

Macroeconomic Stability and Long-Term Growth: Lessons from Jordan

CID Speaker Series

February 7, 2020



GROWTH LAB

Center for International Development
at Harvard University

Jordan Team (2018-2019)

Miguel Angel Santos

Tim O'Brien

Ermal Frasheri

Patricio Goldstein

Ana Grisanti

Semiray Kasoolu

Nikita Taniparti

Jorge Tapia

Ricardo Villasmil

Outline

- About the Project
- What did we learn about Jordan?
- Impact of our Research
- Q&As

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الدَّيْوَانُ الْمَلَكِي الْهَاشِمِي

ROYAL HASHEMITE COURT



About the Project: The Challenge

 Middle East Media Research Institute

Protests In Jordan Following Austerity Measures – Including ...

Introduction. For years, Jordan has been in economic crisis, with a budget deficit and a large public debt. Most of the revenue for the budget comes from aid in ...

Feb 21, 2018



 The Arab Weekly

Jordan price hikes add to instability fears | AW staff | AW

LONDON - Jordan is increasing the prices of fuel and bread as it seeks revenues ... sparked protests during which demonstrators called for the cabinet to resign.

Feb 4, 2018



 Al Jazeera America

Jordan's economic crisis threatens political stability

Jordan's debt has now reached \$40bn and its debt-to-gross-domestic-product ratio ... "People are protesting in several areas in the country and demanding the ...

Feb 14, 2018



 Jordan Times

Syrian refugee population increases slightly last year

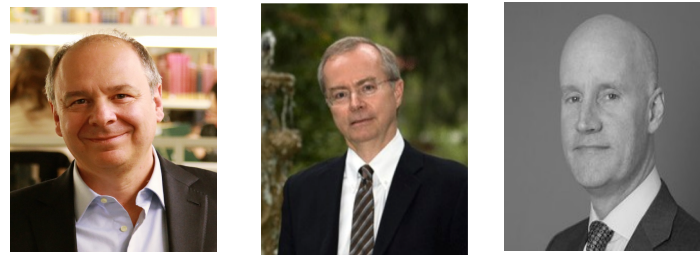
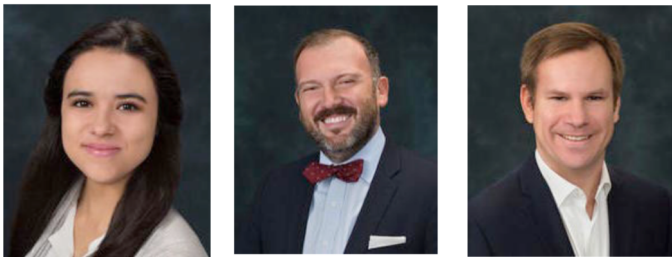
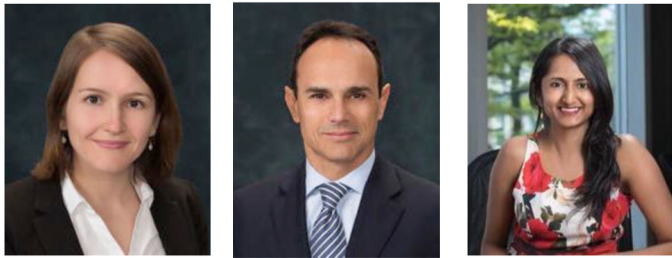
AMMAN — The overall number of registered Syrian refugees in Jordan slightly increased from 655,344 in 2016 to 655,624 in 2017, while the number of Syrian ...

Feb 19, 2018

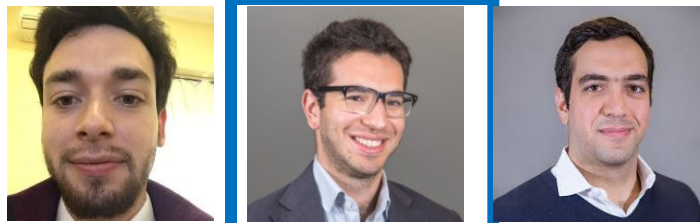


About the Project: The Team

Growth Lab (11)

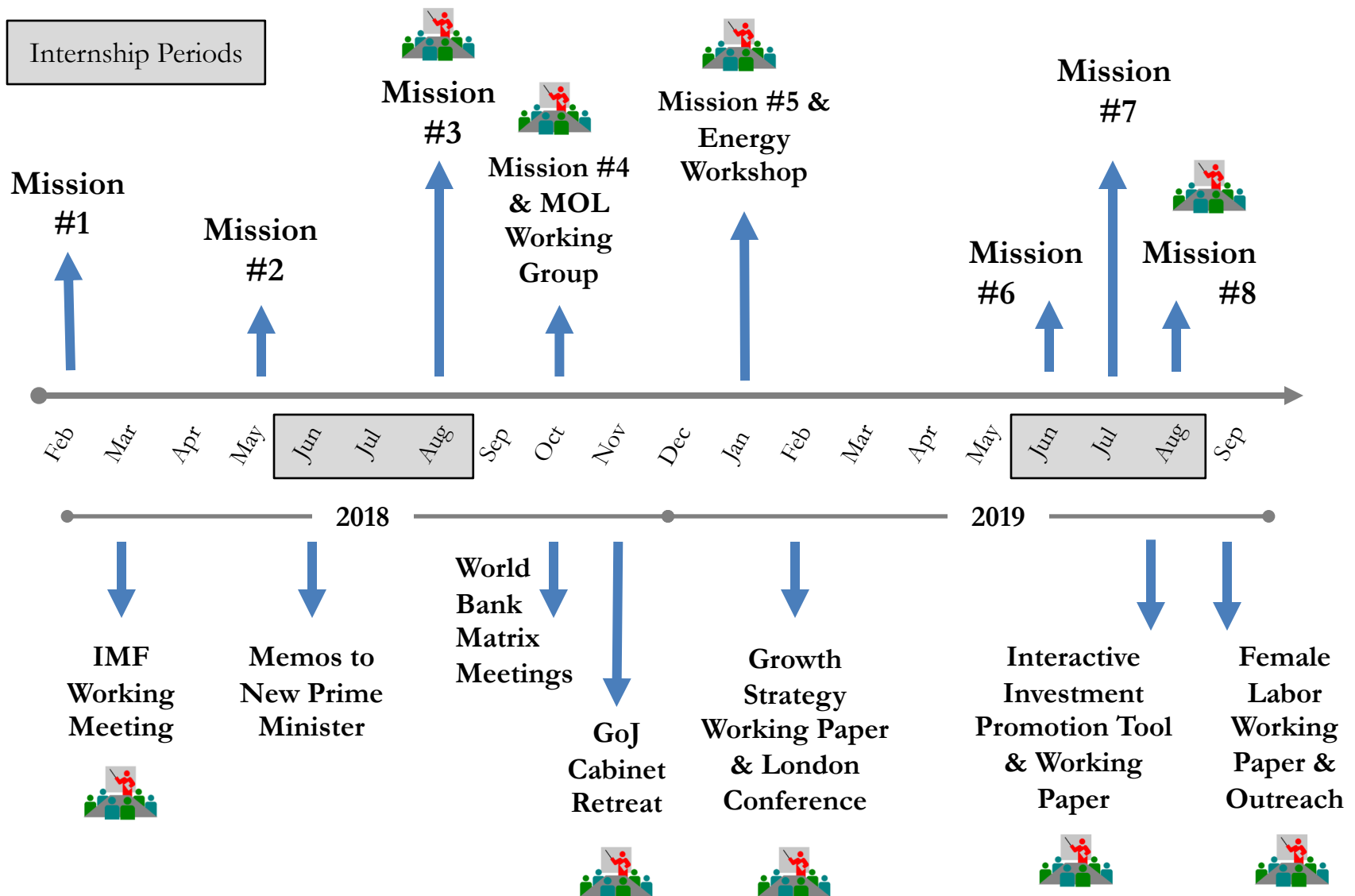


External
faculty,
affiliates &
consultants
(6)



Summer
Interns &
SYPAs
(6)

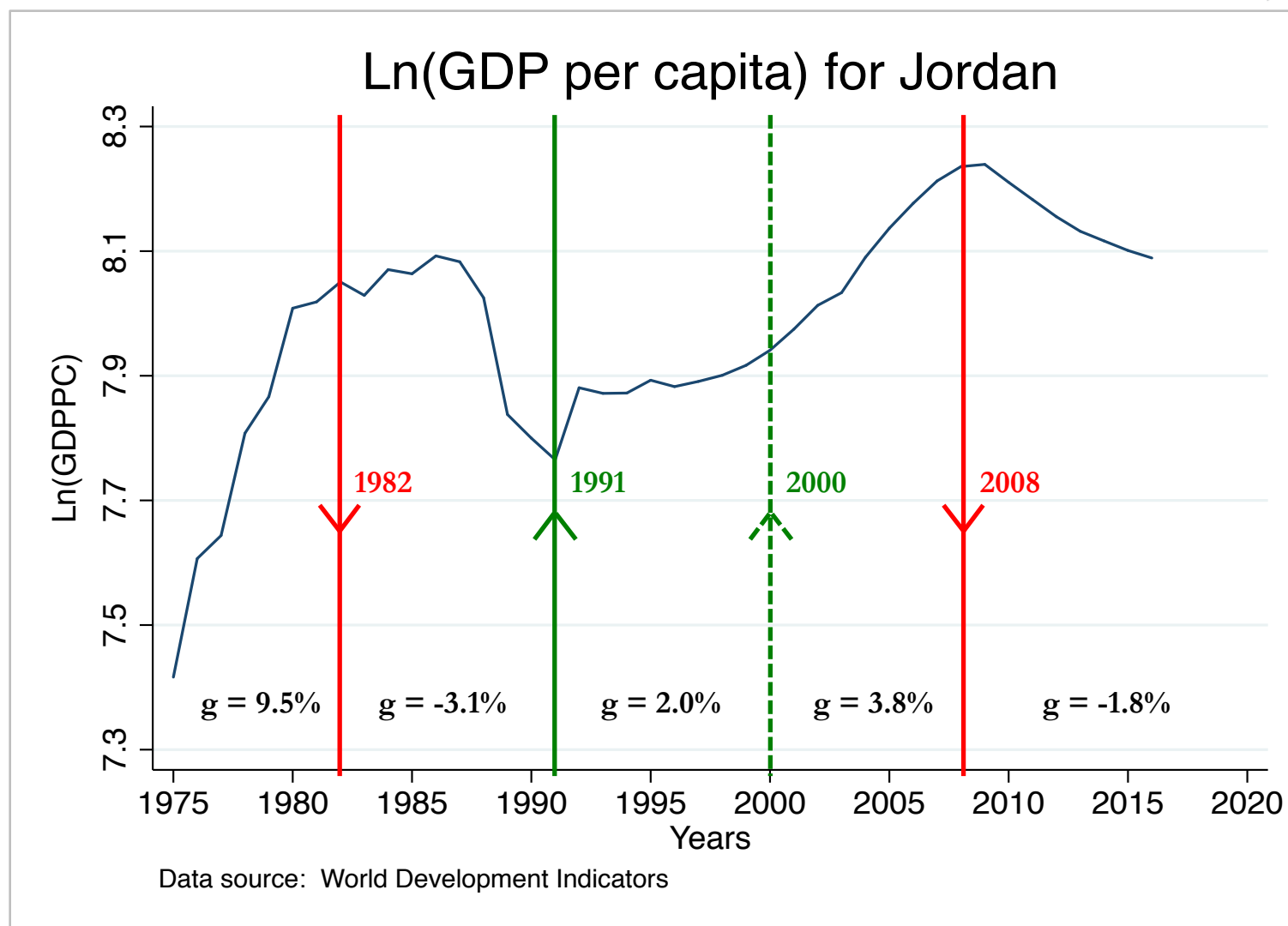
About the Project: Timeline



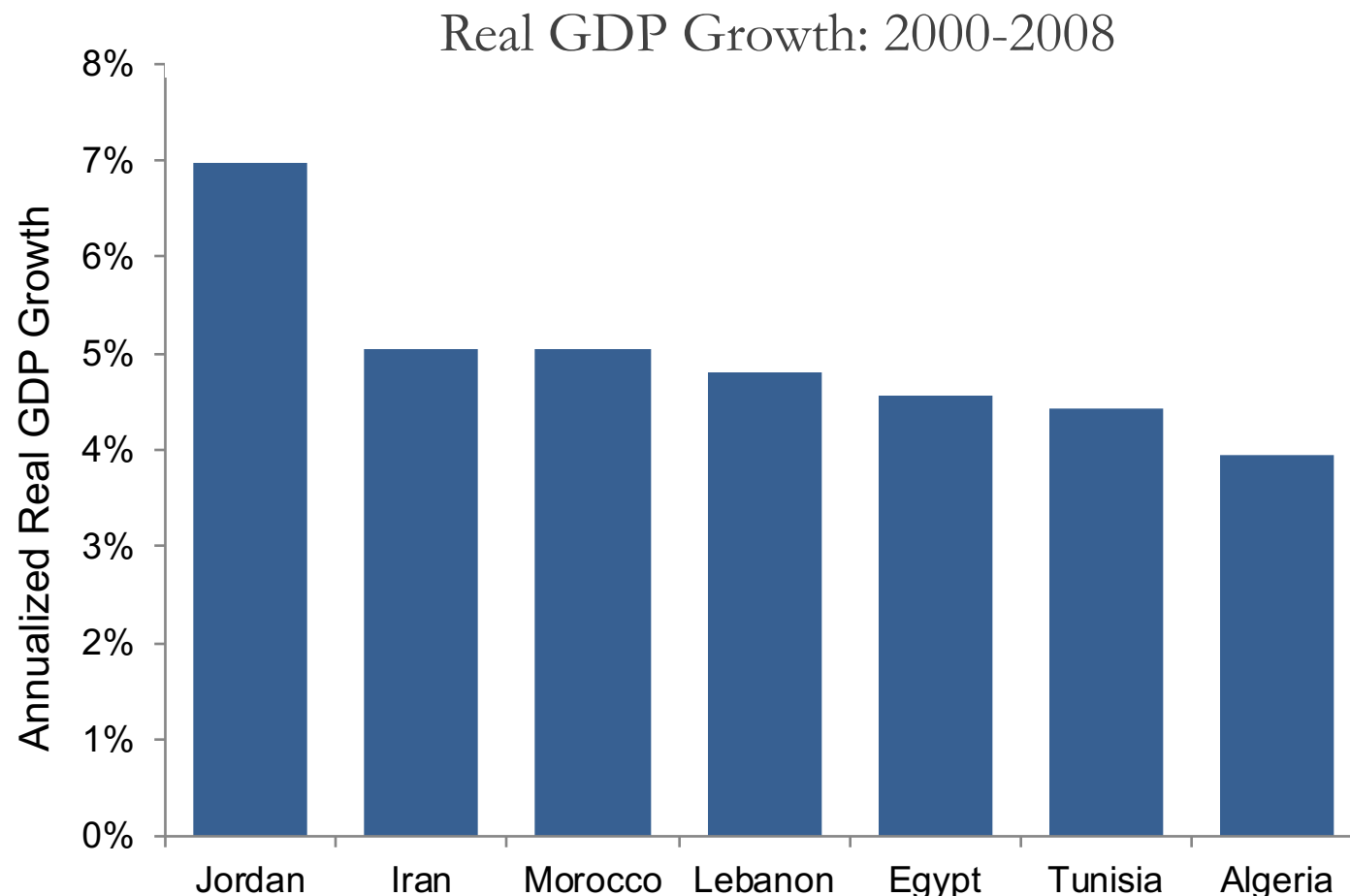
Outline

- About the Project
- What did we learn about Jordan?
- Impact of our Research
- Q&As

Per capita income has fallen over the last decade



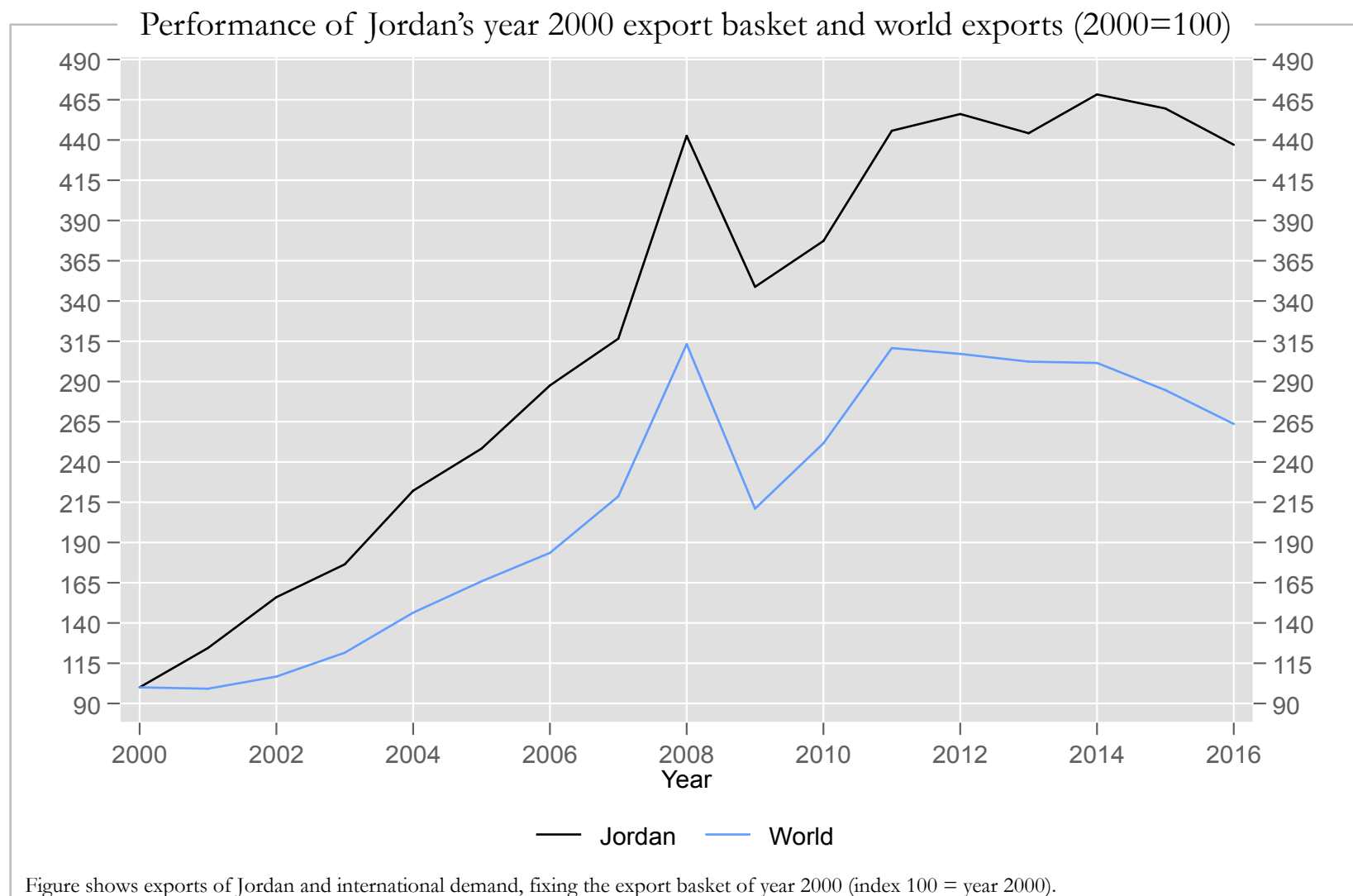
Jordan is capable of achieving strong growth



Note: Comparators here include other middle-income MENA countries, excluding Syria, Iraq, Yemen, Libya, and the West Bank & Gaza.

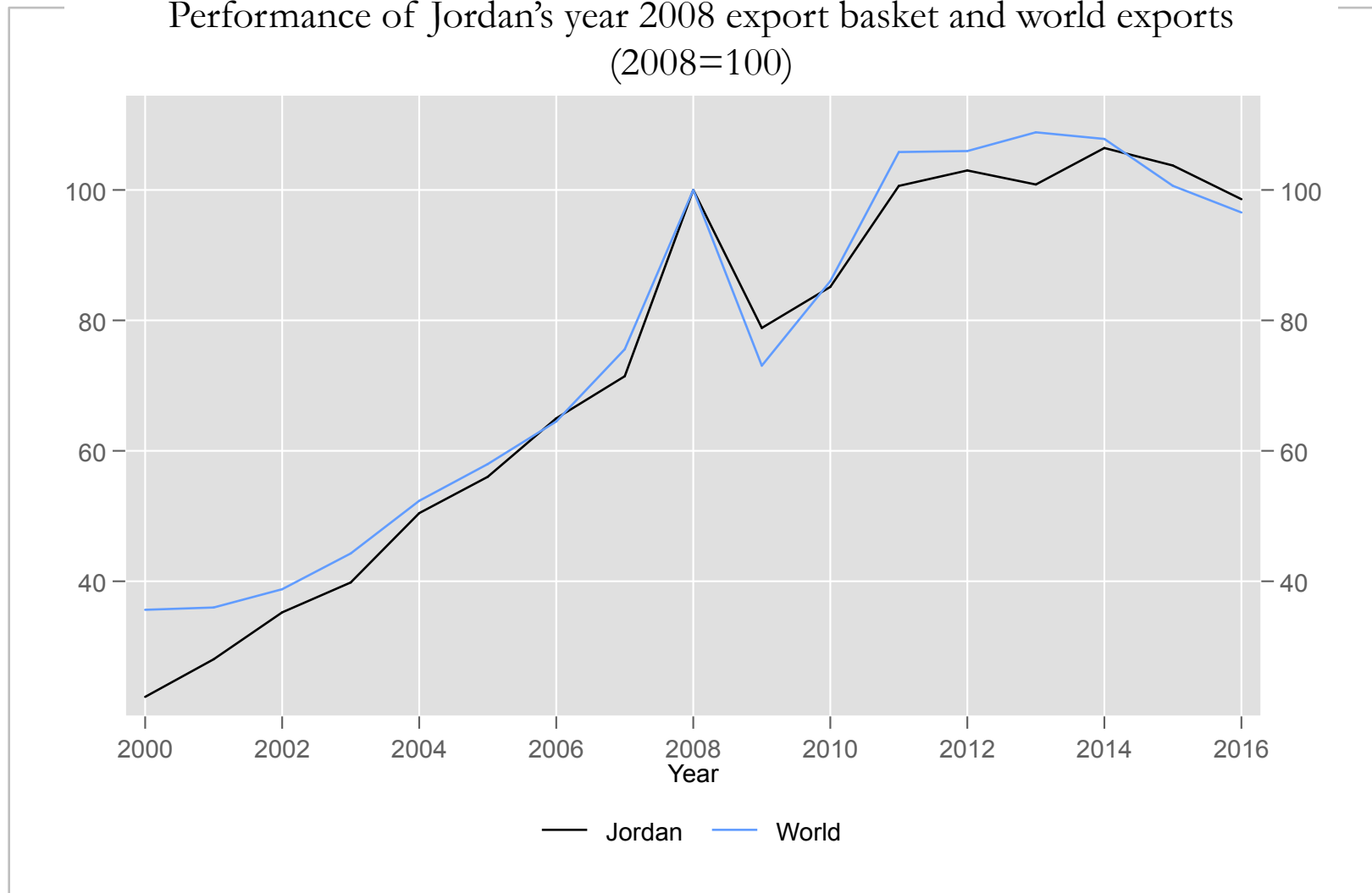
Source: CID calculations based on World Development Indicators

The export boom was not just good luck ...



And the bust was not Jordan-specific

Performance of Jordan's year 2008 export basket and world exports
(2008=100)

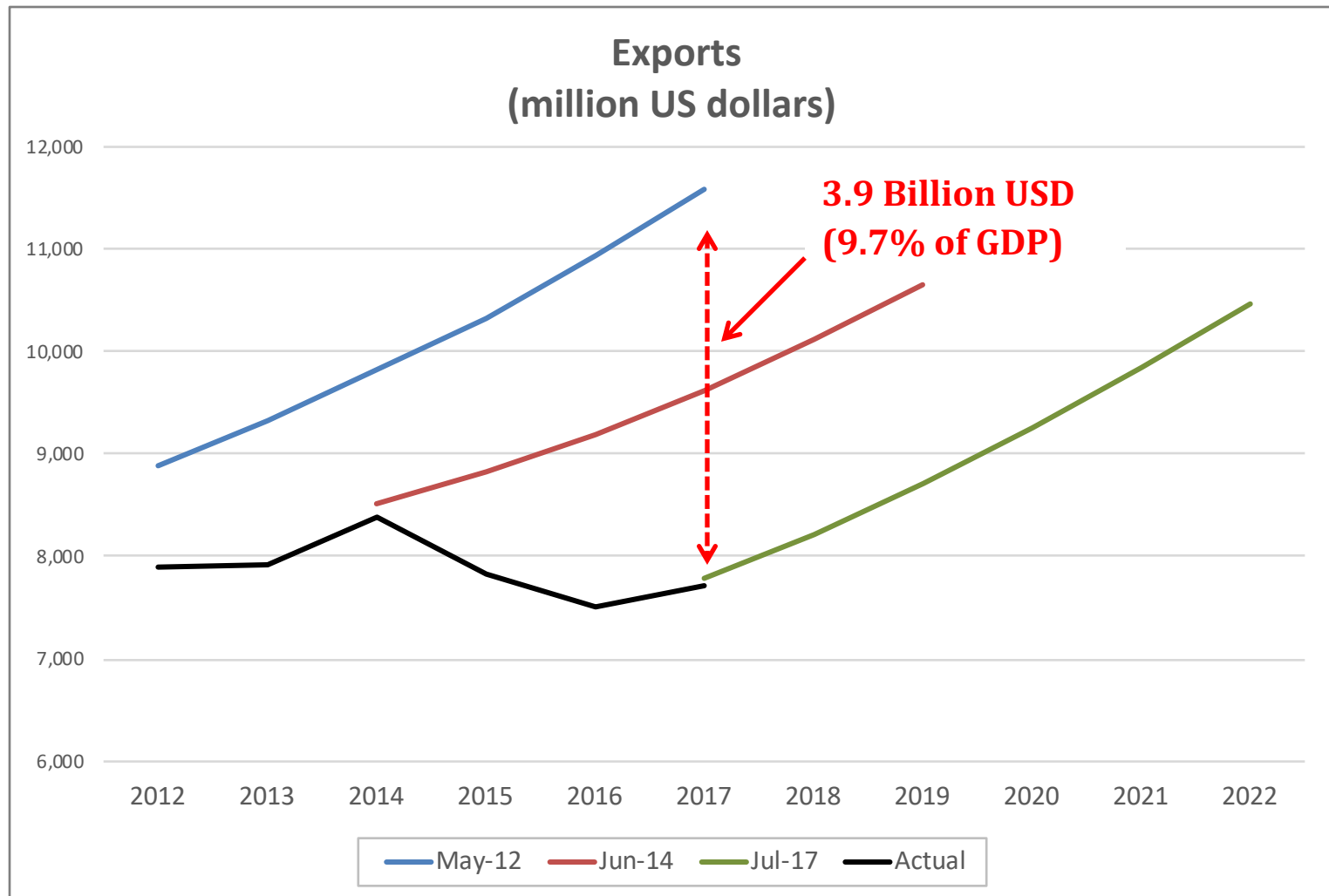


Exports were hit by global (2008) and regional (2011) shocks



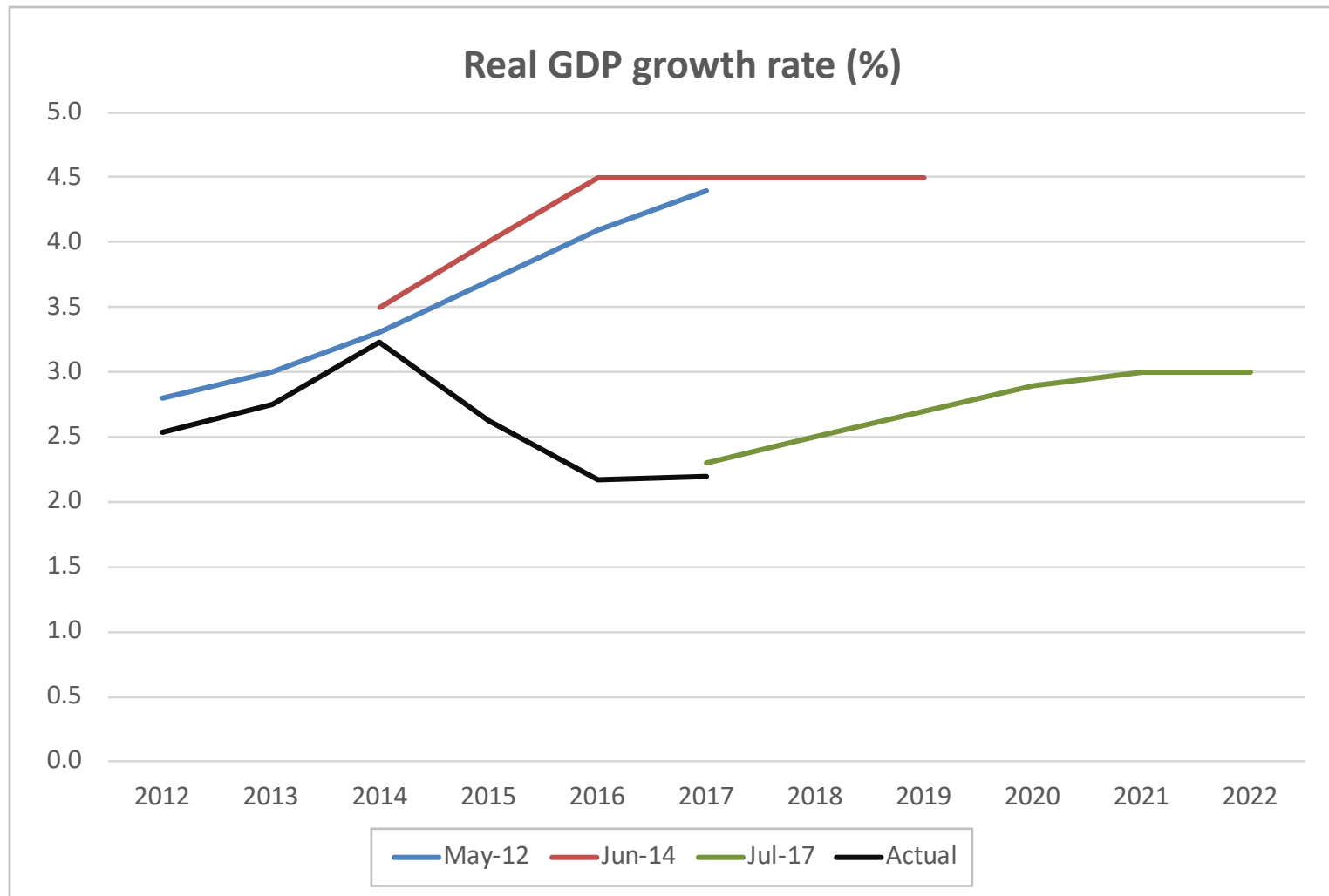
Source: Central Bank of Jordan

As a result, exports underperformed expectations



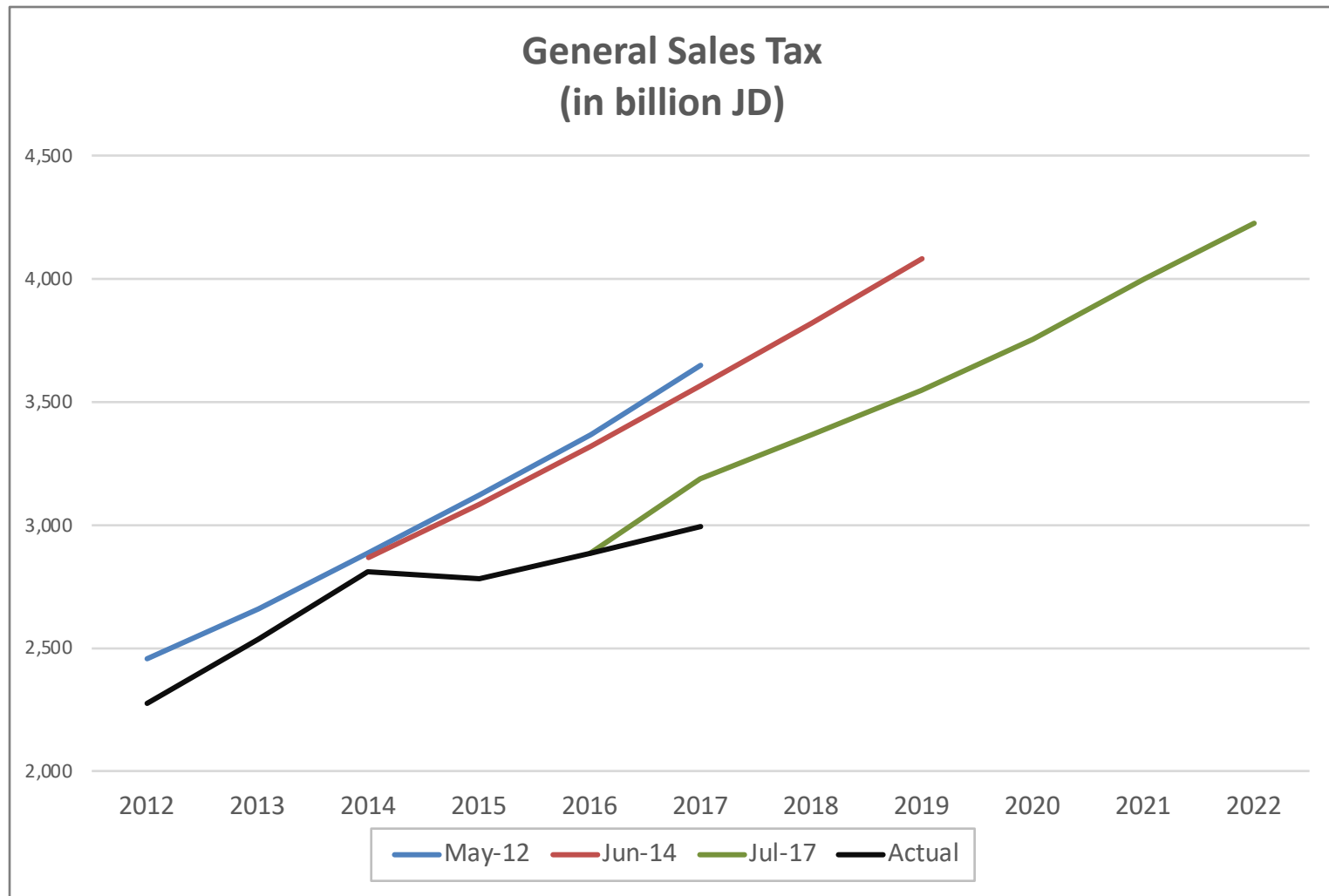
Sources: Central Bank of Jordan; International Monetary Fund

... growth underperformed expectations



Sources: Central Bank of Jordan; International Monetary Fund

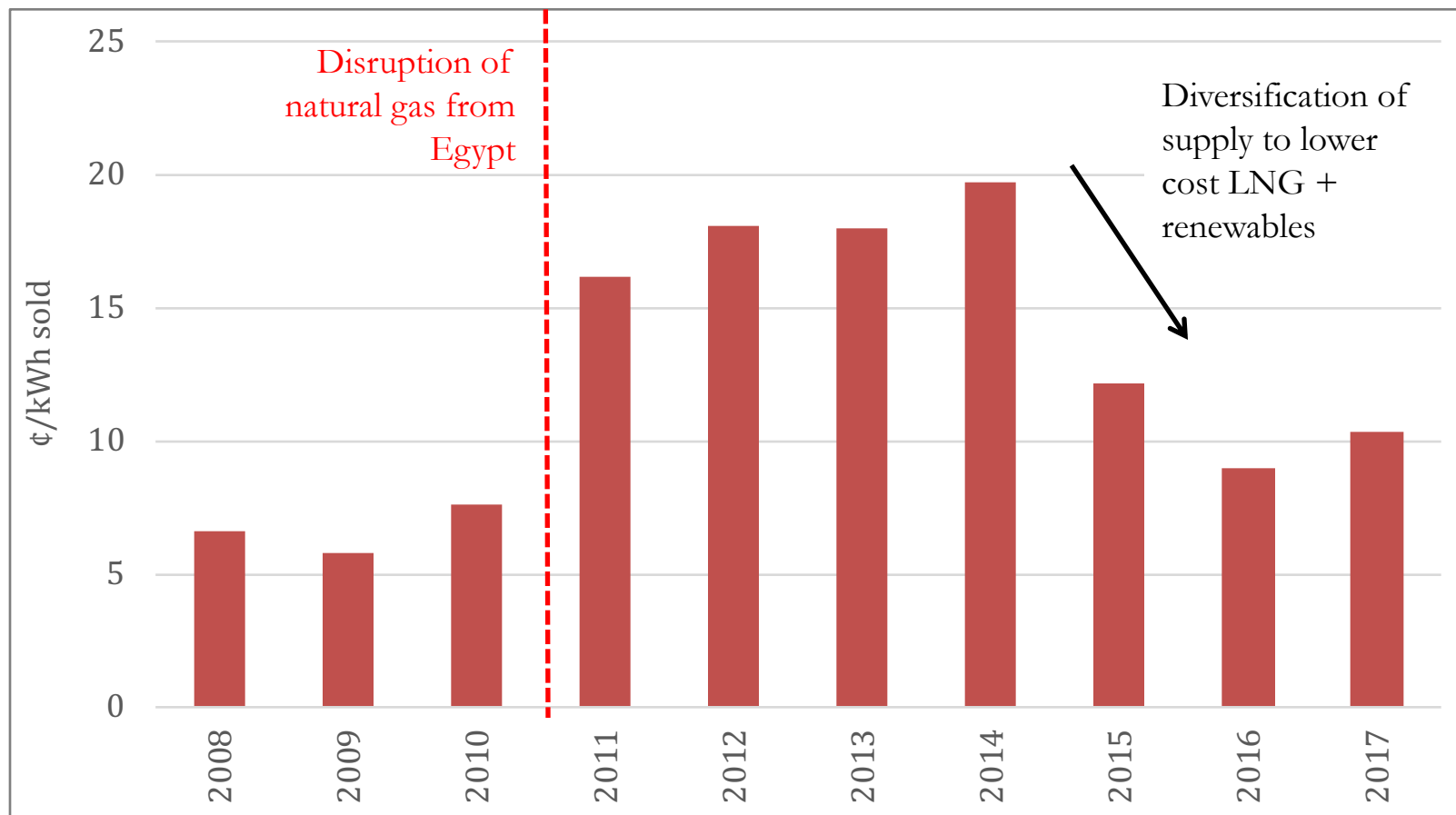
... and tax revenue underperformed expectations



Sources: Central Bank of Jordan; International Monetary Fund

All while energy prices in Jordan skyrocketed

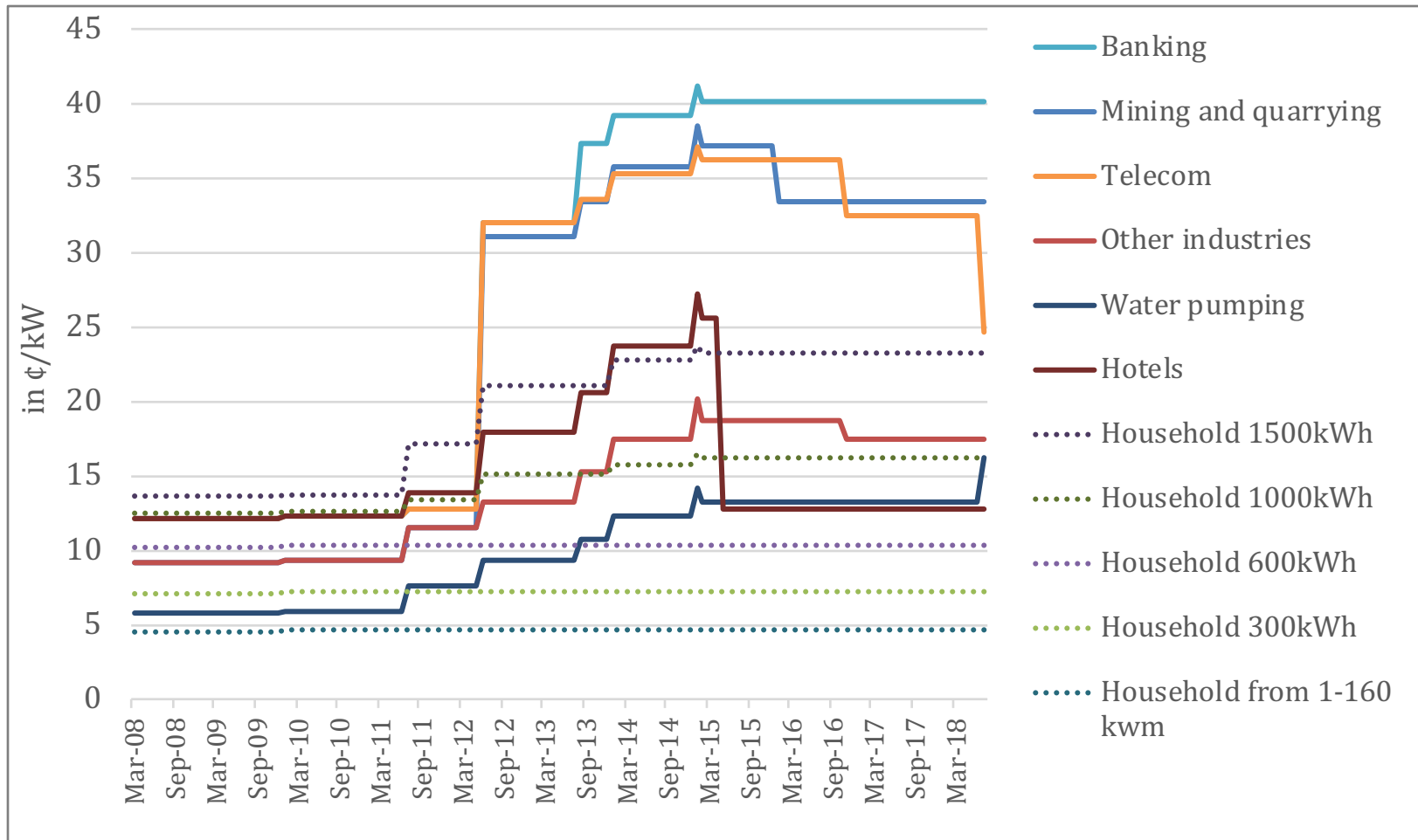
NEPCO's Cost of Energy Purchased



Sources: NEPCO and Ministry of Energy and Mineral Resources

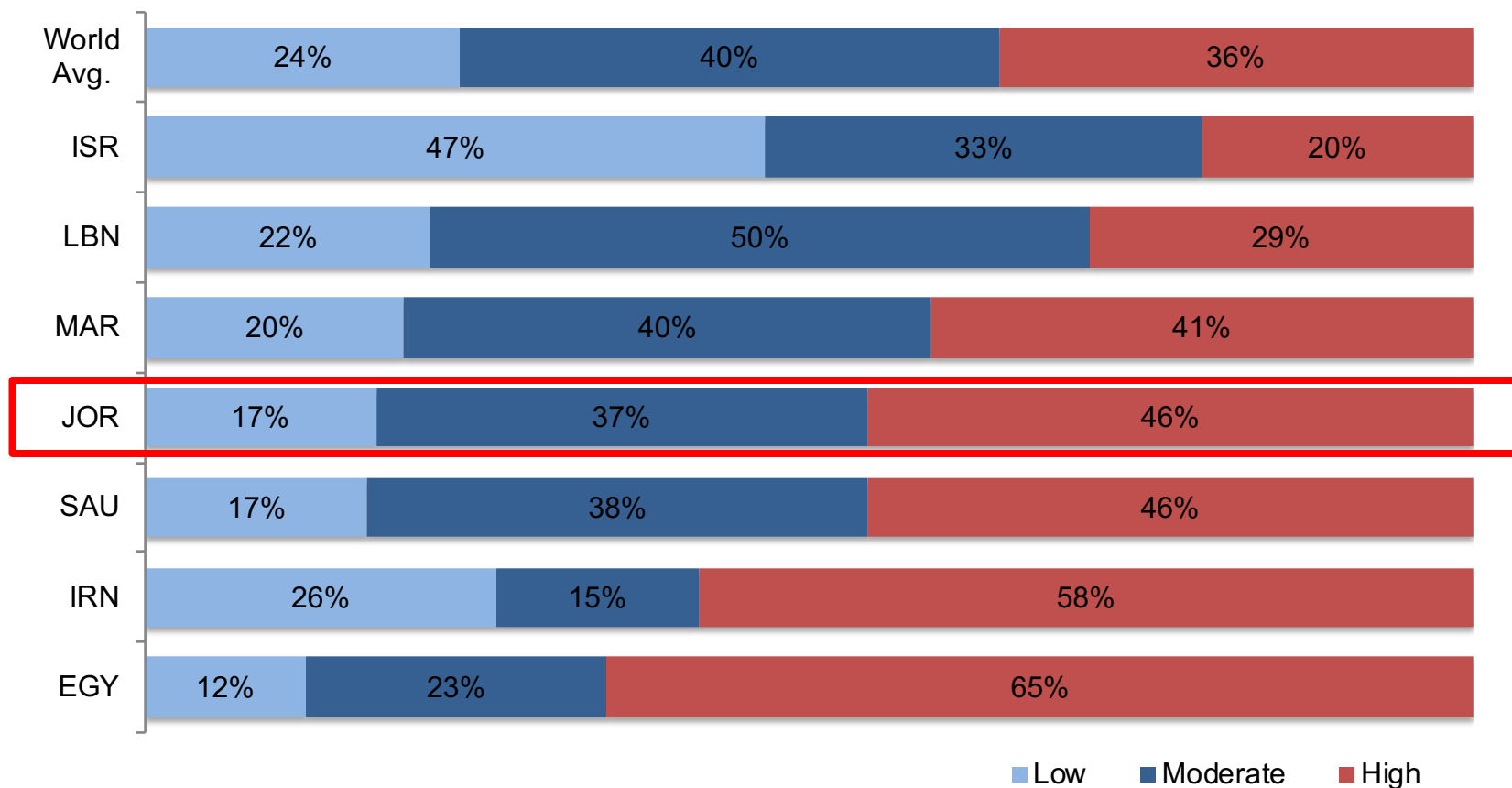
... forcing Jordan to adjust energy prices...

Electricity Tariffs over Time



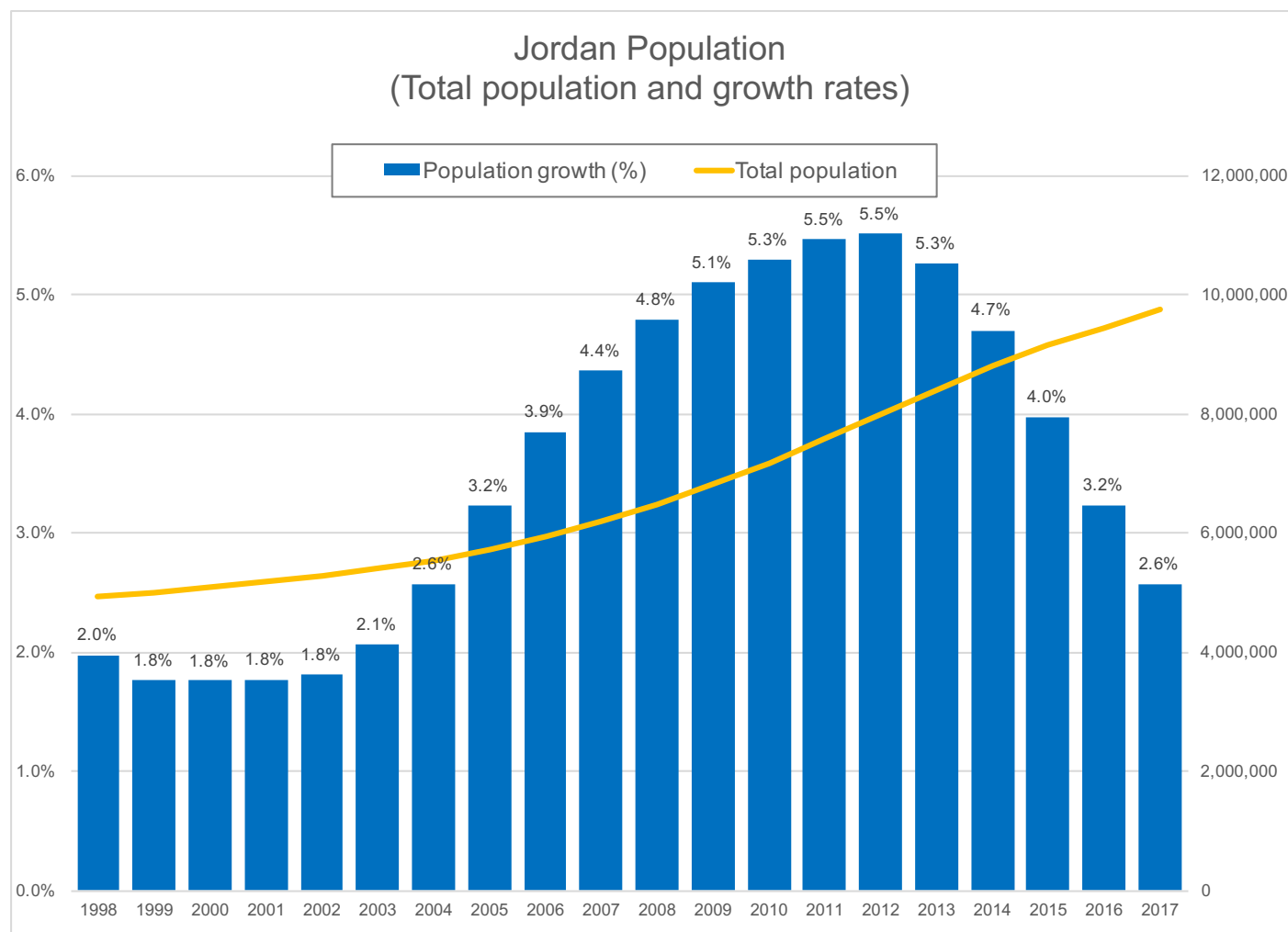
... impacting Jordan's energy-intensive manufacturing

Share of Manufacturing Value Added by Energy Intensity, 2010



Source: UNIDO, 2010

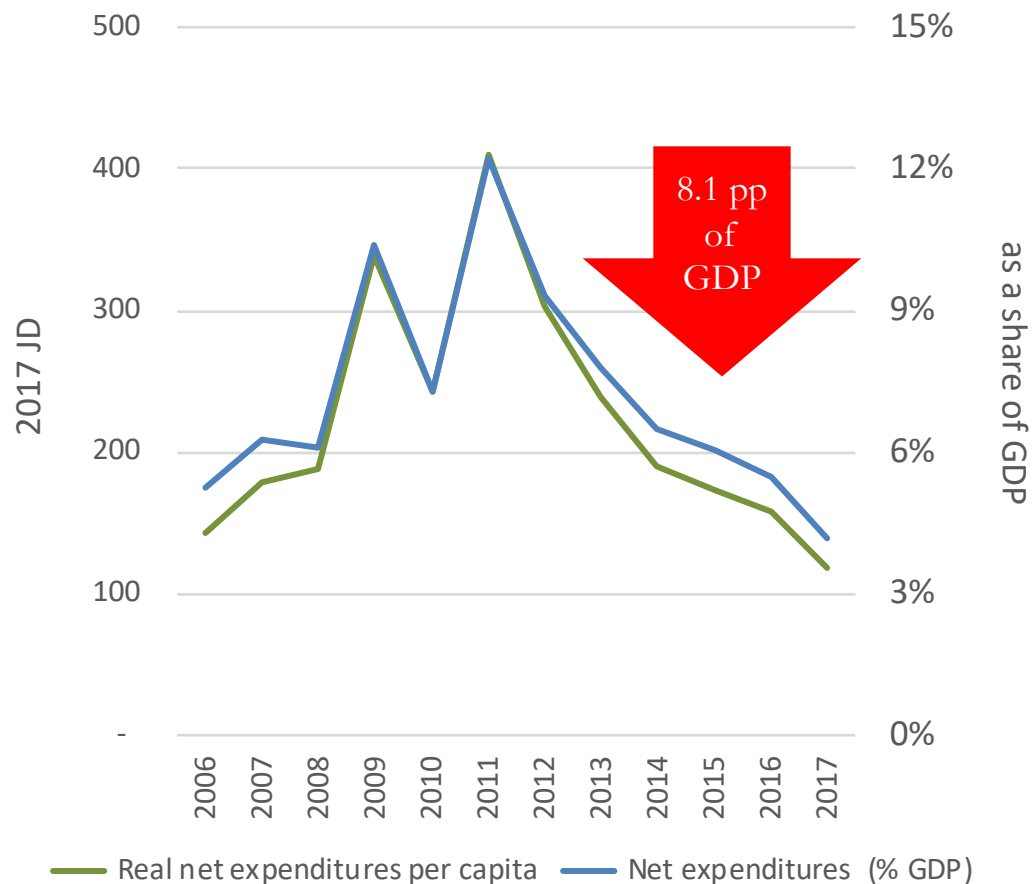
Refugee inflows increased Jordan's population by 50% (2011-17)



Source: World Development Indicators

The response was a world-class fiscal adjustment

Net expenditures
= (total expenditures – interest payments on the external debt) - (total revenues – grants)



Country	Period	Net expenditure contraction*
Jordan (with NEPCO & WAJ)	11 - 17	13.0
Greece	10 - 16	10.7
Jamaica	09 - 15	8.5
Jordan	11 - 17	8.1
Portugal	10 - 16	6.1
Spain	09 - 15	4.6

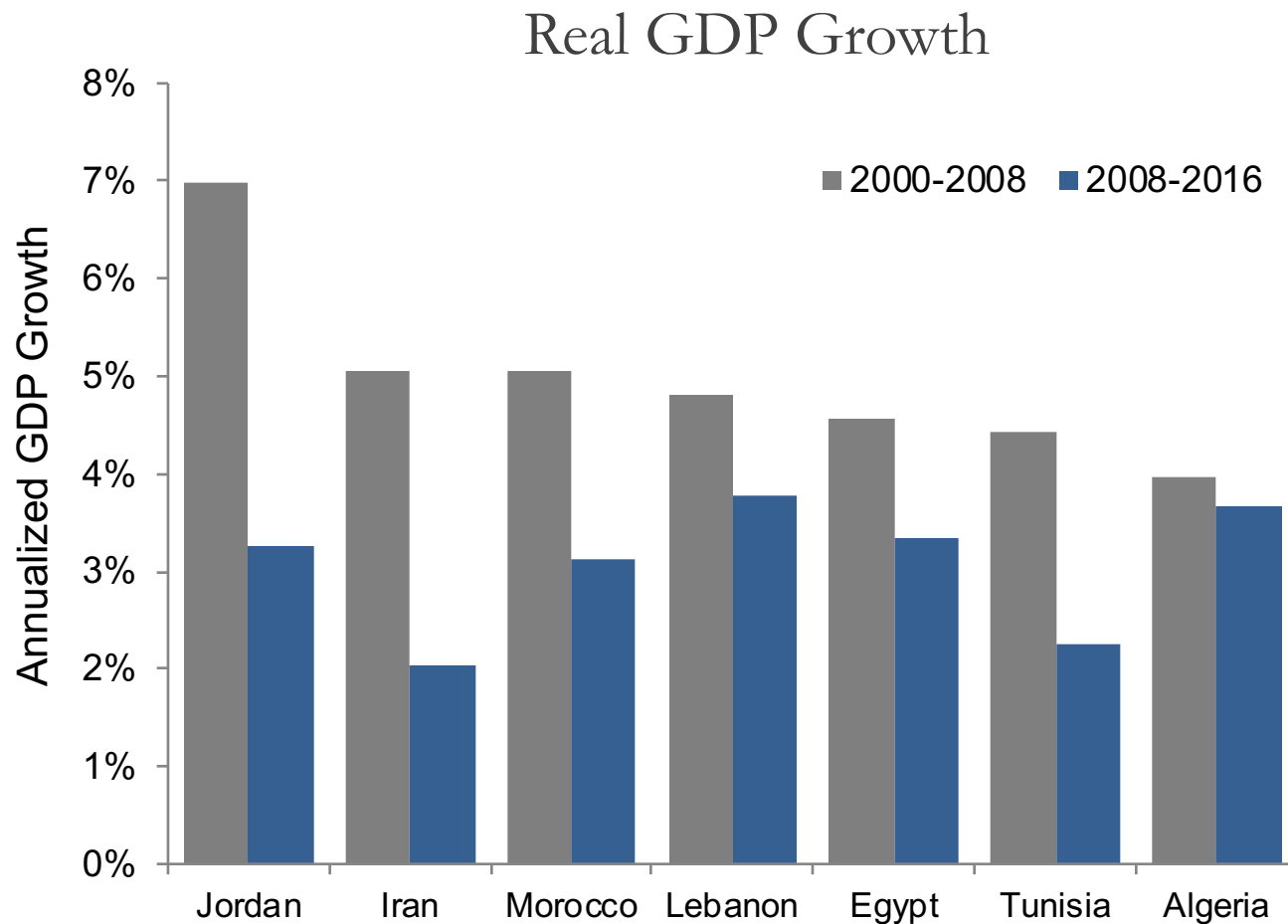
** In percentage points of GDP*

Sources: MOF Monthly Bulletins; WDI

With the economy proving extraordinarily resilient

Country	Period	Net Expenditure Contraction	CAGR (constant 2010 \$)
Greece	2010-2016	10.7	-3.3%
Jamaica	2011-2017	9.8	0.6%
Jordan	2011-2017	8.1	2.5%
Portugal	2010-2016	6.1	-0.5%
Spain	2010-2016	4.6	0.4%

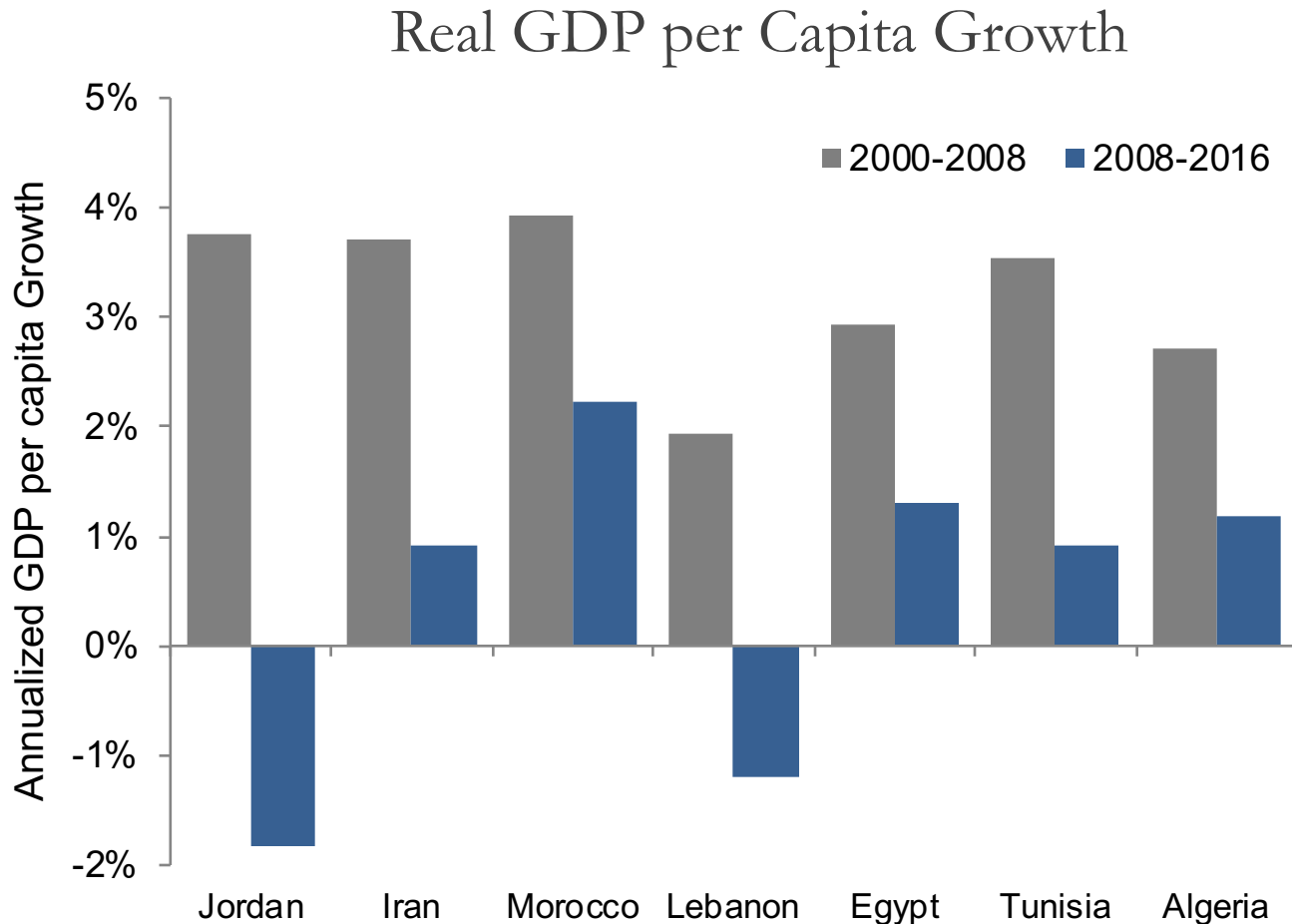
Growth has been in line with that of the region



Note: Comparators here include other middle-income MENA countries, excluding Syria, Iraq, Yemen, Libya, and the West Bank & Gaza.

Source: CID calculations based on World Development Indicators

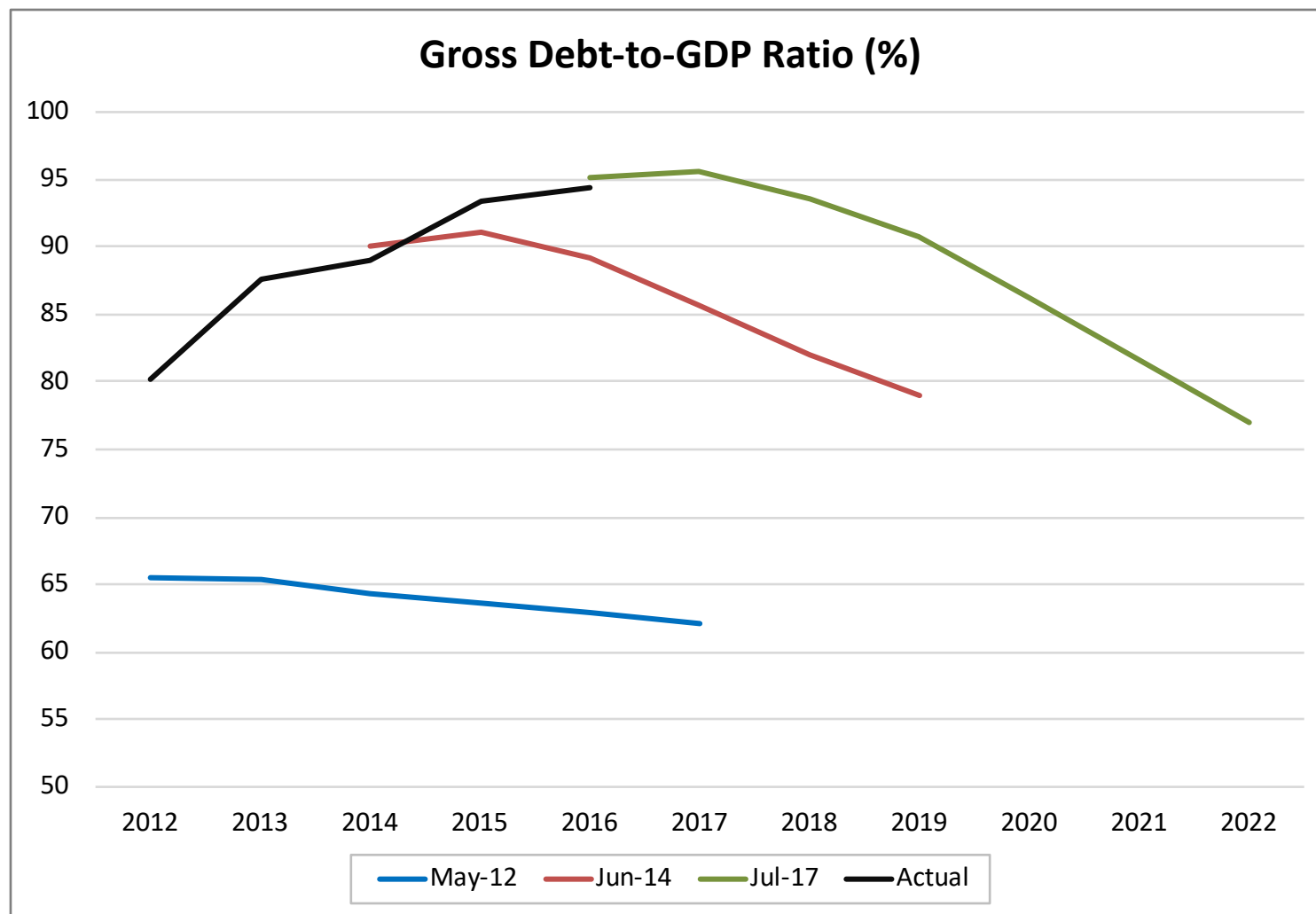
But given population growth, GDP per capita fell



Note: Comparators here include other middle-income MENA countries, excluding Syria, Iraq, Yemen, Libya, and the West Bank & Gaza.

Source: CID calculations based on World Development Indicators

Despite the large fiscal adjustment, debt-to-GDP rose



Sources: Central Bank of Jordan; International Monetary Fund

To reverse this trend, three things are needed

Bringing the debt/GDP to a more comfortable level will require:

- Continued fiscal consolidation
- Grants and official lending to keep interest rates low
- Faster growth

**Primary balance (including grants)
required
to bring down the debt from 95% of GDP in
2017 to 77% by 2025**

nominal interest rate

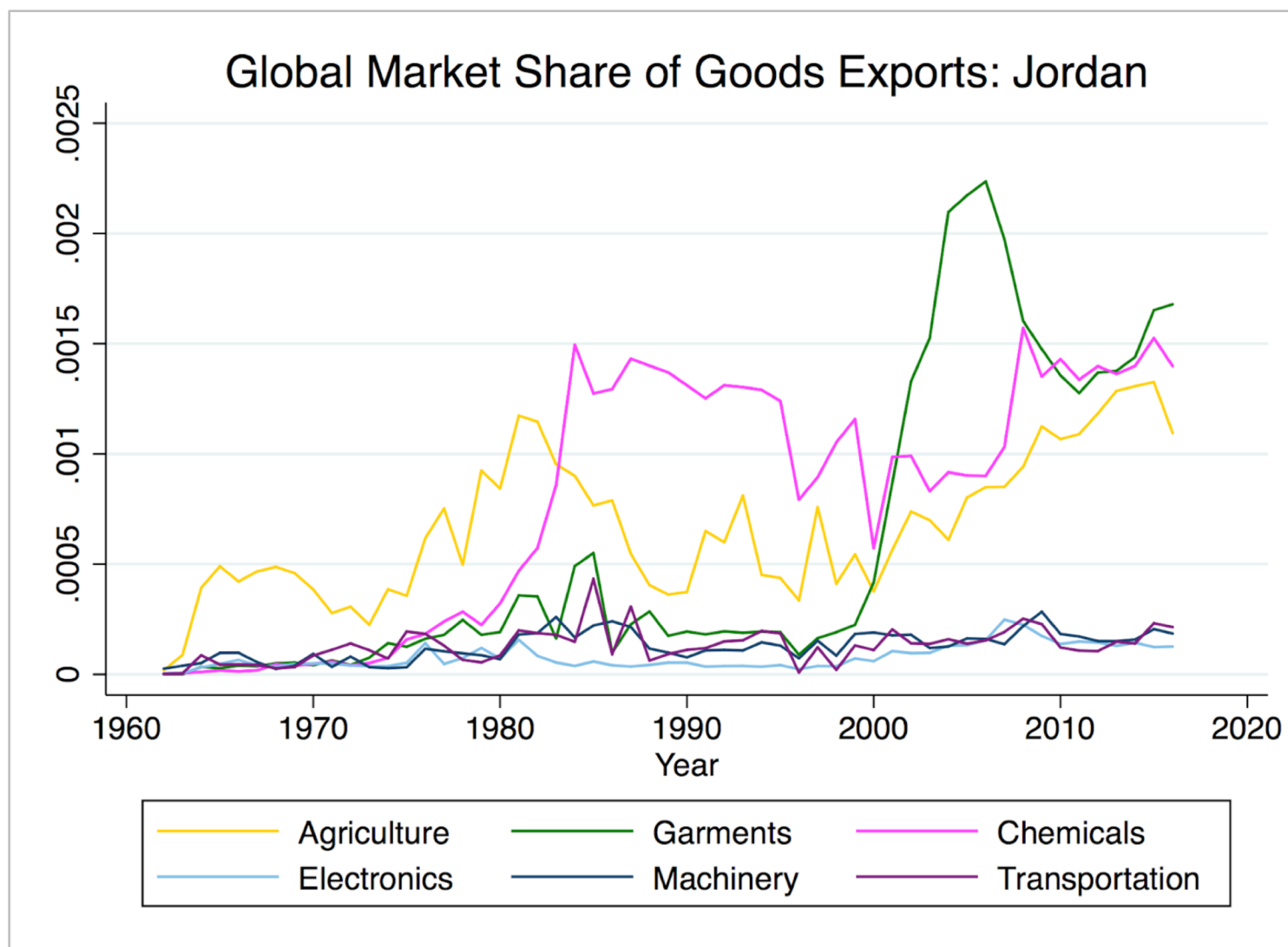
	4%	5%	6%	7%
0%	5.8%	6.6%	7.5%	8.4%
1%	4.8%	5.7%	6.6%	7.5%
2%	4.0%	4.8%	5.7%	6.5%
3%	3.1%	3.9%	4.8%	5.7%
4%	2.2%	3.1%	3.9%	4.8%
5%	1.4%	2.2%	3.1%	3.9%
6%	0.6%	1.4%	2.2%	3.1%

nominal growth rate

Source: CID calculations based on Central Bank of Jordan and Ministry of Finance data

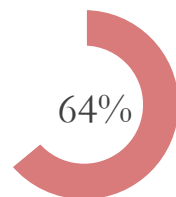
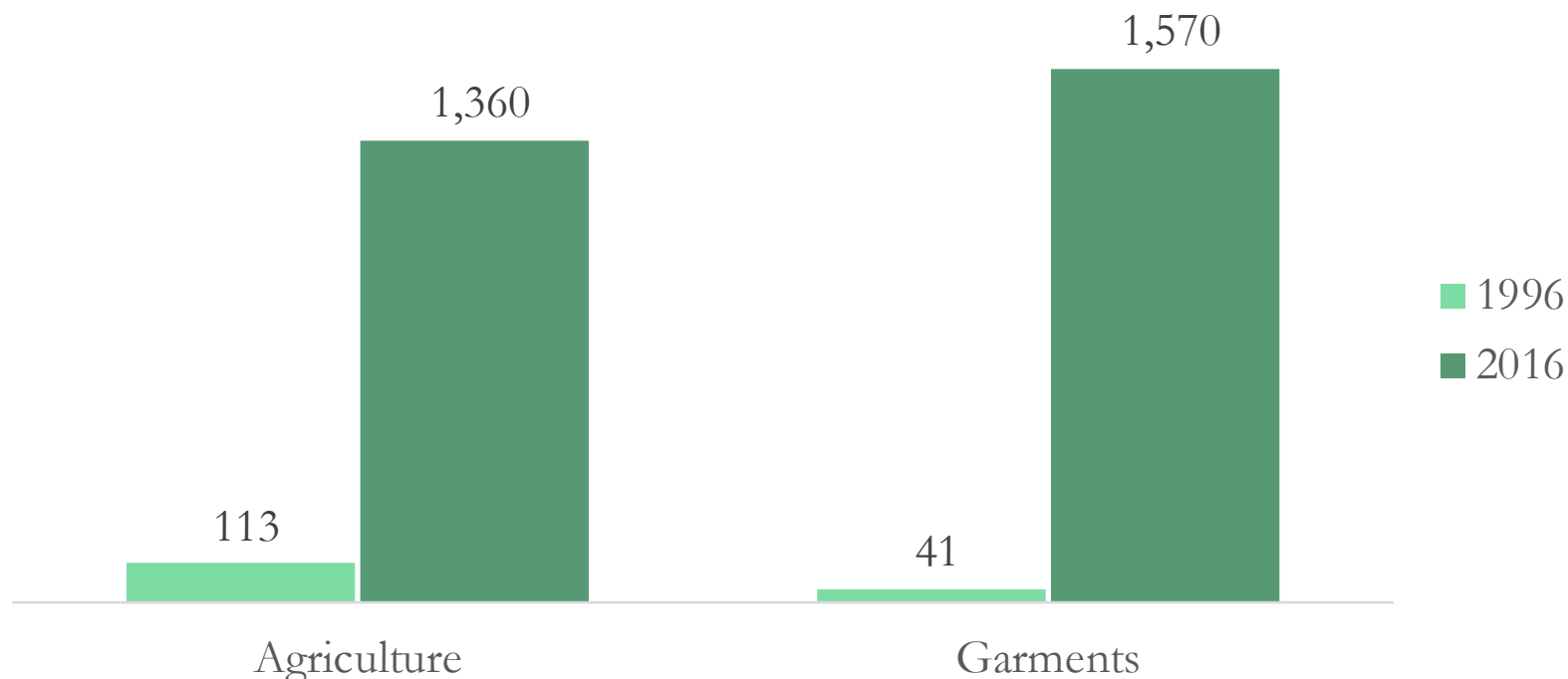
- It must be driven by exports and export-driven investments
 - There is no space for fiscal stimulus
 - Greater domestic demand without larger exports would lead to a wider external deficit
 - Growth engines must be tradable and globally competitive
- It must leverage the country's changing factor endowment
- And transform energy from a constraint to an opportunity

Past export growth was led by garments & agriculture

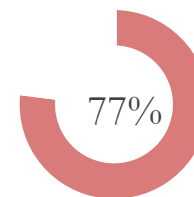


Which have relied on low-skill, foreign labor

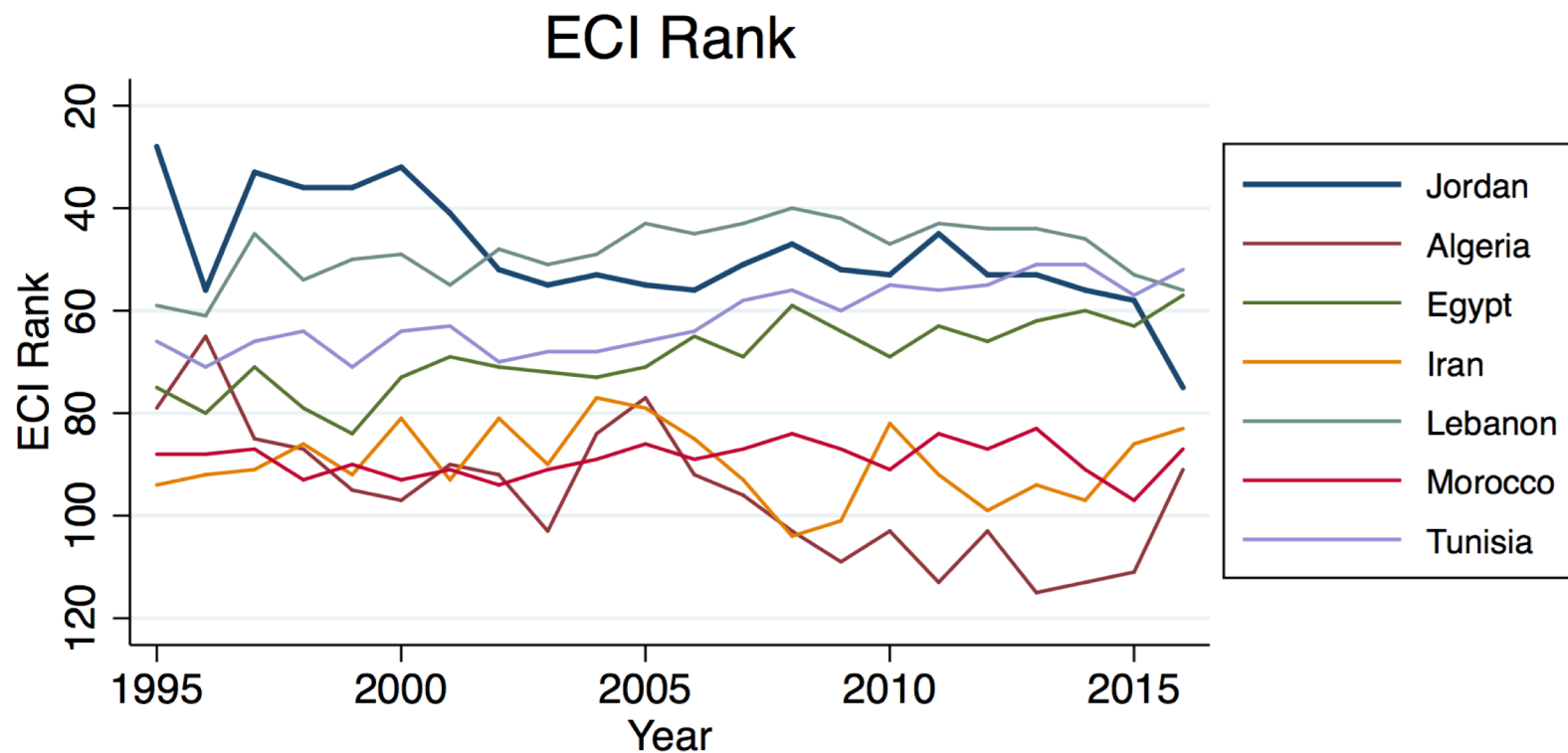
Jordan's Exports (million USD)



% Non-
Jordanian
workers in
2016



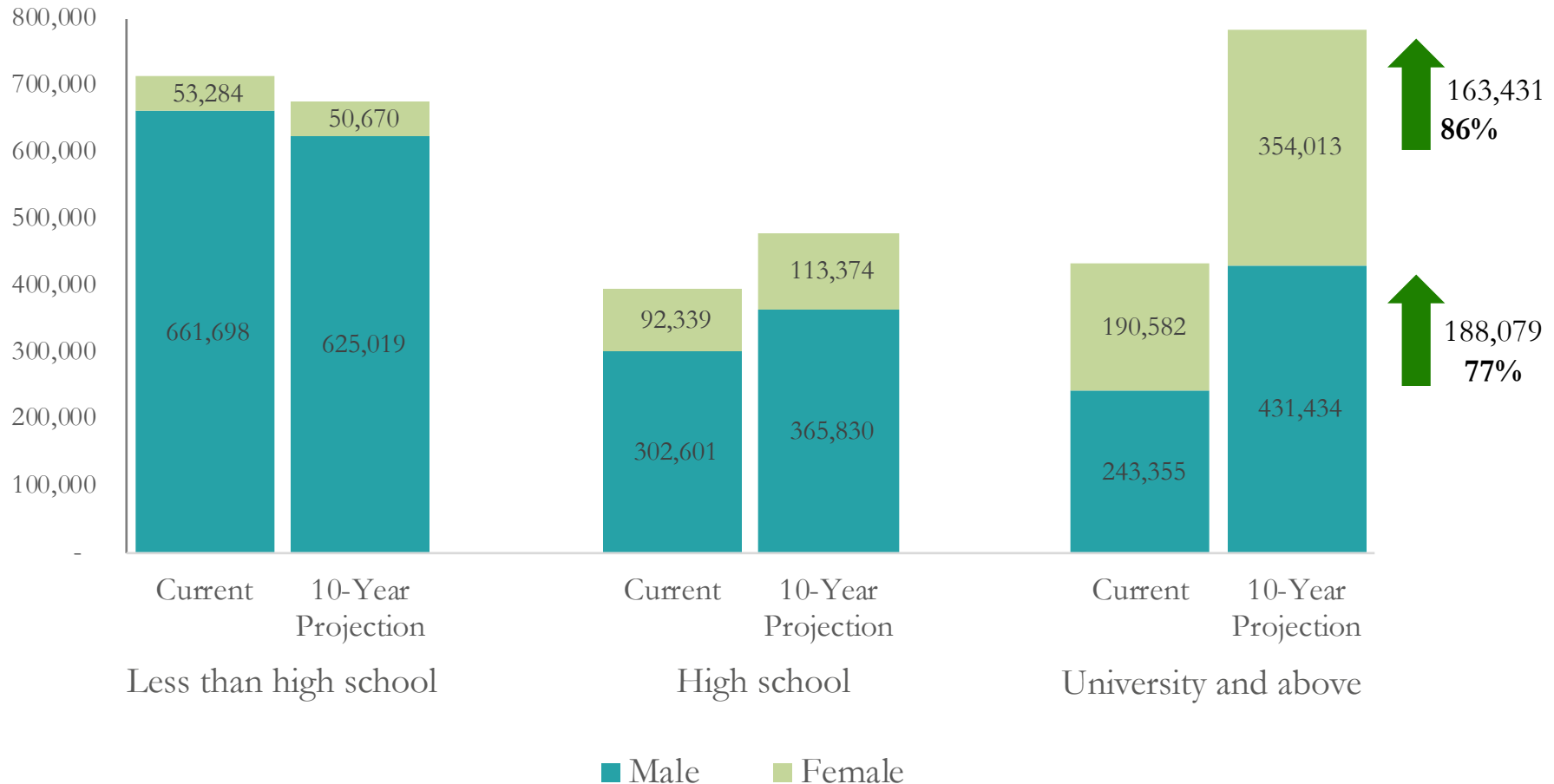
Economic complexity has fallen over two decades



Source: Atlas of Economic Complexity

But the country is increasingly high-skilled

The Changing Jordanian Labor Force

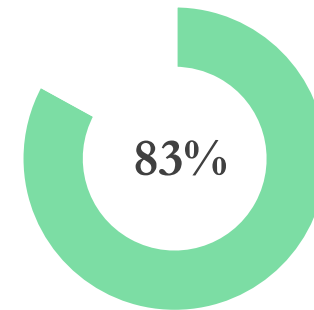


Result: High unemployment and emigration

Jordanian Unemployment Rate
by
Education Level



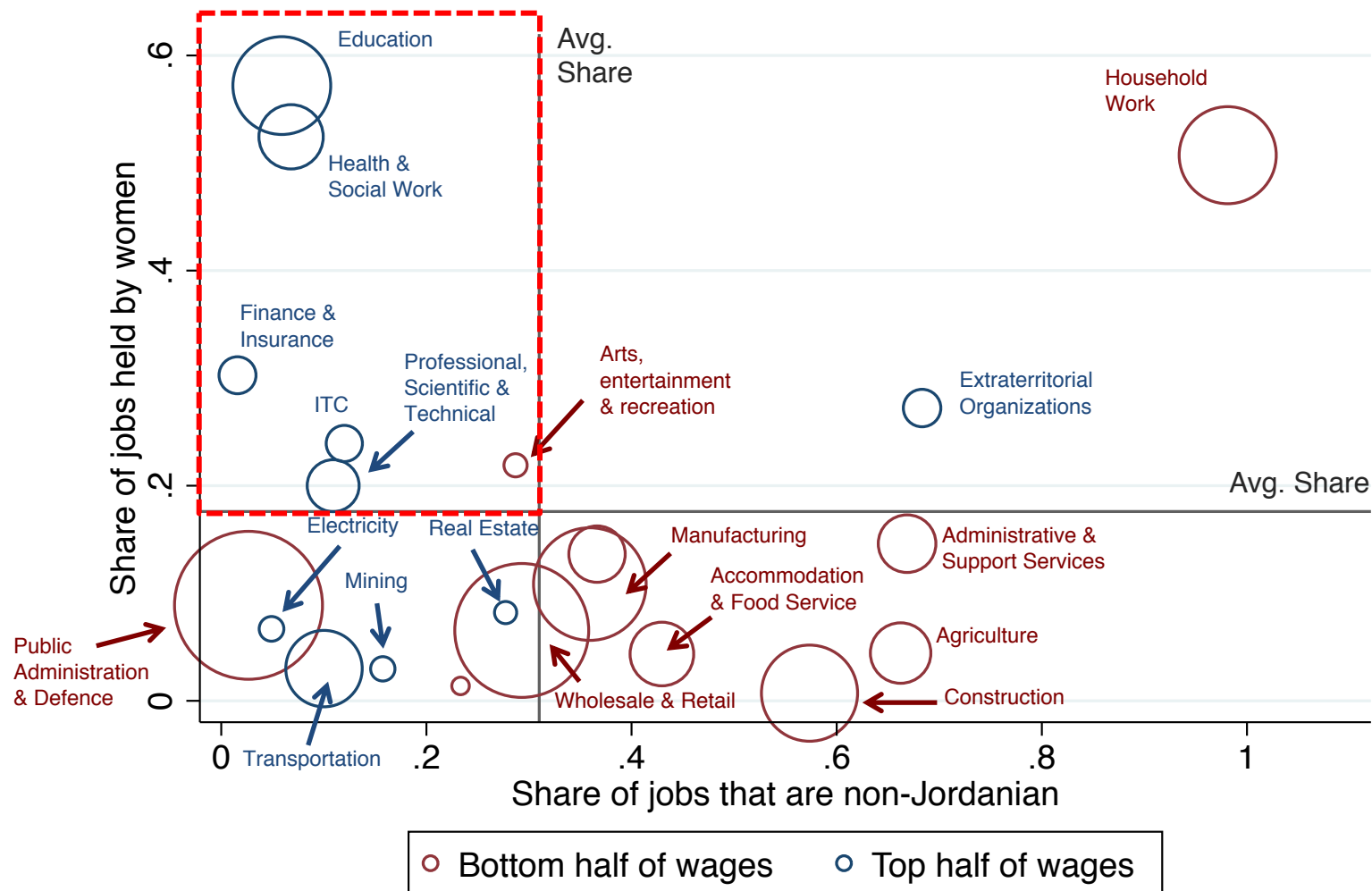
Jordanian Managers in Saudi
Arabia as a Share of Jordanian
Managers in Jordan



Jordanian Managers Median
Monthly Earnings
(Saudi Arabia / Jordan)

4x

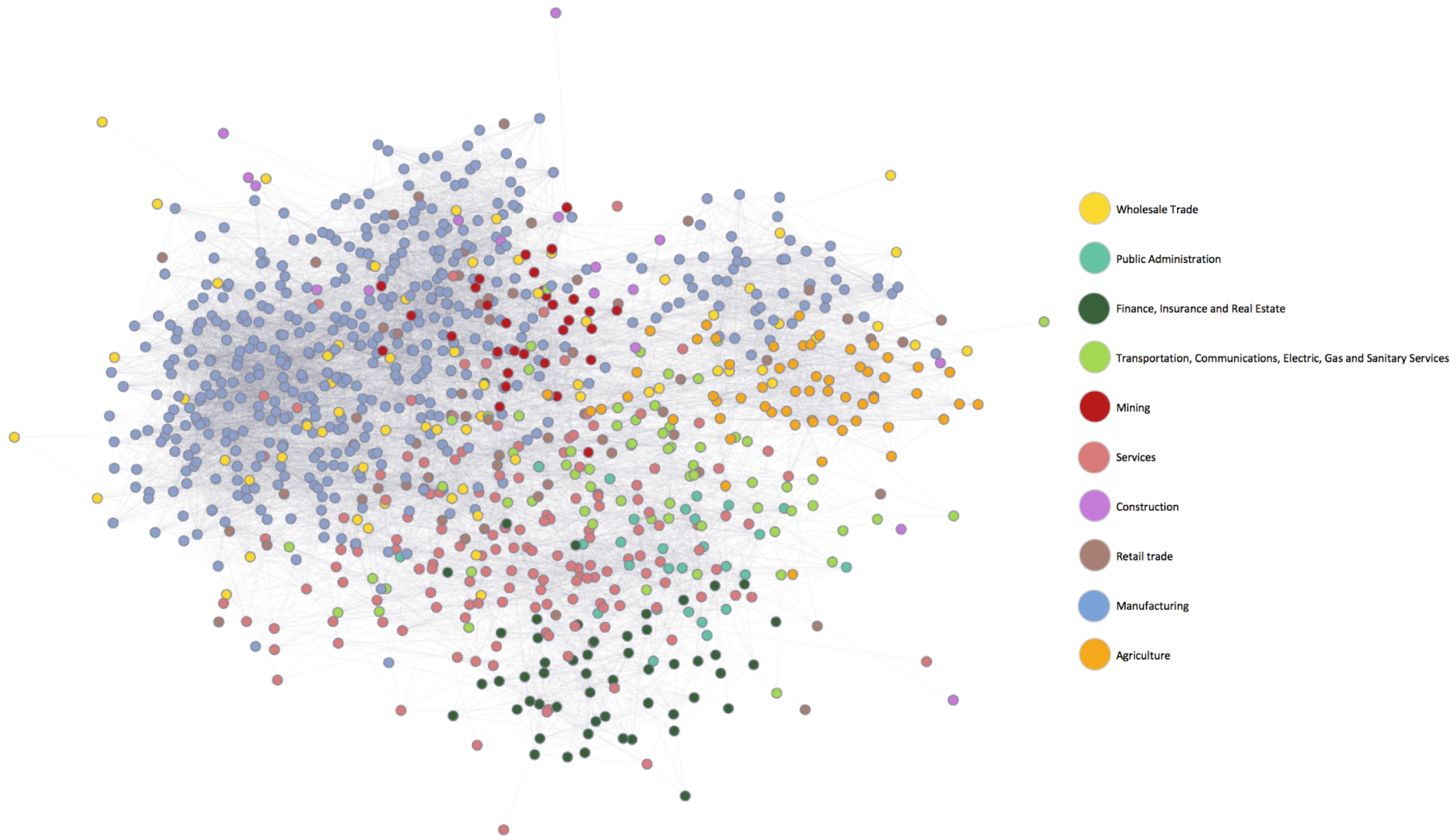
Solution: Skill-intensive exports that hire women



Circle sizes proportional to number of jobs

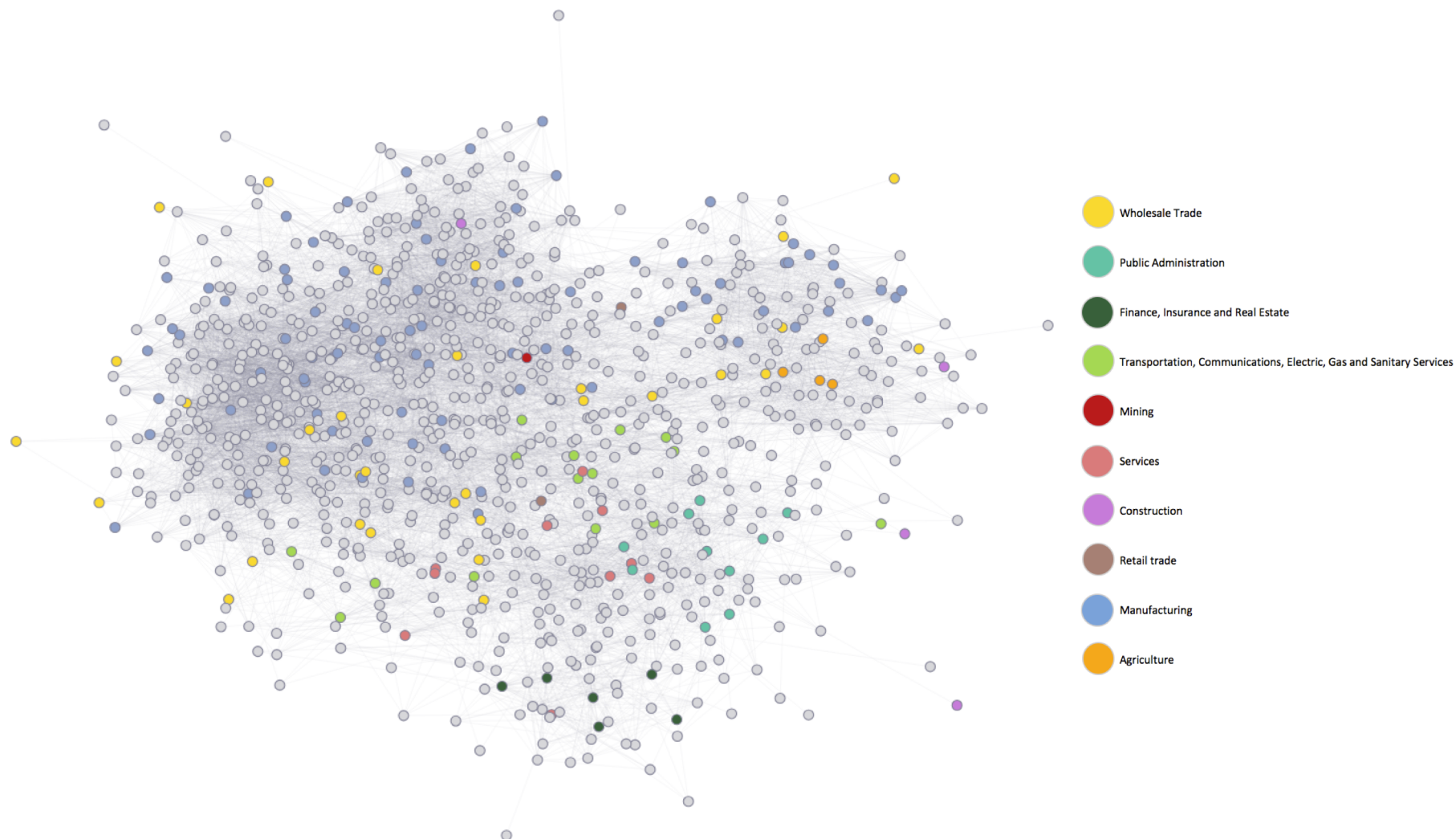
Source: Employment and Unemployment Survey, 2017

Exploring services required an Industry Space



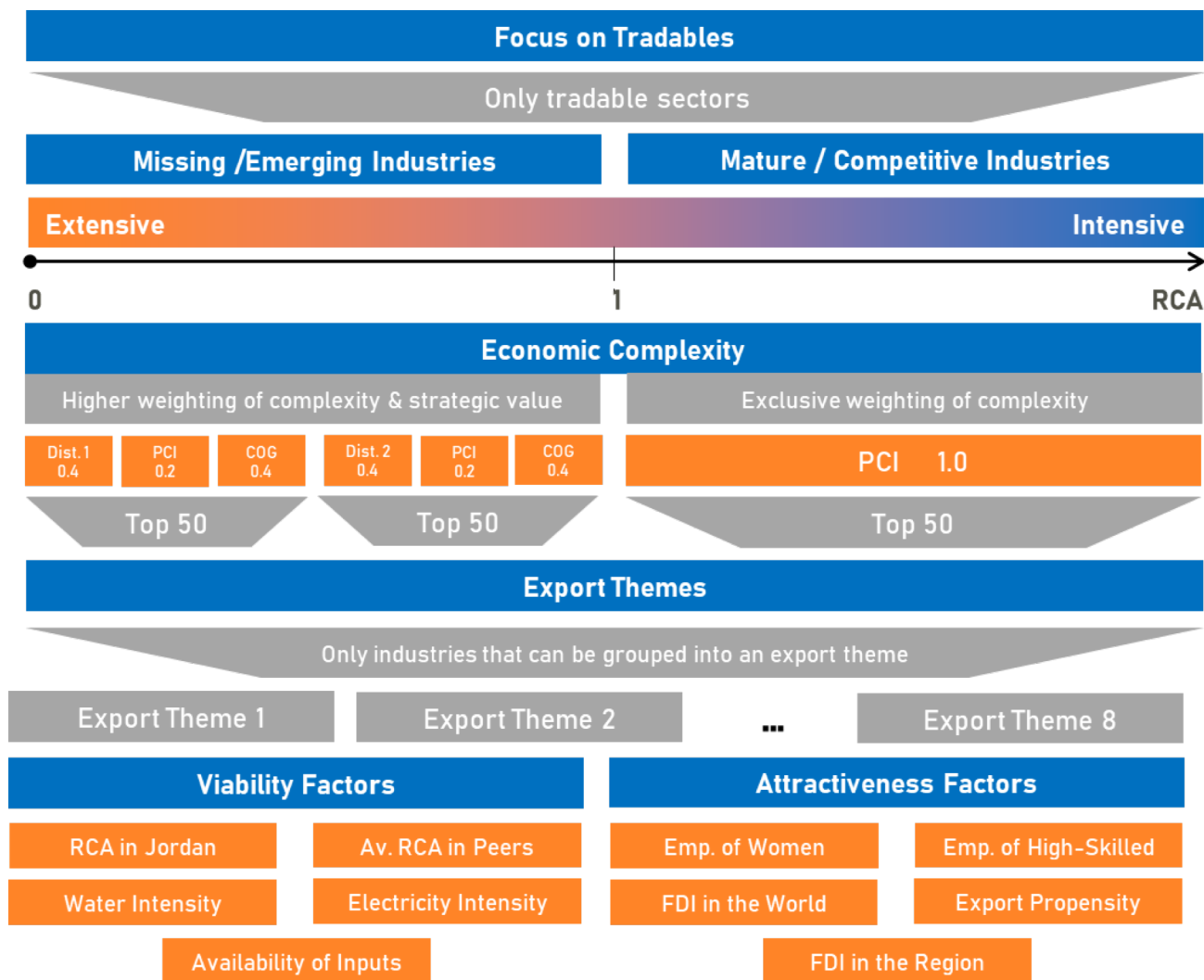
Source: CID construction using Dun & Bradstreet (2015)

Jordan's Position in the Industry Space

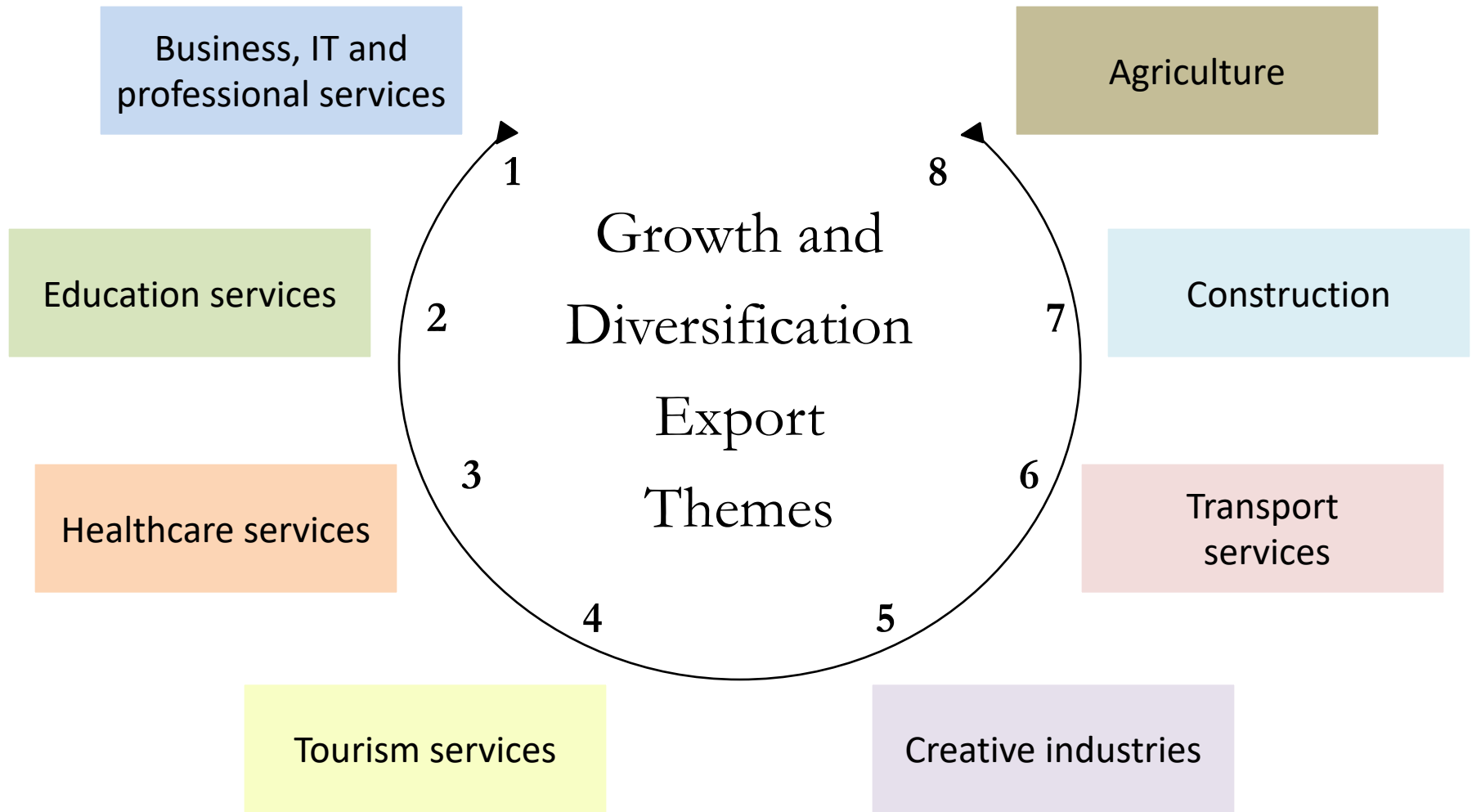


Source: Growth Lab construction using Dun & Bradstreet (2015)

A process to identify promising export activities



Results naturally grouped into 8 export themes



Growth and Diversification Export Themes (I)

Business, IT and Professional Services

Industry	RCA
• Computer maintenance&repair	0.07
• Legal services	0.13
• Accounting and auditing	0.20
• Management consulting	0.33
• Insurance agents and brokers	0.36
• Computer programming	0.60
• Office of holding companies	0.61
• Engineering services	0.68

Education Services

Industry	RCA
• Vocational schools	0.25
• Technical institutes	0.26
• Schools and educational services	1.42
• Colleges and universities	3.46

Healthcare Services

Industry	RCA
• Clinics of dentists	0.01
• Clinics of doctors of medicine	0.02
• Medical laboratories	0.55
• General medical-surgical hospital	0.68
• Specialty hospitals	1.14

Tourism Services

Industry	RCA
• Lodging houses	0.18
• Rooming and boarding houses	0.31
• Museums and art galleries	0.33
• Hotels and motels	0.84
• Travel agencies	1.18
• Passenger car rental	1.49

Growth and Diversification Export Themes (II)

Creative industries

Industry	RCA
• Commercial photography	0.00
• Theatrical productions	0.02
• Commercial art and graphic des	0.06
• Advertising agencies	0.11
• TV broadcasting stations	0.41
• Motion pictures and video tape	0.41
• Newspaper publishing/printing	1.22
• Radio broadcasting stations	4.72

Transport Services

Industry	RCA
• Refrigerated warehousing	1.04
• Truck trailers	1.68
• Air transportation	3.40
• Airports and flying fields	3.55

Construction

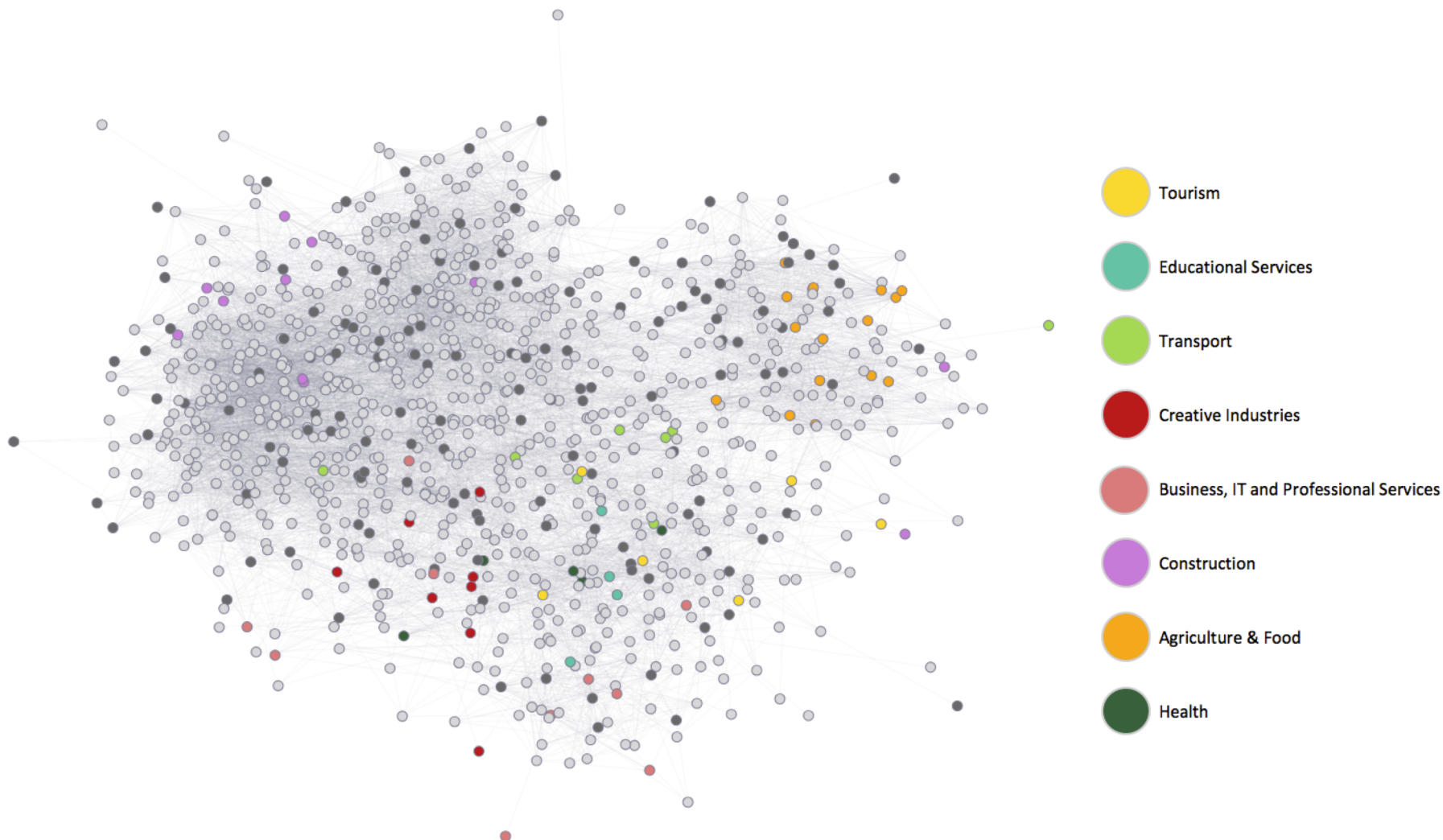
Industry	RCA
• Water, sewage, pipelines	1.10
• Public building and furniture	1.20
• Highway and street construction	1.32
• Heavy construction	1.32
• Flat glass	1.34
• Special trade contractors	1.38
• Structural metal work	1.44
• Cold-rolled steel sheets and bars	1.58
• Wood furniture for offices	1.92
• Elevators and moving stairways	1.96
• Ready-mixed concrete	1.98
• Prefabricated wood buildings and components	3.26
• Wood kitchen cabinets	3.42

Growth and Diversification Export Themes (III)

Agriculture	
Industry	RCA
• Vegetables and melons	0.00
• Sheep and goats	0.07
• Dairy farms	0.11
• General farms	0.14
• Poultry and eggs	0.23
• Natural and processed cheese	0.25
• Bread and other bakery products	0.44
• Sausages and other products	2.42

Agriculture	
Industry	RCA
• Dried and dehydrated food	3.09
• Meat packing plants	3.55
• Livestock services	4.33
• Ice cream and frozen desserts	4.97
• Poultry slaughtering/processing	9.13
• Crop harvesting	12.98
• Chocolate and coca products	13.23

Strategic industries' location in the Industry Space

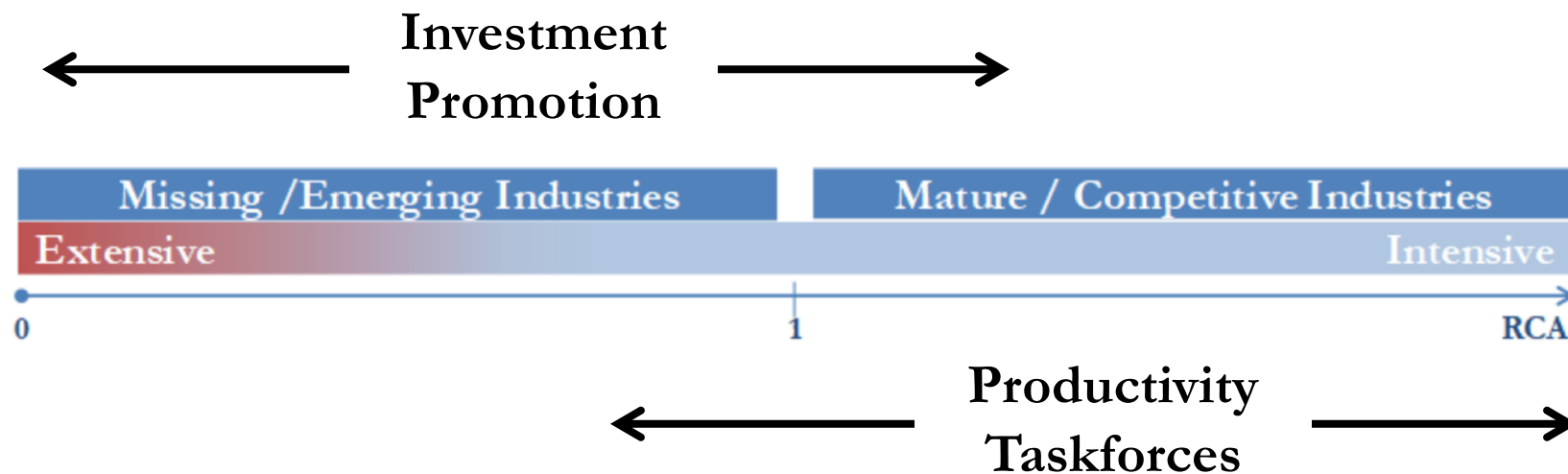


Source: CID construction using Dun & Bradstreet (2015)

Two necessary dimensions for strategy

Investment Promotion:

An active approach to attracting business investment targeted to diversify Jordan's exports and provide more good jobs.



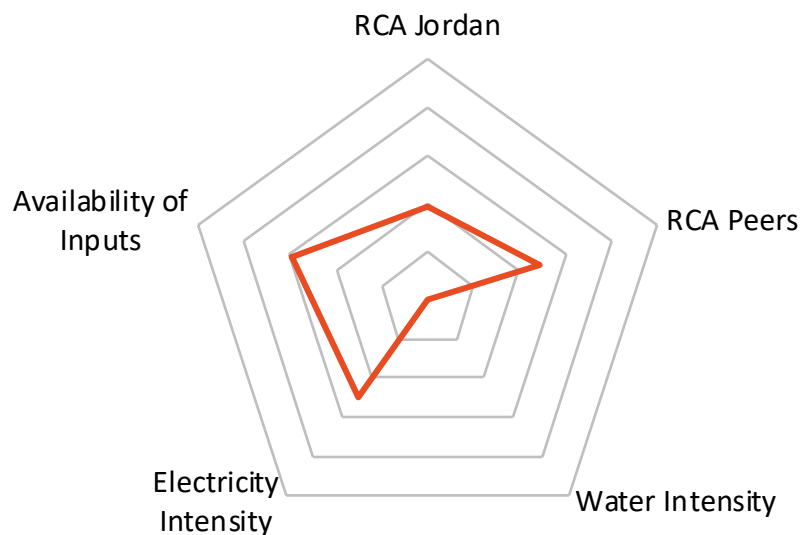
Productivity Taskforces:

Improving public-private problem solving to help Jordan's most promising industries grow.

Moving from high-level to high-definition strategy

Vegetables & Melons

Viability Factors



Vegetables & Melons

Attractiveness Factors



Moving from high-level to high-definition strategy

Productive Development Strategy for Jordan: Results from Economic Complexity Analysis

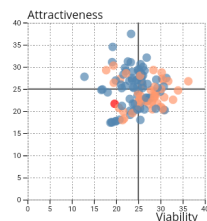
The following tool displays the results of the complexity analysis inclusive of services applied to the Jordanian economy and undertaken by the Center for International Development at Harvard University. The objective of the analysis is the identification of export themes with the highest potential to drive growth in Jordan while supporting increasing wage levels and delivering positive spillovers to the non-tradable economy. The methodology used to identify and prioritize high potential industries is summarized [here](#). In addition to the key results of the complexity analysis, this tool presents recent trends in foreign direct investments and an overview of the presence of the identified industries in the Jordanian labor market.

Select an industry

Vegetables and Melons

OVERVIEW

Within the export themes that were identified as having the highest potential to drive growth, specific industries were prioritized through the analysis of key factors that influence their viability and attractiveness. Some of these factors are specific to Jordan, as the identification process seeks to capitalize on the country's competitive advantages and avoid the main restrictions it faces. Viability and Attractiveness scores were calculated by aggregating five factors for each category, and were ultimately used to define prioritization phases for each industry.



This industry is in Phase 3 of prioritization. With an RCA of 0.00, the industry does not have a real comparative advantage in the country. The industry has below median viability in comparison with the other 119 analyzed industries. Its below average ranking is explained by the low score in the Water Intensity and RCA in Jordan categories. The industry has below median attractiveness in comparison with the other 119 analyzed industries. Its below average ranking is explained by the low score in the High Skill Employment Potential and Female Employment Potential categories.

● RCA ≥ 1
● RCA ≤ 1
● Vegetables and Melons



Attractiveness Factors

Female Employment Potential. The factor weights the potential the sector has of employing women, considering its current behavior in other economies.

High Skill Employment Potential. The factor weights the potential the sector has of employing high skilled workers, considering its current behavior in other economies.

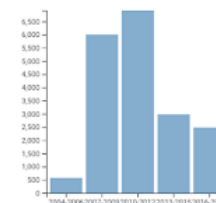
FDI in the World. A measure of global FDI flows is considered a proxy for world demand for each industry.

FDI in the Region. Moreover, a measure of regional FDI flows weights the region's current FDI landscape for the industries of interest.

Export Propensity. The factor measures the probability a firm in the industry has of exporting a good or a service.

INDUSTRY POTENTIAL

Crop production



Top Global FDI Companies

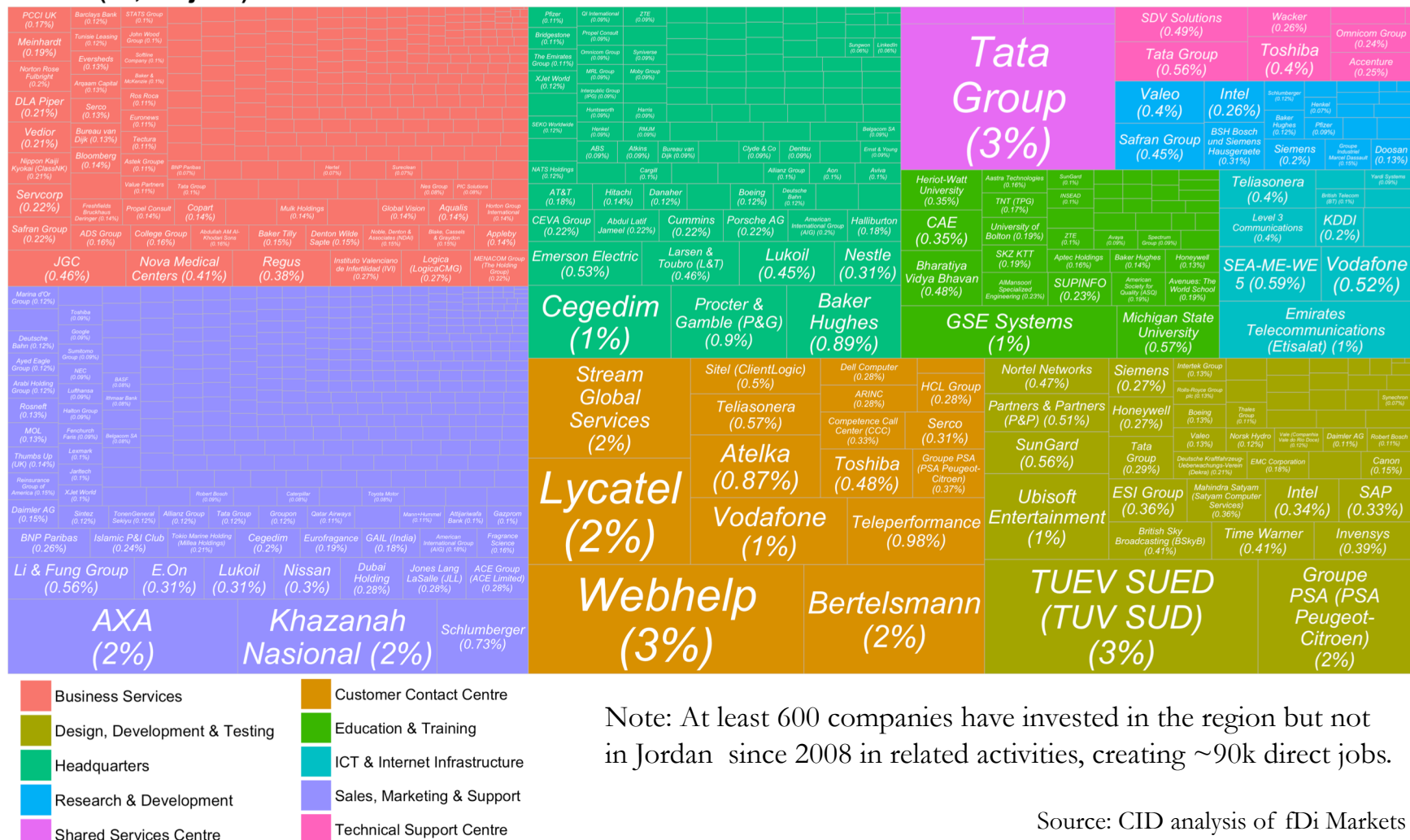
1. Planet Food World (PFWC), Saudi Arabia
2. Biopalm Energy, India
3. Al-Bader International Development, Kuwait
4. Heilongjiang Beidahuang, China
5. Chongqing Grain Group, China
6. Charoen Pokphand Group, Thailand
7. Fresh Del Monte Produce, United States
8. Herakles Farms, United States
9. Nader & Ebrahim, Bahrain

Top FDI Investors in MENA

1. Planet Food World (PFWC), Saudi Arabia
2. Fresh Del Monte Produce, United States
3. Al Dahra Agricultural Company, UAE
4. Plenty, United States
5. Crop One Holdings, United States
6. Sundrop Farms, United Kingdom
7. Asia Plantation Capital, Singapore
8. Tany Nature, Spain
9. United Genetics Turkey Tohum Fide Anonim Sirketi, United States

Jordan has untapped potential to attract more FDI

Jobs created by Activity (2003-2015) TOTAL (88,645 jobs)



Note: At least 600 companies have invested in the region but not in Jordan since 2008 in related activities, creating ~90k direct jobs.

Source: CID analysis of fDi Markets

High-skill Jordanians and high-skill foreigners

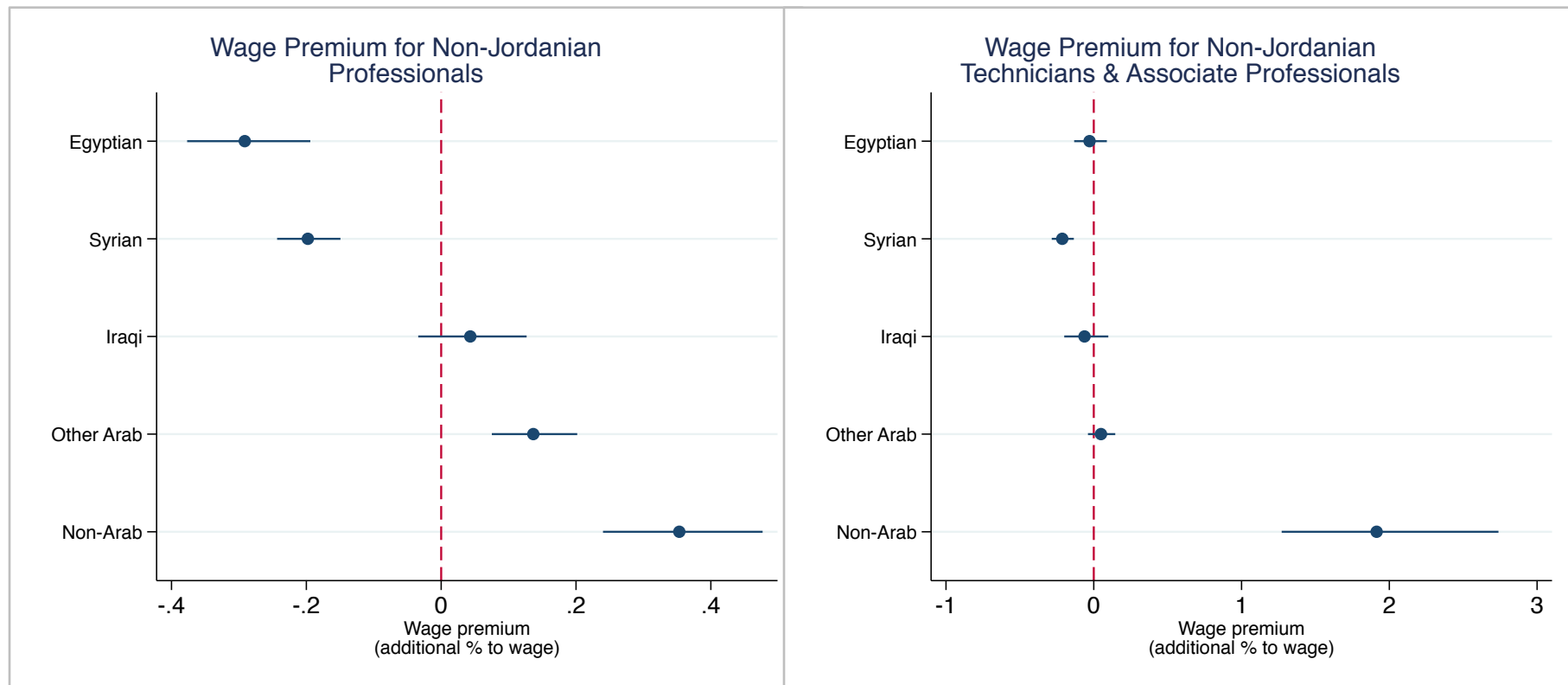
Substitutes?



Complements?



...But high-skill firms faced high-skill restrictions



Note: Wage premium calculated through a Mincer regression that controls for education levels, experience, gender, and industry fixed effects. Estimate and 95% confidence interval are shown.

Source: Own calculations using Employment and Unemployment Survey, 2017

High-skill Jordanians and high-skill foreigners

Substitutes?



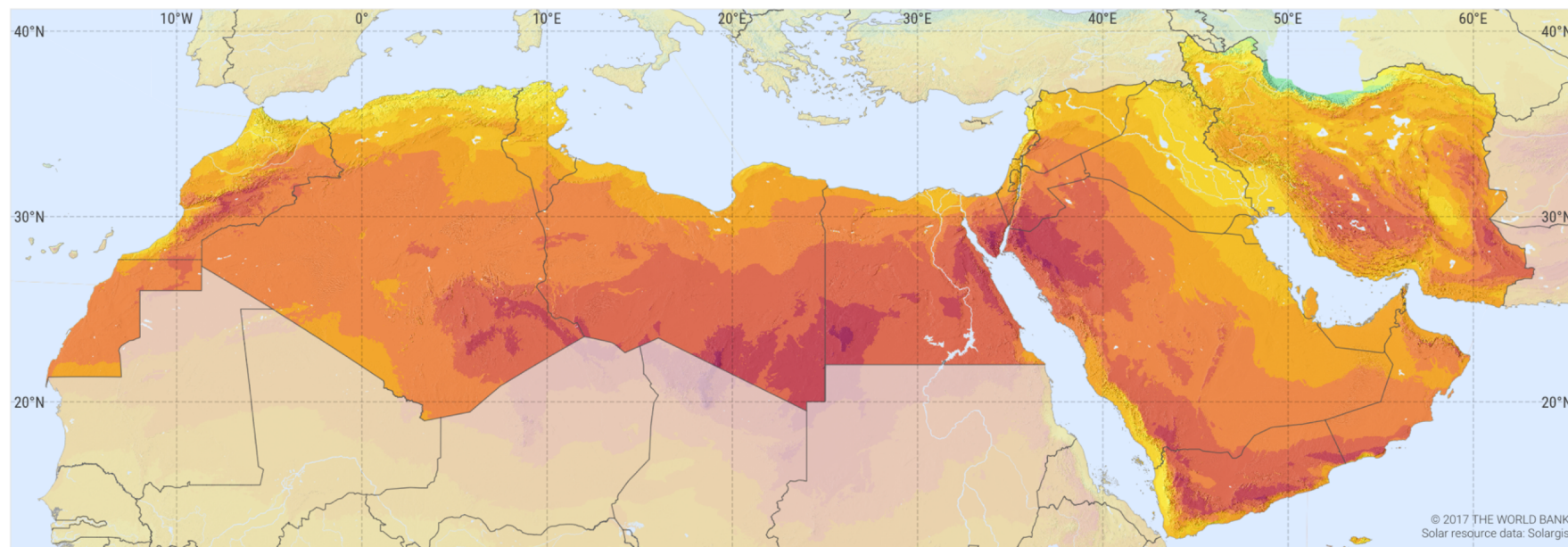
Complements?



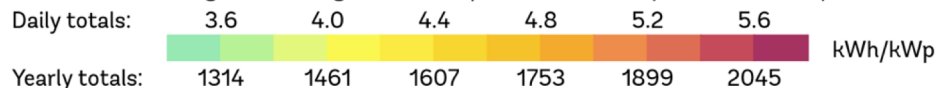
Jordan's Most Abundant Natural Resource

SOLAR RESOURCE MAP

PHOTOVOLTAIC POWER POTENTIAL MIDDLE EAST AND NORTH AFRICA

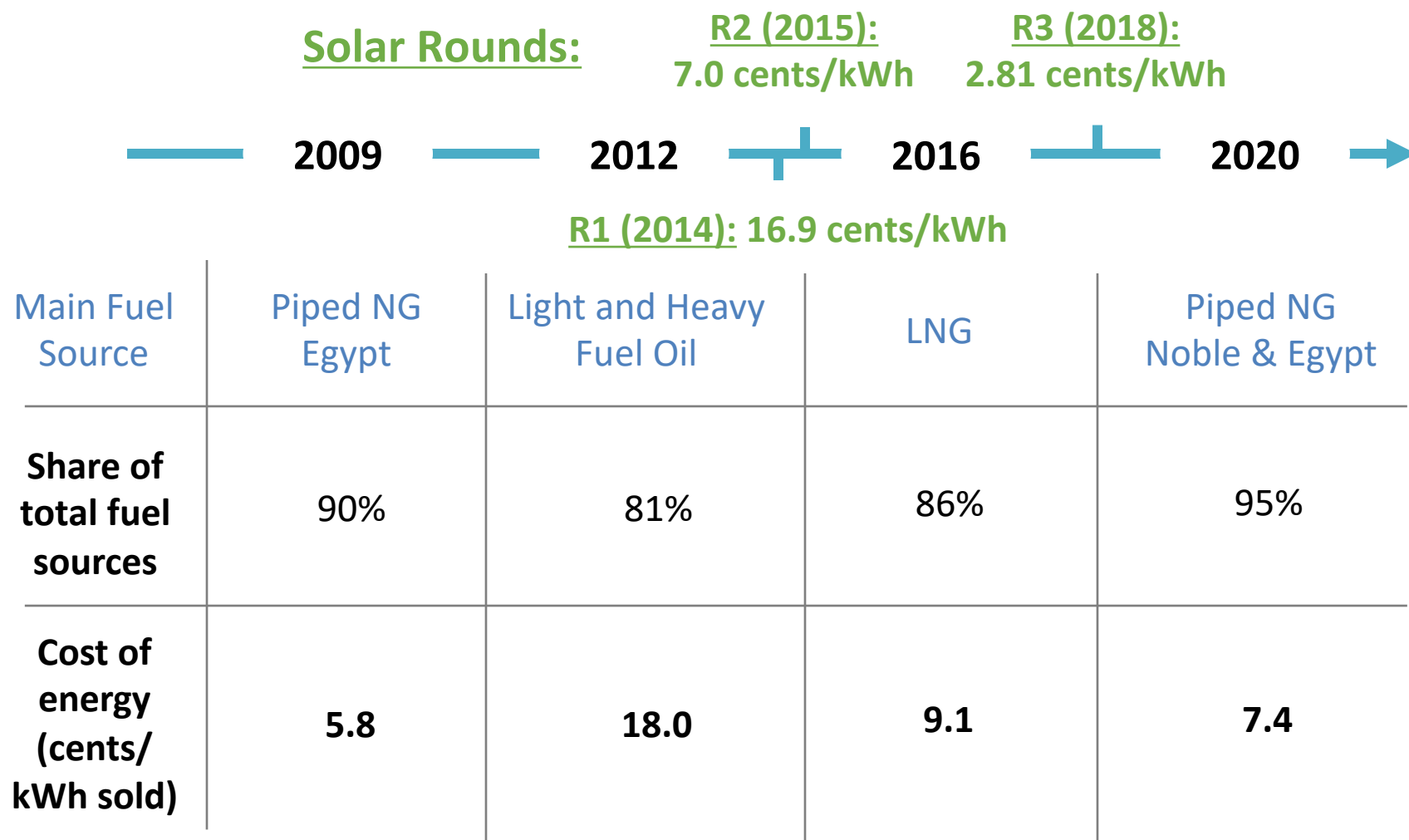


Long term average of PVOUT, period from 1994 (1999 in the East) to 2015



This map is published by the World Bank Group, funded by ESMAP, and prepared by Solargis. For more information and terms of use, please visit <http://globalsolaratlas.info>.

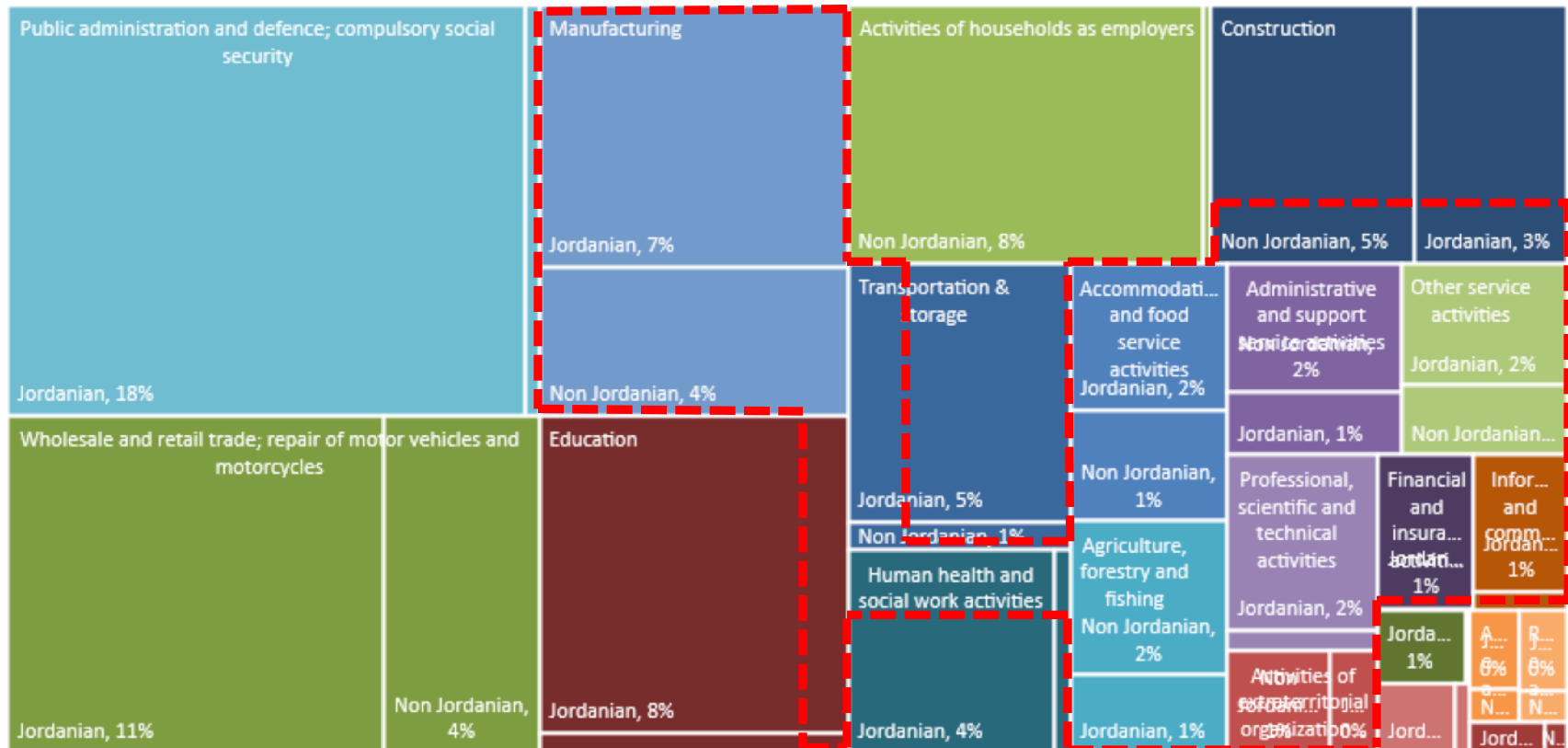
Energy opportunity: from constraint to advantage



Note: Solar rounds dates refer to PPA signing dates

Elements of the Growth Strategy

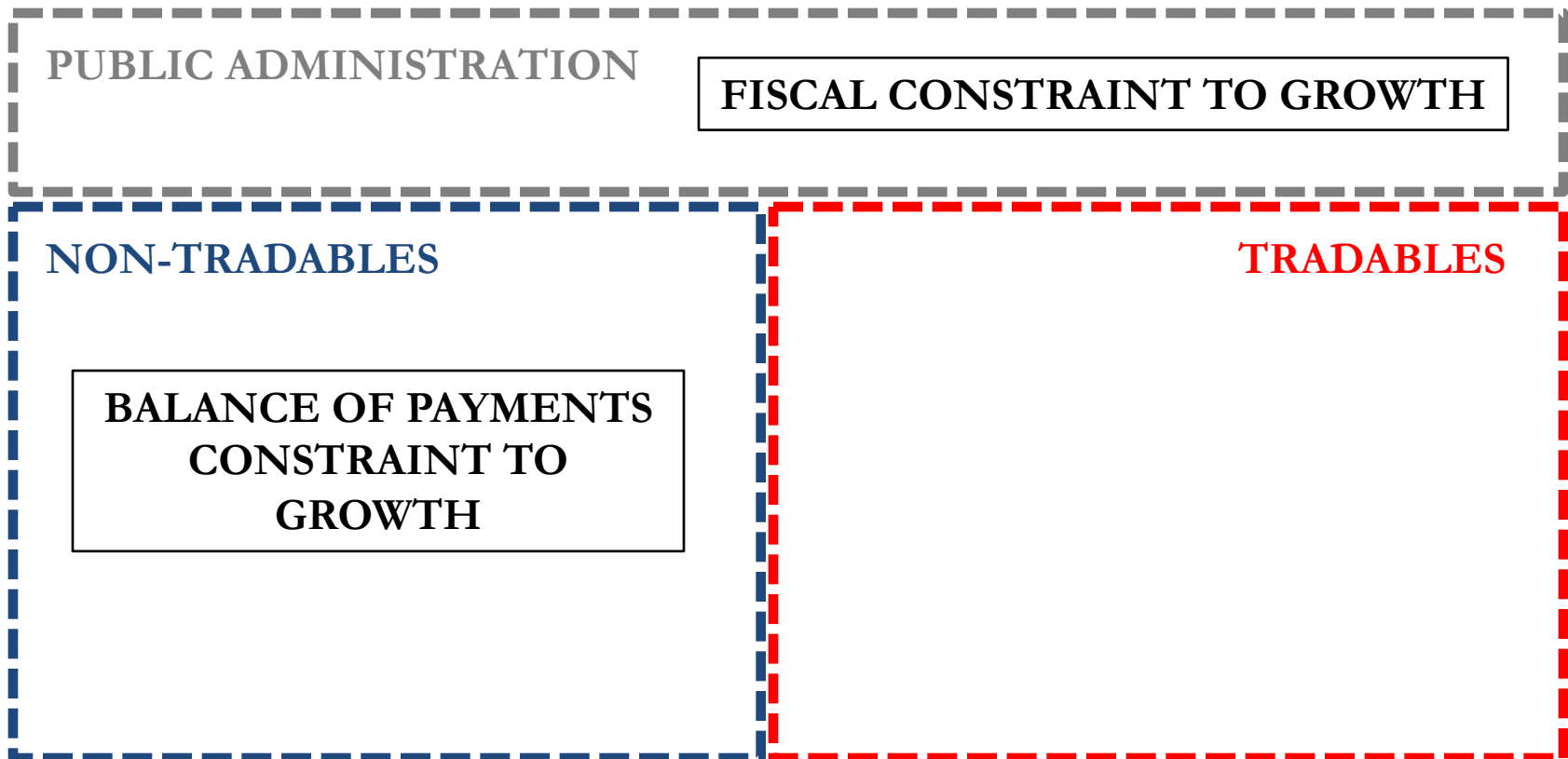
Jordan Labor Force by Industry



~TRADABLES

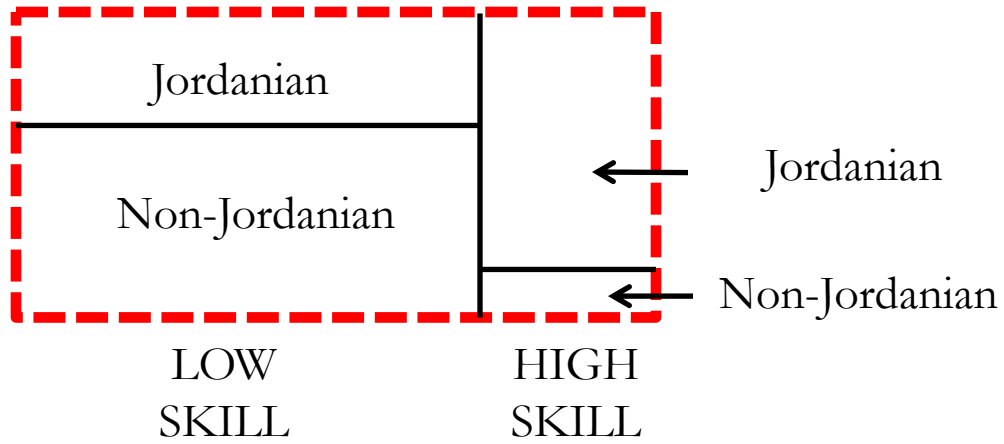
Source: Employment and Unemployment Survey, 2017

Elements of the Growth Strategy



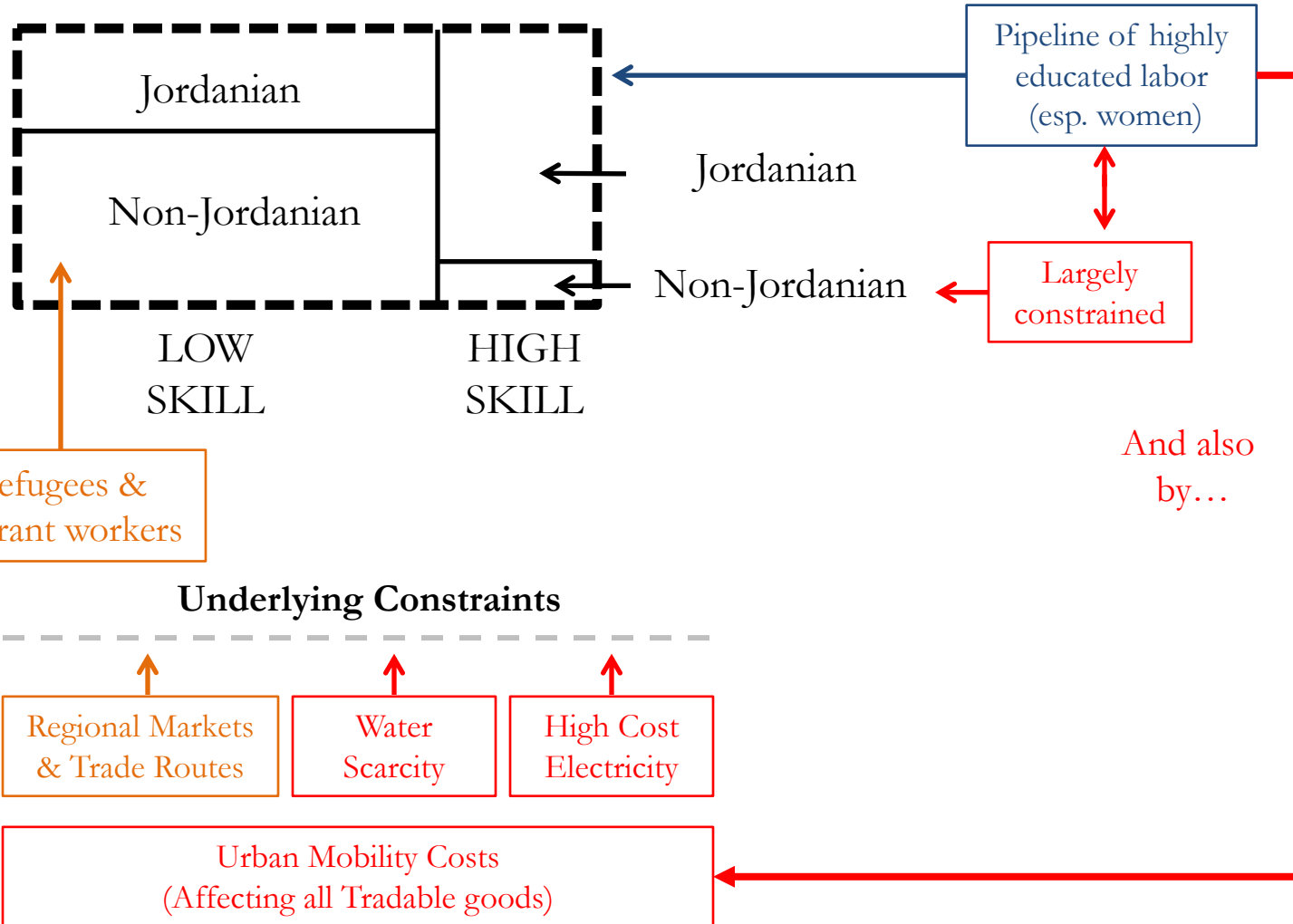
Elements of the Growth Strategy

TRADABLES



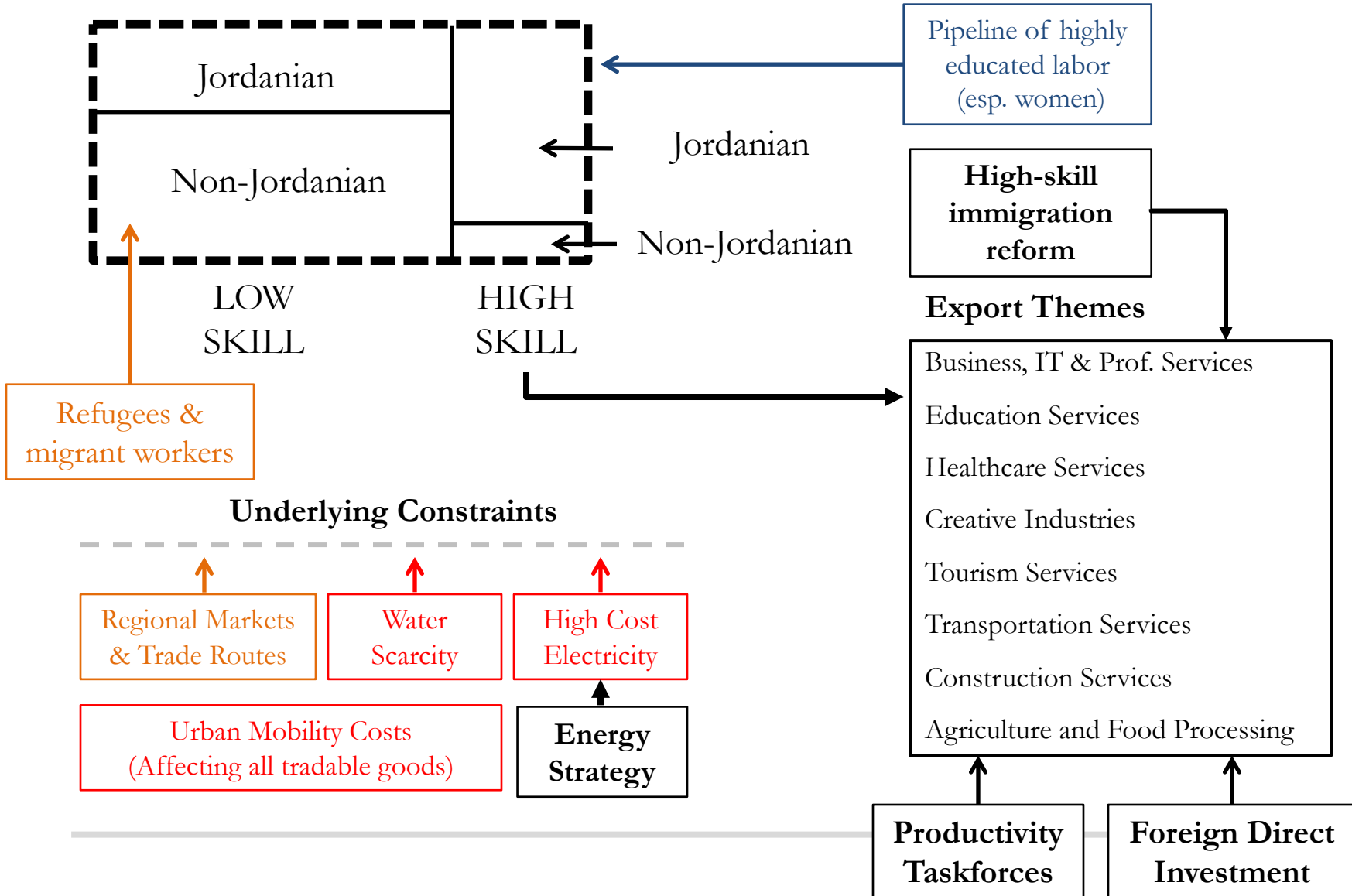
Elements of the Growth Strategy

TRADABLES



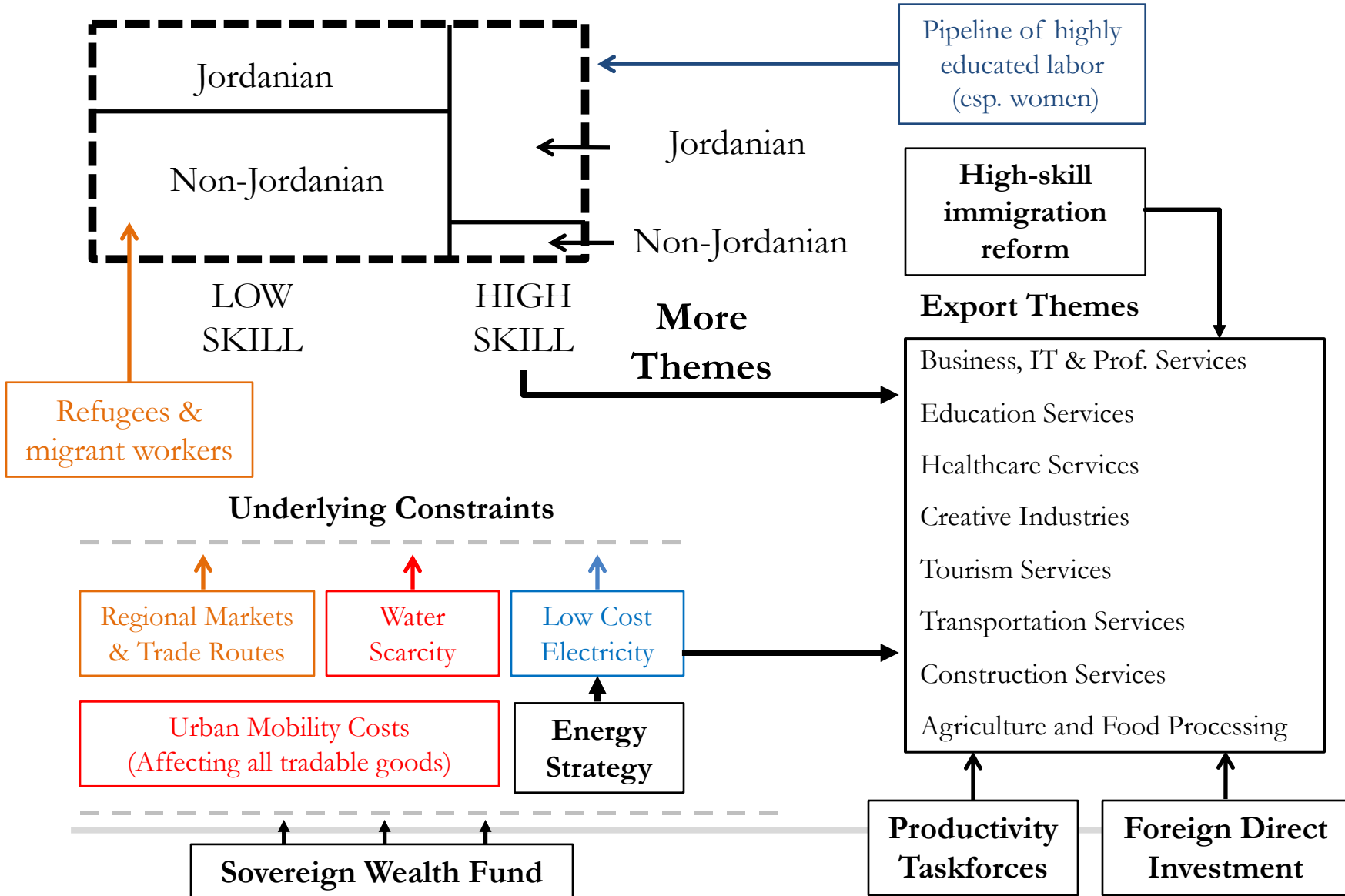
Elements of the Growth Strategy

TRADABLES

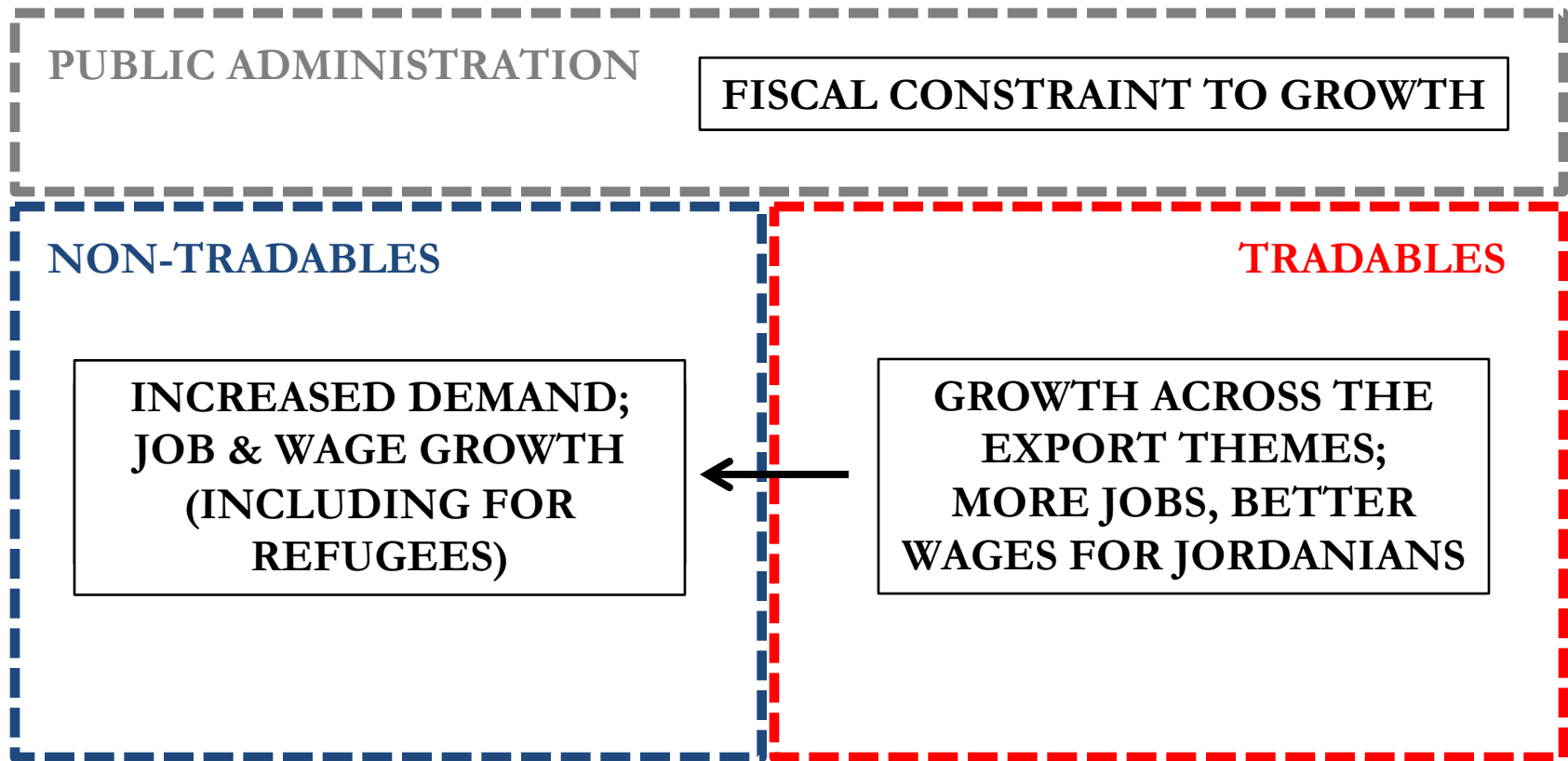


Elements of the Growth Strategy

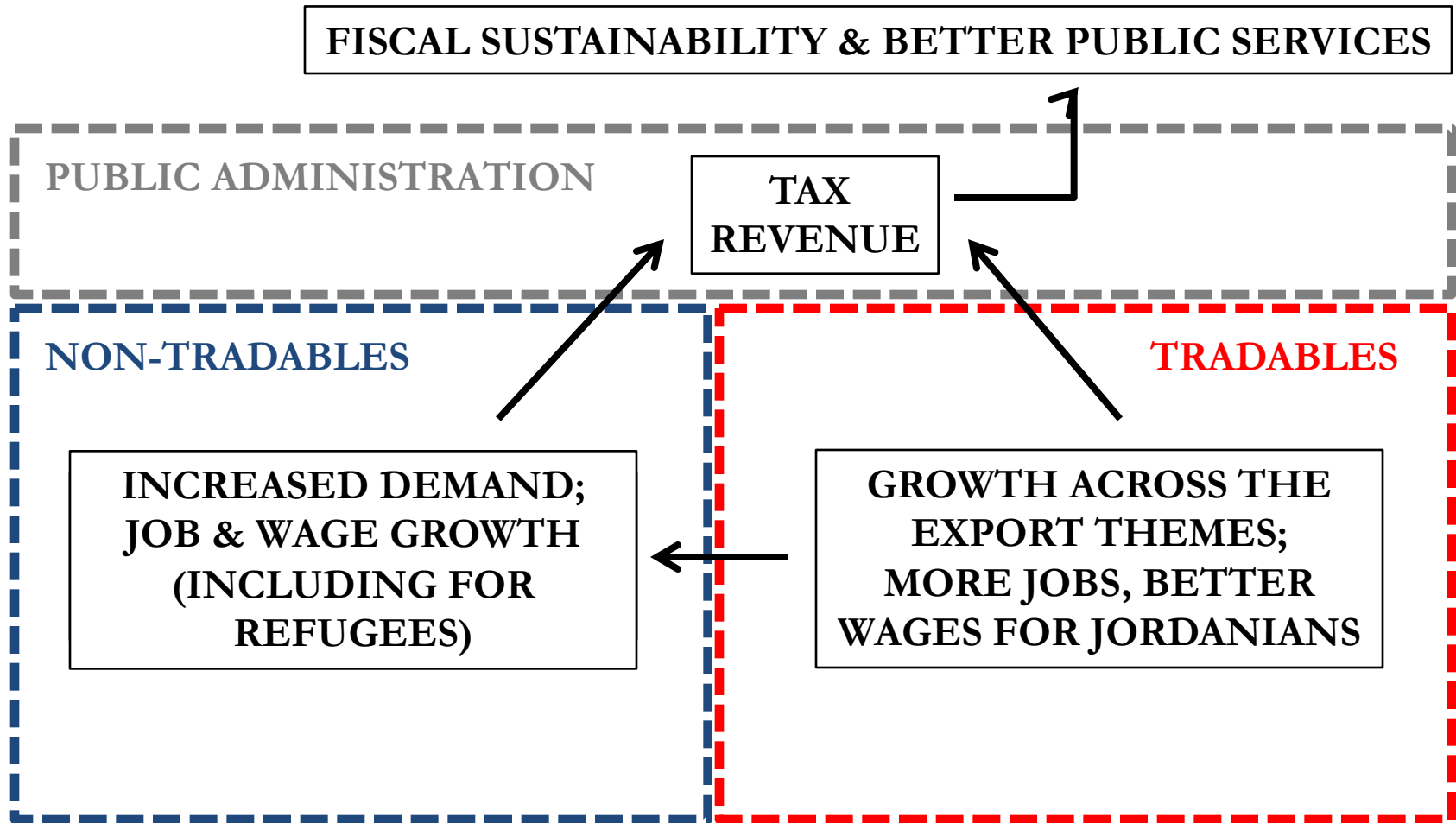
TRADABLES



Elements of the Growth Strategy



Elements of the Growth Strategy

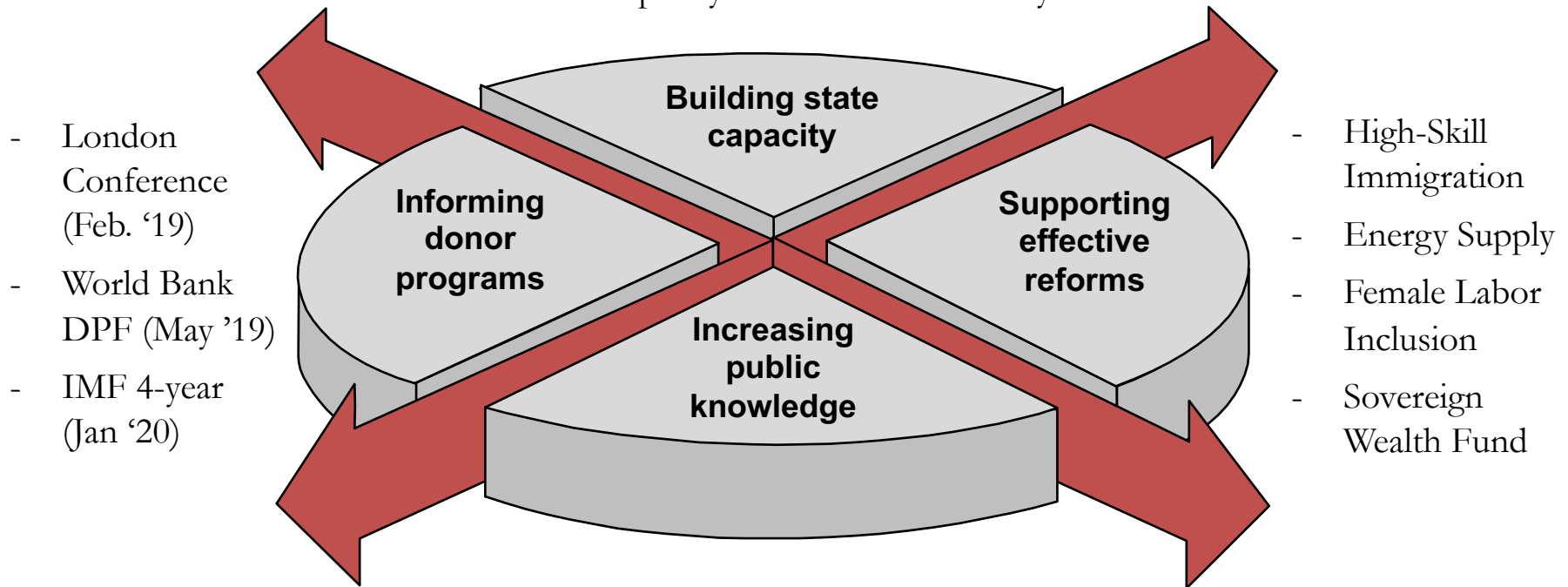


Outline

- About the Project
- What did we learn about Jordan?
- Impact of our Research
- Q&As

Our work influenced Jordan through four channels

- Ministry of Labor (PDIA)
- Investment Promotion & Productivity Taskforces
- Fiscal policy and debt sustainability



- [Jordan: The Elements of a Growth Strategy](#)
- [Female Labor in Jordan: A Systematic Approach to the Exclusion Puzzle](#)
- [A Roadmap for Investment Promotion and Export Diversification: The Case of Jordan](#)

Shaping high-level public discourse

King Abdullah II, London Conference (Feb. 2019)

“As you will hear today, **our economic strategy prioritizes service sectors, that benefit directly from Jordan’s highly valued human capital... these sectors are right for growth, and provide the better paying jobs** can meet the pressing needs of Jordanians workers...

“We are also **aggressively shifting to greener energy, by leveraging Jordan’s comparative advantages in solar and wind...**

“We are actively working with the international community to **ensure the fiscal space that is needed for economic growth. Access to concessional finance is essential...**



“You will hear today about **ready-to-invest opportunities, streamed by our project pipeline**, a Jordan-led effort in partnership with the IFC to **develop bankable opportunities with the legal and financing structuring that investors expect...**

Shaping high-level public discourse

Prime Minister Omar Al Razzaz, World Economic Forum (Feb. 2019)



“We have a pipeline of projects that will support our growth, **moving to renewable energy**, as well as in other sectors such as **business services, back office services for the Gulf region, but also creative industries, IT and tourism**... Jordan has the potential to become a hub for business in the region

“We have a vision, it’s about renaissance... it’s about renewable energy, and **moving away** from traditional, **fossil fuels and exploiting our comparative advantages in renewables**...

“Jordan has made hard choices over the previous years, **decreasing our public expenditure by 8% of GDP**, among the **biggest shifts**... even when compared to **Spain, and Portugal and Greece**... and in **spite of that we continued growing**... we had to do it to create a stable macroeconomic environment...

“We really have a tremendous comparative advantage in business services, **companies pay five times more for Jordanian talent working in Saudi Arabia and the Gulf**...

Omar Al Razzaz: Jordan's youth at the centre of reform efforts

► Jordanian prime minister discusses progress so far and the kingdom's regional concerns in interview with The National



Jordanian Prime Minister Omar Al Razzaz addresses a panel session at the 50th annual meeting of the World Economic Forum in Davos, Switzerland on January 22, 2020. EPA

Thanks!