

Economic Opportunities and Job Creation MANUFACTURING Sector

DRAFT FOR DISCUSSION

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1. Sector overview

The industrial sector is a key sector in the Lebanese economy, highly dominated by small and medium enterprises with important contribution to the national output and employment in the country. In 2013, Lebanon's industrial sector represented approximately 20% percent of the national output, (the industrial sector third in importance after the services, especially tourism, and construction sectors). Specifically, the manufacturing sector contribution to GDP reached around 8 percent of the GDP in the same year¹.

*Table 1: Manufacturing Sector Contribution to GDP, current prices, 2008-13
(Billions of LBP, percent)*

| | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
|---|-------|-------|-------|-------|-------|-------|
| Metal products, machinery & equipment | 1,292 | 1,436 | 1,461 | 1,355 | 1,485 | 1,597 |
| Manufacturing of food products | 536 | 695 | 716 | 891 | 947 | 1,134 |
| Beverages & tobacco manufacturing | 346 | 440 | 482 | 476 | 541 | 581 |
| Non-metallic mineral manufacturing | 418 | 416 | 532 | 620 | 604 | 728 |
| Wood & paper manufacturing; printing | 343 | 406 | 418 | 381 | 381 | 405 |
| Chemicals, rubber & plastics manufacturing | 362 | 390 | 410 | 391 | 417 | 465 |
| Textile & leather manufacturing | 171 | 181 | 191 | 211 | 226 | 233 |
| Other manufacturing | 123 | 192 | 198 | 237 | 243 | 301 |
| Total | 3,591 | 4,156 | 4,408 | 4,562 | 4,844 | 5,444 |
| Manufacturing as percentage of GDP | 8.15% | 7.77% | 7.61% | 7.55% | 7.29% | 7.65% |

Source: Central Administration for Statistics, National Accounts

Overall the manufacturing sector is concentrated around key industries where food and beverages make up 31%, electrical machinery and apparatus represent 29%, and non-metallic mineral products 13%.

The trade of industrial products (including manufacturing) show a decrease of trade between 2012 and August of 2016 which reaches in 2015 a (-12.05%) of imports and (-11.14%) of exports in 2015. Lebanon's import-to-export ratio was 4.5 in 2012 and reached 5.9 in 2015. The decline in trade is largely affected by the current situation in Syria, which has limited land trade routes. The decline in exports is mirrored though by a decline in imports of goods which represents an opportunity for industrialists to expand in the internal market². Prior to 2006, the Lebanese industrial sector had experienced a certain growth of industrial exports, where the manufacturing value added grew at a rate of 3% between 2000 and 2005.

¹ UNIDO statistical country briefs – Lebanon, 2015

² Based on calculations of official trade data through the Lebanese customs (at HS1)

Table 2. Manufacturing trade, 2012-2016 (Millions LL)

| | 2012 | 2013 | 2014 | 2015 | 2016* |
|------------------------------|------------|------------|------------|------------|------------|
| Manufacturing imports | 30,541,312 | 30,474,265 | 28,831,545 | 25,061,493 | 17,862,551 |
| Manufacturing exports | 8,168,637 | 7,419,750 | 6,490,605 | 5,661,915 | 3,705,527 |

Source: Lebanese Customs

*as of 31/8/2016

The manufacturing sector is highly concentrated among subsectors, with an estimated 70% of all firms working in just 5 manufacturing subsectors³. The scale of industry is small. Over 75% of manufacturing enterprises employ less than 19 workers, and only 3% employ more than 100 workers⁴. The manufacturing value added (MVA) by size of enterprise is the opposite. Of registered/formal enterprises, those with less than 19 workers generate about 20% of gross MVA, while those employing more than 100 workers generate about 50% of gross MVA⁵. The industrial enterprises in Lebanon are also geographically concentrated with over 55% of registered manufacturing enterprises are located in Beirut and the Mount Lebanon regions⁶.

Table 3: Distribution of industrial establishments by governorate, 2007
(Number, percent of total)

| Governorate | Beirut | Mount Lebanon | North Lebanon | Bekaa | South Lebanon | Nabatieh | Total |
|--|--------|---------------|---------------|-------|---------------|----------|-------|
| Number of establishments | 239 | 2010 | 518 | 744 | 420 | 102 | 4033 |
| % of total | 5.9 | 49.8 | 12.8 | 18.4 | 10.4 | 2.5 | 100 |
| Average number of workers per establishment | 19 | 25 | 17 | 18 | 12 | 12 | 21 |

Source: Ministry of Industry, Census, 2007

Industrial activity is scattered over residential and agricultural areas, in addition to areas earmarked for commercial and industrial activity. Among other things, the scarcity of suitable land and inadequate land zoning forces Lebanese industries to compete for land in high cost locations, with the result being that land comprises an unusually large component of manufacturing investments.

The sector employs around 12% of the labour force⁷. Lebanese represent 53% of the labour force in manufacturing compared to 8% Syrians, and 39% foreigner workers. Women are estimated to

³ Ministry of Industry, GOL, "The Lebanese Industrial Sector: Facts and Findings", 2007, P.28

⁴ UNIDO, Ibid P. 20.

⁵ UNIDO, Ibid P. 24

⁶ UNIDO, ibid. P. 30.

⁷ Data from CAS (2009), World Bank (2010), and UNDP (2014) place labour force participation rate in industry at 12%, 10.3% and 10%, respectively

represent 16.9% of the total workforce in 2007⁸. UNDP's 2014 assessment of skill levels in different sectors show that 43% of labour in manufacturing is low skilled, 47% medium skilled and 9% high skilled.

A UNIDO, ALI and Ministry of Industry's 2007 assessment of the industrial sector in Lebanon estimates yearly average wage for a worker in industry to being at 7,335 USD, while as the UNDP's 2014 assessment puts it at an average of 10,720 USD⁹.

Lebanon's rich ecology places strong demands on industry to sustain environmentally sound business practice in order to safeguard the country's natural environment and its rich archaeological and cultural heritage. This requires careful and constant attention to responsible business practice in the country.

2. Government priorities

With support from UNIDO, the Ministry of Industry formulated an integrated vision for the Lebanese industrial sector for the 2025¹⁰. This strategic document is intended to guide and support the development of the industrial sector. The document further aims at defining the industry's role towards achieving inclusive and sustainable development. There are seven main objectives:

1. Expanding the domestic market;
2. Increasing industrial exports;
3. Raising the competitiveness of the national industry;
4. Increasing investments and financing in the industrial sector;
5. Encouraging green industry;
6. Encouraging innovation and knowledge-based industries;
7. Increasing industry-related communication and outreach.

To address these challenges, the Government of Lebanon through the Ministry of industry and UNIDO agreed on the implementation of a Country Programme for Inclusive and Sustainable Industrial Development for 2015-18 that aim at supporting the Government of Lebanon in increasing the country's manufacturing value added with a view to stimulating economic growth, job creation and income generation. This will be done in an inclusive and sustainable manner, with special consideration for women economic empowerment and environmental sustainability. To this end, five main interlinked components were agreed and shall guide the implementation of the Programme. These priority areas are:

1. Industrial zone development and industrial strategy

⁸ MoI/UNIDO/ALI, the Lebanese industrial sector, 2007

⁹ Based on average of monthly wage of Lebanese workers across low, medium and high skill levels in 2011

¹⁰ Ministry of Industry; 2015; "Integrated vision for the Lebanese Industrial sector 2025"

2. Development of agro-industry value-chains
3. Energy efficiency, renewable energy and environmental management promotion
4. Support to the competitiveness of industrial SMEs
5. Promotion of inclusive industrial development

3. Challenges facing the sector

Whereas emerging economies have witnessed rapid growth in trade and financial markets, and diversification in manufacturing based on technology innovation, economic growth in Lebanon today is greatly affected by persisting development challenges and a protracted Syria crisis. The industrial sector faces a number of development challenges in a low-growth economy (less than 2% over the past four years), including:

1. Production and productivity

- a. Cost of production is affected by land, labour, capital, technology and management. All cost components are considerably higher in Lebanon than in neighboring countries, making Lebanese products less competitive even in the Lebanese local market. The high cost of production is reported to be one of the main problems facing the industrial sector and halting its development. The absence of modern industrial zones is a major cost factor. The initial cost to set up a manufacturing enterprise (land, generators...) together with the energy cost are prohibitive in many cases to consider an investment.
- b. Land scarcity has contributed to increasing the **price of land**. It is reported as the fourth¹¹ main obstacles facing the manufacturing firms¹². This has a direct impact on all investment considerations as the return on investment of manufactured products is greatly affected by the cost of acquiring land. “There are three main ways in which land impedes manufacturing processes in Lebanon from operating at their full capacity. The first way is through the scarcity of empty and well-located land plots for industrial operations; the second is through the high prices of available land plots; and the third is through the dominating incentive to engage in real estate activities rather than manufacturing activities” (World Bank, Lebanon Economic Monitor, Spring 2016, annex 1).
- c. **High operating costs** (amongst other things, due to high cost of electricity and energy) limit competitiveness. Manufacturing firms face on average more than 300 hours per month of electricity outages – more than 10 hours per day – with cost impact more than 8 percent of annual sales¹³. This is three times the global average, and forces 86% of manufacturing firms to rely on private generators of electricity. On average, a Lebanese manufacturing establishment spends about 3% of its input costs on oil for self-generation of electricity. The situation of large-scale manufacturing is yet worse, with large-scale

¹¹ After electricity, access to finance and tax rates

¹² LEM, World Bank 2016

¹³ Lebanon economic monitor, World Bank, 2016

manufacturers having to spend up to 7.8% of input costs on oil for auxiliary power generation¹⁴.

- d. **Weak infrastructure** and bad conditions of roads have a direct impact on cost of production and competitiveness of the sector. Access to land, cost of transportation and time spent on the road¹⁵, are merely some of the consequences of the weak condition of the roads network.
- e. **Low public investment** - with respect to infrastructure, support for sustainable energy, land development, research and development, marketing of products - limits the development of the sector, and of value chains in many levels.

2. Access to markets

- a. The industrial sector suffers from the **limitations of a small domestic market**, which have been made more acute with the closure of traditional trade routes for Lebanese exports, caused by the conflict in Syria that has long been a destination market and transit route for Lebanese exports to Saudi Arabia and the States of the Persian Arab Gulf States. In addition to its impact on the balance of trade, the decline in exports has, among other things, caused the industrial sector to suffer low rates of capacity utilization — estimates of current capacity utilization are in the range of 60% — which further renders the industrial sector to be uncompetitive and cost inefficient.
- b. **Unreliability of Lebanese industrialists' business practices**, specifically at the level of sustainability of their exports, has been reported by numerous experts in the sector. The traders' attitude of chasing the opportunity compared to sustaining a certain production, even in crisis period, strains trade relations with counterparts.
- c. **Negotiation of new trade agreements** to ensure access to new markets, and renegotiation of certain trade agreements already signed, could open new markets, especially ones with a considerable Lebanese expatriate population, where supply and marketing of Lebanese products could create an increase in demand. Many experts report the access to markets as the main challenge facing the sector.
- d. Access to markets requires the adaptation of products to international tastes through research and development, product design, and marketing, all of which are lacking. Lack of adequate marketing tools hinders the mainstreaming of Lebanese products on international markets and limits sales.
- e. Global trade trends have not been favorable to the Lebanese industry. The emergence of **strong global competitors** has flooded the Lebanese domestic market with imports that are of more competitive quality and cheaper than Lebanese manufacturing products in several sectors. As a result, Lebanon suffers large and increasing deficits in commodity trade, with the current trade deficit in Lebanon about USD 15 billion per annum.

¹⁴ UNIDO, Ibid. P. 44

¹⁵ Reported as 9th obstacle facing the manifesting companies in the World Bank 2016 LEM

3. Access to finance

- a. **Access to finance for non-bankable entities** in Lebanon blocks future investments. The manufacturing sector is informal at over 50%, according to MoI, see below. Acquiring loans requires a manufacturer (1) to take out a personal loan (with the contingencies governing these types of loans) or (2) to provide collateral to get loan approval. As many manufacturers do not have the required collateral, which limits the possibilities of small manufacturers to access finance.
- b. Current market structure shows that family-owned businesses represent the large majority of manufacturing (and other) firms in the country. Within the present legal and regulatory framework, it is hardly possible to move from a family business, relying on debt financing, to a corporate structure accessing equity financing. Only 11 companies are traded on the Beirut stock exchange. A recent initiative of BdL aims to support the development of the equity financing infrastructure for the start-up and early-growth stages of knowledge and ICT industries (Circular 331).
- c. **Kafalat loan** guarantees for both craftsmanship and manufacturing enterprises show a continuous decline since 2010 (following steep increases in 2008-2010). The amount of loans decreased from US\$ 61 million in 2010 to US\$ 38 million in 2015. Kafalat reports accepting 90% of the loan applications received post commercial bank screening, which confirms problems with loan access through commercial banks. This presents a main bottleneck for access to finance for small entities. Lebanon does not have a specialized industrial bank which handles industrial project proposals and their feasibility.
- d. The prolonged turmoil in the region and domestic political impasse has created an **atmosphere of acute uncertainty in the business environment**. This prevents the domestic private sector from taking the longer view of investment risks associated with the manufacturing sector. The lack of domestic investor confidence also adversely affects foreign business confidence, since foreign investors tend to follow the business sentiments of their domestic counterparts.

4. Labour market situation

- a. **Data on labour market remains largely missing**, especially with respect to demand of labour, productivity levels and skill levels hindering informed planning in the sector and the development policies.
- b. **Informality is high in the sector¹⁶; it is estimated by the Ministry of Industry at over 50%**. The first direct impact is at the level of access to finance. Lack of access to funds limits possibilities of investments, productivity and growth. In addition, informality is linked to the lack of decent work conditions, which is an infringement on human rights, pushes qualified labour out of the sector, and allows the expansion of the low productivity trap, whereby and due to the labour conditions offered, only low productivity labour is available to work in an industry.

¹⁶ Reported as the top 8th obstacles by manufacturing firms in the LEM, World Bank, 2016

- c. The labour market has been adversely affected by the **persistent economic and social difficulties** resulting from the incomplete recovery from the 2006 conflict and the impact of the Syrian crisis. Access to employment has been largely affected, continuing to feed considerable brain drain of university graduates and specialized technicians. Important to note also are the significant regional and gender-based disparities on the labour market¹⁷.
- d. A labour market assessment conducted in the Beirut and Mount Lebanon regions¹⁸ identified technical skills as the most important skills an employee should be endowed with. These **skills are largely missing on the labour market**; technical education suffers from an image problem (socio-cultural reasons). The development of needed skills through high quality TVET and, especially, a hybrid educational system, which promotes simultaneously education and work experience is also still lacking.
- e. SMEs are reported to suffer from the absence of qualified middle management and from the **mismatch in demand and supply of human capital**¹⁹.

5. Access to information

- a. **Sector data** relating to the situation of the manufacturing sector requires updating²⁰, with details on costs of production, levels of productivity and labour market data required for sector development. However, the MoI has conducted for the past few years a zero cost enterprise-based survey (conducted internally using available ministry resources) with the companies renewing their licenses. Even though the informal sector is not covered, this step has helped shed light on the situation of the sector.
- b. **Lack of proper channels for access to, and distribution of, information.** This includes, in particular, information regarding **market opportunities**, both internally (situation of demand) and externally (entry points in certain markets, proper channels to distribute products, legal and quality requirements...), affects investment promotion and decisions.
- c. Awareness about **funding opportunities** and institutions offering financial support for small and medium sized industries is limited.
- d. Interventions have been carried out by local experts and international organizations to identify and promote certain value chains with high potential for growth and job creation. The information on value chains' **best practices**, nonetheless, is **not widely disseminated** in a concise and clear way to stakeholders.

¹⁷ ACTED, Labour Market Assessment in Beirut and Mount Lebanon, 2014

¹⁸ ACTED, Labour Market Assessment in Beirut and Mount Lebanon, 2014

¹⁹ Ministry of Economy and Trade, Lebanon SME Strategy: a Roadmap to 2020, November 2014

²⁰ Last census dates back to 2007

4. Donor response to sector challenges

In the past years, there has been an increased response from donors to meet the challenges in the industrial sector with the aim of creating more livelihood and employment opportunities and growing production. Importantly, the pipeline projects and planned support indicate increased assistance to the sector in the near term.

Below are summarily reviewed, responses to specific challenges and clusters of challenges. The projects listed include only donor support and only on-going projects (pipeline and planned projects are not included here).

Table 4. Ongoing financial support for manufacturing provided by donors (US dollars)

| Area of focus | Addressed sector challenge | Type of activities | Grant Budget (USD) | Loan Budget (USD) |
|--|---|---|--------------------|-------------------|
| Industrial Zones and Industrial Strategy <i>MoI integrated vision, Objective one: Expand domestic markets</i> | Production and Productivity Access to information | <ul style="list-style-type: none"> Master-planning for Industrial zones | 555,000 | 7,770,000 |
| Energy Efficiency and Cleaner production <i>MoI integrated vision, Objective five: Encourage green industry</i> | Production and Productivity Access to Markets | <ul style="list-style-type: none"> Promotion of energy efficiency and renewable energy solutions Promotion of environmental friendly measures Technical assistance to the Ministry of Environment | 601,500 | |
| Industrial SMEs development <i>MoI integrated vision, Objective two: Increase industrial exports</i> <i>MoI integrated vision, Objective three: Increase competitiveness of the national industry</i> | Production and Productivity Access to Markets | <ul style="list-style-type: none"> Capacity building to SMEs including promotion of innovative marketing | 888,000 | |
| Inclusive Industrialization <i>MoI integrated vision, Objective three: Increase competitiveness of the national industry</i> | Production and Productivity Access to Markets Labor Market Situation | <ul style="list-style-type: none"> Provision of equipment to SMEs Capacity building to SMEs for quality and safe production Vocational training for unemployed youth Labour market assessment | 1,153,090 | |
| Total | | | 3,197,590 | 7,770,000 |

Industrial zones and industrial strategy

Ongoing assistance in the manufacturing sector include support to the Ministry of Industry to build, manage and operate three industrial parks in the Bekaa and Mount Lebanon that can be replicated in other regions (USD 555,000 Grant linked to a 7m Euro Loan). Activities include completing feasibility studies and master planning in preparation of the development of the industrial parks.

Energy efficiency and cleaner production

Support for energy efficiency and cleaner production consists of technical Assistance is being provided to the ministry of Environment (USD 200,000), promotion of energy efficiency and renewable energy solutions for reduced environmental impact (USD 277,500) and promotion of environmental friendly measures (USD 124,000).

Industrial SMEs development

Ongoing assistance is being provided to build capacities of manufacturing SMEs in creative clusters through technology transfers, capacity building development and introduction of innovative approaches for marketing (USD 888,000).

Inclusive industrialization

Ongoing assistance also includes an initiative that aims to support upgrading of furniture producers including in terms of quality, productivity, and energy management. Through his initiative, vital equipment is being provided to furniture producers in Northern Lebanon to upgrade their production capacity and skill development training is being conducted for unemployed youth including around 100 young females and males which are being provided with skills/vocational training related to wood processing/furniture production.

An assessment of human resource needs within the construction and industry sectors of Lebanon is being carried out to provide an overview of the workforce characteristics of each sector, identify existing mismatches in labour supply and demand (USD 42,090).

5. Opportunities for job creation and growth

Sector challenges need to be addressed through strategic initiatives in order to:

- Redress the imbalance between small scale, low value added industries and large scale enterprises that dominate the industrial landscape;
- Diversify the sub-sector and regional distribution of industrial investment in order to spread economic opportunity and widen Lebanon's industrial base;
- Improve the competitiveness and cost efficiency of Lebanese industry in order to enable it to compete in domestic and export markets;
- Create a more secure business environment in order to encourage long-term investments in productive activity;

- Move from cost-based to knowledge- and value-based sectors of industry;
- Improve the environmental performance of industry.

Overcoming the challenges and achieving the opportunities will be enabled by the fact that Lebanon has long been characterized by strong entrepreneurial capabilities. Investment in industry and specifically in the manufacturing sector will channel the creative potential of Lebanese entrepreneurs and harness the capabilities of the work force.

Aligned to the 2025 vision of the Ministry of Industry and the UNIDO Country Programming Framework (2015-18), this section presents opportunities that will contribute to job creation and growth in the manufacturing sector in the short and medium terms.

The listed opportunities require strengthened coordination among key national and international actors in planning and implementation. A comprehensive and multi-disciplinary approach is key in creating sustainable jobs and achieving growth in the sector.

1. Support the Government of Lebanon, namely the Ministry of Industry, in formulating a comprehensive industrial strategy and developing industrial zones, especially in most vulnerable areas

MoI action course: Expand domestic market and increase competitiveness

- Support the MoI and other related private sector entities in designing and deploying industrial sector development strategies:* Designing a national strategy - through an inclusive and participatory approach - for sector development based on which the private sector can flourish is necessary. An industrial development strategy should also be supplemented by targeted policies for promoting competitiveness and trade growth including through technical support and incentives.
- Support the MoI and other related private sector entities in enhancing their statistical capacities to collect data and disseminate information:* Improved data and statistics will allow programming of targeted interventions and subsequent development of the sector. Access to updated and accurate data on industries, SMEs and markets, will facilitate defining business trends and allow for evidence based planning and analysis in the sector.
- Support the MoI in developing industrial zones:* The MoI is in the process of creating three new industrial zones in Lebanon. Scaling up financial support for industrial zones and specialized economic zones will allow for large-scale job creation and stimulate different sectors of the economy, e.g. linking to other businesses in the neighborhood. The spatial concentration of industries and infrastructure allows cost sharing (e.g. energy, land, large equipment, transportation...), which will improve cost structure and competitiveness of

firms and allow for higher levels of employment. With respect to small businesses, alternatives such as clustering need to be promoted and supported.

- d. Support the establishment of a sector coordination platform for manufacturing. Sector coordination, convened by the public sector and with private sector management support provides an opportunity that could be highly beneficial to all parties. A platform to meet, connect and exchange ideas and new initiatives among key stakeholders of the manufacturing sector (public, private, academic, research, entrepreneurial community...) could also address various needs and issues, etc.

2. Invest in technical assistance in the national agro-industrial value-chain sector to enhance quality standard, compliance and performance, and increase sector export competitiveness

MoI action course: Increase competitiveness and export of the industrial sector

- a. Support the agro-industrial sector in enhancing their food safety standards through targeted trainings in the sector: Food safety standards are one of the main reasons hindering market access for products. Solving this bottleneck will increase both local and international demand, help considerably in expanding the levels of production in the sector which will require considerable employment at different skill levels.
- b. Enhance the capacity of the agro-industrial sector in producing agro-food products for export: Other factors besides quality concerns also limit market access of Lebanese agrofood products, such as labeling information requirements and packaging and cooling systems. Enhancing the capacity of Lebanese producers with respect to requirements for exports will allow for market expansion, leading also to an increase in employment. Capitalize on the important export potential of the food industry, notably in countries with sizeable Lebanese diaspora. Competent agrofood businesses with good marketing plans have successfully exported.
- c. Develop value chains that improve linkages with the agriculture and tourism sectors: For instance, building on the increasing production of grapes in agriculture, the industrial sector could aim to further promote and develop the wine industry, which in turn could help establish national wine trails for tourism. Similarly, olives and olive oil, honey, and organic produce are examples of production, which could help develop job creation in food manufacturing, and as well support and integrate rural tourism and eco-tourism. Support could consist of linking producers at different levels and

cutting the middle man; offering technical support; and, facilitating access to financing.

3. Assist the development of industrial SMEs by increasing and enhancing business opportunities and creating the conditions to add jobs to the economy

MoI action course: Increase competitiveness of the industrial sector

List of opportunities:

- a. *Support the development of industrial SMEs through access to information on the provision of enterprise development, access to finance and investment promotion services:* Create an easily accessible central information platform for the manufacturing (industrial) sector to disseminate sector information to the largest number of entrepreneurs, businessmen and investors. Information should cover sector developments, financing opportunities, trade agreements, how to access markets, etc. to promote growth and investments in the sector. This step will help also potential investors into entering the sector and lead to job creation. Making the relevant information available to whomever needs it is essential to promote job creation and trade.
- b. *Support craftsmanship through SME development and support to clusters and networks:* Support the creation and expansion of small craftsmanship through SME development, including training and skill development; access to international markets by ensuring proper packaging and marketing; and, facilitate access to microcredit. Linking different craft types through networks and clusters will foster development and help promote and sustain craftsmanship trades which are at risk of going extinct.
- c. *Encourage manufacturing industries to specialize in high value added production:* Experts have identified high value added manufacturing industries including *agrofood, pharmaceuticals, printing, jewelry, furniture production, plastics, packaging, knowledge-based industries and ICT*. These industries can sustain production post initial funding and support and are job rich, requiring both skilled and unskilled labour. Initiatives and investments in those industries can be supported and facilitated by a range of measures and support, including the creation of specialized industrial zones, provision of enterprise development support, access to finance comprising subsidized loan programmes, signature of trade agreements, and investment promotion services.
- d. *Promote and support a new ecosystem for manufacturing development, based on design, innovation, technology and youth,* which will open the door to new opportunities. Focus on innovation and technology will also ensure high level of productivity. Lebanon needs to capitalize on its important entrepreneurship potential, and on the abilities of its youth. In this connection, it is emphasized that the financial

infrastructure to channel and support entrepreneurial initiatives needs to be extended to the productive sectors, notably and in particular manufacturing.

- e. Modernize and reform TVET to match needs in the manufacturing sector through a variety of initiatives, including campaign and supportive measures to change the image of, and value, technical work. Promote and support modernization of vocational training programmes and technical education, including ensuring the establishment of quality facilities and equipment, and pursue support to expansion and development of a dual learning system (academic and enterprise-based learning that would involve professional apprenticeship/employment in parallel to education). Support initiatives for decent work and job security, including enhanced social protection, and reform of labour law and social security law.

4. Promote and encourage energy efficiency, renewable energy and environmental management solutions in the industrial sector

MoI action course: Encourage green industry

List of opportunities:

- a. Sensitize the national industrial sector in adopting energy efficiencies and renewable energy practices: through collaborations with industrialists, entrepreneurs and investors in the manufacturing sector to adopt energy efficient production processes and renewable energy initiatives, thus creating jobs, supporting the industry and protecting the environment. There is a need to disseminate resource efficiency and cleaner production knowledge to help reduce the wasting of resources and increase competitiveness of the sector,
- b. Invest in e-waste recycling industry: through collaborations with industrialists, entrepreneurs and investors in the manufacturing sector, foster the development of an e-waste recycling industry. Support the creation of recycling plants for the waste of manufacturing enterprises and industrial zones, thus also creating jobs, supporting the industry and protecting the environment.

5. Encourage interventions that support Lebanese most vulnerable communities to be integrated into an inclusive and sustainable industrial development ecosystem

MoI action course: Expanding domestic market

List of opportunities:

- a. Support recovery at large and mainly focus on assisting the development and creation of MSMEs and livelihood recovery by investing in community support services, beneficiary identification, rapid assessment of needs, and vocational skill upgrading (technical and/or management skills). Improvement of productive capacities through restoring/improving business facilities,

technology transfer and encouraging innovation and knowledge-based industries are key to support development of industrial SMEs.

a. Initiatives designed to promote women and youth economic empowerment

Initiatives that focus on providing specific incentives for women and youth to encourage them to engage in productive industrial activities should be scaled up. Support through microcredits for entrepreneurs, craftsmen and industrialists in the manufacturing sector, who are unable to access financing through traditional banking channels is one of the examples of such initiatives. Such support will result in retaining labour in the sector and, if accompanied with management and business development services/support, be conducive for growth and job creation.

The below illustration provides a simplified image of the above identified opportunities presented by implementation time in relation with job creation potential. This figure illustrates the variation between the different types of interventions including those with a high potential to create jobs in the short term but limited structural impact on the growth of the sector as well as opportunities that remove barriers for growth in the longer term but have smaller immediate job creation potential.

Figure 1. List of opportunities in the manufacturing sector, by implementation time and potential for job creation

