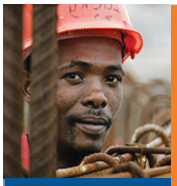


ESTIMATING THE SOCIOECONOMIC IMPACT OF IFC FINANCING: MACRO CASE STUDIES FROM GHANA, JORDAN, SRI LANKA AND TUNISIA

IFC International Finance Corporation
World Bank Group

THEME: ACCESS TO FINANCE

SUMMARY OF MAIN FINDINGS

THE FULL REPORTS BY STEWARD REDQUEEN ARE AVAILABLE ON ICOLLABORATE: HTTPS://IFCICOLLABORATE.IFC.ORG/GROUPS/IFC-JOB-STUDY

1. OBJECTIVES AND METHODOLOGY

As part of the IFC Job Study, the consulting firm of Steward Redqueen has conducted four country studies **to estimate the number of jobs and value-added supported by IFC's past investments in Ghana and Jordan, and by the potential or hypothetical effects of investments (of $1m in various sectors) in Tunisia and Sri Lanka.** The studies entail analyses of the quantifiable socioeconomic impacts of IFC's investments. More qualitative aspects, such as the role of advisory services, are mentioned, but a full assessment was beyond the scope of these studies.

The studies are based on **input-output methodology.** By taking into account linkages across sectors, this method allows quantifying the wider impacts (direct, indirect and induced) throughout the economy on jobs and value-added arising from investing into various economic sectors. This methodology has several limitations, among which are the assumption of constant productivity ("Leontief" or fixed-proportion production functions - without regard to structural changes over time); equal treatment of different types and terms of financing; no distinction of different sizes and productivity levels of beneficiary firms; as well as equal treatment of the impacts of IFC and other financiers.[i]

2. MAIN OVERALL FINDINGS

Direct jobs at IFC's clients are only the tip of the iceberg, as additional employment is supported along the supply and distribution chains ("indirect jobs") and throughout the wider economy ("induced jobs"). For example, in Ghana, 17,800 direct jobs are directly supported at recipients of IFC capital injections, while 18,900 indirect and 13,200 induced jobs are supported in the wider economy.

In fact, any investment decision also influences the extent to which local supply chains are strengthened. Some sectors have stronger linkages to the rest of the economy than others. This is country-specific. For example, in Sri Lanka and Tunisia, investments in food processing generate relatively more indirect jobs than investments in other sectors (Figures 1 and 2). Direct investments in agriculture, for example, are associated with the highest number of direct jobs but a smaller number of indirect jobs are generated.

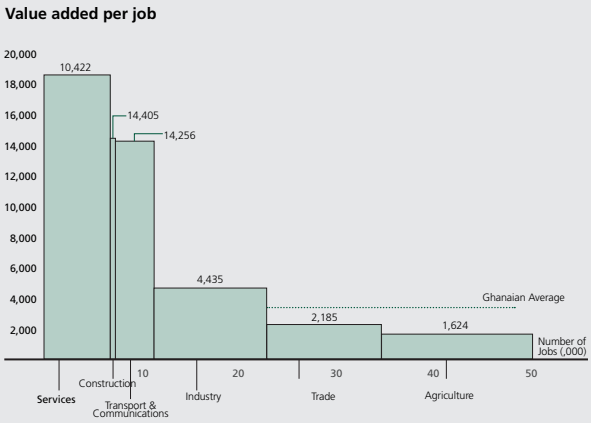
Figure 1 and 2: Estimated direct and indirect job impact of $1m investment into each sector in Tunisia (top) and Sri Lanka (bottom)

Source: Steward Redqueen (2012).
Modeling of the Socio-Economic Impact of Potential IFC Investments in Tunisia: and Modeling of the Socio-Economic Impact of Potential IFC Investments in Sri Lanka.

There may be a trade-off between the number of jobs supported and the value added per job, at least over the short-to-medium run (see Figure 3 for the case of Ghana).[ii] Investments in labor-intensive sectors, such as agriculture and trade, are supporting a higher number of jobs but the value-added per job of those sectors tends to be relatively low. By contrast, capital-intensive sectors (e.g. mining, business services) were found to support fewer overall jobs but typically these are of higher productivity, contributing relatively more to GDP. Investing in these sectors, and thus potentially increasing productivity, may lead to more long-term wealth creation and possible transformational effects.

Capital scarce sectors, such as agriculture and construction, generally have higher multipliers in value-added and employment generation. Presumably, as more capital is invested in these sectors, productivity would increase overtime.

Figure 3: Trade-off between jobs and value-added per job in Ghana



Source: Steward Redqueen (2012).
Socioeconomic impact of IFC financing in Ghana

Sectoral investment decisions affect the distribution of value-added across different beneficiaries, in the forms of salaries, profits and taxes. In Ghana, about 65% of value-added takes the form of salaries, 25% is company profits and the rest is taxes. In Jordan, almost 45% of value added takes the form of profits and 43% salaries. For Tunisia, workers in public services and agriculture would receive the highest share of value-added, reaping 65% and 50%, of the total respectively. Manufacturing would distribute a higher share of value-added in the form of taxes, benefiting the government, while mining value-added would go largely to corporate profits. In Sri Lanka, business services were found to have the highest share of value-added as wages and salaries while agriculture has the highest share of value-added among all the sectors in the form of profits.

3. ADDITIONAL SPECIFIC FINDINGS FOR GHANA AND JORDAN (BACKWARD LOOKING STUDIES)

IFC investments in Ghana and Jordan are supporting a large number of jobs. As of June 2011, IFC's outstanding investment portfolio in Ghana amounted to $317m (equivalent to about 4% of long term debt[iii]), 40% of which was channeled through financial institutions (FIs) while 60% was invested directly into companies (Non-FIs). It is estimated that including indirect effects, this portfolio supports $235m of value-added (equivalent to 0.7% of GDP) and about 37,000 jobs (0.4% of the labor force) (Table 1). For Jordan, of the $296m investment provided by IFC (equivalent also to about 4% of long term debt), 80% is invested directly in companies while 20% is channeled through FIs. In total, this portfolio is estimated to support $212m of value added (equivalent to 0.8% of GDP) and about 9,100 jobs (0.6% of the labor force) (Table 2).

Further, financing mobilized by IFC supports additional jobs. IFC mobilized $40m in Ghana and $139m in Jordan from other investors, supporting an additional estimate of 1,000 jobs in Ghana and 3,200 jobs in Jordan. This illustrates an estimate of IFC's support for job creation through mobilization. It is also important to note that overall, IFC's client companies support more than 3% of GDP and 1% of the labor force in Ghana, and more than 6% of GDP and 5% of the labor force in Jordan, with their entire operations.

Tables 1 and 2: Estimated impact of IFC's investment portfolio in the economy of Ghana (top) and Jordan (bottom)

Ghana	IFC				
Client Segment	Outstanding Finance in $ mln	Associated Value Added in $ mln		Associated Employment in $ mln	
		Direct/Indirect	Induced Effect	Direct/Indirect	Induced Effect
NON-FIs	189.6	63.5	16.3	7.7	3.6
FIs	127.3	171.1	44.5	29.1	9.7
TOTAL	**316.9**	**234.7**	**60.8**	**36.7**	**13.2**
	Participants				
TOTAL	**39.8**	**12.5**	**3.1**	**1.0**	**0.7**

Jordan	IFC				
Client Segment	Outstanding Finance in $ mln	Associated Value Added in $ mln		Associated Employment in $ mln	
		Direct/Indirect	Induced Effect	Direct/Indirect	Induced Effect
NON-FIs	243.7	90.5	27.3	3.4	1.5
FIs	52.8	122.0	40.1	5.6	2.3
TOTAL	**296.5**	**212.5**	**67.5**	**9.1**	**3.8**
	Participants				
TOTAL	**138.7**	**37.5**	**11.8**	**3.2**	**0.7**

Source: Steward Redqueen (2012).

Socioeconomic impact of IFC financing in Ghana and Socioeconomic impact of IFC financing in Jordan.

With IFC's existing investments in Ghana, agriculture, trade and manufacturing provide more jobs than other sectors. In the case of Jordan, business services are also a strong contributor.[iv] In Ghana, the least number of jobs are being supported in construction and utilities while in Jordan, mining provides the least number of jobs supported by IFC's existing investments. This is determined by the structure of IFC's portfolio, FIs' portfolio and the employment intensity of the different sectors. The assumption of constant productivity despite new capital investments, including in agriculture, also comes into play.

A trade-off may exist between indirect investments through FIs, which tend to support more jobs, and direct investments in non-FI companies which tend to generate fewer jobs but lead to higher value-added per job. Direct IFC investments tend to benefit larger, more capital-intensive firms, with high labor productivity and which face international competition. In contrast, the portfolios of IFC client FIs are more diversified, reaching smaller, more labor-intensive firms.

As a result, while investments in FIs represent 40% of total investment in Ghana and 20% in Jordan, they support 80% and 60% of jobs, respectively. Also, employment multipliers per $1m invested are much higher for Ghana than for Jordan. This is explained by the higher labor intensity and reliance on FIs of IFC's existing portfolio in Ghana.

4. ADDITIONAL SPECIFIC FINDINGS FOR TUNISIA AND SRI LANKA (POTENTIAL $1M INVESTMENTS IN VARIOUS SECTORS; FORWARD LOOKING)

Investments of $1m into various sectors in the Tunisian economy are estimated to support, on weighted average, $2.9m value-added in each sector. In Sri Lanka, this figure is slightly higher at $3.1m. Depending on the capital productivity of a particular sector, $1m investment into specific sectors can have a larger effect (e.g. $5.4m value-added supported in Tunisia's food processing industry) but in a well-financed sector, the effect will also be smaller (e.g. $1.1m value-added supported in Tunisia's trade sector).

On average $1m invested into Tunisia's various sectors is estimated to support 247 jobs (excluding 18% induced effects) throughout the economy and the same amount invested in Sri Lanka supports 650 jobs (excluding 43% induced effects). The extent of these multipliers is determined by the labor intensity per sector.

5. THE IMPORTANCE OF ADVISORY SERVICES

IFC also provides advisory services, including capacity building and technical assistance, in Ghana, Jordan, Sri Lanka and Tunisia. The effect of these services on jobs and value-added is not quantified, but the report highlights that they can be very significant. In addition, they can bring about transformational impacts that contribute to long term development, such as demonstration effects. For example, IFC's involvement in the public-private partnership of the Queen Alia International Airport in Jordan gave a positive signal for foreign investors. In Ghana, a study using a similar methodology estimated a very high jobs multiplier for a mining project (28 jobs supported throughout the economy for every job in the mine) and attributed this high multiplier at least in part to the community development and supply chain linkage program supported through IFC advisory services.[v]

6. POLICY IMPLICATIONS

Any policy implication must acknowledge that the findings rely on strong assumptions and are meant to be "directionally correct" over the short-to-medium run. Due to the assumption of "Leontief" or fixed-proportion production function, for example, the findings are more suited to illustrate the effect of incremental investments using the same technology, rather than large-scale or transformational investments –such as those significantly improving infrastructure or introducing new technology– that would affect the production function.

Depending on the stage of development,

- In countries with large numbers of unemployed or under-employed, significant job creation effects could be achieved by: a) investing in labor-intensive sectors (agriculture, trade and labor-intensive manufacturing), which concentrate mostly on low-skilled and lower salary workers; or b) investing in FIs, which leads to more total value-added and jobs than investing into high labor productivity sectors.
- In countries where increasing productivity is important, job creation could be achieved by: a) investing into transformational projects, that introduce new technology or increase the productivity of a large number of enterprises (e.g. through improved infrastructure; b) investing into larger (usually more capital intensive) non-FIs; or c) investing into sectors facing international competition, which tends to strengthen labor productivity.

Depending on the stage of development and other country circumstances, policy makers must prioritize.

Focusing on *direct* job creation may miss the point. Assessments of job creation effects need to go beyond the impact on a specific client or sector and include the effects along the supply and distribution chains throughout the economy. Some sectors have more link-

ages than others (but the extent of linkages is country-specific), and should be the target of programs designed to strengthen local supply chains.

Advisory services can generate large economic effects, especially transformational effects. While these effects were not quantified, it was shown that they can be significant.

There is some indication that mobilization effects can have a substantial impact. IFC can therefore play a role in catalyzing private capital in sectors and countries where this capital is still scarce.

Country specifics have to be taken into account. For example, the sectors with largest linkages in the supply chain differ across countries. In general, low income countries are typically more labor intensive and thus investments can have larger direct and indirect job effects. (On the other hand, because of lacking local production capacity, low income countries may need to import more than others, which could limit indirect effects.) In more developed countries, however, supporting greater more value added per job might be a higher priority than supporting pure job creation. Thus country specifics have to be taken into account before extrapolating from these results.

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[i] For further details on methods and assumptions, please see the methodological note. Regarding the data, the input-output tables have been obtained from GTAP (Global Trade Analysis Project) and have been updated to 2009 or 2010 (2007 for Sri Lanka). Employment data have been extracted from national sources.

[ii] Value-added per job is calculated by dividing the total related value added in a sector by the total number of related sector employment. Higher value-added per job does not to suggest a higher wage or income per job.

[iii] IFC. CIR.

[iv] Sectors are: agriculture, mining, manufacturing, utilities, construction, trade, transport, communications (only for Ghana), business services, public services.

[v] The Socio-Economic Impact of Newmont Ghana Gold Limited, Kapstein & Kim, 2011.