AIMM Sector Framework Brief
Sector Economics and Development Impact Department
International Finance Corporation

MANUFACTURING

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Development Impact Thesis – Manufacturing leads to productivity increases through adoption of modern management practices, automation and technology use, connection of activities in production, and services that create sophisticated economic networks. IFC's vision in manufacturing is to 'unlock the value of manufacturing for development to strengthen economic complexity'. IFC provides financing and advisory services in the manufacturing sector to:

→ Increase access to new manufactured goods
→ Facilitate technology transfer and skills
→ Create higher skilled employment and wages
→ Support value-added production

→ Increase competitiveness and diversification
→ Promote greater integration of markets, via building stronger domestic linkages to other sectors, and enhancing economic complexity

⇨ Project Outcomes

⇨ Contributions to Market Creation

Development Gaps Addressed

- High poverty rates
- Inequality
- Low manufacturing value-added and capacity
- Low productivity and inefficient production
- Low economic complexity

Rating Construct – All AIMM sector frameworks include detailed guidance notes that help define project outcomes and contributions to market creation, aggregating to an overall assessment of development impact.

- For project outcomes, stakeholder effects are the key components for which industry-specific benchmarks define the context in which an IFC operation seeks to drive changes. This gap analysis is combined with a separate set of impact intensity estimates that specify the expected results using predefined indicators.

- For contributions to market creation, industry-specific market typologies define stages of development for five market attributes (or objectives): competitiveness, resilience, integration, inclusiveness, and sustainability. These market typologies, when combined with estimates of how much an intervention affects the development of a market attribute, provide the foundation for IFC's assessment of an intervention's market-level potential for delivering systemic changes.

PROJECT OUTCOME INDICATORS

Stakeholders

Customer access
- **Change in product distribution and/or sales, including to an underrepresented segment of the population (SMEs)**

Customer affordability
- Change in product price relative to comparator price
- Provide or facilitate financial assistance to customers

Quality and effectiveness effects
- Change in quality, product sophistication, and variety, including to underserved segment of population
- Improvement in customer yields
- Technical assistance to customers, including from an underrepresented segment

Effects on suppliers
- Purchases from and/or technical assistance (tech transfer) to local suppliers, SMEs
- Change in number of local suppliers, SMEs

Effects on employees
- Job Quality (wage premium)
- Employees skills / know-how, safety
- Representation of women (in leadership, management and total employment)

Effects on the community
- Community social responsibility spending
- Representation of local staff in leadership
- Project targets employing underserved groups (including women, low-income)
- Absence of negative effects from hazardous waste and pollution from facilities

Effect on the government
- Scale and direction of net economic transfers (taxes, royalties, subsidies, etc.)

Economy-wide

- Value added and/or employment effects
- Net foreign exchange earned / share of manufactured exports

ENVIRONMENT

- GHG emission reduction
- Energy use per unit of production
- Water use per unit of production

CONTRIBUTION TO MARKET CREATION INDICATORS

Competitiveness

Changes in market structure
- Market structure through composition, entry and exits

Price response
- Price change

Changes in product offering and innovation
- Quality and standards
- Adoption of new technology

Changes in regulation
- Market change in institutional frameworks

Resilience

- Effects on domestic supply volatility and shortage resilience
- Firms adopt technologies, planning, approaches that build business resilience to shocks and stresses
- Input intensity of energy and dependency on natural resources

Integration

Effects on trade links (Global Value Chains- GVCs)
- International trade volume and diversity of exports

Effects on domestic links (Domestic Supply Chain)
- Expanding market geographic reach and deepening domestic supply chain

Economic complexity
- Industry creation or expansion

Inclusiveness

- Inclusion - Access or wide-spread inclusive income generating opportunities
- Diversity - Access or wide-spread opportunities for diverse groups

Sustainability

- Adoption of sustainability practices (e.g, ESG standards, climate smart technology, practices)
- Conducive legal/regulatory framework to foster sustainability
- Broad capacity and supporting institutions

IFC's Environmental and Social Performance Standards define IFC clients' responsibilities for managing their environmental and social risks. While for most IFC investments, meeting Performance Standards reflects improved environmental and social performance, effects from implementation of the standards are only claimed in the AIMM framework where a clear counterfactual can be established and where the investment intent is to improve environmental or social outcomes.

Sector Specific Principles or Issues – The following principles will be applied for projects rated under this framework:

Principle or Issue	Treatment Under Framework
Complexity	There is a strong positive relationship between the complexity of a country's manufacturing sector and its level of GDP growth. However, many IFC client countries have only achieved low levels of manufacturing development and economic complexity. Economies that can produce a diverse range of products, using complex production processes and well-integrated in value chains are considered to have high economic complexity. These economies are home to a great diversity of productive know-how and are able to generate broader economic linkages. Measuring a project's contribution to increasing complexity in a country will be assessed qualitatively by comparing inputs such as the country's stage of manufacturing development (low, mid or high ECI ranking), the level of sophistication of the manufacturing (i.e. product, process and value chain sophistication) in a relative context, and knowhow/ skills/ technology transferred, with the project etc. IFC's Economic Fitness model will also be applied, when applicable, to quantitatively assess the complexity gain and feasibility based on a country's progression network.
Treatment of negative effects	A project's negative externalities are evaluated in the AIMM assessment only when they are significant enough to temper the overall rating.
Land governance	For certain projects that require a significant amount of natural resources (e.g. cement), the land required may be high. Special attention shall be paid to land governance as it will affect the sustainability of development outcomes.
Factory working conditions	The factory working space that is common to manufacturing projects may expose workers and communities to multiple physical or health risks. Through factors such as market pressures, weak regulations or enforcement failures, factory conditions may generate significant negative effects. The ability of countries to enforce regulations to safeguard workers vary. IFC's value is likely to be high in settings where regulatory and enforcement gaps are present.
Climate and resource consumption	Resource manufacturing can be both an energy-intensive and resource-intensive activity which can be carbon-intensive. While this is an unavoidable part of building foundational industries manufacturing base materials, the significant generation of pollutants (GHG emissions and other effluents) may adversely affect the sustainability of development outcomes. Significant GHG emissions have bearing on the project's economic analysis and a carbon price must be integrated into the economic analysis for projects with annual GHG emissions over 25,000 metric tons carbon dioxide equivalent (CO_2e) for all manufacturing projects. Another potentially negative outcome is the intensity of resource use. This can include the use of large amounts of water in some large-scale industrial projects. To the extent that the cost of such usage is not entirely internalized, resulting in negative externalities.
Market distortion	In certain country contexts, the establishment of large foundational industries (e.g. steel, aluminum, refineries) may result in state-owned enterprises (SOEs) involvement in the sector given the large capital investment required and the importance of such materials for economic development. In an effort to protect SOEs from competition, policies such as subsidies, local content requirement and non-tariff barriers may be deployed by the state. These policies typically end up creating an unlevel playing field and bolstering inefficient firms. Special attention shall be paid to projects or sectors dominated by SOEs as it could affect the sustainability of development outcomes.
Scope of assessment	Project level effects are measured annually over the monitoring period of the investment. It is understood that for manufacturing projects, these effects typically outlive the project's monitoring period. Project level effects are delivered over the "life of the project" defined as the economic life of the assets. Market creation effects are measured less frequently (every three to five years) because market creation effects, on the contrary, represent shifts in the structure or operation of a market whose lifetime is not necessarily linked to the project's and the process is more gradual. For AIMM purposes, effects that can be measured and monitored during the project's monitoring period are emphasized.
Benchmarking	Anticipated development impact rating is primarily based on the size of the market gap being addressed. This methodology gives greater reward to projects addressing large deficits and those creating missing markets or opening up new opportunities to link to missing markets. Support to underserved markets is consistent with IFC's aspirations to put itself in a leadership role in the "billions to trillions" effort, by leveraging its resources to expand and create markets where private capital has been less forthcoming. A secondary consideration in the rating scale is impact per million dollars invested (total project cost, rather than size of IFC financing). This benchmark ensures that deficits are addressed efficiently. The scaling of development impact by project cost also ensures that small but well-targeted projects are not penalized. In the manufacturing sector, most project indicators (e.g. number of new distributors), product quality (e.g. introduction of new innovative products to market), and affordability outcomes (e.g. reduction in price of products to end customers) are benchmarked in terms of percentage improvements.

Project Outcomes – The AIMM system considers the extent of the development gap and uses a gap analysis to classify project contexts according to the size of the deficit/gap being addressed. For each indicator, the size of the gap is measured in relation to development goals associated with the sector. Contexts are classified into very large, large, medium or low gap, for each performance dimension. Development gaps are defined using a combination of qualitative and quantitative benchmarks, which leaves room to consider context-specific attributes that drive investments in the sector.

COUNTRY CONTEXT	Low Gap	Medium Gap	Large Gap	Very Large Gap
Affordability	– Per capita consumption (annual) of non-food manufacturing goods is above US$ 100 in PPP terms	– Per capita consumption (annual) of non-food manufacturing goods is b/w US$ 70-100 in PPP terms	– Per capita consumption (annual) of non-food manufacturing goods is b/w US$ 50-70 in PPP terms	– Per capita consumption (annual) of non-food manufacturing goods is below US$ 50 in PPP terms
Access	– Logistics Performance Index is above 3.05	– Logistics Performance Index is between 2.65 to 3.05	– Logistics Performance Index is between 2.35 to 2.65	– Logistics Performance Index is below 2.35
Quality	– Share of firms with internationally recognized quality certification is 25% and higher	– Share of firms with internationally recognized quality certification is between 14 to 25%	– Share of firms with internationally recognized quality certification is between 8 to 14%	– Share of firms with internationally recognized quality certification is up to 8%
Suppliers	– Share of inputs of foreign origin is up to 25%	– Share of inputs of foreign origin is between 25 to 48%	– Share of inputs of foreign origin is between 48 to 77%	– Share of inputs of foreign origin is above 77%
Employees	– Share of women in non-agriculture wage employment exceeds 47% – The informal employment rate is below 30% – The unemployment rate in the country is below 4% – Value added per employee in the economy is US$16,500 and above – WEF – Global Human Capital Index is above 63	– Share of women in non-agriculture wage emp. is b/w 39% and 47% – Informal employment rate is b/w 30% and 50% – The unemployment rate is b/w 4% and 8% – Value added per employee in the economy is b/w US$7,800 to US$16,500 – Human Capital Index is b/w 57 and 63	– Share of women in non-agriculture wage emp. is b/w 20% and 39% – Informal employment rate is b/w 50% and 80% – The unemployment rate is b/w 8% and 18% – Value added per employee in the economy is b/w US$3,000 to US$7,800 – Human Capital Index is b/w 50 and 57	– Share of women in non-agriculture wage emp. is less than 20% – The informal employment rate is above 80% – The unemployment rate is above 18% – Value added per employee in the economy is below US$3,000 – Human Capital Index is below 50
Community	– The area is poor and highly vulnerable, with limited infrastructure, low levels of schooling, limited access to health services, water, and power	– The area ranges from poor to lower middle income, has mixed infrastructure, some schooling options, and some access to health services, water, and power	– The area is largely middle income or lower middle income, with adequate infrastructure, schooling, access to health services, water, and power	– Area is largely upper middle income or lower middle income, with relatively poor infrastructure, schooling, access to health services, water, and power

"Core outcomes" are defined as the main and most typical outcomes seen in projects within a sector. Core outcomes are expected to be seen in most projects within the sector and are central to the theory of change. For the manufacturing sector, core outcomes include effects on consumers, domestic suppliers, as well as associated economy-wide effects. Non-core outcomes are not expected to materialize across all projects but could be significant and affect the AIMM rating where they do. As a sector, there is a particular emphasis on sustainability of manufacturing projects through lower greenhouse gas emissions, efficient energy use and sustainable use of natural resources such as water. Where applicable, these outcomes can become major drivers of project outcomes assessment and influence their long-term sustainability. The associated indicators include the introduction of modern and more efficient technologies and new skills, which may lead to reduction in greenhouse gas emissions, and lower resource consumption such as reducing water use and energy consumption. An IFC operation's project-level impact is assessed based on the magnitude of its effects in relative terms: i.e., using a normalization rule that provides an indication of the intensity of impact (e.g., impact per dollar invested). The table below is an illustration of the outcome intensity assessment categories.

PROJECT INTENSITY	Below Average	Average	Above Average	Significantly Above Average
Access	– No increase in number of distributors / retailers – < 10% of the additional distributors / retailers reached are SME – First quartile of sales to assets ratio distribution of comparators – < 10% of the additional sales reach underrepresented groups	– <10% increase in number of distributors / retailers – 10%-20% of the additional distributors / retailers reached are SME – Second quartile of sales to assets ratio distribution of comparators – 10%-20% of the additional sales reach underrepresented groups	– 10%-20% increase in number of distributors / retailers – 20%-50% of the additional distributors / retailers reached are SME – Third quartile of sales to assets ratio distribution of comparators – 20%-50% of the additional sales reach underrepresented groups	– > 20% increase in number of distributors / retailers – > 50% of the additional distributors / retailers reached are SME – Fourth quartile of sales to assets ratio distribution of comparators – > 50% of the additional sales reach underrepresented groups

PROJECT INTENSITY	Below Average	Average	Above Average	Significantly Above Average
Affordability	– <5% reduction in price relative to current market price or relevant comparator	– 5-20% reduction in price relative to current market price or relevant comparator	– 20-40% reduction in price relative to current market price or relevant comparator	– >40% reduction in price relative to current market price or relevant comparator
Quality	– No change in product quality or marginal change in product quality – <5% increase in yield per KG of product – No new product added to product range	– Improvement in quality standards consistent with general sector/region – 5-10% increase in yield per KG of product – 5% -10% share of existing product range	– Improvement in product quality to meet international standards – 10-20% increase in yield per KG of product – 10% -30% share of existing product range	– Improvement in product quality to set new international standards – >20% increase in yield per KG of product – Greater than 30% share of existing product range

The AIMM methodology considers the uncertainty around the realization of the potential development impact being claimed, making a distinction between the potential outcomes that a project could deliver and what could be realistically achievable in the project's development context. The table below presents the key types of risk factors for manufacturing operations.

PROJECT LIKELIHOOD	Operational Factors	Sector Factors
Assessment Considerations	• Experience and track record of executing entity • Financial strength of sponsor • Presence of coordination risk due to performance requirements from many different or separate entities • Familiarity with the local market • Use of new or unproven technology	• Predictable macroeconomic environment • Regulatory risk such as land policy • Presence of enabling infrastructure (physical and soft infrastructure)

Contribution to Market Creation – For the assessment of market creation outcomes in manufacturing projects, the market is the sub-sector in the national economy. For example, suppose the project is the financing of a cement producing company in Country X. While cement is a traded manufactured good and could be exported to many countries, the relevant market for the purpose of Market Creation assessment is the specific good market in Country X. However, some projects may entail a market that extends beyond the boundaries of a country, possibly due to the fact that the global supply of the manufactured good is produced by a small number of firms. This would include high-tech projects under the Light Manufacturing category such as the manufacturers of semi-conductors or vehicle parts. Market typologies provide the building blocks in the AIMM system to construct a narrative for how much an IFC intervention is advancing a market objective. These typologies provide a description of the market gap based on various stages of development for a given sector from least developed to most advanced and enable the location of the market before and after IFC's intervention. The table below summarizes the characterizations of the market for the three most important market attributes.

MARKET TYPOLOGY	Highly Developed	Moderately Developed	Underdeveloped	Highly Underdeveloped
Competitiveness	– Market has a few large players with no monopolistic behavior or no oligopolistic collusion – Market is primarily formal and price competition occurs, leading firms have brand recognition and meet international standards – Market competition supports downward pressure on price increases, all else equal on quality – Market average in line with international quality and standards (companies operating with BAT) – Sector is recognized as operating with BAT	– Market has at least one large player with no monopolistic behavior – Market with a mix of formal and informal players, dominated by formal – Market competition supports maintaining the status quo of price increases, all else being equal on quality – Internationally accepted quality and standards implemented by both multinational and domestic leading players – Sector not leader, Business as Usual Technology not far behind BAT	– Market has at least one large player with some level of monopolistic behavior and protections from government – Market dominated by small and informal players – Competition is insufficient to prevent upward pressure on price increases, all else equal on quality – Internationally accepted quality and standards only implemented by multinational leading players, average market (local standards) well below – Business as Usual Technology lags BAT	– Market has at least one large player with monopolistic behavior and significant protections from government – Highly fragmented market with predominantly very small or informal players and not meeting minimum scale to meet minimum standards – Regulated sector (price set by government)

MARKET TYPOLOGY	Highly Developed	Moderately Developed	Underdeveloped	Highly Underdeveloped
Integration	– The market satisfies the domestic demand and generates substantial revenue from diversified exports – The market serves all regions; Local content regulation comparable to global standards – Top tercile of country ECI ranking	– The market trades with the rest of the world and its export and import are roughly in balance – The market serves most major regions; Local content regulations exist but below global standards – Middle tercile of country ECI ranking	– The market does not satisfy domestic demand and some imports are needed to meet domestic requirements – The market provides service only 1-2 major regions; Local content practices exist but with no regulation – Bottom tercile of country ECI ranking	– No exports – There is no meaningful domestic market
Inclusiveness	– Consumers: middle-income consumers with good access to markets through formal retail chains, advanced product standards where applicable – Producers: Highly commercialized SMEs with good standards and market access or large-scale manufacturers – Most market players in line with world standard of best practice in the sector	– Mix of consumer or producer categories with pockets of under-served groups which would require explicit targeting efforts to reach – Emerging standard of practices across increasingly numerous market players motivated by business case	– Consumers: Predominantly BOP consumers (as per Consumption Database), especially outside of urban areas, relying on small shops and low standards – Producers: Production is dominated by SME producers with limited capacity, access to inputs, finance, markets – Practices only adopted by leading players with social mission	– Practices non-existent

The market component rating is based on the current market stage and movement along the market typologies. For each relevant market outcome, the individual market creation assessment will identify where the magnitude of the movement falls in the movement spectrum and will support one of the following movement options: “Marginal”, “Meaningful”, “Significant” or “Highly Significant”. In general, most individual projects are not expected to make a significant and immediate systemic market change, unless the project is a pioneer in a non-existent or nascent market. Instead, most projects are expected to have incremental effects on the market. In other words, it takes more than one intervention to move a market to the next stage. This means that integrated and concerted efforts are often needed to generate substantial market effects. For example, cumulative World Bank Group efforts over time will have a stronger effect on markets than non-integrated and non-concerted interventions. Where a project is explicitly part of a programmatic approach, the expected movement induced by the program should be the basis for the assessment where timebound movements, market effects, and indicators are available. Examples of market movements include:

MARKET MOVEMENT	Marginal	Meaningful	Significant	Highly Significant
Competitiveness	– Support additional domestic production into a market with only a few players and also facing very high domestic prices due to over dependence on imports – Promote international best practices and standards (e.g. processes and safety etc.) – Increase private sector participation in large-scale capital-intensive manufacturing sectors dominated by SOEs			
Integration	– Introduce new technology and production processes in country such as, establishing the first company capable of producing larger body aluminum parts for rail vehicles, trucks and buses thereby allowing for the country to build complexity and participate in new value chains – Increase the links from the largest urea manufacturer across the region to smaller domestic and regional NPK blending plants across various markets that will use the Urea as input for NPK blending – Large-scale upgrading of skills of suppliers as they make additional investments in new technologies and processes to gain access to the manufacturers supply chain. Know-how and capability built by local suppliers become available to other market participants which deepens engagement with existing value chains/enhances the participation in new value chains			

The market likelihood adjustment follows the principles for the likelihood adjustment for project outcome potential. In general, the likelihood assessment includes sector-specific, as well as broad country risks that may prevent potential catalytic effects from occurring, plus political economy or policy/regulatory risks that may constrain market systemic change. Due to the diversity of market creation attributes and channels, most of the likelihood factors are expected to be sector, or intervention specific.

MARKET LIKELIHOOD	Sector Factors	Political / Regulatory / Policy Factors
Assessment Considerations	• Presence or absence of barriers to entry in the relevant market where there exists a monopoly or an oligopoly or monopsony • Barriers to formality and consolidation for highly fragmented market • Dynamism of the sector in terms of adaptability or capacity to change • Relevant price trends	• Level of openness of the economy to imports and exports • Presence or absence of appropriate national policies, legislation or regulations. • Government capacity to implement policies and program commitments and track record • Medium term macroeconomic outlook, and capacity to respond to shocks • Social/economic/political stability