a higher global price for their products.

### **(3) Infrastructure projects to address constraints that leverage low-carbon technologies**

Whereas the previous two pathways are not well captured in current growth and reform strategies, Jordan's Green Growth National Action Plans are oriented around this green growth pathway. Climate-responsive technologies have substantially changed the opportunity space for large desalination projects, sustainable water and wastewater management, smart and efficient public transportation, and more. However, such projects tend to be complex and expensive to implement. Thus, each project needs to have professional management as well as protection from political influence to effectively move from very good ideas to physical investments operated through sustainable business models where necessary. The investment pipeline itself may need prioritization as well. Some projects may be strategic to pursue through purely public investment, while other project ideas may require novel public-private arrangements to move forward. Large infrastructure projects may also include now low-risk renewable energy generation that is dedicated for new industrial uses (see above) and direct exports to expand demand, but also may include rapidly emerging technologies such as green hydrogen. While various forms of climate finance may increasingly make more project ideas attractive, finance itself is often not the constraint to infrastructure projects. Rather, knowledge and capabilities to navigate complex steps along every step of the project is often in scarcest supply. Jordan's Government Investment Management Company (GIMC) may be a critical entity to coordinating and optimizing green infrastructure opportunities.

### **(4) Addressing known and unknown climate change vulnerabilities**

Future growth will benefit from actions today to reduce vulnerability to climate-driven shocks and longer-term climate change vulnerabilities. However, as is the case globally, climate change impacts in Jordan are already occurring, in both expected and unexpected ways and with real economic costs. Jordan faces intensifying pressure on water supply due to increasing occurrence of drought, which is exacerbating underlying water scarcity. Drought impacts have been extensive in this current year, with impacts on agriculture but also well beyond. At the same time, parts of the country are vulnerable to flash flooding when rain does fall, which has been experienced in recent years. This also increases landslide risks. The Jordanian population is very vulnerable to increasingly high temperatures — especially daytime high temperatures, but climate change may increasingly raise nighttime low temperatures as well. As a result of urban congestion, water scarcity and electricity costs, extreme heat poses direct risks to human health, and increasing

temperatures could also increase disease exposure. Sea level rise is also a reality that must be adapted to in Aqaba. These are known vulnerabilities, though the future trajectory and complex interactions between them are uncertain. Additional risks may be emerging through forest fires and other previously unanticipated impacts. Extreme storms are emerging globally in a variety of forms and unusually extreme cold temperatures can also occur as a result of climate change — both of which can cripple infrastructure systems that were not designed for such conditions, as well as cause loss of life.

Therefore, climate change adaptation — above and beyond low-carbon infrastructure projects alone — is a critical pathway for green growth. Complex impacts and high uncertainty are challenges in planning for a future, but key vulnerabilities to climate change impacts tend to be location specific. As such, an important part of building resilience to widespread vulnerabilities is institutional innovations that work at a decentralized level to identify local risks and coordinate local stakeholders to organize response actions. Local adaptation must be supported through national resources, knowledge, and frameworks. Adaptation can empower private sector innovation. Jordan’s challenges represent a diversity of climate-responsive innovation areas where future technologies have only begun to take shape. These include the challenges of urbanization under the pressure of refugee integration, the need for technology-enhanced water management and precision agriculture, and the need for expanded telehealth across the Middle East. Jordan’s vulnerabilities to extreme heat, prolonged droughts and flash flooding also demand innovative means of adaptation. Addressing these challenges in Jordan is also an innovation opportunity for the private sector as companies that find ways to overcome these challenges in Jordan develop knowhow that they will increasingly use in other countries facing similar challenges. Given the importance of both local context and global knowledge, adaptation technologies are key areas for partnerships between domestic and foreign companies.

### Actions to Enable Opportunities

**Capitalizing on key opportunities like those discussed in this section requires a paradigm shift in growth strategy.** Jordan’s extensive reform agenda — discussed in Section III — aims to create conditions for the growth of the private sector to support an economic transformation that breaks free from past constraints. However, achieving this goal ultimately relies not only on the government actions but also on the entry and expansion of businesses that take risks and fundamentally alter the productive capabilities of the Jordanian economy. The opportunities discussed above that could lead economic transformation under current COVID-19 conditions — high skill services and telework; targeted goods exports on the *intensive* margin; and green growth pathways — all necessitate active approaches by government. Such opportunities do not emerge with their full potential when left to market forces alone, and thus government actions must include a focus on empowering and enabling “agents of change.” It is important to note that the opportunities explored in this report do not represent all growth opportunities for Jordan. These only represent a clear subset of opportunities worth special focus for their short-term potential.

**The paradigm shift centers on increasing the roles of the private sector as an active participant in the in the overall growth reform agenda, such that reform actions are increasingly tailored to enable private sector investment and job creation.** Such roles can be seen in the examples from this section. The telework opportunity can be strengthened through government efforts, supported by donor organizations, to catalyze international business connections while also improving broadband access. Targeted export support requires that Jordan Exports leverages information to work strategically and intensively with the private sector. Finally, green growth will be strongest with well-targeted institutional innovations that coordinate across the public and private sectors and empower bottom-up actions by local communities, but separate institutional innovations are needed for each of the four pathways proposed. Key infrastructure projects are important for green growth, as well as overall competitiveness, but such projects require their own innovative approaches to expand capabilities for delivery. Long-term growth will require a continued pivot in the Government of Jordan’s approach to foreign investment, which should be a key responsibility of the new Ministry of Investment. Capitalizing on Jordan’s skill base will ultimately depend on attracting global companies that can thrive by expanding into Jordan as a base to export goods and services to the region and the rest of the world.

**From this section, several actions are recommended to strengthen agents of change:**

- **Central ministries and agencies — including the Ministry of Investment and Jordan Exports— need to target their strategies for coordination with the private sector.** These strategies must be based on market information and evidence of current private sector capabilities and competitive advantages. This requires that these agencies have sufficient human resources and that they leverage new channels of communication with foreign markets and foreign companies, including through the foreign service, the diaspora, and partnerships with bilateral donor organizations. Coordination with the private sector needs to be “high-bandwidth” to be effective — meaning that information needs to flow consistently and deeply in both directions — and there are numerous tools of modern productive development policy approaches that can be used structure consistent interaction, problem solving and iteration between the public and private sector focused on increasing productivity, jobs, and exports.
- **New institutions for public-private coordination should be created for emerging opportunities, such as telework and green growth pathways.** In such cases, where global conditions are rapidly evolving, it makes sense to establish mechanisms for continuous dialogue and joint action between public and private stakeholders. In each case, the GOJ must take ultimate ownership for structuring continuous dialogue and action. This usually means identifying a single organization — and often a single person — to take responsibility for convening stakeholders and reporting to the highest level of government on actions being pursued and progress toward these opportunities. Capitalizing on these opportunities will not be a matter of following simple action plans but rather will be defined by proactive

actions to involve private sector stakeholders, learn about constraints, and agile approaches to respond to issues across the public sector. Therefore, these institutions that focus on capitalizing on emerging opportunities should be goal-oriented rather than follow linear action plans and reform lists.

- **Planning entities must consider key infrastructure can be transformational to crowding in agents of change.** While current GOJ strategies have an emphasis on infrastructure (including water, electricity, and public transportation), the above areas of opportunity highlight additional possibilities for enabling infrastructure that do not fit within the existing project pipeline and project delivery structures. For example, specialized business park expansions and/or a large push on broadband may be needed to maximize the high-skill service and telework opportunities. Certain industrial park upgrades and new investment in renewable energy connections may be strategic to enable future green growth activities. There are institutional tools for public asset management that may be helpful to identify and deliver such types of projects without putting fiscal strains on the government. At the same time, there may be some types of infrastructure where it will be more effective and efficient to build as traditional public infrastructure. For such projects, donors may help to raise project finance. For climate and resilience-related infrastructure investments, climate finance may be strategic as levers of climate finance increasingly diversify.
- **Public procurement can be a powerful tool for inducing innovation by the private sector.** Innovation by the private sector naturally entails risk by first-movers. Public procurement is a useful way to counter such risk by creating demand for innovation. For example, when the Ministry of Education announces a desire to purchase digital technologies to improve remote learning, this creates demand for Jordanian companies to develop such technologies, perhaps in partnership with international firms. Importantly, the benefits of this purchase can extend far beyond the good or service itself, because the business develops a capability that it might use to serve other markets, including internationally. The process may also strengthen the entire sector involved as businesses coordinate to deliver inputs to the product and position themselves for this growing area of demand. But procurement is not only a tool for digital technology innovation. It can be very useful to regularly ask the question, “What major public problems can the GOJ crowd in the private sector to help address through procurement decisions?”. There may be widespread areas of opportunity, including in areas like water management, renewable energy optimization, retrofitting buildings, telehealth, COVID-19 vaccinations, refugee services, electrifying transport, urban mobility, and more. Procurement inspired by these problems creates opportunities for the local private sector and can incentivize business partnerships. For global companies seeking to position themselves on the innovation frontier in any of these areas, Jordan represents an opportunity to learn by doing.

## V. Inclusiveness Challenges and Opportunities

### **Historic dimensions of exclusion, especially from job opportunities, require special attention.**

The preceding sections of this report discuss what it will take for Jordan to grow, but growth does not guarantee that the benefits of growth are shared or that a more dynamic economy provides more opportunity for all segments of society. While the slowdown in growth has been a challenge for more than a decade, there are additional patterns of economic exclusion that have persisted for many decades in Jordan. Reversing the growth slowdown and expanding the overall supply of jobs is a pre-requisite for expanding job opportunities for excluded groups, but certainly not sufficient given longer-term patterns and constraints. This is not only a problem of who “gets” the jobs that the economy produces but it is also a problem of underutilized skills and abilities that could contribute to the growth of the economy.

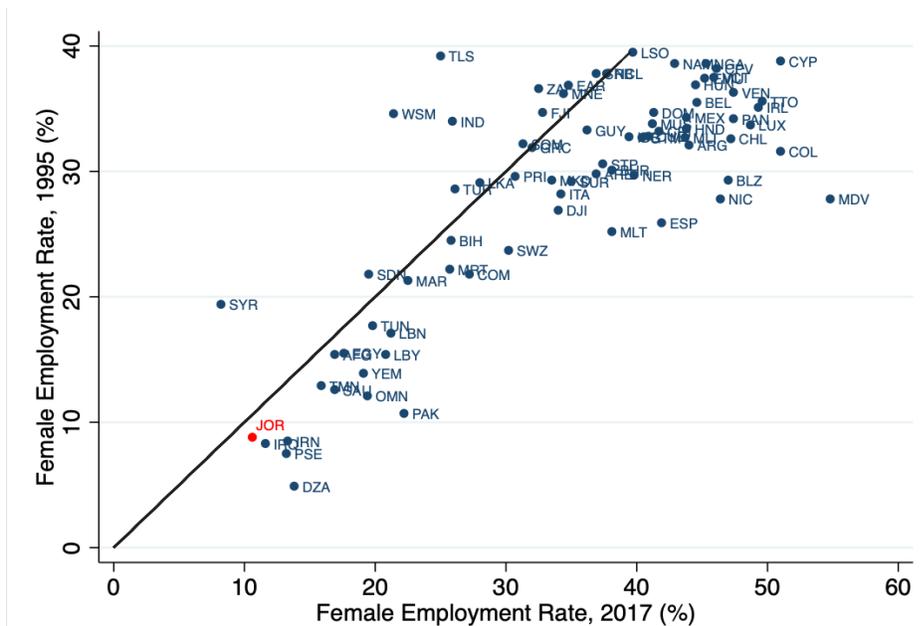
### **Key dimensions of exclusion discussed here include gender, age and geography. A growing economy should capitalize more on the underutilized human capital of women and young people, and growth strategies must be informed by subnational economic composition.**

Exclusion of women is perhaps the most obvious dimension of exclusion as the female employment rate in Jordan has been among the very lowest in the world for a long time. Jordan also faces very high rates of youth unemployment, which has intensified during the current slowdown. The pattern of poor job opportunities for women and youth is common in the MENA region, but unemployment rates are especially high — and employment rates especially low — in Jordan. A final dimension of regional inclusion is also discussed briefly, though this is the subject of ongoing Growth Lab research. Here the problem does not reveal itself in unemployment rates necessarily, but within patterns of economic complexity. Jordan’s economic concentration in and around Amman is an important pattern to understand when pursuing growth and export strategies.

### Female Employment

**Employment outcomes for women for women in Jordan are exceptionally bad.** The female *employment* rate in Jordan is among the lowest in the world and has improved very little over time in comparison to other countries (Figure 50). Although the *unemployment* rate of (Jordanian) women gets the most attention, this only reflects part of the problem. Kasoolu et al. (2019) explore causes behind two distinct problems of exclusion: (1) women who are not part of the labor force (reflected by a very low female labor force participation rate); and (2) women who are part of the labor force but unable to find a job (reflected by a very high female unemployment rate). For women with lower levels of education, the dominant form of exclusion is low labor market participation. These women tend not to be actively looking for employment. Meanwhile, the dominant form of exclusion for more highly educated women (university and above) in Jordan is high unemployment — women looking for but unable to secure a job. The indicators of female employment, unemployment and labor force participation have also not moved in line with economic expansions and recessions in Jordan, so growth alone will not change such outcomes.

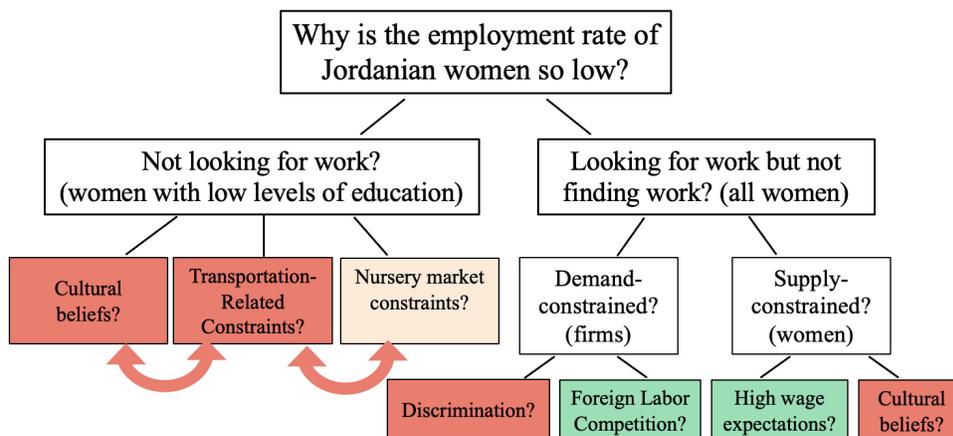
**Figure 50:** Female Employment Rate across Countries over Two Decades



Source: WDI

**This distinction is important because addressing each problem requires different policy actions as well as the improvement in different economic conditions.** Kasoolu et al. (2019) take a diagnostic approach to weigh evidence toward identifying the key drivers of each side of the female exclusion problem. This was a first step toward informing potential policy solutions. Figure 51 summarizes key results, where red indicates strong evidence that the issue is binding, and green indicates strong evidence that the issue is not binding.

**Figure 51:** Drivers of Low Female Employment in Jordan



Source: Adapted from Kasoolu et al. (2019)

**There is very compelling evidence that cultural influences and transportation issues are key drivers of low participation among less educated women, with important interactions between these constraints to participation.** It appears that these constraints, especially cultural barriers to participation at the household level, tend to weaken as individual women gain more education. When it comes to transportation, the key problem is that public transportation systems in urban areas of Jordan have historically delivered very low quality and unreliable services, which disproportionately harms low-income households and the female population. The evidence was less clear on daycare/nursery access and the analysis encouraged further study of the nursery market. It is possible that daycare is a substantial cost affecting many families but that it is not a key driver of low participation rates for less educated women, because of the presence of other alternatives for childcare. Paramount for policy, the paper identifies very important interactions across these three constraints. Women's use of public transportation is influenced not only by quality, availability, and cost, but also by culture. At the same time, long commute times serve to intensify cultural constraints by reducing a working woman's time to spend at home. Decisions around childcare are also heavily influenced by cultural expectations, as well as by inefficient transportation options if childcare is an extra stop on a woman's commute to or from work. This implies that policy responses should not treat these drivers in complete isolation from one another and that reform packages are needed.

**Discrimination by private sector employers and a resulting preference for public employment is the main driver of high female unemployment.** Kasoolu et al. (2019) investigated the phenomenon of high female unemployment through supply and demand constraints in the job market. Supply-related constraints had to do with the female applicants themselves. The problem was *not* that women applying for jobs lacked the qualifications of their male counterparts. Survey evidence also rules out the potential problem of high wage expectations as reservation wages among women were much lower than those of men. There was an issue identified where female applicants pursue the public sector over the private sector. Women in Jordan tend to prefer work in the public sector in part due to work environments that are considered more "female-friendly" (including in work flexibility, transportation options, and size and gender-balance of the workplace) but also because the public sector in Jordan has more gender parity in pay as a result of past GOJ reforms. Overall, this preference for public sector work is not a problem among only women in Jordan, as the same preference applies for men. The more important driver of high unemployment among women, and especially more highly educated women, is that Jordan has a small and undiversified private sector that under-hires and underpays women relative to men. Gender bias and discrimination are very prevalent and are the key driver of the difference in unemployment rates between men and women. Notably, the demand-side problem of the job market is not due to foreign workers driving down wages or workplace standards for women. While this could be a relevant issue in the labor market overall, it is not a key driver of high unemployment among women, and not the driver for women with lower levels of education remaining outside of the labor market completely.

**The GOJ's reform push has included numerous actions targeted to these identified constraints.** Reform actions have included, among others: a push to eliminate gender-based discriminations in regulations (including occupations and night shift restrictions); a push for anti-harassment in workplaces and in public transportation; formalizing and promoting of home-based businesses and flexible work hours; and several actions to expand childcare supply. While additional initiatives may be strategic to help address the underlying incentives of exclusion,<sup>13</sup> in addition to a focus on enforcing new laws and regulations, the reform push amounts to major changes already. For these changes to fully pay off in employment outcomes, the Jordanian economy will need to grow more rapidly to expand good job opportunities to men and women alike. In the absence of a growth acceleration, all efforts to address the problem will merely amount to fairer competition for a very limited pool of jobs.

**In addition to the GOJ's reform push, private sector transformation is ultimately needed to shift the job market to a high-growth, gender-inclusive equilibrium.** Biases and discriminatory practices in the domestic private sector will not disappear with regulatory changes, though these changes are necessary. Bias and discrimination simultaneously work against the productivity and dynamism of firms in Jordan by limiting their access to labor and talent. In addition to education and healthcare, other industries that employ above average shares of Jordanian women — including information and technology, finance and business services, and professional, scientific and technical activities — have been industries that have driven Jordan's limited private sector growth in recent years. In general, foreign companies investing in Jordan have tended to achieve more gender balance in their hiring. Increased foreign direct investment by companies that can thrive in Jordan by producing goods and services for export, is therefore not only necessary for growth but also an important way to job opportunities for women. Foreign firms will tend to hire women at a higher rate than domestic companies and will shift the domestic work culture in a positive direction. The emergence of telework globally is also a potential enabler for employment among women in Jordan, not only because international employers will be less discriminatory but also because working from home (or in shared remote workspaces) overcomes some additional cultural issues, including within public transportation. Telework may further increase demand for telehealth and online education, creating new demand for Jordanian women in those industries.

## Youth Employment

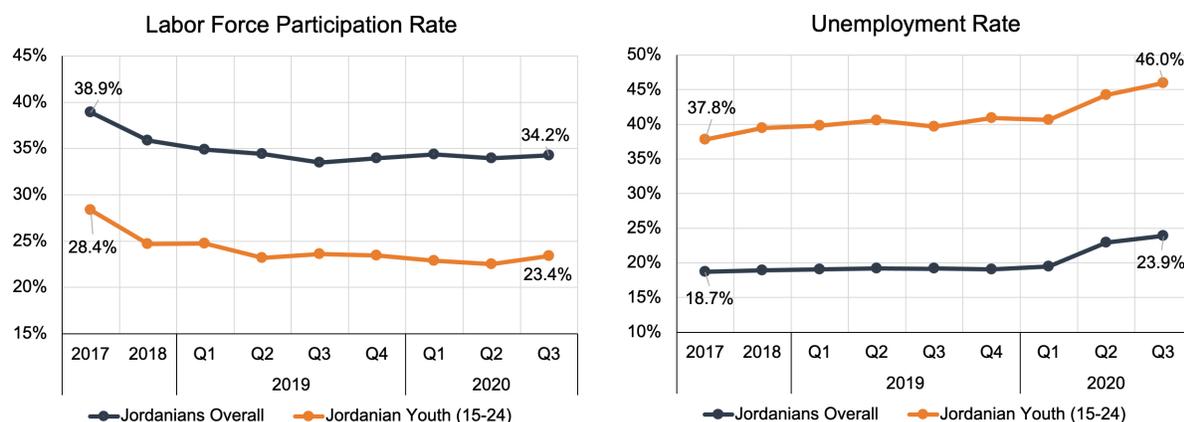
**Youth unemployment (and low labor force participation) is a deep structural problem that has been made worse by COVID-19.** Youth unemployment is very high and youth labor force participation is very low, making Jordan an outlier in youth employment outcomes, even within MENA. Before the pandemic, according to labor force surveys, around 55% of youth (aged 15-

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<sup>13</sup> Additional interventions could include: Training more women with IT skills to prepare them for remote work opportunities; Targeting time-bound wage subsidies in industries women have a comparative advantage; Promoting investment in child-care and senior-care industries; Targeted bus routes and services for women; Entrepreneurial training and grants; and Information campaigns to shift firm-level and household-level decisions

24) were in school or training. Of the remaining youth, around 15% were employed, 10% were actively looking for work, and 20% were neither employed, in school, in training, or looking for work. This amounted to a very large inactivity rate of around 1-in-5 young people, and a very high unemployment rate of around 40% (i.e., among those actively looking for work). Overall and youth labor force participation had been trending downward for several years before the pandemic, while unemployment jumped amidst COVID-19 (Figure 52).

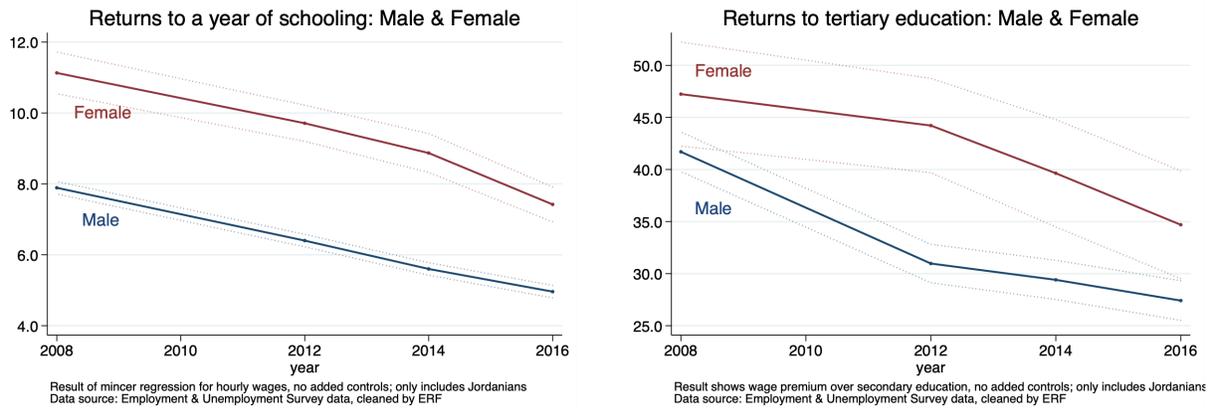
**Figure 52:** Labor Force and Unemployment Rates for Jordanians Overall and Jordanian Youth



Source: Department of Statistics

**Youth unemployment is a problem of very low labor demand rather than one of education, skills, matching, or migrant labor.** Youth unemployment is high across education levels and gender combinations. Low and declining returns to education — an indication of low and declining demand for labor — are striking. Jordan has seen a steady decline in returns to education for more than a decade, which reflect the collapse in economic growth engines. Returns are higher for women, but have been consistently falling for both genders, including returns to university education (Figure 53). By international standards, returns to a year of university education have fallen from a low level in 2008 (roughly 10%) to among the lowest in the world by 2016 (under 7%). Below the university level, there are no signals of a significant school quality problem — in fact, quality appears to have improved as labor market outcomes have worsened. Consistent with an immense labor demand problem, previous initiatives in Jordan have shown no significant benefits from supply/skill interventions and matching, and only short-term impacts from wage subsidies (Groh et al. (2014); Groh et al. (2016)). Youth unemployment dynamics also show no clear relationship with migration patterns. Unemployed Jordanian youth have also experienced long spells of unemployment prior to COVID-19. According to firm surveys in 2020, more than half of unemployed youth have looking for work for more than a year. Most lack any prior work experience, especially newly emerging university graduates who are looking for their first job.

**Figure 53: Returns to a Year of Schooling and for Completing Tertiary Education**



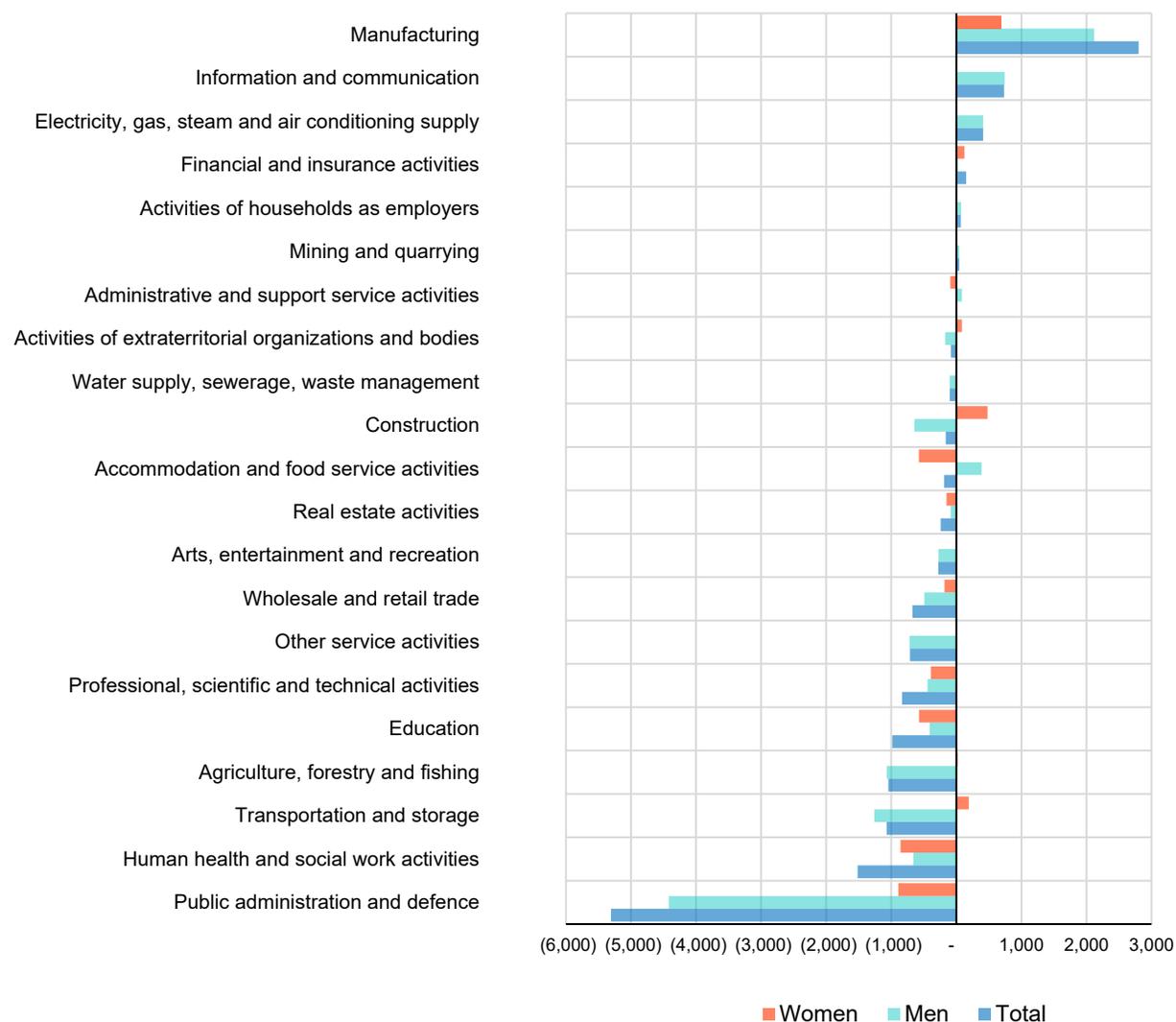
Source: DOS Employment and Unemployment Surveys

**The public sector absorbs a disproportionate share of youth labor but with different patterns by gender and education level.** The problem few job opportunities manifests somewhat differently for young men and young women and by education level. Unemployment rates are higher for both young men and women with a college education than without. However, in absolute terms, youth males with less than a high school education are the largest group of unemployed youth (60% of the total pool of unemployed), followed by female youth with high levels of education (20% of the total pool of unemployed). Among youth with jobs prior to COVID-19, around one-third of youth jobs were in the category of public administration and defense. Among female youth, public administration and defense, education and healthcare combined to provide almost half of female youth jobs (which is actually low compared to women overall in Jordan). When comparing the distribution of youth jobs in Jordan to a more diversified market, like that of the European Union, the public sector concentration is what stands out most of all. Around 4% of youth jobs are in public administration and defense in the E.U. (compared to 33% in Jordan). Many Jordanian youth emigrate out of Jordan for work, where they often earn a premium over above other foreign workers. In comparison to overall jobs in Jordan at all age levels, youth jobs are overrepresented the public sector as well as in wholesale and retail, construction, manufacturing, and, especially, food service.

**COVID-19 job losses have been especially high for youth because the pandemic affected youth-intensive areas of work and because the public sector could not expand jobs.** Even before COVID-19, public administration job growth has been increasingly constrained by fiscal space, and many youth-intensive job sectors were constrained prior to the pandemic by slow external growth and low aggregate demand as well. Jordanian youth have been much harder hit in the labor market by COVID-19 than older workers, with an estimated 30,000 fewer jobs held by 15-to-24-year-olds in Q4 2020 vs. Q4 2019 according to DOS surveys. This represents more than 15% of total youth jobs in 2019. Figure 54 shows the breakdown of changes based on Q3 2020

data. The largest share of youth job losses came from public administration and defense (especially among men).<sup>14</sup> Meanwhile, there were job gains for youth coming from manufacturing (also primarily for men). Despite resilience in the sector, agriculture appears to have lost (male) youth jobs, while other areas of resilience employ relatively fewer youth in Jordan. Among governorates, overall unemployment and youth unemployment increased most sharply in Amman, where now around 40% of the unemployed live. Irbid and Zarqa have the next largest unemployed youth populations. For a period, opportunities for work abroad largely closed due to COVID-19 as well.

**Figure 54:** Decomposition of the Change in Jordanian Youth Employment (Q3 2020 vs. Q3 2019)



Source: DOS Employment and Unemployment Surveys

<sup>14</sup> Youth manufacturing jobs appear to have grown in 2020 over 2019 in a mix of industries: food products; apparel; chemicals; paper; structural metal products.

**The Government of Jordan has utilized several approaches to counteract the COVID-19 shock to youth employment.** Measures have included Defence Orders that aimed to keep employees connected to their employers (particularly, Defence Order 6 of 2020), social security rate reductions, wage subsidies, liquidity injections and lending programs, and tax incentives. Most such actions were envisioned as temporary, but targeted use of social security rate reductions, wage subsidies and tax incentives could be continued. Since these measures entail fiscal costs — and have impacts on the social security system in the case of rate reductions — it is important that GOJ monitor the impacts of current programs to have a clear sense of the expected costs and benefits of longer-term actions. These measures come on top of numerous programs and projects in Jordan to train and re-skill youth as well as to support youth entrepreneurship. These are common areas of donor and NGO support, which have shown success in many countries but provided limited measurable impact in Jordan in the past.<sup>15</sup> In both the case of new measures in the context of COVID-19 and longer-term programmatic efforts, a key challenge is that these approaches can do relatively little to stimulate long-term labor demand growth, especially in good jobs that highly educated youth want to remain in.

**Active labor market policies may not be the best use of resources in Jordan. There may be better alternatives that directly employ youth today and better stimulate long-term labor market demand growth.** In the long term, addressing the youth unemployment challenge requires that Jordan develop a more diversified economy that creates more high-paying jobs, and which generates more domestic demand for non-tradeable services where many less-educated Jordanians will be employed. Given that youth unemployment is ultimately a symptom of the undiversified and vulnerable economy rather than a cause, there is limited potential for what active labor market policies can do to stimulate growth and sustainable job creation. However, there is a known pathway for responding to low demand for labor, at least in the short-term, in direct employment in public works. In Jordan, where public sector employment already makes up such a large share of youth employment (and overall employment) and where the GOJ is pursuing a continued fiscal adjustment, creating more public jobs is not an obvious place to consider action. Nevertheless, there may be program designs that balance short-term need and long-term benefits better than existing programs, which could represent an improvement in how donor resources are spent in support of opportunity in Jordan.

**The Growth Lab has proposed an initial concept for direct employment that could balance several short- and long-term goals and reach a meaningful scale with donor support.** In this program, voluntary public employment would be offered to youth who want to work, and jobs would target providing goods and services that Jordanian society needs. The program would identify a range of work opportunities that fill a public need (either short-term or long-term), that would provide skills and work exposure for youth, and that would crowd in private sector participation where possible. These jobs would provide temporary placements — likely on the

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<sup>15</sup> See the World Bank’s World Development Report 2013: “Jobs” and Kluve et al. (2017)

order of one year — and would offer a salary and benefits below regular public sector employment.<sup>16</sup> The program design could have an open architecture where work opportunities emerge over time based on a set of key criteria but start with a few promising focus areas. The program could build on capabilities and high levels of trust of the Jordan Armed Forces as it could participate in implementation. This would draw on the organizational capabilities of the Armed Forces and leverage some of the skills that military service itself provides. The program would not include military training itself though. Rather, it would focus on delivering useful work. In this regard, it would be similar to concepts of a civilian conservation corps in the past in the United States or a “civilian climate corps” in the present. The Growth Lab proposed an initial list of criteria and several ideas for work focus areas. Figure 55 provides a matrix that was used to specify criteria (rows) and explore several promising work areas (columns) to center initial design.

**Figure 55: Potential Areas of Direct Work and Criteria for Assessing Benefits**

		GQJ Announced		COVID-19 Related (esp. vaccination)						Other Ideas...						
		Agriculture Sector	Tourism Site Work	Nurses	Call Centers	Data Entry	Rollout Logistics	Rollout Design	Door-to-Door Testing	SME Digitization Corps	Afforestation	Tutoring / Education Catchup	Home-based Healthcare	Childcare	Food / Meat Provision	Business Licensing Corps
Targeting	Targets men with low education	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Targets women with high education	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Geographically-focused	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Benefits beyond jobs	Delivers relevant skills to youth	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Serves a short-term society need	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Serves a long-term society need	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>							
	Potential for immediate job spillovers	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>				
	Potential to seed long-term transformation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Supports more rapid economic recovery	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Can reach international markets	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Can engage the returned diaspora	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
*Sense of Us*	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Implementation	Can crowd in private sector in implementation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Space for design at municipal/community levels	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Relatively easy to implement	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Relatively low cost implement ("overhead")	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
# of jobs? Recommended?	6,000	4,500	4,000		?	?	?	?	?	?	?	?	?	?	?	?
Duration recommended?	6 months	months	??		?	?	?	?	?	?	?	?	?	?	?	?
Already included in GOJ's COVID-19 Package																

Note: Open architecture could be supported by establishing a “Policy Lab” in partnership with academic institutions and the private sector. Process could be complemented with a recurring “Youth Survey” administered by the Department of Statistics with external support.

Source: Own construction by Growth Lab

**Promising work areas under the program would balance goals of targeting jobs to key segments of unemployed youth, several benefits beyond the short-term jobs themselves, and implementation considerations.** In targeting, one can ask the question if a type of work is a good fit for either of the groups that together represent around 80% of unemployed youth — men with low education and women with high education. Under benefits beyond jobs, there are a range of important criteria including the relevance of skills that would be gained, the type of society need addressed by the work, and the pathways through which the jobs could catalyze future economic transformation. Under implementation considerations, cost and ease of implementation are important, but it could also be a positive where the implementation of the jobs program would

<sup>16</sup> One design question would be to what extent the program should link to the existing queue for public sector employment. To remain in the queue, it could be required that youth complete this program.

require private sector partners because this becomes this could lead to longer term growth of firms in a new industry for Jordan. The matrix explores several COVID-related jobs — including to support the vaccination push and continued testing and contact tracing — and several that extend beyond the circumstances of COVID-19 — including in education, healthcare, childcare, climate change resilience, and more. The overall program would aim to deliver a mix of work opportunities.

**The idea of an “SME Digitization Corps” highlights many of the potential benefits of this program.** A digitization corps would assist SMEs across the country to shift their businesses online to gain competitiveness and keep pace with global changes initiated by COVID-19. These jobs would target more highly educated youth but may not require a university degree. The program itself would need to partner with private sector organizations to train the participants, who would then work to enable the domestic private sector to adjust to realities of COVID-19 as well as longer-term competitiveness issues. The youth participating in the program would gain valuable skills for their own future careers, and the industry of digitization services itself may grow in interesting ways. The program could lead to Jordan becoming a hub for international digitization services and would likely serve to further Jordan’s position as a strategic location for firms to locate their back-office services and to hire Jordanians to work remotely on back-office service tasks.

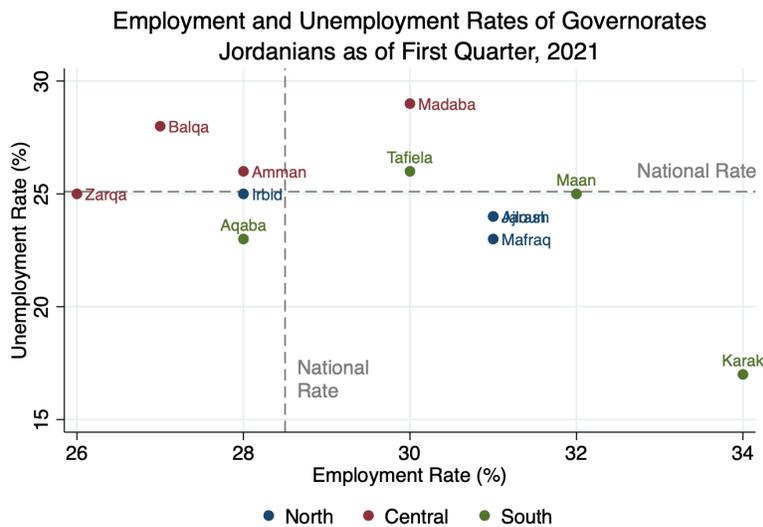
## Regional Economies

**Employment outcomes tend to be worse in Jordan’s more populated areas.** Unemployment among Jordanians is high across governorates, while employment rates among Jordanians are lowest among more populated governorates (Figure 56). Except for Karak, which is an interesting outlier, unemployment rates for governorates cluster relatively closely around the national unemployment rate (estimated at 25.1% in the Q1 2021). Employment rates range from around 1-in-4 working age adults being employed (Zarqa) to around 1-in-3 working age adults (Karak) in the same period. These employment rates are very low, but especially so for governorates with higher populations (Amman, Zarqa, Balqa, Irbid) as well as Aqaba, which together make up for around 80% of the working age population (and population overall). These patterns reflect the weak economy. Rather than absorbing labor from more rural areas, Jordan’s population centers struggle to generate adequate employment.

**When looking at economic complexity at the subnational level, it is striking how much more diverse the economy of Amman Governorate in comparison to others.** Figure 57 shows the complexity measures of *diversity* and average *ubiquity* for each governorate based on employment statistics from Jordan’s Economic Establishment Census, 2018. *Diversity* captures how many different industries (across manufacturing and services, but not agriculture and public administration) have a revealed comparative advantage in the governorate based upon the number of paid employees. The graph shows that the diversity of employment in Amman is more than twice that of the next most diverse governorate of Zarqa. *Ubiquity* captures how common the

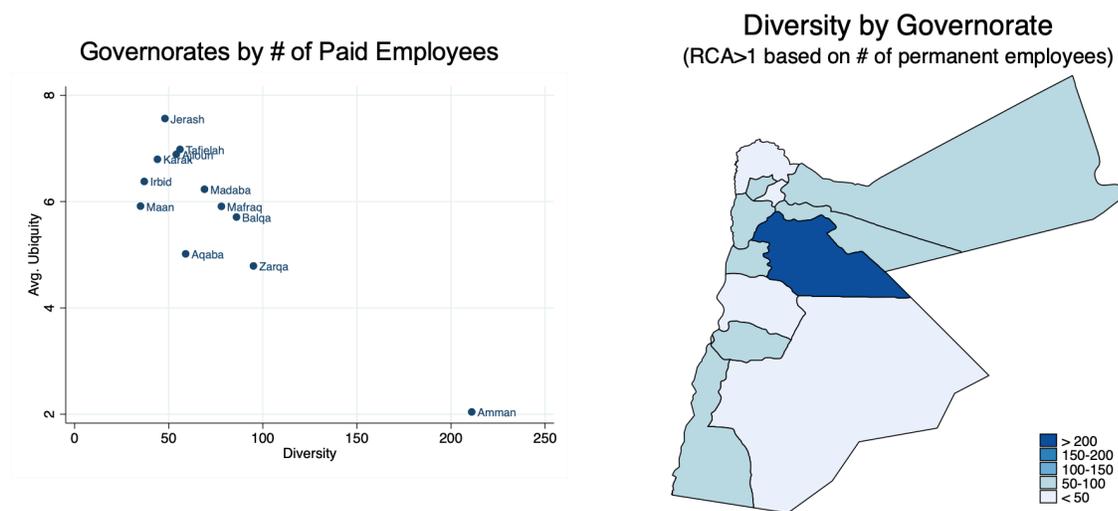
industries are across the governorates, with higher ubiquity industries being common across governorates and lower ubiquity industries being unique to fewer governorates. The mix of industries in Amman is much more diverse, and industries present in Amman are often present only in Amman. On the other end of the spectrum, Jerash has a much lower diversity of industries, and the industries that are present in Jerash tend to be present across other governorates. This pattern implies that the economic composition of Amman is much more *complex* than that of other governorates.

**Figure 56:** Employment and Unemployment Rates by Governorate



Source: Department of Statistics

**Figure 57:** Diversity and Average Ubiquity of Governorates based on Employment

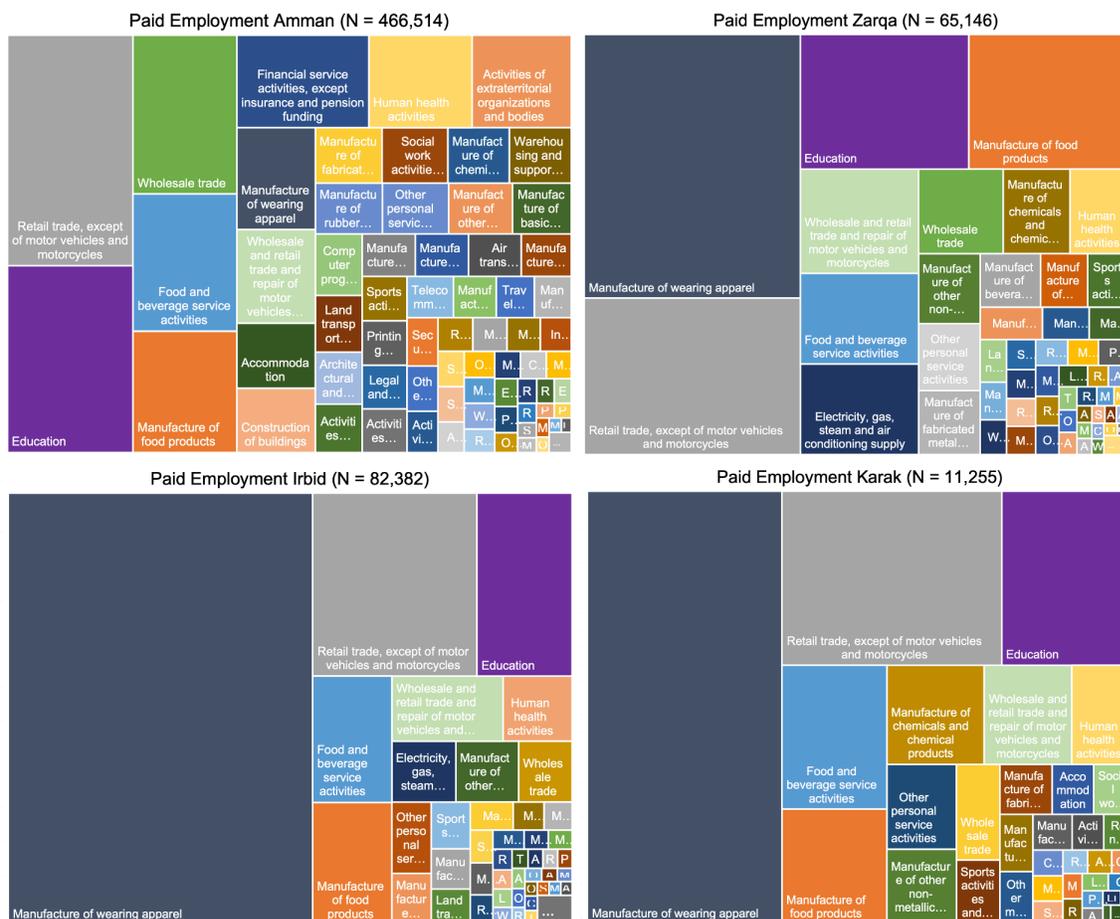


Source: Economic Establishment Census 2018

**The difference in the economic composition of Amman and other governorates is striking.**

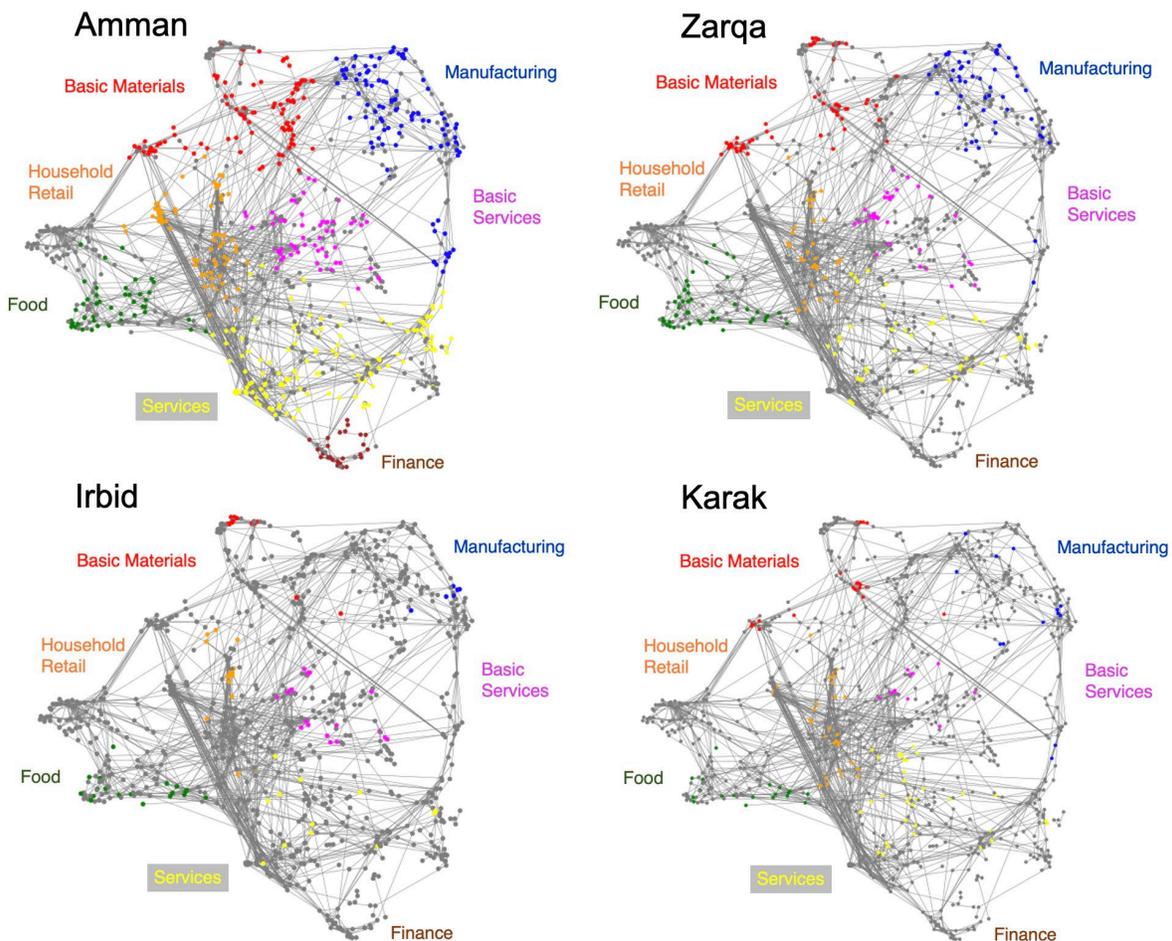
Figure 58 shows the breakdown in paid employment across four higher population governorates based on the Economic Establishment Census 2018, which does not include agriculture and public administration and includes only formal employment. The tree maps show total paid employment, including non-Jordanians, to more fully capture economic capabilities. Outside of Amman, regional economies are much more concentrated in garment manufacturing and retail, and to a lesser extent, education, food product manufacturing, and food and beverage services. This implies that local economic growth depends largely on the dynamics of these sectors. There are differences in the other sectors of importance in these governorates. For example, chemical product manufacturing has a relatively larger presence in Karak. Another way of viewing economic composition is on a network visualization that captures the relatedness between industries represented in the governorate. This view is provided in Figure 59 for the same four governorates using a network structure that captures relatedness between industries based on global data of firm activities. These visualizations show that Amman has a much more diverse presence than other governorates within each cluster of activity, except for food manufacturing in Zarqa.

**Figure 58:** (Formal) Employment Composition by Industry for Four Governorates



Source: Economic Establishment Census 2018

**Figure 59: Industry Space Position for Four Governorates**<sup>17</sup>



Note: The presence of industries is based on paid employment by industry and governorate ( $RCA > 1$ ) from the Economic Establishment Census, 2018. To map industry presence on this industry space, which matches the network visualization used in the Growth Lab's Metroverse tool, industry codes were matched from ISIC, Revision 4 to the NAICS industry classification.

Source: Growth Lab using Economic Establishment Census 2018

**The combination of poor employment outcomes in Amman with a big gap in economic complexity between Amman and the rest is problematic. Export diversification will need to be driven by the Amman economy, but niche opportunities may be found in other parts of the country.** This is an ongoing area of Growth Lab research in Jordan. These early descriptive findings emphasize the reality that productive capabilities are focused in and around Amman, which has implications for improving investment promotion strategies. A focus is needed on identifying and attracting international businesses which can thrive within Amman. The Growth

<sup>17</sup> This visualization uses the same Industry Space network as utilized for more than 1,000 cities on the Growth Lab's Metroverse tool (<https://metroverse.cid.harvard.edu/>). Using Metroverse, Amman's economic composition can be compared with other cities globally, but here its composition is shown relative to the rest of the country.

Lab's Metroverse could provide very detailed evidence to formulate an Amman-based strategy, especially in combination with evidence of which global companies have supported the transformation of other cities in the region, which are much more diverse than Amman, including in the U.A.E., Turkey, Israel and other countries. Given large differences in wages and smaller differences in highly educated labor, a strategy could focus on businesses expanding their regional (and global) operations to perform more back-office services in Amman. At the same time, further research can help to inform export promotion and green growth strategies that include diversification opportunities across governorates. These strategies will need to focus on capitalizing on niche opportunities that build on existing capabilities in the regions rather than “long jumps” to unrelated industries.

## VI. Conclusions

**A growth acceleration is needed in Jordan to improve living standards after more than a decade of overall decline in per capita income levels.** Jordan's growth process has been undermined by a series of global and regional economic shocks, which have had permanent impacts on Jordan's comparative advantages and its ability to export. Shocks have combined to introduce lasting constraints on production — including a high-cost electricity system — alongside the deepening of more longstanding constraints — including very low water availability. Regional conflicts have led to not only temporary closures in markets but also more lasting challenges in economic composition. This has contributed to a continued shift from higher complexity exports that can support higher wage levels to lower complexity exports that cannot. Over several years before the COVID-19 pandemic, Jordan also faced regional headwinds due to the low price of oil, which impacts grants, investment, and remittances from GCC countries. On top of more than a decade of shocks, COVID-19 introduced the most acute shock yet to economic activity. Although the economy has begun to recover, the sustained reduction in global tourism and transport continues to impact Jordan's export capacity and hence its ability to import and the pace of growth that can be sustained in the non-tradable economy. Despite these challenges, Jordan's fiscal adjustment program relies on an acceleration of growth in order to achieve targets in the reduction of debt-to-GDP. This makes achieving a growth acceleration critical to macroeconomic sustainability, but fiscal consolidation also introduces also limits pathways to growth in the absence of larger grants and other transfers from abroad.

**This report aims to answer the question: “What will it take for Jordan to grow?” The answer, this report argues, is that it will take a paradigm shift that includes consolidating (rather than expanding) existing growth and reform strategies and activating more agents of change in the private sector around key growth opportunities.** The Government of Jordan is delivering a widespread reform agenda in tandem with its ambitious fiscal adjustment program with the support of the IMF. However, it is not clear that the entirety of the reform agenda will enable the desired acceleration of growth, especially in a context of a negative fiscal impulse resulting from

fiscal consolidation and continued impacts of the COVID-19 pandemic. The GOJ's focus on structural reforms comes from the recognition that Jordan's economy needs to transform, and new engines of private sector growth must emerge. However, the mix of reforms does not guarantee a robust private sector response and is not well positioned to accelerate the emergence of new export-oriented sectors that will be needed or expand access to growing markets, especially markets beyond the region. Meanwhile, Jordan does have underutilized comparative advantages that could position the country to benefit greatly from new technologies and the re-organization of global supply chains in the aftermath of COVID-19. Capitalizing on these emerging opportunities will require actions by the GOJ to enable agents of change from the private sector and beyond in ways that are highly limited in current growth and reform strategies — though there are several areas to build upon in the Government's Economic Priorities Program, which is focused on COVID-19 recovery. This report highlights several principles of approaches, but the Government of Jordan will need to apply these principles to context to be effective.

**Key opportunities to accelerate COVID-19 recovery and transform the economy over the long-term include capitalizing on the Jordan's advantages as a hub for high-skill service industries, maximizing new opportunities of international telework, expanding higher-complexity goods exports in key markets, and forging several pathways of green growth.**

Within each of these areas there is clear potential for business growth, new business entry and the generation of many good jobs, even within current constraints in Jordan. As many of the growth opportunities are in tradeable industries, which can serve markets abroad, these opportunities can help overcome the headwind of fiscal contraction on domestic aggregate demand. Much of the job growth that would follow from maximizing these opportunities would come not from the direct employment they provide, though that may be substantial, but from the increase in domestic demand they would support, leading to jobs in non-tradeable industries. Section IV of this report explores these key areas for growth and COVID-19 recovery in depth and identifies several types of actions that would enable more agents of change to capitalize on them. Recommended actions stress the need for ministries and agencies need to target their engagement with the private sector and develop new institutions to support active public-private coordination for emerging opportunities. These strategies and institutions may inform new infrastructure priorities, including strategic business and industrial park upgrades and the expansion of broadband access. Public procurement decisions can also be a powerful tool for catalyzing private sector innovation and private sector partnerships. The donor community can also support agents of change via financial support for key public investments and through innovative means of connecting business knowhow in donor countries to opportunities in Jordan.

**Actions to crowd in agents of change are relatively inexpensive, and Jordan cannot afford to overlook this focus and hope that reform actions lead to private sector growth.** The types of actions needed to support the key opportunities do not tend to be very expensive but do require a re-focus of how scarce capabilities and attention of the government are spent. Acting on opportunities requires that Jordan Exports and investment promotion activities under the new

Ministry of Investment be fully financed and empowered. The paradigm shift argued here may also require that some reform ambition be scaled back in order to devote more attention and resources toward moving forward public-private strategies, including on service exports, telework, and green growth pathways. Additionally, using procurement as a tool for innovation requires enabling government structures to identify needs and develop tenders. This is an area where donor finance and technical support can also be helpful. Over the longer-term additional opportunities will emerge and re-emerge — particularly tourism and transport depending on the pace of global recovery and COVID-19 vaccination and treatment — and the same principles will apply to maximizing those opportunities. Still other growth engines would emerge if major constraints to production in electricity and water can be relaxed. This should remain a key priority of the Government of Jordan. Toward this end, newly announced regional projects, including with Israel, are especially promising.

**Accelerating growth is a pre-requisite to expanding jobs and opportunity for youth and women, but inclusiveness challenges require additional actions.** Female inclusion requires actions that target the separate causes of high female unemployment and low female labor force participation. The current reform path of Jordan already tackles previously identified constraints along both dimensions. An additional focus may be needed on enforcement of many of the changes initiated to date, and other interventions may be helpful, but these actions must coincide with an expansion in labor demand to make a meaningful difference in job opportunities for women. Several key growth engines identified in this report, especially high-skill services and telework, are naturally aligned with expanding opportunity for women. Fundamentally addressing youth unemployment and broader challenges of youth remaining outside of the labor force will likewise depend on the emergence of new growth engines. While some growth engines may employ youth directly, larger gains would occur indirectly through an increase in exports that would expand demand on the non-tradeable economy. Additionally, youth employment in Jordan will also require a long-term shift in youth expectations for public sector work which will take time even as private sector opportunities and work conditions improve. Meanwhile, young people have been most impacted by lost opportunity as a result of COVID-19. In the short-term, the Growth Lab proposes a program for employing young people directly in work targeted toward addressing public problems, which would increase the long-term employability of young people and may also support the competitiveness and transformation of the Jordanian economy. Finally, regional concentration of economic opportunity is an additional challenge. A growth acceleration will build primarily on economic capabilities of Amman, which has a much more complex economy than other governorates. Policymakers should also aim to attract investment that builds on capabilities that are present outside of Amman, where space is plentiful for renewable energy generation and energy-intensive industries. Over time, to be truly sustainable, the growth process will have to include more of the country.

## References

- Bustos, Sebastián and Ricardo Hausmann. "New avenues for Colombia's internationalization: trade in tasks." Forthcoming.
- Groh, Matthew, et al. "Testing the importance of search frictions and matching through a randomized experiment in Jordan." *IZA Journal of Labor Economics* 4.1 (2015): 1-20.
- Groh, Matthew, et al. "The impact of soft skills training on female youth employment: evidence from a randomized experiment in Jordan." *IZA Journal of Labor & Development* 5.1 (2016): 1-23.
- Growth Lab. "Jordan: Fiscal Update and Outlook," 2021(forthcoming CID Faculty Working Paper)
- Harding, T., & Javorcik, B. S. (2007). "Developing economies and international investors: Do investment promotion agencies bring them together?" *World Bank Publications*.
- Hausmann, Ricardo, and César A. Hidalgo. "The network structure of economic output." *Journal of Economic Growth* 16.4 (2011): 309-342.
- Hausmann, Ricardo. 2021. "Is Green Development an Oxymoron?" *Project Syndicate*. June 1.
- Hausmann, Ricardo, et al. (2019) "A Roadmap for Investment Promotion and Export Diversification: The Case for Jordan." *CID Faculty Working Paper No. 374*.
- Hausmann, Ricardo, et al. (2019) "Jordan: The Elements of a Growth Strategy." *CID Faculty Working Paper No. 346*.
- Kasoolu, Semiray, et al. (2019) "Female Labor in Jordan: A Systematic Approach to the Exclusion Puzzle." *CID Faculty Working Paper No. 365*.
- Kluge, Jochen, et al. "Interventions to improve the labour market outcomes of youth: A systematic review of training, entrepreneurship promotion, employment services and subsidized employment interventions." *Campbell Systematic Reviews* 13.1 (2017): 1-288.
- Pritchett, Lant. "National development delivers: And how! And how?." *Economic Modelling* 107 (2022): 105717.
- Rodrik, D., & Stantcheva, S. (2021). Fixing capitalism's good jobs problem. *Oxford Review of Economic Policy*, 37(4), 824-837.
- World Bank. "Jordan Economic Monitor, Fall 2021: En Route to Recovery." (2021).
- World Bank. "Jordan Economic Monitor, Spring 2021: Uncertain and Long Trail Ahead." (2021).
- World Bank. *World development report 2013: Jobs*. The World Bank, 2012.

## Appendix A – Telework Analytical Details

### A.1 – Technical Details of Variables Used to Assess Telework Opportunities in Jordan

#### *Teleworkability Index*

Each NAICS industry’s teleworkability is assessed in terms of the share of jobs in that industry that are possible teleworkable. This is executed in several steps.

First, the task composition of different jobs in the O\*NET database of US jobs is examined. Each job is coded as teleworkable if and only if *none* of the following conditions are coded as true for that job:

- Average respondent says they use email less than once per month
- Majority of respondents say they work outdoors every day
- Average respondent says they deal with violent people at least once a week
- Average respondent says they spend majority of time wearing common or specialized protective or safety equipment
- Average respondent says they spend majority of time walking or running
- Average respondent says they are exposed to minor burns, cuts, bites, or stings at least once a week
- Average respondent says they are exposed to diseases or infection at least once a week
- Performing General Physical Activities is very important
- Handling and Moving Objects is very important
- Controlling Machines and Processes (not computers nor vehicles) is very important
- Operating Vehicles, Mechanized Devices, or Equipment is very important
- Performing for or Working Directly with the Public is very important
- Repairing and Maintaining Mechanical Equipment is very important
- Repairing and Maintaining Electronic Equipment is very important
- Inspecting Equipment, Structures, or Materials is very important

After each job is coded as either teleworkable or not, the share of teleworkable jobs in each four-digit NAICS-coded industry can be calculated using data from the US Bureau of Labor Statistics. This yields an index of each industry’s teleworkability.

#### *Revealed Tradability*

An important consideration concerning the teleworkability of any service industry is whether, in practice, it is traded across borders. This is measured using trade and output data for each

industry from the US Bureau of Economic Analysis. Specifically, it is computed by taking the ratio of US imports to total US output for each industry. Insofar as possible, each industry from the Bureau of Economic Analysis classification system is then manually matched to a four-digit NAICS industry. This yields the revealed tradability of twenty-eight different NAICS-coded service industries.

#### *Revealed Comparative Advantage (RCA)*

RCA is a technical measure of a country's specialization in an industry, taken from economic complexity methodology such as Hausmann and Hidalgo (2011). Intuitively, it captures the extent to which a country specializes in an industry above and beyond its 'fair share.' The formula for RCA in this context is as follows:

$$RCA = \frac{\text{Share of Country's Employment in an Industry}}{\text{Global Share of Employment in an Industry}}$$

#### *Density*

Density is a technical measure from economic complexity methodology that captures how close a country's productive structure is to a particular industry.

First, each country's RCA in each industry is converted to a binary measure in a Matrix of Countries and Products (MCP). Each entry in the MCP is equal to one if RCA is above or equal to one; and otherwise, it is zero.

Next, the proximity between each industry is computed as the minimum of conditional probabilities of production. That is, it looks at the conditional probability of having MCP = 1 in Industry B given that you have MCP = 1 in Industry A (looking at all data across all countries), and the vice versa. The minimum of those two probabilities is the proximity of the industries.

Finally, a country's density with regard to a particular industry is computed by summing the proximity values for each industry in which MCP = 1 for that country and dividing by the total sum of proximities of each industry. This formula is as follows:

$$Density_{Industry\ i} = \frac{\sum_j \text{Proximity of each industry } j \text{ to industry } i \text{ in which } MCP = 1}{\sum_j \text{Proximity of each industry } j \text{ to industry } i}$$

#### *Modeled Employment Potential Among Unemployed Jordanians*

These variables, both for people overall and for women specifically, are modeled under the assumption that international remote work is only feasible for individuals with post-secondary education. Jordanian university educational fields in Labor Force Surveys are manually matched to US university education fields in the American Community Survey. The share of American employees with each university education field in each NAICS-coded industry is applied to the total number of unemployed Jordanians in each corresponding education field. This yields an estimate of how many currently-unemployed Jordanians would be directed to each industry, if they were allocated according to the shares found in the US.

## A.2 – Largest Companies in Top Industries

The following table presents a selection of the largest global companies in each relevant industry, as determined using data from Dun & Bradstreet.

<i>Industry</i>	<i>Example Companies</i>
Computer Systems Design and Related Services	<ul style="list-style-type: none"> <li>• SAP SE</li> <li>• TPG Telecom Limited</li> <li>• China United Network Communications</li> </ul>
Management, Scientific, and Technical Consulting Services	<ul style="list-style-type: none"> <li>• WorleyParsons Limited</li> <li>• AECOM</li> <li>• Clariant AG</li> </ul>
Architectural, Engineering, and Related Services	<ul style="list-style-type: none"> <li>• Louico</li> <li>• Al Mayssan Technical Services Co. Ltd.</li> <li>• GCC Lab Calibration Services Company</li> </ul>
Scientific Research and Development Services	<ul style="list-style-type: none"> <li>• Roche Holding AG</li> <li>• Syneos Health, Inc.</li> <li>• Wuxi AppTec Co., Ltd.</li> </ul>
Legal Services	<ul style="list-style-type: none"> <li>• Insurance Australia Group</li> <li>• Shine Corporate</li> <li>• NEXITY</li> </ul>
Accounting, Tax Preparation, Bookkeeping, and Payroll	<ul style="list-style-type: none"> <li>• primetrust AG</li> <li>• Credit Suisse Solution Partners AG</li> <li>• Ernst &amp; Young Middle East</li> </ul>
Software Publishers	<ul style="list-style-type: none"> <li>• Microsoft Corporation</li> <li>• Oracle Corporation</li> <li>• Black Knight, Inc.</li> </ul>
Sound Recording Industries	<ul style="list-style-type: none"> <li>• Mood Media Corporation</li> <li>• Kobalt Music Group Limited</li> <li>• GMM Grammy Public Company</li> </ul>
Automotive Equipment Rental and Leasing	<ul style="list-style-type: none"> <li>• Dnb Bank Asa, Filial af Dnb Bank Asa, Norge</li> <li>• Ford Motor Company</li> <li>• Multilease AG</li> </ul>
Data Processing, Hosting, and Related Services	<ul style="list-style-type: none"> <li>• BDCOM Online Ltd.</li> <li>• AXA Group Operations Switzerland AG</li> <li>• Nespresso IS Services SA</li> </ul>

## Appendix B – Overview of Trade Gravity Model

We ground our analysis of potential diversification pathways by using a traditional gravity model, supplemented with a density metric from economic complexity analysis. Gravity models consider bilateral trade between countries, where size (such as population and economic size) and distance (such as geographical distance and distance between productive structures) influence the volume of trade between the two countries. We use bilateral trade data, cleaned using the Bustos-Yildirim method as used in the Atlas of Economic Complexity. This method essentially leverages the dual reporting structure of trades from both importers and exporters, in order to adjust for inconsistencies in bilateral trade data from UN COMTRADE, at the 4-digit HS-4 product level.

We use a PPML (Pseudo-poisson maximum likelihood) model, specified as follows:

$$E[Y_{od}^p | \mathbb{Z}] = \exp^{\mathbb{Z}\beta}$$

Here,  $Y$  signifies the value of trade in product  $p$  from origin  $o$  to destination  $d$ .  $\mathbb{Z}$  is a set of covariates that either enhance or detract trade, including GDP per capita, population, whether the two countries have a contiguous border, and whether they share a common language.  $\mathbb{Z}$  also contains a constant and variables corresponding to geographical distance between the two countries, as well as the computed density of product  $p$  for origin  $o$ . PPML models allow for zeros in modelling trade data, thus enabling analysis of trade expansion pathways for countries at the intensive margin as well as the extensive margin (products that a country does not currently produce). However, the results utilized in this report focus only on product-destination combinations for Jordan where there were nonzero exports in the trade data.

Globally, we first estimate the gravity equations for 2014, for every origin-destination, for every product. We then validate our estimates by assessing whether the residuals are inversely predictive of future economic growth (for the period 2014-2018) and find that it is indeed the case. We also conduct several robustness checks through alternate specifications. Having validated our model globally, we then look at the predicted exports from Jordan to various destinations from the model. We also find a strong correlation between the residual in the model's predictions versus actual exports in 2014 and out-of-sample growth of Jordan's exports to destinations over the next four years. This is true for both Jordan's overall exports to major trading partners — both Jordan's largest actual export destinations and Jordan's largest predicted trading export destinations. The predictions reflect the economic sizes of Jordan and the destination countries, along with a host of other characteristics that might influence trade. These predictions provide a starting point for the analysis of possible under-exported margins and imply potential constraints to international trade for HS-4 certain products and in reaching certain destinations.