Executive Summary of Evaluation

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<th>Name of Evaluation</th>
<th>Industrialization, Employment and Poverty¹</th>
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<td>Date of Final Report of Evaluation</td>
<td>November 2, 2012</td>
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<tr>
<td>Number of pages of this Executive Summary</td>
<td>4</td>
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<tr>
<td>Modifications from original Executive Summary</td>
<td>Without Modification</td>
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<td>Executive Summary Approved for public disclosure by (name) on (date)</td>
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Background

The literature review provides evidence for the significance of the manufacturing sector as an engine of growth, employment creation and poverty reduction. The manufacturing sector impacts poverty directly through the creation of jobs, which are in most cases, better paid and with stable benefits. The indirect impacts are extremely important, especially for lower income countries. These derive from the sector’s role in creating strong backward and forward linkages and in creating structural transformation of an economy. The linkages generate high employment multipliers through creation of indirect and induced jobs in related industries, and also result in knowledge and technological spillovers. Due to its ability to influence several sectors upstream and downstream, the growth of the manufacturing sector also allows for transformation from low productivity to high productivity activities which in turn would have persistent impacts on poverty reduction. Further, the growth of manufacturing exports has an added indirect effect on economic growth through potential alleviation of balance of payments constraints. These impacts highlight the potential opportunity for IFC to coordinate its investment and advisory operations to strengthen these linkages towards maximizing growth and job creation.

Objectives

This note summarizes a literature review conducted by IFC on identifying the transmission links of manufacturing to poverty and economic growth. This exercise was undertaken as part of IFC’s Poverty Action Plan, to better understand how IFC operations in specific sectors across its investment and advisory operations result in eradicating poverty and boosting shared prosperity. This review provides theoretical and empirical evidence for the continued importance of manufacturing as an engine of growth, employment creation and poverty reduction.

Analysis

Indirect effects of manufacturing on poverty through economic growth

Literature suggests that the manufacturing sector continues to be an important engine of growth for countries for various reasons. The most important ways are through the linkages manufacturing creates, which are considered

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¹ This note has been summarized from the poverty literature review ‘Industrialization, Employment And Poverty’ by Alejandro Lavapo and Adam Szirmai, available on IFC’s poverty webpage: [http://ifcnet.ifc.org/ifcint/deveffectiveness.nsf/Content/home](http://ifcnet.ifc.org/ifcint/deveffectiveness.nsf/Content/home)
to be among the strongest among sectors, and through the structural transformation that the emergence and evolution of the sector brings about in a country.

**Creation of forward and backward linkages:** Manufacturing generates the strongest forward and backward linkages across other sectors of the economy, which are important transmission links to growth and to poverty.

On the demand side, these linkages create *indirect and induced jobs*. Studies show that manufacturing produces some of the largest employment multipliers. The impact on poverty is less straightforward, and depends on several factors including average wages and labor conditions of the linked sectors. The nature of these employment effects were also highlighted in the recent IFC Jobs Study on ‘Assessing Private Sector Contributions to Job Creation and Poverty Reduction’\(^2\) (referred to as ‘IFC Jobs Study’) and are studied in more detail in the next section on jobs.

On the supply side, the linkages come from *knowledge and technological spillover effects*, two of the most important links to growth. Empirical evidence shows that manufacturing is the single most important sector in share in business R&D expenditures. It provides special opportunities for technological progress for the whole economy so long as the accumulation of capital stock embodies state of the art technology. One study shows that the social returns to manufacturing R&D is 2 to 6 times greater than the private returns to the manufacturing sector alone.\(^3\)

The capital intensive nature of manufacturing also provides opportunities to exploit economies of scale and achieve productivity gains through *learning by doing as well as formal training*, which increases the pool of transferable human capital- an important resource for a country in moving up to higher value added activities and services. An example from a micro case study conducted as part of the IFC Jobs Study for an agribusiness firm in Ukraine highlights how the client in house training programs have allowed staff to move to higher skilled positions. Similarly anecdotal evidence has also been gathered from another similar case study of an IFC client, a chemical firm, whose staff is extremely competitive in their local and regional labor markets by virtue of their working in this particular firm.

**Structural transformation:** Since shifts from low income and low value added activities to higher income and value added activities is critical for a country, the role of manufacturing as a driver of this transformation is critical. Shifts from low-productivity activities (e.g. rural agriculture or informal services) to manufacturing can have *positive and persistent impacts on poverty reduction*, especially if this shift is rapid and especially at lower levels of per capita income. A series of studies from UNIDO suggest that while agricultural growth, especially at initial stages of development, is critical, it is not an end in itself, but a vehicle for facilitating industrialization. Alleviating rural poverty will be more effective by the growth of a small scale and labor intensive manufacturing sector.

However, as productivity rises, the direct effects of this growth through jobs will eventually be limited but will spill over to other sectors through the linkages. Manufacturing can play a different role depending on a country’s stage of development. At low levels of GDP per capita, it can play a crucial role in eradicating poverty and boosting shared prosperity through creating labor intensive industries which can absorb poor workers at higher paying and

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\(^3\) There are critics to this thought who argue that the rise of China in manufacturing exports has made these spillovers increasingly difficult. Further, the ICT revolution has increased the role of the service sector in terms of positive spillover effects through technological advancement. For more details, see the detailed review.
better jobs. Further, entry barriers to work in these kind of sectors are also lower allowing opportunities for the uneducated, especially women. In middle income countries, the challenge becomes to sustain growth and escape the middle income trap—facing competition from low cost labor intensive manufacturing from lower income countries, and higher value added lines from advanced countries. Some studies argue that these countries need to focus on technological upgrading and leapfrogging into new markets. Here high tech and capital intensive manufacturing industries become more important. They provide high-skilled jobs and their effect on poverty becomes more indirect through spillover effects.

Literature also suggests that ever greater degrees of human capital are required to sustain the benefits of expanding manufacturing in a country. This highlights the importance of skill building through on the job, vocational and other educational institutions, and the need to concurrently address this challenge.

**Alleviation of balance of payment constraint:** By mitigating balance of payments constraints for the economy, manufacturing exports can generate net foreign exchange that will allow reallocation of resources across the economy in a manner that supports economic growth. This may especially be the case for technology-intensive industries. In general, the literature supports the view that manufacturing exports are significantly related to growth in low, middle and high income countries.

Overall, the review suggests that there is still little analysis and empirical quantification of these indirect effects on poverty due to the highly complex nature of the transmission links.

**Direct effects of manufacturing on poverty through job creation**

As discussed before, manufacturing plays an important role in creating jobs within the sector, in other sectors linked to it through the supply and distribution chains, and in the economy through induced effects. In a recent article, Dani Rodrik emphasizes the importance of this role in absorbing workers with modest skills and providing them with stable jobs and good benefits. He stresses that “without a vibrant manufacturing base, societies tend to divide between rich and poor—those who have access to steady, well-paying jobs, and those whose jobs are less secure and lives more precarious”. Hence manufacturing contributes to inclusive growth.

Further, these direct jobs tend to be of higher quality with higher wages and more indirect benefits. However, there is a limit to the role of direct employment creation in manufacturing. In general, the shares of manufacturing in total national employment is generally low, lying somewhere between 10% and 20% of total employment based on a study by the authors. While manufacturing can contribute to direct employment creation, its importance lies in the stimulus it gives in creating indirect and induced employment in linked sectors. As mentioned earlier, the sector has some of the highest multipliers. While there is some debate on how large these multipliers are, most evidence points to the fact that the manufacturing sector creates more indirect and induced jobs than services, with one study stating that ‘the capability of the service sector to generate and sustain high levels of employment critically hinges upon its vital linkages with manufacturing’. Within manufacturing, some sectors have been identified which have higher multipliers than others and these include Food & Beverage, Chemicals, Petroleum, Non Metallic Minerals and Basic Metals/Fabricated Products. When these multipliers are high, they provide high-skilled jobs.

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4 Evidence from surveys in the expanding garment industries in Bangladesh and Kenya show that the earnings of the garment workers without previous experience in the industry are not only above the national poverty line but also higher than alternative income-generation opportunities offered in the rural farm sector. However, there is a recurrent debate on whether poverty is more effectively reduced by a growth pattern that favors sectors of the economy where the poor are found (ie agriculture) or by a pattern that advances sectors where they are not found, so that more of the poor can be drawn into the higher earning parts of the economy.
distinguished by skill levels of jobs created and compared with services, some studies find that the manufacturing multipliers are higher for unskilled jobs.

The IFC Jobs Study provides evidence which supports the literature and studies above. Micro case studies conducted with several IFC manufacturing clients show that (a) highly skilled jobs are being created by the capital intensive operations of the clients with (b) significant indirect jobs being created in the supply and distribution chains. The multipliers range from 3 to 25 indirect jobs for every direct job created. These multipliers exhibit large variations due to several factors including the labor intensity of operations, local labor regulations and the maturity of the sector in the country context (c) most of these indirect jobs are unskilled in nature with wages close to the state or national minimum wages, which has a significant impact on poverty given that the client operations studied were among the poorest regions of the countries.

Conclusions and Recommendations

The manufacturing sector has often been de-emphasized as a driver of growth and hence poverty. The literature review however points to the important role the sector continues to play for poverty eradication and boosting shared prosperity, especially in the low income countries. The most direct way it impacts poverty is by creating jobs which are higher paying and more stable than those found in agriculture. Further, the indirect and induced employment effects of the sector are extremely high- manufacturing has some of the largest multipliers. Indirectly, manufacturing plays a critical role in creating very strong backward and forward linkages, which in turn points to its ability for structural transformation of an economy. For IFC, this highlights the opportunities of using a broader value chain lens of looking at its manufacturing sector to maximize the impact of both its investment and advisory operations.

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