

Industrial Development Board's input to the 2017 HLPF

Executive Summary

1. **Assessment of the situation:** In the past decades, rapid industrialization has lifted hundreds of millions of people out of poverty, by providing them with jobs and an income. Yet progress has been uneven and many remain stuck in a poverty trap, particularly in areas where industrialization levels remain low or have stagnated. This highlights how inclusive and sustainable industrial development is key to poverty reduction efforts and to ensure that “no one is left behind” by 2030. The achievement of inclusive and sustainable industrialization (SDG 9) enables sustained economic growth, the creation of decent jobs and income (SDG 8); it helps reduce poverty (SDG 1), hunger (SDG 2) and inequalities (SDG 5 and 10), while improving health and well-being (SDG 3), increasing resource and energy efficiency (SDGs 6, 7, 11, 12) and reducing greenhouse gas and other polluting emissions, including from chemicals (SDG 13, 14, 15). UNIDO, as the only entity of the United Nations mandated to promote inclusive and sustainable industrial development, has extensive knowledge and technical experience in these areas. The Organization realizes its mandate by designing and implementing industrial policies, enhancing local productive capacities and entrepreneurship, contributing to job creation, advancing economic competitiveness and enabling market access, advancing the diffusion of environmentally sound technologies and practices in production systems and partnering with the private and public sector to mobilize investments in an inclusive, sustainable and resilient manner.

2. **Gaps, areas requiring urgent attention, risks and challenges:** While manufacturing employment in developing countries shows an upward trend, it also displays greater levels of informality than in the past. This increase in informality, which has a negative impact on the quality of employment, tax revenues, quality of products and economic growth, can be due to inadequate and inappropriate capacity. Informality can also result from excessively burdensome regulation, which could distort competition and discourage entrepreneurship. When promoting formalization, governments need to monitor compliance with environmental, labour and quality standards. Other significant gaps include: i) industrialization planning capacity to create more and decent jobs, particularly in developing countries and especially for small and medium enterprises (SMEs); ii) effective mechanisms to mobilize national and international public and private sector investments for targeted productive investments (which requires industrialization partnerships); and iii) enhanced access, including through resilient physical and information communication technology (ICT) infrastructure, to export markets to allow the resulting local value added to be integrated in global value chains. UNIDO addresses these challenges by tapping into the potential of SMEs by upgrading their production patterns, implementing socially and environmentally responsible business practices, and linking them to other businesses, institutions, partners and global value chains.

3. **Valuable lessons learned on eradicating poverty and achieving prosperity:** The recent successful cases of poverty reduction through rapid industrialization show that inclusive and sustainable industrialization, with an early focus on labour-intensive and export-oriented industries and accompanied by structural transformation towards manufacturing industries, is one of the most effective ways to eradicate poverty.

4. **Emerging issues and challenges:** Key emerging challenges to collective poverty eradication include protectionist measures, which undermine not only the multilateral rules based trading system, but also the potential of inclusive and sustainable industrialization as a way to bolster employment and reduce poverty. Another key issue is the growing attention by the international community to the development-humanitarian nexus. The disruptive effects of natural and man-made disasters and crises are often among the underlying causes of poverty. Technical assistance programmes within the

UNIDO mandate can help the post-crisis transition from relief to development. Rapid technological change also raises new challenges. On the one hand, it serves as a key source of upgrading and productivity growth and can lead to lower prices for consumers, with important welfare gains for all, to new or better products and processes and to new markets and jobs. On the other hand, labour-saving technologies, such as automation, may result in job displacement and an increase in unemployment and poverty. The impact of new technologies on employment goes beyond job creation or destruction: technological change can also replace jobs traditionally carried out by unskilled workers with new tasks requiring more qualified workers, leading to polarization of the labour market and greater income inequality.

5. **Areas where political guidance by the High Level Political Forum is required:** With the 2030 Agenda, the global community committed to the agenda for inclusive and sustainable development (ISID). The proclamation by the General Assembly of 2016–2025 as the Third Industrial Development Decade for Africa adds to this commitment, and tasks UNIDO with a leading role and “to scale up its technical assistance to African countries in order to promote inclusive and sustainable industrial development”. At the same time, there is also need to help the millions still living in poverty in other parts of the world. However, despite its unique role and mandate in the UN system, UNIDO has witnessed over the past few years a decreasing membership, as also noted by GA resolution A/RES/71/242. The HLPF may wish to consider appropriate ways and channels to help reverse this trend and strengthen the global political and financial support to the inclusive and sustainable industrialization agenda in its implementation phase. The HLPF may also consider raising awareness on the need for increased international cooperation, including South-South and triangular cooperation, in the field of science, technology and innovation, policy integration and improved industrial statistics.

6. **Policy recommendations:** Promote partnerships of host country governments, international donors, UN agencies, financial institutions and the private sector (as referred to in SDG 17) to mobilize private and public investments (including ODA) around a long-term inclusive and sustainable industrialization plan for export-oriented and job-creating industrial capacity. Design and implement industrial policies that promote employment, reduce poverty and comply with local and international standards (e.g. related to the quality of products labour, and the environment) to facilitate integration into global value chains and to make industrialization inclusive and sustainable. Provide technical cooperation services for capacity building, vocational and other training, especially for women and youth, and where possible, in partnership with the private sector. Increase public and private sector, domestic and foreign investments in research and development, innovation, education, training and infrastructure to increase competitiveness, including of SMEs. Support efforts to reduce risks associated with industrialization. Promote industrialization that encourages employment instead of displacement, and analyze and disseminate evidence and statistics associated with the effect of skilled labor bias on policy decisions.

Eradicating poverty and promoting prosperity in a changing world: the role of manufacturing

1. An assessment of the situation regarding the principle of “ensuring that no one is left behind” at the global level

1.1 Over the last decades, there have been important achievements in terms of poverty reduction. In 2013 the world had almost 1.1 billion fewer poor than in 1990. Concomitantly, important strides have been made in reducing the impact of other socio-economic ills associated with poverty, such as hunger. Across the globe, the prevalence of under-nutrition was reduced from 18.6 to 10.9 per cent between 1990-1992 and 2014-16¹. Yet poverty and hunger remain among the greatest challenges confronting the world. According to the latest estimates on global poverty, in 2013, 766 million people worldwide were still living below the international poverty line². Approximately 795 million people were under-nourished in 2013-2015³.

1.2 The regions of the world which have achieved the most progress in reducing poverty and hunger are also the regions which showed the most dynamic trends in terms of industrialization. The reduction in the number of people living under the poverty line is almost entirely explained by the remarkable achievements observed in East Asia and the Pacific and in South Asia. These are, at the same time, the only developing regions in which the importance of manufacturing has grown steadily since the early 1990s, in contrast to other regions where manufacturing employment share is low or declining and poverty persists (see Table 1 below).

¹ Food and Agriculture Organization (FAO), 2015, *The state of food insecurity in the world – meeting the 2015 international hunger targets: taking stock of uneven progress*, p. 8. Note that data on under-nutrition is presented using three-year averages.

² World Bank, 2016, *Poverty and shared prosperity 2016: taking on inequality*, p. 36.

³ FAO, 2015, p. 8.

Table 1 – Manufacturing development and poverty reduction in selected country groups expressed in percentages and absolute numbers, 1990/91-2010.

		East Asia & Pacific	South Asia	Sub-Saharan Africa	Latin America & Caribbean	Middle East & North Africa	Eastern Europe & Central Asia ³	Total 6 regions
Poverty headcount ratio (%) ¹	1990	60.2%	44.6%	54.3%	15.8%	6.0%	1.9%	42.0%
	2013	3.5%	15.1%	41.0%	5.4%	2.1%	2.2%	12.6%
	Change	-56.7	-29.5	-13.3	-10.4	-4.0	0.2	-29.5
Poverty (millions of people)	1990	966	505	276	71	14	9	1,840
	2013	71	256	389	34	ND	10	766
	Change	-895	-249	113	-38	ND	1	-1,074
Prevalence of undernourishment (%) ²	1990 ⁴	25.0%	23.9%	34.9%	14.6%	5.7%	14.3%	23.4%
	2013 ⁵	10.0%	15.9%	23.0%	5.6%	5.8%	7.3%	13.0%
	Change	-15.0	-8.1	-11.8	-8.9	0.1	-7.0	-10.4
Number of people undernourished (millions of people)	1990 ⁴	434	291	176	66	14	10	991
	2013 ⁵	215	281	213	35	23	6	773
	Change	-219	-10	37	-31	9	-4	-218
Share of manufacturing in total employment (%)	1990	13.8%	10.8%	5.4%	15.6%	14.3%	26.5%	14.2%
	2012	16.7%	11.3%	6.0%	13.0%	12.8%	15.3%	13.6%
	Change	2.9	0.6	0.6	-2.6	-1.5	-11.2	-0.6

Notes:

1. The poverty headcount ratio is the proportion of the population living below the international poverty line, here defined as \$ 1.90 a day (2011 PPP).
2. The prevalence of undernourishment expresses the probability that a randomly selected individual from the population consumes an amount of calories that is insufficient to cover her/his energy requirement for an active and healthy life.
3. Data on undernourishment refers to Central Asia, excluding Eastern Europe.
4. Indicator calculated in three year averages, from 1990-1992.
5. Indicator calculated in three year averages, from 2013-2015.

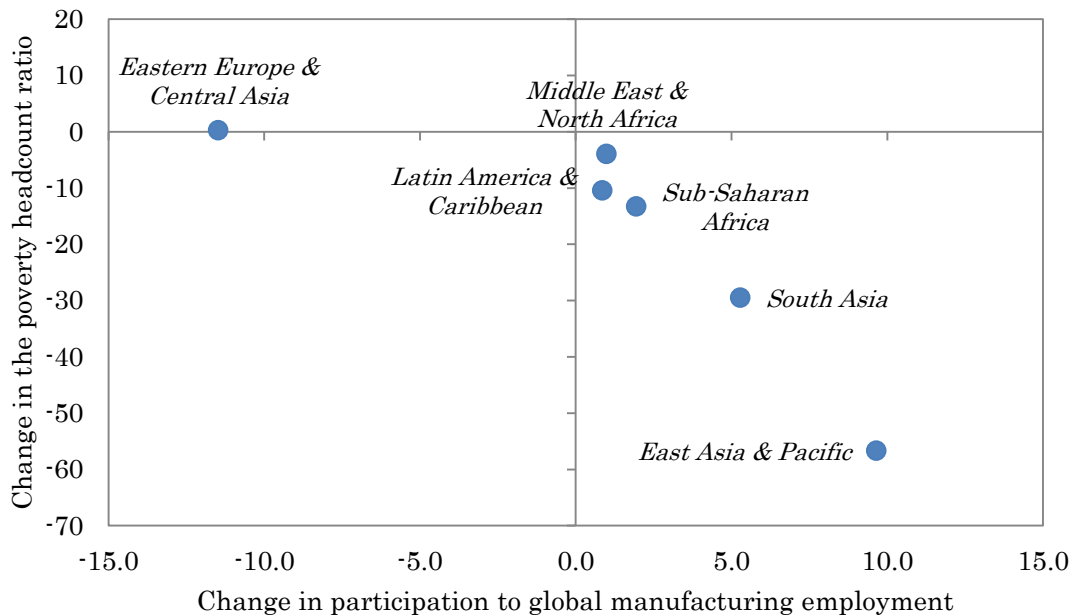
Source: UNIDO elaboration⁴.

1.3 Rapid structural change towards manufacturing industries in East Asia, and particularly in China, and the de-industrialization observed following the collapse of the Soviet Union are among the trends determining a regional shift eastward of manufacturing employment. East Asia is currently home to 44 per cent of the workforce employed in manufacturing worldwide, having increased its participation in global manufacturing employment by close to 10 per cent over the past three decades

⁴ Data on poverty was taken from the World Bank's PovcalNet database. Data on undernourishment was taken from FAO Food Security Indicators. Data on employment was taken from the database compiled for UNIDO's Industrial Development Report 2016.

(see Figure 1 below). South Asia has experienced a similar increase in manufacturing employment, jumping from 12 to 17 per cent of the global total. As Figure 1 shows, movements to greater participation in global manufacturing employment, such as those experienced in South and East Asia, appear closely related to reductions in the poverty headcount. Conversely, decline and stagnation seem to be associated with either an increase in poverty, as in the case of Eastern Europe, or to a very modest decrease over time, as observed in Latin America and the Caribbean.

Figure 1 – Poverty reduction and trends in global manufacturing employment, 1990-2010 (%).



Source: UNIDO elaboration.

1.4 The trends discussed so far suggest that industrial development plays a key role in poverty reduction through the generation of income-earning opportunities for the poor. The expansion of manufacturing industries provides workers, especially those with limited skills, with better employment prospects than are available through other sources of employment, most notably in agriculture, the subsistence economy and informal activities. Jobs in manufacturing tend to be more productive, and therefore offer higher wages, relative to occupations in other sectors. As such, industrialization is key to accelerating progress towards the achievement of Sustainable Development Goal (SDG) 1. In addition to the wage premium, manufacturing jobs also provide greater opportunities for skill upgrading and offer higher employment security and benefits⁵. Unionization tends to be easier in manufacturing than in other sectors. The development of collective bargaining capabilities on the part of workers may contribute to further entrenching some of the benefits associated with employment in the modern sector. Given its impact on the generation of quality wage employment, industrialization is thus an important contributor for the achievement of Goal 8, and particularly targets 8.5 and 8.6⁶, by 2030.

⁵ See UNIDO, 2013, *Industrial Development Report 2013: Sustaining Employment Growth: The Role of Manufacturing and Structural Change*, pp. 32-33.

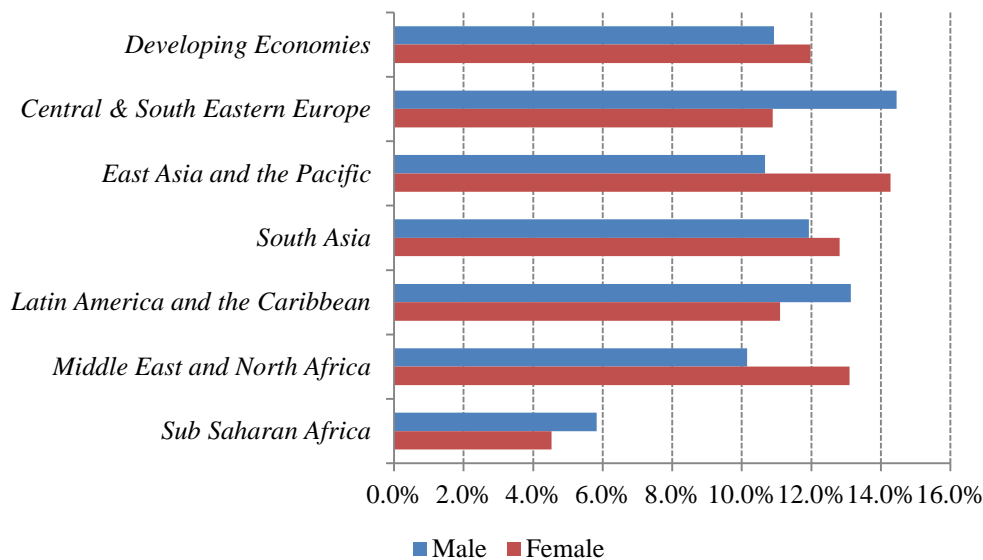
⁶ The targets mandate, respectively, to “achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value”; and to “substantially reduce the proportion of youth not in employment, education or training”.

1.5 The improvement in material capabilities that is associated with employment in or, as will be seen below, around manufacturing industries, enables workers and their families to increase food consumption within the household. This contributes to reducing under-nutrition, especially among children, and thereby helps preventing a host of dangers to the health of an individual, which can significantly impact educational attainment and socio-economic status in later life. A greater and more stable source of income also enables families to afford healthier food and, over time, expand their dietary options. Moreover, an increase in industrial activity facilitates a rise in productivity and efficiency in other sectors through the introduction of new technology. When this affects agricultural production, industrialization is likely to have a beneficial impact on domestic food security. Losses in the food chain, i.e. loss of vegetable and animal commodities meant for human consumption particularly during agricultural production, post-harvest handling, processing and storage, has serious consequences for food security in developing countries. The World Food Programme, for instance, reports that in sub-Saharan Africa farmers can lose up to 30 percent of their crops to post-harvest losses. While increasing primary food production to meet increases in demand, the food industry has a major role to play to enhance efficiencies in the production-to-processing stages of the food supply chain. Industrial development should therefore be seen as an important catalyst for the achievement of Goal 2, and particularly targets 2.3 and 2.4⁷.

1.6 The greater income-generation opportunities associated with industrial development, however, can hardly exhaust the goals set by the 2030 Agenda. With poverty increasingly recognized as a multi-dimensional condition impacting the ability of an individual to fully participate in society, concerns over inclusiveness become of paramount importance. Employment in manufacturing can contribute significantly to improve inclusiveness. Particularly at low levels of income per capita, it does not require high levels of education. Industrial development thus disproportionately benefits younger workers and those in the low-skill category, suggesting that the growth of manufacturing industries is a means to accelerate entrance into the middle class. This is particularly important in those countries that are yet to undergo a demographic transition, or where one already observes an abundant supply of idle labour. Here, the generation of broad-based manufacturing employment may help absorb part of the new entrants in the labor market, thereby alleviating social tension and reducing incentives for economic migration.

⁷ This targets mandate to “double the agricultural productivity and incomes of small-scale food producers (...) including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment” and to “ensure sustainable food production systems (...)”.

Figure 2 – Share of manufacturing employment in total employment, disaggregated by gender, in selected country groups, 2013.



Source: UNIDO elaboration based on ILO (2015).

1.7 During the early stages of industrialization, a larger share of female workers is employed in manufacturing industries as compared to the share of male workers. Thus in relative terms, manufacturing absorbs more female workers than their male counterparts, providing further evidence on the inclusive character of industrial development⁸. Figure 3 above shows that this trend appears particularly strong for rapidly industrializing countries of East Asia and the Pacific, as well as South Asia. Indeed, according to ILO statistics, in all the regions considered above, manufacturing is the second largest employer of women in urban areas after services⁹. Given that salaries in manufacturing tend to be higher than in many other activities, the sector is an important source of good jobs for women. Industrial development thus has a significant role to play in accelerating the achievement of Goals 5, 8 and 10, as it provides earning opportunities to women and the youth, as well as workers with limited skills, and reduces inequalities.

1.8 The impact of industrial development on poverty, hunger, health, and social inclusiveness, however, is not restricted to the wages of workers directly employed within the manufacturing sector. As structural change towards manufacturing takes place, the sector develops strong productive linkages to the rest of the economy, such as services, for instance. In order to fully function, manufacturing firms require the existence of a dense network of service providers. Employment in services as diverse as, inter alia, finance, maintenance, transport, retail trade, and distribution, is conditional on inputs from, and demand generated by, the manufacturing sector. Hence, manufacturing does not only generate direct jobs through its productive activities, but also indirect employment in services. When the interconnections between manufacturing and business services are taken into account, the full impact of industrial development in employment generation is significantly accentuated.

⁸ It is worth noting, however, that in absolute numbers manufacturing industries tend to employ more men than women. This is due to the fact that participation rates are generally lower for women than they are for men.

⁹ When one also takes into consideration rural areas, however, the manufacturing sector becomes the third largest employer after agriculture and services. This is the case for both male and female workers.

1.9 The contribution of industrial development to poverty reduction and the achievement of the other SDGs also passes through channels beyond wage employment in manufacturing or manufacturing-related activities. On the demand side, the additional income received by workers employed in manufacturing is re-spent, generating multiplier effects across the whole economy and leading to higher demand, additional employment and, ultimately, additional income for the poor. On the supply side, the impact of the manufacturing sector on aggregate economic growth is such that investment in manufacturing is likely to result in economy-wide job creation. Evidence surveyed by UNIDO suggests that every job created in manufacturing induces two to three additional jobs in other sectors¹⁰. As such, if one is to fully capture the impact of industrialization on poverty reduction, the indirect as well as the induced effects of industrial development on income generation need to be taken into account.

1.10 For industrialization to have a significant impact on job creation through direct, indirect and induced channels, however, some manufacturing growth, per se, may not be sufficient. Rather, manufacturing industries need to grow at a very fast and sustained rate over time. The challenge for manufacturing to generate enough employment should not be underestimated. According to one recent attempt at estimating the job intensity of industrial growth during the period between 1990 and 2003, every one-percentage point of growth attained in industrial value added at the global level corresponded to a 0.28 percentage increase in direct employment¹¹. This suggests that manufacturing has to grow very rapidly if employment creation, and the associated increase in income and consumption opportunities available to the poor, is to be sustained over time.

1.11 Moreover, not all manufacturing industries develop linkages to the domestic economy to the same degree. Evidence gathered in countries of the Organisation of Economic Co-operation and Development (OECD) suggests that sectors with higher levels of technology and productivity display higher employment multipliers¹². Low-technology industries, such as textiles or garment production, may generate a large number of factory jobs, but they do not lead to the creation of as many jobs, or as many well paid jobs, in services. By contrast other sectors such as the chemical and the electrical equipment industries display higher employment multipliers. High-technology sectors also display higher levels of productivity, which translates into higher wage levels and better employment benefits for workers. It also translates in additional resources for investment. This suggests that, from a poverty reduction perspective, the rapid growth of manufacturing industries needs to be accompanied by a process of structural transformation from sectors with low levels of technology and productivity to sectors with higher levels of both.

1.12 Finally, structural transformation towards manufacturing industries has important ramifications for human well-being. When inclusive and sustainable industrialization patterns are not followed, industrialization, especially during the early stages, may increase air and water pollution. Appropriate regulatory frameworks need to be in place and effectively executed, so that employment in manufacturing does not carry health risks for factory workers. Yet research conducted by UNIDO shows a clear and strong connection between manufacturing-value added (MVA) per capita and health indicators, including life expectancy at birth as well as infant and maternal mortality ratios¹³. Higher levels of MVA per capita are associated, respectively, with higher life expectancy and lower mortality ratios. One plausible explanation relates the development of pharmaceutical industries and the domestic manufacture of affordable medicines. While the supply of life-saving medicines in low-

¹⁰ See Lavopa, A. and A. Szirmai, 2012, *Industrialization, employment and poverty*, p. 44.

¹¹ See Kapsos, S., 2005, *The employment intensity of growth: trends and macro-economic determinants*, Employment Strategy Papers, International Labour Office.

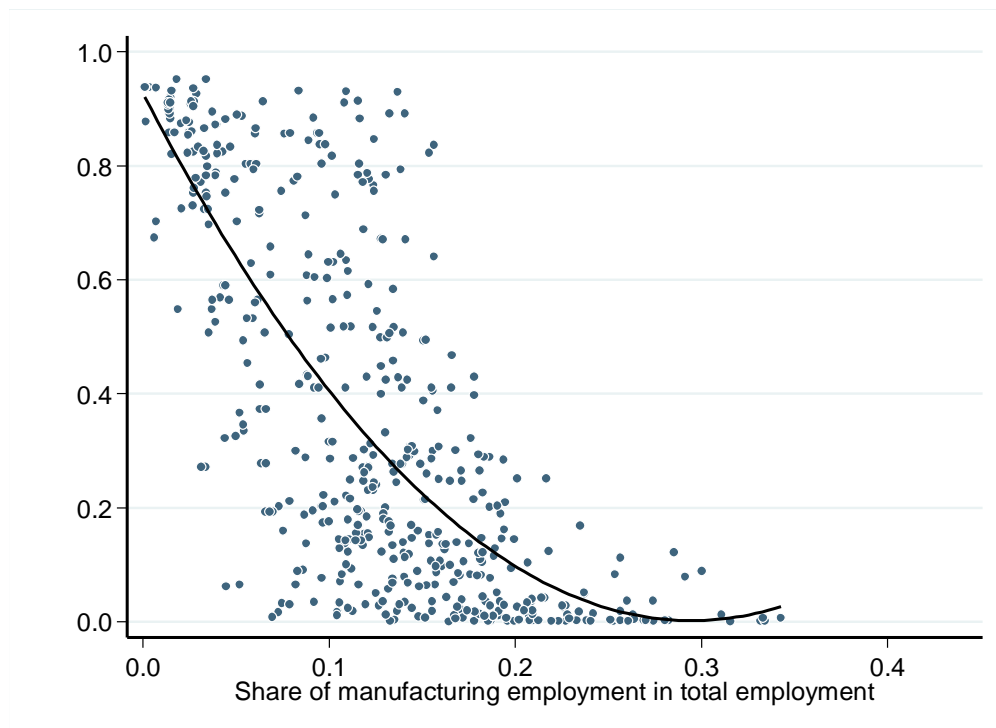
¹² See Stehrer, R. and T. Ward, 2012, *Sectoral employment effects of economic downturns*, Wiener Institut für Internationale Wirtschaftsvergleiche, Research Report No. 379, pp.184-185.

¹³ See Upadhyaya, S. and D. Kepplinger, 2014, *How industrial development matters to the well-being of the population: some statistical evidence*, UNIDO Working Paper No. 4, pp. 32-37.

income countries has significantly increased over the past decades, insufficient access to quality assured, essential drugs remains a significant barrier to progress in health outcomes. Particularly in developing countries, local drug manufacturing can help shorten the supply chains and thereby facilitate affordable access, and it can act as a buffer where increases in demand or supply restrictions limit the availability of health products. As such, the achievement of Goal 3 and, more specifically, target 3.b¹⁴, hinges on rapid structural change towards manufacturing industries in low-income economies.

1.13 The effects of industrial development on poverty reduction are confirmed by empirical evidence. Figure 3 below shows the inverse relationship between the share of employment in manufacturing and the share of population living below the poverty line (here set at \$2.00, in 2005 international dollars). Further analysis by UNIDO shows that the relationship remains highly significant after controlling for other factors that might influence poverty, such as a country’s GDP or level of educational attainment¹⁵.

Figure 3 – The relationship between industrialization and poverty.



Note: The sample includes over 100 countries. Each dot represents the average values of each country for a 5-year sub-period.

Source: UNIDO elaboration.

¹⁴ This mandates to: “Support the research and development of vaccines and medicines for the communicable and non-communicable diseases that primarily affect developing countries, provide access to affordable essential medicines and vaccines, in accordance with the Doha Declaration on the TRIPS Agreement and Public Health, which affirms the right of developing countries to use to the full the provisions in the Agreement on Trade-Related Aspects of Intellectual Property Rights regarding flexibilities to protect public health, and, in particular, provide access to medicines for all”

¹⁵ See Lavopa, A., 2015, *Technology-driven structural change and inclusiveness – the role of manufacturing*, UNIDO Working Paper No. 14, p. 15.

1.14 The evolution of global manufacturing employment over time shows a somewhat mixed trend. Global employment in manufacturing and manufacturing-related services (direct and indirect) has grown from an estimated 262 million in 1970, to 482 million in 2014, an average yearly growth rate of 1.4 per cent¹⁶. In relative terms, however, manufacturing employment has decreased from 18.7 to 16 per cent between 1970 and 1990, and has remained stable since¹⁷. A structural shift away from direct employment in manufacturing across OECD countries explains the stagnation one observes in the share of manufacturing employment in total global employment. The increase in absolute numbers, on the other hand, is compounded by rapid population growth over the past decades. As such, the evolution of manufacturing employment suggests that a degree of caution may be warranted when identifying the various factors which contribute to progress in achieving Goal 9, and especially target 9.2¹⁸.

1.15 The OECD group of countries and developing and emerging economies display opposite trends in terms of manufacturing employment. In developed countries, manufacturing employment has decreased in both absolute and relative terms. From 128 million jobs in 1970, it fell to 92 million jobs in 2014. This equates to a reduction from 36.7 to 18.8 per cent of total employment over the same period. As a result, manufacturing employment in developed countries today only accounts for 3 per cent of global employment. However, the decrease in direct manufacturing employment is partly offset by an increase in employment in manufacturing related services (MRS). The share of MRS employment in the total manufacturing employment in developed countries increased from 26.1 to 31.8 per cent between 1990 and 2014¹⁹.

1.16 The decline of direct employment in manufacturing observed in developed countries is due to a mixture of structural and contingent factors. As countries reach higher income levels, they generally tend to shift from labour-intensive industries and sectors to capital- and technology-intensive ones. When accompanied by the application of information communication technology (ICT) and labour-saving technologies such as automation to production processes, this trend leads to a secular decline in manufacturing employment. Corporate decisions to offshore production to lower-wage locations compound the decline. Part of the decline, however, is also due to the effects of the global financial crisis of 2007-2009, which has undermined the growth prospects of manufacturing and MRS employment across industrialized countries.

1.17 The downward trend in manufacturing employment observed in industrialized countries does not necessarily constitute a worrisome tendency. As capital deepening and greater specialization of production take place within existing industries, labour productivity increases and the composition of the labour force shifts from unskilled to skilled workers, who receive higher wages and better employment benefits. Indeed, productivity in industrialized countries can be five to six times that of developing countries. However, should a growing rate of employment in manufacturing be sought in industrialized countries, a much higher rate of innovation that compensates for job reductions would be necessary, as well as improving the abilities of the unskilled.

1.18 If manufacturing employment displays a downward trend in developed countries, the opposite is true for developing countries and economies in transition. From 133 million jobs in 1970, manufacturing employment has grown to 390 million jobs in 2014, an average annual growth rate of 2.5 per cent. In relative terms, this is equivalent to an increase in the share of manufacturing

¹⁶ See Alcorta, L., 2017, *Industrialization, employment and the sustainable development agenda*, Development, Society for International Development, p. 6.

¹⁷ Ibid, p. 7.

¹⁸ The target mandates to “promote inclusive and sustainable industrialization and, by 2030, *significantly raise industry’s share of employment* and gross domestic product, in line with national circumstances, and double its share in least developed countries” (emphasis added).

¹⁹ See Alcorta, L., 2016, *Industrialization, employment and the sustainable development agenda*, p 6.

employment in total employment from 11.7 per cent in 1970 to 15 per cent in 2014. Manufacturing employment in developing countries currently accounts for close to 13 per cent of global employment²⁰.

1.19 Employment trends in the manufacturing sector of developing countries are certainly positive and so is their prospect in ensuring that no one is left behind at the global level. Yet it is worth noting that, with regard to the type of employment, informal employment also appears to be on the increase. Between 1970 and 2014, formal employment has decreased from 53.4 to 41.5 per cent of global manufacturing employment, whereas informal employment has increased from 27.1 to 40.7 per cent²¹. Informal workers include those who are not protected by labour legislation, workers in small and medium enterprises (SMEs) with less than 10 employees, and the self-employed. Developing countries and economies in transition display a significantly higher degree of informality in manufacturing employment relative to developed countries. Indeed, informal employment in developing countries has more than trebled between 1970 and 2014.

1.20 UNIDO, as the only entity of the United Nations mandated to promote inclusive and sustainable industrial development, has extensive knowledge and technical experience in these areas. The Organization realizes its mandate by designing and implementing industrial policies, enhancing local productive capacities and entrepreneurship, contributing to job creation, advancing economic competitiveness and enabling market access, advancing the diffusion of environmentally sound technologies and practices in production systems and partnering with the private and public sector to mobilize investments in an inclusive, sustainable and resilient manner.

1.21 To list a few examples of UNIDO's impact, in 2016 alone the Organization delivered 824 technical cooperation projects in 146 countries. More than 25,000 publications have been published at UNIDO over the past 50 years, which contribute to the promotion of inclusive and sustainable industrial development. As an example of UNIDO technical cooperation work, its Entrepreneurship Curriculum Programme, which supports the development of entrepreneurial culture and skills, as well as enhances youth's technical and learning capability, has reached more than 2 million young people. The Organization also supports agribusiness and rural entrepreneurship development, as well as the establishment of integrated agro-industrial parks to attract foreign and domestic investment from the public and private sector, and to strengthen value addition capacities.

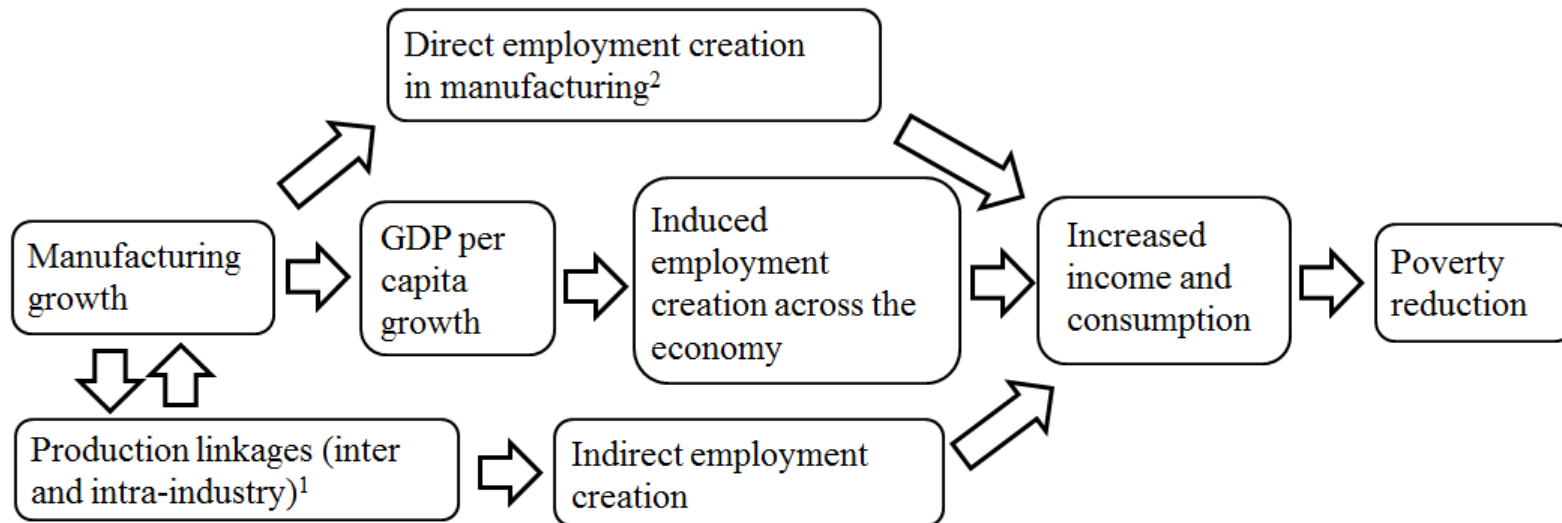
1.22 As the industrial sector today accounts for over a third of global energy consumption and greenhouse gas emissions and will continue to drive global energy demand over the coming decades, UNIDO also plays a major role in enhancing access to reliable and sustainable energy supplies. The concept of environmentally responsible and sustainable industrial development has been at the core of UNIDO's mandate for many years. For the past three decades, UNIDO has successfully supported countries in meeting their obligations under multilateral environmental agreements and for instance contributed to the phase-out of greenhouse gases in the equivalent of 340 million tons of CO₂-equivalent per year. This corresponds to the amount of exhaust emitted by 71 million passenger vehicles annually. The Organization's energy portfolio comprises 120 projects in 60 countries.²² These activities showcase the importance and significant impact of UNIDO in advancing inclusive and sustainable industrial development.

²⁰ Ibid, p. 9.

²¹ Ibid, p. 6.

²² See UNIDO, 2016, *Annual Report 2016*.

Figure 3 - From industrial development to poverty reduction: visualizing the main mechanisms.



¹ These include backward and forward linkages. Linkages are found within manufacturing, as well as between manufacturing and agriculture or manufacturing and services.

² Employment in manufacturing tends to be more inclusive than in other sectors. Given that it requires lower levels of education, it benefits younger workers and those with limited skills disproportionately. Manufacturing also tends to employ a higher share of women than other sectors.

Source: UNIDO elaboration

2. The identification of gaps, areas requiring urgent attention, risks, and challenges

2.1 For industrial development to meaningfully reduce poverty and hunger through the mechanism of employment creation, the return to jobs in manufacturing and, more broadly, the benefits associated with those jobs, must be higher than in alternative occupations. As pointed out before, manufacturing jobs tend to pay higher wages and offer more stable career pathways than jobs in agriculture or services. Yet for the majority of manufacturing workers in developing countries and economies in transition, wages and working conditions can vary widely. SMEs are a case in point. SMEs account for a large portion of manufacturing employment in developing countries and economies in transition. The sector, however, also includes a large number of micro-enterprises where productivity is low and jobs neither pay well enough, nor offer serious prospects for skill upgrading. Compliance with international standards on environmental, labour and consumer protection also varies widely within the sector. This affects access to international markets by SMEs, and can therefore hamper productivity growth and employment expansion.

2.2 The increasing “informalization” of manufacturing employment in developing countries and economies in transition observed above is another trend that warrants particular attention. Informal firms provide better wages than would be available in the rural or subsistence economy. Nonetheless, they pay lower salaries than formal enterprises. Not subjected to labour legislation, workers in the informal sector face lower quality of employment, worse working conditions and have fewer opportunities for skill upgrading at their disposal than their counterparts working in the formal sector. Moreover, informal firms lack access to capital markets and public support schemes (from training courses to technology diffusion services), that may help improve productivity over the long-run. Further, the increase in informality can have a negative impact on tax revenues and quality of products, and can distort competition and discourage entrepreneurship. In such cases, the full potential of manufacturing development to contribute to the achievement of Goal 1, as well as Goals 2, 3, and 8, can be severely constrained.

2.3 The “informalization” of work one observes within manufacturing is, in part, a consequence of rapid trade liberalization in the 1990s²³. The implementation of structural adjustment programmes across Sub-Saharan Africa and Latin America, the liberalization of former Soviet Bloc economies, and trade liberalization in India following the 1991 reforms, contribute to explain the rise in informal employment across the developing world. Greater informality in manufacturing, however, is also linked to the globalization of production. The growth of large enterprises linked to global supply chains in developing countries, has opened up more opportunities than previously available for subcontracting to informal firms and even home-workers, thereby leading to an expansion in the number of informal jobs²⁴. Moreover, working conditions in unregulated enterprises tend to depend on contractual conditions established according to the practices of leader firms in the chain, which might not provide sufficient benefits to workers²⁵. The difficulties that national authorities experience in enforcing stricter labour regulations in the informal sector compound this trend. Finally, the increase in informality might be due to inadequate and inappropriate capacity, or due to excessively burdensome regulation. When promoting formalization, governments need to monitor compliance with environmental, labour and quality standards.

²³ See Alcorta, L., 2016, *Industrialization, employment and the sustainable development agenda*, p. 9.

²⁴ See Kucera, D. and T. Xenogiani, 2009, “Persisting informal employment: what explains it?”, pp. 80-81. See also Melamed et al., 2011, *Jobs, growth and poverty: what do we know, what don't we know, what should we know?*, ODI Background Note, p. 4.

²⁵ See Posthuma, A., 2010, “Beyond ‘regulatory enclaves’: challenges and opportunities to promote decent work in global production networks”, pp. 2-3.

2.4 The impact of the globalization of production on job creation, informality and poverty reduction is therefore mixed. Planning capacity is needed to create more and decent jobs, particularly in developing countries and especially for SMEs. The unbundling of tasks and functions into global value chains (GVCs) has enabled SMEs in low- and middle-income countries to participate in world markets, provided there is compliance with international standards. Rather than developing complete products and competing along an entire chain of activities, firms can specialize in one area. Enhanced access to export markets, including through resilient physical and information communication (ICT) infrastructure, is important to allow the resulting local value added to be integrated in global value chains. The fragmentation of production also has the potential to unlock access to technology and knowledge from abroad, and incentivize learning from other actors upwards along the chain. Moreover, the movement towards greater trade liberalization can help firms in developing countries rationalize their operations, leading to higher levels of productivity. Indeed, the off-shoring of unskilled and semi-skilled production tasks from high- to low- and middle-income countries has contributed to create mass employment, most notably in East and South-East Asia, but also in Central America. Yet the competitive pressures associated with globalization may also drive firms to lower production costs and keep wages from growing, thus reducing the potential for further poverty reduction through industrial development. UNIDO addresses these challenges by tapping into the potential of SMEs by upgrading their production patterns, implementing socially and environmentally responsible business practices, and linking them to other businesses, institutions, partners and global value chains.

2.5 Policy decisions may compound the impact of investment decisions in accelerating the “informalization” and casualization of work in developed and developing countries alike. In the so-called “race to the bottom”, countries may choose to adopt less restrictive labour legislation, or weaker monitoring of working conditions and environmental standards, to attract foreign direct investment (FDI), with negative effects on poverty reduction efforts. A similar trend may be at work in industrialized countries too, where working conditions appear increasingly eroded due to pressure from global competition to remain in GVCs. Research conducted by the International Labour Organization (ILO) provides some evidence on the “race to the bottom”. It shows that the manufacturing wage share decreased between 1990 and 2007, as wages grew less rapidly than manufacturing value added²⁶. Effective mechanisms are needed to mobilize national and international, public and private sector investments for targeted productive investments. This will require industrialization partnerships.

3. Valuable lessons learned on eradicating poverty and promoting prosperity

3.1 As mentioned above, steady poverty reduction through the mechanism of employment creation in manufacturing has been achieved in some regions of the world, but not in others. Looking at the historical experience of those economies that have been successful in reducing poverty can contribute important lessons that may be replicated elsewhere. For industrialization to contribute meaningfully to poverty reduction, the manufacturing sector must widely involve the poor and create opportunities for income generation that are superior relative to those available in other sectors of the economy. During the early stages of development, labour-intensive industries can fulfill these two criteria and help lift low-income countries out of poverty. However, as incomes rise, a rapid process of upgrading within existing industries and diversification towards more capital- and technology-intensive industries also needs to take place, for productivity and wage levels to rise and contribute to lock in gains made in poverty reduction.

²⁶ See ILO, 2010, *Global Wage Report 2010/2011: Wage policies in times of crisis*.

3.2 The early stages of industrialization in the four East Asian “tigers”, the Republic of Korea, Taiwan Province of China, Hong Kong, and Singapore, were characterized by an emphasis on export-oriented, labour-intensive industries such as textiles, garments and food and beverages. Similarly to many developing countries in the post-war period, the Republic of Korea followed an industrial strategy aimed at the substitution of imports with locally-manufactured products. Yet whereas other poor and agrarian economies such as India and China were investing, with mixed results, in heavy industries to immediately replace the import of intermediate and capital goods, the Republic of Korea focused on labour-intensive light industries first. The foreign exchange generated through the export of light manufactured goods helped the Republic of Korea lift balance of payments constraints and facilitated the rapid shift to more capital-intensive industries.

3.3 In the first phase of the country’s industrialization, between 1962 and 1966, the Republic of Korea’s industrial structure was thus geared to the production of mass consumer goods for export. Light industries absorbed the Republic of Korea’s surplus workers that were being released from agriculture at salaries which, despite being highly competitive, were higher than in the agricultural sector²⁷. This was facilitated by an agrarian reform which redistributed land ownership more widely and helped to raise agricultural productivity. By the mid-1970s, however, the country had already shifted to higher technology industries such as electric and electronic machinery, and the chemical industry. As a result, the share of households living under the national poverty line reportedly declined from 40.9 per cent to 14.8 per cent between 1965 and 1976²⁸.

3.4 China’s rapid industrialization is another successful example of a labour-intensive industrialization strategy that has contributed much to reducing poverty and hunger. In the post-war period, China had invested heavily in capital-intensive sectors within the framework of a command economy. From 1978 onward, however, the country complemented these sectors with export-oriented light industries, in line with its comparative advantage. Wage differentials and institutional reforms facilitated the re-allocation of workers from agriculture and the subsistence economy to the burgeoning light manufacturing sector, leading to important gains in poverty reduction. Similar to the Republic of Korea, the outward orientation of early-stage manufacturing firms in China contributed to lifting balance of payments constraints. This, in turn, facilitated a rapid move into higher-productivity sectors.

3.5 From the first year of reform to 2009, the proportion of rural employment declined from 70 to 38 per cent. By contrast, the proportion of workers employed in manufacturing increased from 13.5 to 19.5 per cent. As a result of the shift to labour-intensive industrialization, incomes in the urban sector have reportedly experienced a 30-time increase between 1978 and 2006²⁹. Incomes in rural areas have also experienced dramatic increases. Here, migration appears to have had a beneficial impact on poverty, due to the inflow of remittances from newly-employed workers in the urban sector³⁰.

3.6 East Asia, however, is not the only region where labour-intensive industrialization strategies succeeded in reducing poverty. An early focus on light industries aimed at overseas markets followed by a shift into higher capital- and knowledge-intensive sectors has also accompanied the successful process

²⁷ See Kay, C., 2002, *Why East Asia overtook Latin America: Agrarian reform, industrialization and development*, Third World Quarterly, p. 1080.

²⁸ See Kwon, H. and I. Yi, 2009, *Economic development and poverty reduction in Korea: governing multifunctional institutions*, Development and Change, p. 14.

²⁹ For all figures cited in the paragraph, see Lin, J. Y. and M. Yu, 2014, “Industrial upgrading and poverty reduction in China”, pp. 126-127.

³⁰ See Yue, X., 2014, “Structural change, employment and poverty alleviation in China”, pp. 152-153.

of industrial development in Mauritius³¹. Over a period of forty years, Mauritius managed to transform itself from a poor economy into a country with one of the highest per capita incomes of Africa. GDP per capita increased about sevenfold between 1976 and 2008, from less than 1,000 US dollars to roughly 7,000. At the same time, the country experienced a significant process of economic diversification, moving from sugar to textiles and then to a broader service economy.

3.7 An important factor behind Mauritius' success has been the implementation of export processing zones (EPZs). Between 1972 and 1990 the Mauritius Export Processing Zone (MEPZ) programme accorded free-zone status to over 600 exporting enterprises. These firms accounted for more than 60 per cent of Mauritius' gross export earnings and one-third of its labour force. Job opportunities in the MEPZs played a significant part in the sharp decline of unemployment rates from 20 per cent to less than 5 per cent between mid-1970s and 1990. Several factors account for the success of Mauritius's experience with EPZs. First of all, the government's trade policy correlated closely with the objectives for the EPZ program. The EPZs took advantage of trade agreements, and succeeding governments continued to aggressively defend the country's trade interests.

3.8 Another key factor lies in the public-private synergy which accompanied the industrialization process. Decisions on location and land allocation, for instance, were made by the companies themselves based on economic considerations such as the local availability of workforce. The government, however, played a key role in facilitating investment by establishing a clear and comprehensive regulatory framework. It also encouraged dialogue with business leaders and associations. Mauritius' experience demonstrates the striking importance of clear goals, justifiable rationales, and proper planning and implementation functions. Mauritius' identification of its comparative advantages should not be neglected. Instead of simply focusing on exporting or processing its principal domestic output, the country's leaders perceived that its advantages lay elsewhere – mainly in a dependable workforce, shrewd leadership, and excellent trade relationships.

3.9 The examples of the success stories in East Asia and Mauritius, as well as the assessment elaborated on the preceding pages, are evidence that inclusive and sustainable industrialization is one of the most effective ways to eradicate poverty and promote prosperity. Inclusive and sustainable industrial development is fundamental for the complete set of goals under review of the HLPF 2017 (Goals 1, 2, 3, 5, 9, 14 and 17), but, through inherent linkages, also contributes to other SDGs (such as Goals 6, 7, 8, 10, 11, 12, 13 and 15). UNIDO plays a crucial role in promoting inclusive and sustainable industrial development for supporting its Member States in implementing the 2030 Agenda.

4. Emerging issues and challenges likely to affect the realization of poverty eradication and promoting prosperity

4.1 The promotion of outward-oriented, labour-intensive manufacturing industries has a significant potential to promote prosperity, bolster employment and reduce poverty, especially in low-income countries. Countries as diverse as China, the Republic of Korea, Mauritius, Malaysia, and Viet Nam have successfully pursued this path. The movement to less secure and increasingly informal contractual forms within manufacturing employment explored above may reduce the potential for poverty reduction of such strategies, but it does not seem to raise questions regarding their overall viability. Other emerging trends,

³¹ The following paragraphs build on Zafar, A., 2011, "Mauritius: An Economic Success Story", in *Yes Africa Can. Success Stories from a Dynamic Continent*, World Bank, pp. 91-106.

however, should be watched carefully. Technological change, in particular, may reduce the long-term sustainability of policies geared to support labour-intensive industries.

4.2 Technological innovation can improve living and working conditions for the poor in developing countries. Innovation in healthcare, for instance, can increase access to essential health services in rural areas thereby accelerating progress towards Goal 3. By stimulating a more efficient use and allocation of resources in production processes, technological change can contribute to exerting a downward pressure on prices, with welfare gains for all consumers including the poor. Moreover technological change can reduce the consumption of raw materials and energy, decreasing the negative impact of manufacturing on the environment and hence contributing to the achievement of Goals 12 and 13. Perhaps more importantly, innovation also stimulates the emergence of new products, new industries and thus new jobs, leading to poverty and hunger reduction.

4.3 Product innovation, however, is associated with investment in research and development (R&D) within an institutional infrastructure of universities, research institutes and private sector firms with well-developed technological capabilities. As such, it is more easily found in developed countries at the technological frontier. By contrast, the kind of technological change more commonly observed within the manufacturing sector in low-income countries is primarily driven by the absorption of technology from abroad through trade and FDI, most notably with the import of new machinery³². This serves as a key source of technological upgrading and productivity growth for local firms, provided that government policy supports the development of domestic absorptive capabilities. Yet insofar as it involves the introduction of equipment that can substitute for labour, it can also lead to job destruction.

4.4 New technologies also have an effect on employment beyond the creation or destruction of jobs. Given that industrial upgrading tends to be skill-biased, it will replace jobs traditionally carried out by unskilled workers with new tasks requiring more qualified workers³³. In particular, the use of more capital-intensive production technologies, such as mechanization or automation, instead of labour-intensive ones, displaces routine jobs and polarizes the labour market. As demand for labour becomes increasingly biased in favour of workers with higher skills relative to those in the low- and middle-skill categories, technological change contributes to worsening income inequality. The evidence for skill-biased technological change is particularly strong for OECD countries. As trade increases the inflow of capital and technology to developing countries, however, it appears that inequality-enhancing innovation increasingly affects middle-income countries too³⁴. Finally, industrial upgrading seems to be associated, in some countries, with a process of “defeminization” of the labour force, with worrisome implications for the targets set by Goal 5³⁵.

4.5 The technologies that enable the fragmentation of production networks are changing rapidly and reshaping trade and investment patterns. Specializing in low-skilled, labour-intensive activities such as assembly is likely to remain a viable strategy for entering new markets. Yet with routine tasks carried out by low-skilled workers, and often by women, being increasingly at risk of displacement due to the application of labour-saving technologies, including automation, the advantages of standardized mass production for poverty reduction might be decreasing. This has particularly worrisome implications for low-income countries, where mechanisms for compensating displaced workers are weaker. As such,

³² See Vivarelli, M., 2012, *Innovation, employment and skills in advanced and developing countries: a survey of the literature*, IZA Discussion Paper, pp. 26-28.

³³ See Vivarelli, M., 2012, *Innovation, employment and skills*, pp. 20-21.

³⁴ See UNIDO, 2015, *Industrial Development Report 2016*, pp. 113-114.

³⁵ See Kucera, D. and S. Tejani, 2014, *Feminization, defeminization and structural change in manufacturing*, World Development, pp. 573-575.

decisions over the pace of technological innovation should not be left to market forces alone. If job creation is to be sustained over time, firms and countries need to rapidly upgrade their technological capabilities, move up the value chain and enter new industries.

4.6 The lack of industrialization and economic development in certain areas of the world results in the persistence of pockets of poverty, unemployment and political instability. As such, man-made and natural disasters are receiving growing attention by the international community and will continue affecting the prospects for sustainable job creation, economic growth and prosperity in developing countries and economies in transition. While there is no consensus regarding the exact causes behind breakouts of violence, conflict and political crises are intimately linked to poverty and joblessness. Indeed, these are sources of economic and political grievances that, under certain conditions, may erupt into open violence. It is worth noting that poverty is also a key enabler of conflict insofar as it affects the financial and administrative capabilities of fragile states, and may favour the recruitment of unemployed youth to insurgent causes³⁶. Increasingly recognized as “complex emergencies” where actors often have financial or political incentives to perpetuate violence over time, thereby creating equilibrium conditions that are hardly conducive to peace³⁷, conflicts and crisis situations carry significant economic and humanitarian costs on affected and neighboring countries. Technical assistance programmes within the UNIDO mandate can help the post-crisis transition from relief to development.

5. Areas where political guidance by the high-level political forum is required

5.1 In recent years, the growing attention of the global community to inclusive and sustainable industrial development (ISID) was reflected in the prioritization of this matter in the policy and development cooperation agenda at the country, regional and global levels. The recognition of inclusive and sustainable industrialization in the 2030 Agenda as one of the main enablers of poverty eradication in all its dimensions epitomized this global support to industrial development issues.

5.2 With the SDGs, and Goal 9 in particular, the global community committed to the ISID agenda and highlighted the close linkages with virtually all other SDGs as regards job creation, sustainable livelihoods, technology and skills development, food security, green technologies, environmental protection, and climate change mitigation. Pursuing Goal 9 will therefore have important synergies with the goals under review at the 2017 high-level political forum (HLPF): Goal 1 on poverty eradication via jobs and sustainable growth; Goal 2 on food security via food value chains; Goal 3 on health and wellbeing by allowing, inter alia, local production of pharmaceuticals; Goal 5 on gender equality and the empowerment of women; Goal 8 by stimulating technology transfer; Goal 14 by reduced water contamination and pollution and Goal 17 by boosting international trade.

5.3 The Addis Ababa Action Agenda recognized the needs for innovative solutions for leveraging additional resources, not only financial but also knowledge, skills and information, in order to achieve SDGs by 2030. It also identifies inclusive and sustainable industrialization as one of the cross-cutting issues so that the mobilization of required resources can drive the attainment of the 2030 Agenda as a whole. Noting that Africa remains “the poorest and the most vulnerable region in the world”, the United Nations General Assembly highlighted the need to take “urgent action to advance sustainable industrialization as a key element of furthering economic diversification and value addition, creating jobs

³⁶ See Fearon, J. D., and D. D. Laitin, 2003, *Ethnicity, insurgency and civil war*, American Political Science Review, pp. 77-81.

³⁷ See Keen, D., 2008, *Complex emergencies*, Polity Press.

and thus reducing poverty and contributing to the implementation of the 2030 Agenda for Sustainable Development” (resolution 70/293). In July 2016, the General Assembly proclaimed the period 2016–2025 as the Third Industrial Development Decade for Africa, specifically calling upon UNIDO “to develop, operationalize and lead the implementation of its programme”, and inviting UNIDO “to scale up its technical assistance to African countries in order to promote inclusive and sustainable industrial development”. The General Assembly also encouraged the Director General of UNIDO to mobilize adequate resources for the implementation of the Third Industrial Development Decade. At the same time, there is also need to help the millions still living in poverty in other parts of the world.

5.4 As stipulated by the General Assembly resolution and the Addis Ababa Action Agenda, fostering partnerships is the key element to implement and attain the Goals set under the 2030 Agenda. Also responding to these global mandates and to the mandate of its Member States in the Lima Declaration at the fifteenth session of its General Conference, UNIDO has strengthened its partnership approach by introducing a new model of multi-stakeholder partnership, called Programme for Country Partnership (PCP). UNIDO’s convening and policy advisory role to design industrialization strategies and instruments compliments its well-established technical assistance role. This model adopts a holistic and inclusive approach by ensuring country ownership and making due alignment to the country development strategies. At the same time, with UNIDO’s close link with the private sector and its historic role as the platform for economic cooperation between developing and developed countries, the PCP solicits investments from public and private, international and domestic sources, around a common strategy for inclusive and sustainable industrialization at the country level.

5.5 In contrast to the growing support for the inclusive and sustainable industrialization agenda, and despite the renewed universal mandate given to the Organization to lead on these issues among United Nations entities, UNIDO has witnessed over the past few years the withdrawal of some of its donor Member States, as noted by General Assembly resolution 71/242. In this regard, the resolution adopted on 21 December 2016 invites “all countries to consider aligning their support and development efforts towards the full implementation of the 2030 Agenda”, and encourages “them to join the Organization in the spirit of a revitalized global partnership for sustainable development and with a view to strengthening the means of implementation for Sustainable Development Goal 9 and other relevant and interlinked Goals and targets of the 2030 Agenda”.

5.6 Against this backdrop, the HLPF may wish to consider appropriate ways and channels to draw the attention of Member States to this issue, with a view to strengthening the global support to the inclusive and sustainable industrialization agenda. This can be realized not only by securing an adequate supply of resources for UNIDO to play its leading and coordinating role in the United Nations system on industrial development matters, but also by ensuring the necessary political support to the inclusive and sustainable industrialization agenda at the global and regional level as the world enters the implementation stage of the development commitments outlined above.

5.7 In light of the complexity of inclusive and sustainable industrialization, particularly in the context of a globalized world, technology development is expected to drive a major revolution in the way goods are produced, distributed and disposed of. The HLPF may consider raising awareness on the need for increased international industrial cooperation, including North-South and triangular cooperation in the field of science, technology and innovation.

5.8 As global, regional and voluntary national reviews on SDGs have shown so far, significant gaps exist in industrial statistics at the national level, particularly in developing countries. Also, better policy integration across line ministries is required in several cases to ensure the incorporation of inclusive and sustainable industrialization approaches in the economic development plans of countries, regardless to

their income level. The HLPF may take these elements into consideration in the outcome document of its 2017 ministerial-level session.

6. Policy recommendations on ways to accelerate progress in poverty eradication through industrial development

6.1 Industrial development has the potential to significantly accelerate progress in achieving the 2030 Agenda. It should be emphasized, however, that the speed and nature of manufacturing growth matter as much as industrial development per se. Indeed, the historical experience of countries such as the Republic of Korea, China and Mauritius suggests that rapid structural change towards and within manufacturing industries creates income-generation opportunities across the economy, and thus contributes to lifting workers and their families out of poverty. However, some emerging issues are likely to create challenges to industrial development strategies in developing countries and economies in transition. These include, among others, the effects that the increasing fragmentation of production at the global level might have on labour and environmental standards, the need to manage the displacement associated with rapid technological progress driven by trade and investment, as well as the persistence of conflicts and crisis situations. Tradeoffs emerge between the pursuit of different goals, such as between the broad-based creation of employment and the maintenance of stable working conditions for all, or between productivity growth and job disruption.

6.2 As a general principle, inclusive and sustainable industrial policies will require coordination with macro-economic policy, with policies addressing failures in labour and capital markets, as well as with science and technology policies. Mechanisms for measuring, monitoring and evaluating policy performance should be put in place to stimulate learning. Government policy will also need to be sustained by forms of public-private dialogue. Supporting inclusive and sustainable industrialization strategies in developing countries and economies in transition will thus require promoting broad multi-stakeholders partnerships among national governments, United Nations agencies, private investors, donors as well as international financial institutions, in order to mobilize private and public investments (including ODA) around a long-term industrialization plan for export-oriented and job-creating industrial capacity. In line with the targets set by Goal 17, such partnerships should aim at enhancing coordination and policy coherence, while respecting each country's policy space and leadership. As such, strengthening and extending partnership modalities, such as UNIDO's PCP model (see 5.4), appears of critical importance to support industrialization efforts.

6.3 Within this broad framework, policy interventions that aim to address the quality of employment in SMEs in developing countries and economies in transition should focus on maximizing productivity gains from FDI and participation in global value chains in order to stimulate rapid technological upgrading and sustain job creation over time. In LDCs, where the industrial infrastructure may be limited, special economic zones (SEZs) and industrial parks can provide an appropriate testing ground to kick-start job creation especially for women and youth. The experience of Mauritius, explored above, is a case in point. However, targeted interventions to promote the deepening of local supply-chains, such as linkage development programmes and the use of local content requirement clauses, will be required to stimulate knowledge spillovers to local firms. At higher levels of income, trade and labour market policies should aim at facilitating technology transfer from multinational corporations (MNCs) to domestic firms. For instance, governments may choose to introduce incentives, or encourage co-production and licensing agreements with foreign partners³⁸. Technology transfer is critical to increase

³⁸ See UNIDO, 2015, *Industrial Development Report 2016*, pp. 152-153.

technological capabilities and stimulate processes of product innovation, which will contribute to raising wages and improving employment conditions over the long run.

6.4 Designing and implementing industrial policies that promote employment, reduce poverty, and comply with international standards (e.g. related to the quality of products, labour and the environment) should also be encouraged, as a means of facilitating integration into global value chains, and promoting international competitiveness while, at the same time, ensuring a degree of social protection and inclusion. In this regard, UNIDO provides policy guidance and institutional capacity-building on standards, as well as metrology, testing, inspection, certification and accreditation, all of which are crucial for the attainment of the 2030 Agenda³⁹. Standard setting will certainly involve capacity-building, but will also need cooperation between the different actors engaged in value chains, including workers' associations, to facilitate the convergence between public, international and private voluntary standards. Supporting the transition to higher wages and better working conditions, however, will also require the stricter enforcement of labour protection legislation. Technical cooperation services for capacity building, vocational and other training, especially for women and youth, and where possible in partnership with the private sector, also need to be provided.

6.5 With regards to informal firms, on the other hand, incentives and mechanisms should be put in place to encourage formalization and help improve employment conditions and increase the bargaining power of workers. However given that informality is, in many cases, related to the sourcing of cheap and flexible inputs through sub-contracting to informal firms by export-oriented manufacturers, efforts at formalizing these linkages should also take into account the potential risks to the competitiveness of the manufacturing sector. Indeed, in both the formal and informal sector, greater regulation may reduce the degree of labour market flexibility and thus may affect employment levels. This should not, however, detract from the importance of improving the quality of work in manufacturing industries. This is critical if Goals 1 and 3, as well as the employment-related targets of Goal 8 are to be achieved.

6.6 Moreover, technology and innovation policy should not only aim at enhancing productivity growth. Concerns with inclusiveness are of critical importance too. Government intervention should therefore strive to provide targeted support to those workers that are likely to be the most affected by technological change. For low-income countries, industrial policy may thus be geared towards incentivizing the application of "appropriate" technologies, such as labour-intensive production techniques. In middle-income economies, on the other hand, protecting workers from displacement and increasing the skill base would require placing greater emphasis on education for human capital development. Industrialization that encourages employment instead of displacement needs to be promoted. Partnering with the private sector to increase domestic and foreign investment in technical and vocational education and training (TVET) as well as on-the-job training, in order to accelerate learning and prepare workers for the use of new technologies, is also likely to be an important policy measure to stave off the polarization of labour markets and raising competitiveness.⁴⁰ At this stage, domestic and foreign investment in R&D from the public and private sector becomes increasingly important to accelerate the rate of innovation, sustain productivity growth and stimulate job creation. So do public-private partnerships, the core of Goal 17, in building national research infrastructures and accelerating the rate of technological change and innovation. Mechanisms for international cooperation, including North-South and triangular cooperation should also be strengthened to improve the global knowledge base.

6.7 Finally, the role of inclusive and sustainable industrial development in facilitating the transition from conflict to sustainable peace should be recognized. Immediate relief efforts in the framework of

³⁹ See, for instance, UNIDO, 2015, *Meeting standards, winning markets*, Vienna.

⁴⁰ See UNIDO, 2013, *Industrial Development Report*, pp. 152-154.

humanitarian operations are crucial to supporting livelihoods. Yet for long-term peace and development to take hold, the perverse economic incentives underpinning conflict need to be addressed. Strategies aimed at supporting domestic capital accumulation through industrialization and job creation, especially for youth and former fighters, can go a long way to meet the objective. Efforts to reduce any others risks associated with industrialization also need to be supported.

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