

# Picking up the Pace

## Reviving Growth in Indonesia's Manufacturing Sector



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Printed in September 2012

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# Executive Summary

# Picking up the Pace:

## Reviving Growth in Indonesia's Manufacturing Sector



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# Acknowledgments

This study into the Indonesian manufacturing sector, entitled *Picking up the Pace: Reviving Growth in Indonesia's Manufacturing Sector*, is a product of the Trade and Competitiveness Cluster in the World Bank Office in Indonesia.

This report has been prepared by a core team led by Sjamsu Rahardja (EASPI), consisting of Lili Yan Ing (EASFP), Gonzalo Varela (EASPI), Fitria Fitriani (EASPI) and Deborah Winkler (PREMTR). The contributors to Policy Note 1 were Deborah Winkler and Sjamsu Rahardja with contributions also from Lili Yan Ing. The contributors to Policy Note 2 were Deborah Winkler and Thomas Farole. The contributors to Policy Note 3 were Gonzalo Varela, Swati Ghosh and Sjamsu Rahardja. The contributors to Policy Note 4 were Lili Yan Ing and Gonzalo Varela. The contributors to Chapter 5 were Beata Javorcik, Fitria Fitriani, and Leonardo Iacovone, with the collaboration of Gonzalo Varela and Victor Duggan. Finally, the contributors to Chapter 6 were Sjamsu Rahardja and Ari Kuncoro, with help from Fitria Fitriani, Gonzalo Varela, Moh. Adhi Dipo and Victor Duggan.

Contributions from the Expert Committee Meeting are gratefully acknowledged. The members of the committee were: Anshari Buhcari, Ministry of Industry; Thee Kian Wie, LIPI; Ari Kuncoro, University of Indonesia; M. Chatib Basri, University of Indonesia; David Parsons, KADIN Indonesia; Haryo Aswicahyono, CSIS; Fukunari Kimura, ERIA; Tulus Tambunan, Trisakti University; Donisius Narjoko, ERIA; Bacelius Ruru, National Team for Enhancing Export and Investment (PEPI); Benny Sutrisno, Expert Staff of the Ministry of Industry; Gustav Papanek, Boston University; Kasan, Ministry of Trade; Amalia Widayanti, Bappenas; and Wisnu, Investment Coordinating Board (BKPM). Those participating from the World Bank included: Greg Elms, Enrique Aldaz-Carroll, Sjamsu Rahardja, Shubham Chaudhuri, P.S. Srinivas, Henry Sandee and Lili Yan Ing.

The study was produced under the overall guidance of Vikram Nehru, former Sector Director, EASPR, Tunc Uyanik, FFSDR, Hormoz Aghdaey, EASFP, P.S. Srinivas, EASFP, and Shubham Chaudhuri, Lead Economist for Indonesia (EASPR). Strategic guidance and key comments were also provided by Stefan G. Koeberle, World Bank Country Director, Indonesia.

This study benefited from the valuable comments of: Sudhir Shetty, Sector Director, EASPR World Bank; Abayomi Alawode, FFSDR, World Bank; Jose Guilherme Reis, PREMTR, World Bank; Hamid Alavi, EASFP World Bank; Yulia Immajati, EASPI, World Bank; Kiyoshi Taniguchi, EASPI, World Bank; Hal Hill, Australian National University; M. Chatib Basri, the National Economic Committee; and Olivier Cadot, Université de Lausanne.

This study also received valuable inputs extracted from a series of focus group discussions with government officials and the private sector, including manufacturers associations, such as APINDO, API, ASMINDO, GIAMM, GAIKINDO, APRISINDO, AISI and ISWA; and financial institutions such as EXIM Bank and a number of commercial banks. The team also received valuable input from numerous manufacturing companies. The focus group discussions were organized between February and September 2011, and the members of the World Bank team participating in the focus group discussion were Sjamsu Rahardja, Lili Yan Ing, Thomas Farole, Deborah Winkler, Fitria Fitriani, Leonardo Iacovone, Della Tumenggung and Fei Ming. The focus group discussions were organized by Lili Yan Ing and Fitria Fitriani.

Thanks also go to Peter Milne and Arsianti for the final editing, design and production of the series of policy notes and the executive summary, together with PT Unilever Indonesia and SECO for help with providing photographs and Indra Irnawan for the cover design. Dini Sari Djalal and Randy Salim provided support with its dissemination.

Funding from the Multi-Donor Facility for Trade and Investment Climate (MDFTIC) is gratefully acknowledged.

## Preface

Over the past forty years, Indonesia has undergone a significant economic transformation. Since 1970, the proportion of GDP from agriculture has fallen from 45 percent to around 17 percent. At the same time, the proportion of Indonesians living below the poverty line has also fallen dramatically. Since 1970, gross nominal income per capita has increased from US\$80 to around US\$3,000 and now Indonesia is considered as an emerging middle-income country.

Such an achievement would not be possible if Indonesia had not undertaken a conscious effort to facilitate industrial transformation. Indonesia implemented reforms in investment, trade facilitation, and deregulations that allowed manufacturers to operate more efficiently. As a result, Indonesia enjoyed rapid GDP growth supported by export-oriented and labor-intensive manufacturing industries. The manufacturing sector became a significant source for investment and job creation. By the early 1990s, Indonesia was already considered one of the new “Tigers” among the East Asian economies, along with Malaysia and Thailand.

But growth in Indonesia’s manufacturing sector decelerated considerably after the 1998 Asian Crisis. Manufacturing output grew at only half of the double-digit rate that was the norm before the Asian Crisis and the proportion of manufacturing in total exports has gradually declined. The role of manufacturing in providing new jobs has also stagnated. At the same time, the manufacturing sectors in other developing countries in East Asia continue to expand and ascend along the product value chain. Only very recently has Indonesia finally experienced an increase in investment in the manufacturing sector and unusually high growth in manufacturing output.

For policy makers, business associations and labor representatives alike it will be important to identify and agree on key areas for policy reform and coordinate the necessary policy interventions to improve competitiveness in the Indonesian manufacturing sector.

We hope that the findings of this study will help inform the ongoing discourse in Indonesia on how to best encourage the country’s manufacturing sector to grow more rapidly and accelerate the process of economic transformation in Indonesia.



Stefan G. Koeberle  
World Bank Country Director, Indonesia.

## Glossary of Terms and Abbreviation

ADB	: Asia Development Bank
ASEAN	: Association of South East Asian Nations
ASEAN FTA	: ASEAN Free Trade Association
Asmindo	: The Association of Indonesia Furniture and Handicraft Industry
BBK	: Batam-Bintan-Karimun
BPK	: State Audit Agency (Badan Pemeriksa Keuangan)
BPKP	: Financial and Development Supervisory Agency (Badan Pengawasan Keuangan dan Pembangunan)
BPS	: Central Bureau of Statistics (Badan Pusat Statistik)
CPI	: Consumer Price Index
DAU	: General Allocation Fund (Dana Alokasi Umum)
EAP	: East Asia Pacific
EASPI	: Poverty Reduction & Economic Management (PREM) in Indonesia
EU	: European Union
FDI	: Foreign Direct Inflows
FTZ	: Free Trade Zone
GDP	: Gross Domestic Products
GPNs	: Global Productions Networks
HHI	: Herfindahl-Hirschmann Index
ICT	: Information and Communication Technology
IFC	: International Finance Corporation
IMF	: International Monetary Fund
INSW	: Indonesia National Single Window
ISIC	: International Standard Industrial Classification
IUI	: Business License (Ijin Usaha Industri)
JETRO	: Japan External Trade Organization
Kabupaten	: District
KAPETs	: Integrated Economic Development Zones
Kota	: City
KPPOD	: Committee for Monitoring Regional Autonomy
LPEM	: Institute of Economic and Social Research (Lembaga Penyelidikan Ekonomi dan Masyarakat)
LPI	: Logistics Performance Index

MA-OTRI	: Market Access Overall Trade Restrictiveness Index
MA-TTRI	: Market Access-Tariff Trade Restrictiveness Index
MICI	: Monitoring Investment Climate in Indonesia
MP3EI	: Master Plan for the Acceleration and Expansion of Indonesia's Economic Development
OECD	: Organisation for Economic Co-operation and Development
OLS	: Ordinary Least Squares
PRMTR	: World Bank's International Trade Department
PTSP	: Local One-Stop Shop
R&D	: Research and Development
SEZ	: Special Economic Zones
SIUP	: Trade License (Surat Ijin Usaha Perdagangan)
SMEs	: Small and Medium Enterprises
SVLK	: Timber Legal Verification (Sistem Verifikasi Legalitas Kayu)
TCF	: Textiles, Clothing and Footwear
TDP	: Corporate Registry (Tanda Daftar Perusahaan)
TFP	: Total Factor Productivity
Timnas PEPI:	: National Team for Enhancing Export and Investment
VAT	: Value Added Tax
WBES	: World Bank Enterprise Survey
WDI	: World Development Index

## 1. Introduction

**Where once Indonesia's manufacturing sector was a star performer, since the Asian crisis of 1997-98 it has been the poor relation, under-performing both regional peers and other sectors of the economy.** Analysts, commentators and domestic media all agree on the need to revitalize Indonesian manufacturing, but intense and passionate debate centers on just how this is best achieved.

**How can policy-makers remove the fetters so that Indonesian manufacturing can drive the economy forward rather than holding it back from reaching its full potential?** What government interventions are needed to reinvigorate the manufacturing sector by improving competitiveness? This report explores these questions, examines the evidence, provides some answers, and attempts to chart a way forward.

**A policy debate to revitalize the manufacturing sector is timely for various reasons. Growth in Indonesia has been powered by the global commodity boom of recent years.** Primary commodities and natural resources in exports have increased significantly and attracted significant amounts of investment. But while the services sector has also performed strongly, the manufacturing sector has failed to recapture its former dynamism. The concern is that, unless fundamental problems undermining competitiveness in manufacturing sector are addressed, Indonesia may become over-dependent on a primary sector with limited capacity to contribute towards future economic development. A weak performance by the manufacturing sector would also add pressure to introduce various interventionist policies that may not necessarily address the core problems. A debate on policy is also timely because the Government has introduced a new Master Plan to accelerate and enlarge economic development (MP3EI), which includes developing manufacturing processing industries across Indonesia's main economic corridors as one of the main focuses.

**In order to maximize its potential, Indonesia needs to tap into its large pool of labor and abundant natural resources, while progressively moving up the value chain in the manufacturing and services sectors.** This would allow Indonesia to diversify its economy away from subsistence activities in the primary commodity sectors. This would also improve Indonesia's capacity to plug into increasingly global supply chains and respond more deftly to changes in the external economic environment, while better serving its burgeoning domestic market. As its manufacturing activities and processes become increasingly sophisticated, Indonesians can expect to enjoy higher wages and improved living standards.

**Fostering a dynamic manufacturing sector is fundamental to the necessary structural transformation of the Indonesian economy.** Manufacturing is both an important source of quality jobs in its own right and a catalyst for development in the services sector. Moreover, putting in place the building blocks of a competitive manufacturing sector — for example, quality infrastructure, good logistics, an educated workforce and a sound legal system — can sow the seeds for further high-value-added activities that rely on similar support mechanisms.

**This series of policy notes provides an assessment of the characteristics, performance, and challenges of the manufacturing sector in Indonesia.** The series consists of six notes, each of which focuses on a specific question, and provides policy recommendations:

1. Is the Indonesian manufacturing sector facing a "second chance" and why is it so important?
2. Where does the Indonesian manufacturing sector stand in terms of export competitiveness?
3. How did the macro and external environments affect the Indonesian manufacturing sector?
4. How did the business climate affect the sector's performance?
5. How did the sector fare in terms of productivity and job creation?
6. What is the geographical distribution of manufacturing firms and how does this affect competitiveness?

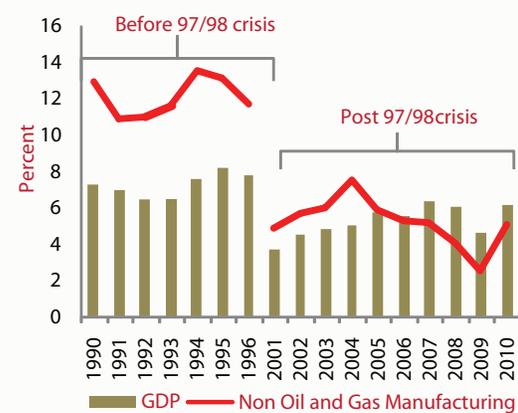
The picture that emerges from this report is one of cautious optimism. Despite recent global economic turmoil and trade volatility, Indonesia’s manufacturing sector may be on the cusp of a renaissance after the difficult decade that followed the Asian financial crisis. Since 2010, manufacturing activities in Indonesia have largely picked up due to global economic recovery and improved investor sentiment towards the prospects offered by the domestic market.<sup>1</sup> This positive development is certainly welcomed and should be maintained. However, putting Indonesian manufacturing back on the global manufacturing map requires sustainable progress that is largely dependent on whether fundamental challenges that are a drag Indonesia’s economic competitiveness can be addressed. Central and local governments have a crucial role to play in developing a policy framework and business climate that is conducive to manufacturing reaching its full potential as Indonesia’s engine of innovation, entrepreneurship, job creation and economic progress.

## 2. How has the Indonesian manufacturing sector performed?

From 1990 to 1996, non-oil and gas growth of Indonesia’s manufacturing sector reached 12 percent per year and contributed one-third of overall real GDP growth (Figure 1). This remarkable growth performance accelerated the transformation of Indonesia from an agrarian to a semi-industrialized economy.<sup>2</sup> But, after a period of financial, economic and political crisis in the late 1990s, manufacturing activities fell into a ‘growth recession’ and contributed considerably less towards GDP growth.

**Figure 1: After boom years in the early 1990s Indonesia’s manufacturing sector has grown at a much lower rate**

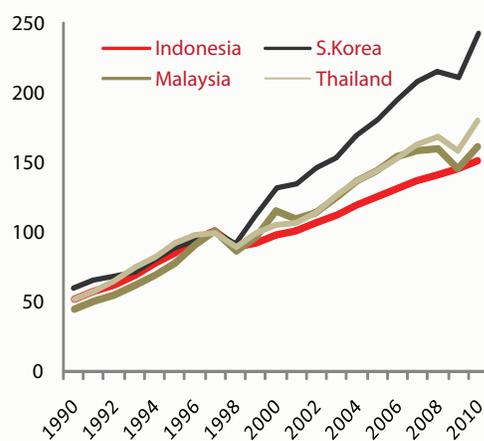
(growth rate of real GDP, percent)



Sources: BPS and World Bank staff calculations.

**Figure 2: Indonesia’s manufacturing sector has recovered more slowly from the Asian crisis than its regional peers**

(manufacturing real GDP, 1997=100)



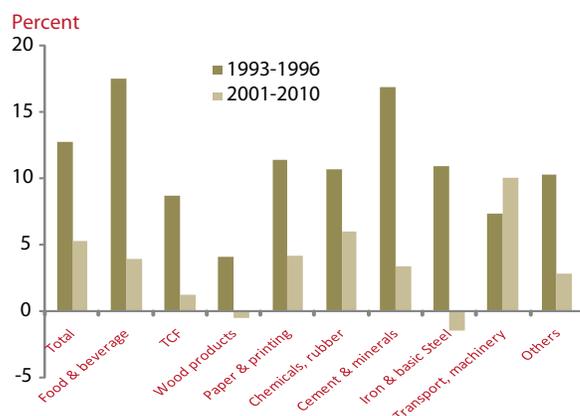
Sources: World Bank World Development Indicators (WDI) and World Bank staff calculations.

The decline in performance of the Indonesian manufacturing sector after the Asian crisis is in sharp contrast to other manufacturing sectors in the region. Together with Malaysia and Thailand, Indonesia was considered one of the “new Asian Tigers” in the 1990s — countries that had experienced rapid economic growth driven by the fast pace of industrialization. However, manufacturing sectors in other countries in the region have recovered more quickly since the Asian crisis (Figure 2).

<sup>1</sup> World Bank (2011), Indonesia Economic Quarterly, December 2011.

<sup>2</sup> Hill (1995).

**Figure 3: Except for transport equipment, output growth in all manufacturing sub-sectors has declined**  
(average annual growth of real value added, percent)



Sources: BPS and World Bank staff calculations.  
Note: FBT is food, beverages and tobacco. Cement & minerals include only non-metal minerals.

Almost all manufacturing sub-categories saw their output growth decline, particularly export-driven sub-sectors such as textiles, clothing and footwear (TCF) and wood products (Figure 3). Lower domestic demand and a deteriorating business environment in the years following the Asian crisis were major drivers of this decline.<sup>3</sup> Overall, annual export growth of non-oil manufacturing products fell from 21 percent in 1990-95 to 8.8 percent in 1996-2000 to only 5.1 percent during the first half of the 2000s, before recovering to 11.4 percent between 2005 and 2010, mainly driven by resource-based industries.<sup>4</sup>

**In addition to lower export growth, rising commodity prices led to a shift of Indonesia's exports away from traditional manufacturing towards commodities and resource-based manufacturing.** The share of resource-based products in total non-oil and gas exports rose from 34 percent in 1995 to 47 percent in 2010. The share of TCF in non-oil and gas exports declined from 24 percent in 1995 to only 11 percent in 2008.

### 3. Is the Indonesian manufacturing sector facing a "second chance" and why is it so important?

The recent global financial crisis was a bump on the long road to recovery for the Indonesian manufacturing sector after the Asian crisis of the late 1990s, but the upward trend is clear. By the third quarter of 2011, the manufacturing production of medium- and large-scale manufacturing firms was growing at an annual rate of 5.6 percent. Growth in real value-added was relatively broad-based, the key drivers being automotive machines and parts, with a remarkable 29.8 percent year-on-year increase, followed by the chemicals sector (19.8 percent).

**Taking advantage of the positive momentum of Indonesia's manufacturing sector will be beneficial for income growth and long-term prosperity.** Policy Note 1 argues that this is because manufacturing offers greater opportunities for job creation (in terms of quantity and quality), facilitates positive structural transformation, exhibits higher labor productivity than other sectors, provides an important conduit for social upgrading and promotes opportunities to close the gender gap.

**Part of Indonesia's recent upswing in manufacturing output has been driven by increasing flows of foreign direct investment.** At the start of the global financial crisis, Indonesian net FDI inflows almost halved from US\$9.3 billion in 2008 to US\$4.9 billion in 2009. By 2011, net FDI had reached almost double the crisis peak at US\$18.9 billion. Indonesia is attractive for manufacturing investors as a low-cost production location and as a rapidly growing domestic market. In addition, regional integration initiatives with which the Government is engaged make the country an attractive location for investors willing to serve the East Asian market.

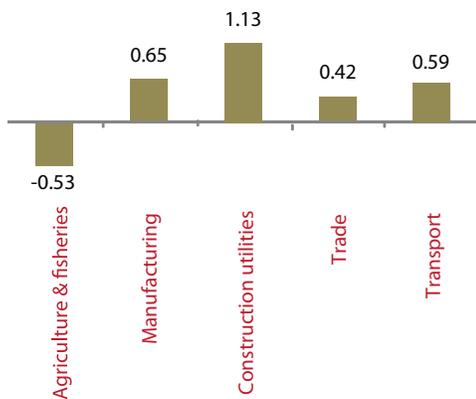
<sup>3</sup> Aswicahyono, Hill, and Narjoko (2010).

<sup>4</sup> This should not hide the fact that many manufacturing sectors experienced a loss in export competitiveness after the Asian crisis, in particular the garments and footwear industries which made up almost a third of manufacturing exports in the early 1990s.

**The manufacturing sector is an important engine of quality, and fast and stable growth for the whole economy.** It is associated with a higher growth contribution compared with traditional sectors due to its relative size and economy-wide linkages (Figure 4). Manufacturing typically attracts more capital investment, driving productivity growth and facilitating a shift from low-productivity to high-productivity activities. Integration into global production and supply chain networks allows Indonesian firms to benefit from learning spillovers, which in turn fosters technical progress and quality improvements in the wider Indonesian economy. Finally, export growth in manufacturing is roughly half as volatile as in the commodity sectors, leading to more stable growth.

**Figure 4: Rapid transformation of East Asian countries is associated with high growth in manufacturing...**

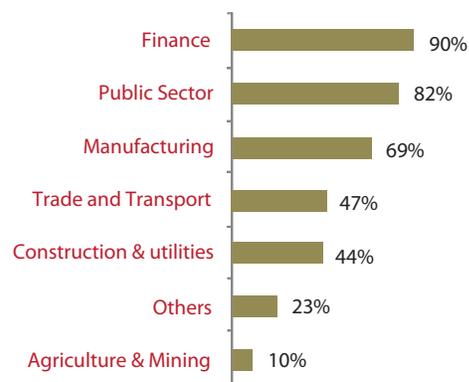
(Output expansion by sector during highest-growth period)



Source: World Bank staff estimates based on WDI data.

**Figure 5: ...while manufacturing offers additional sources for formal jobs.**

(Formal jobs by sector, August 2010, percent)



**Growth in manufacturing creates more and better jobs.** Indonesia's manufacturing sector directly accounted for 12 percent of total employment in 2009, compared with 10 percent in 1990. As shown in Policy Note 1, growth in manufacturing also contributes to job creation across different sectors in the economy (mainly in construction and transport, and to a lower extent in trade). Because of relatively higher productivity levels, 69 percent of manufacturing jobs in Indonesia are in the higher-value formal sector (Figure 5), providing opportunities to move out of subsistence activities and raise standards of living. For secondary school graduates, manufacturing offers the highest levels of real wages (which doubled over the period from 1995 to 2009).

**Manufacturing industries provide opportunities for the reduction of the gender gap.** In Indonesia, as in other countries, labor-intensive manufacturing employs largely female workers. Our research indicates that the proportion of female workers in these sectors is at least 80 percent.

**In order to maximize its potential contribution to accelerated industrialization, economic and social development, the Government has placed the manufacturing sector in a central position.** Its Master Plan (MP3EI) envisions making Indonesia one of the world's main food suppliers — a processing center for agriculture, fisheries, and natural resources — and transforming the country into a high value-added, innovation-driven economy.<sup>5</sup>

**One among the key factors to the acceleration of growth is the development of necessary 'soft infrastructure' in which the Government plays a key role.** This includes the availability and accessibility of modern and competitive services, as well as heavy investment in human resources to improve capacity to absorb and adapt foreign knowledge.

<sup>5</sup> MP3EI (2011).

#### 4. Where does the Indonesian manufacturing sector stand in terms of export competitiveness?

Three manufacturing sub-sectors help to illustrate what has been happening to the export competitiveness of Indonesia's manufacturing sector. Policy Note 2 considers three sub-sectors – furniture, garments, and automotives – to be indicative of manufacturing competitiveness in Indonesia. The first two are traditional labor-intensive sectors for Indonesia, while the latter is a good example of an emerging, capital-intensive manufacturing sector.

Across the board, Indonesian producers in the furniture and garments sub-sectors face challenges with quality, losing out on market share gains to Asian competitors, most notably China. However, they have done well at penetrating new markets with existing products, which should help insulate the industry from a deceleration in demand from the OECD countries. Nevertheless, small and domestic firms face specific challenges to participate in export markets and experience lower survival rates.

Since the Asian crisis, both the furniture and garments sub-sectors have experienced a decline in the quality of products sold in export markets. As a result, Indonesian firms risk getting caught between foreign competitors that managed to gain market share at the low-cost end, and those that have managed to secure the high-quality portion of the market.

However, the furniture and garment sub-sectors in Indonesia differ in terms of firms' output, export market share, and export entry and survival. The garment sub-sector has grown over the past decade (and in a crucial market like the US, it gained market share in the majority of the product lines traded). However, after the Asian crisis, fewer garment producers managed to enter export markets, and among those that managed to, only a subset survived. Exports have become increasingly concentrated in fewer and larger firms. By contrast, in the furniture sub-sector, export entry returned relatively quickly to pre-crisis levels, but output per firm declined and never recovered, and the share of Indonesian furniture sales declined in all markets (Figure 6 and Figure 7).<sup>6</sup>

**Figure 6: In the apparel sector, higher export death and lower export entry deepened after the crisis...**

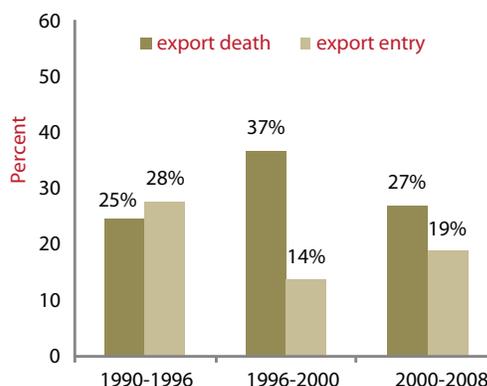
(Average share of exporters that exit export markets and average share of firms that enter export markets)



Source: Calculations based on Manufacturing Census.

**Figure 7: ...while in the furniture sector, entry and survival recovered post-crisis**

(Average share of exporters that exit export markets and average share of firms that enter export markets)



Source: Calculations based on Manufacturing Census.

<sup>6</sup> Although the process of lower entry rates into export markets in the apparel sector precedes it, the phasing out of the Multi Fiber Arrangement toward 2005 is likely to have exacerbated the decreases in export markets entry rates, as firms may have avoided entering in anticipation to tougher competition.

The automotive sub-sector showed substantially more dynamism, with dramatic increases in exports over the past two decades. While in 1996 exports of automotive products were about 1/6 of exports of furniture, and 1/16 of exports of apparel, by 2008, they were about twice as much as apparel and three times furniture exports. In automotives, scale is crucial for competitiveness, the sub-sector therefore benefitting significantly from integrating into regional value chains.

Indonesia’s challenges include moving up value chains, adding value, and innovating — all of which will help to create better-quality jobs. Current low levels of sophistication of manufacturing firms in Indonesia are acting as an important constraint on competitiveness. It is not enough to ride on the back of low labor costs and the huge domestic market potential. Indonesia would benefit from integrating more effectively with value chains in the region, and to progressively unlock local entrepreneurship, raise skill levels and improve innovation and product quality.

### 5. How did the macro and external environments affect the Indonesian manufacturing sector?

The macroeconomic environment in which the Indonesian manufacturing sector operated changed after the Asian crisis. Rates of return declined while profit risk increased in many Asian countries, but the impact was greater in Indonesia, its labor-intensive sectors being the worst affected (Figure 8 and Figure 9).

Profit margins declined as a consequence of stagnation in output prices due to higher competition and rapidly growing non-tradable input prices. On the cost side, a combination of strained infrastructure capacity, and a commodity boom that increased demand for labor and services where competition was limited, impacted on manufacturing input prices, which grew faster than output prices. On the revenue side, relatively tougher export markets during the 2000s implied a reduction over time in the profit premium that exporters enjoyed compared with non-exporters. Increased competition from imports constrained the ability of import-competing firms to increase prices to offset their increased costs.

Figure 8: Firms’ rates of return dropped after the crisis...

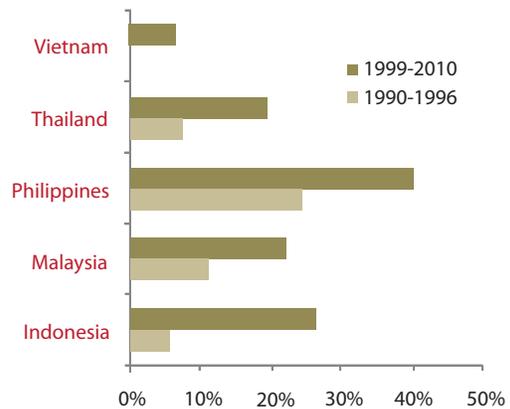
(Rates of return on sales for listed firms)



Source: World Bank staff calculations based on Bloomberg.

Figure 9: ...while profit risk rose

(Standard deviation of rates of return for listed firms)



Source: World Bank staff calculations based on Bloomberg.

Increases in uncertainty both with respect to prices and demand levels have added pressure on manufacturers. These increases are coming from the domestic and external environment, and typically depress investment plans or even move resources away from productive activities in ways that display a degree of irreversibility (in the highly uncertain context of 2009, for example, FDI

flows into Indonesia more than halved). Profit uncertainty increased on one hand because of high exchange rate uncertainty and on the other because of higher demand uncertainty.

**The change in the macro environment had a sizable impact on export performance.** Like other countries, Indonesian manufacturing exports were also found to be highly sensitive to variations in world income. They also responded slowly to price incentives and were affected by labor costs rising beyond productivity levels (mainly in the first years of the 2000s). They were also impacted by non-tradable price increases and exchange rate uncertainty (Policy Note 3 provides a detailed discussion of the magnitudes of these effects).

**Those changes are also likely behind the decline in manufacturing sector capacity to transform output growth into employment opportunities after the Asian crisis.** The changes in the macro incentives, buoyant commodity prices, and increases in labor costs combined with rigid labor regulations, led to both a compositional shift away from labor-intensive sectors and a decline in the average labor intensity of firms' production processes.

**To compensate for the declining incentives on manufacturing operations in Indonesia, policy-makers should foster an environment favorable to manufacturing investment.** Macroeconomic stability will contribute to a more predictable operational environment. Increased competition in markets for inputs and outputs will help reduce costs. An open posture on trade and FDI helps manufacturers benefit from lower input prices and to access new technology. An open, competitive services sector can play an important role in improving competitiveness in the manufacturing sector. Labor market flexibility helps manufacturers tap into a larger pool of labor.

## 6. How did the business climate affect the sector's performance?

**An enabling business climate is important for the manufacturing sector to expand and increase productivity.** A growth-enhancing business climate entails markets that work efficiently, reliable infrastructure and services, and simple and transparent regulations. Many of these elements are still missing in Indonesia.

**Constraints in the business climate vary across types of manufacturers.** Policy Note 4 shows that some obstacles affect specific types of firm disproportionately. Rigid labor regulations and high tax rates are among the top five business constraints for large and exporting firms. Among labor regulations, those perceived to be the biggest obstacles relate to severance payments, minimum wages and lay-off procedures. Access to finance, although important for all firms, predominantly affects small- and medium-sized firms, as do the practices of their competitors in the informal sector. On the other hand, political instability and issues related to access to land, for example, tend to predominantly affect foreign firms.

**Some of these constraints exert an objective and measurable effect on firms' performance, thus limiting the competitiveness of the sector.** For example, access to finance, electricity and excessive government regulation have sizable effects on average productivity of manufacturing firms in Indonesia, access to finance alone accounting for 70 percent of the total negative effect of these constraints. Meanwhile, because a large share of manufacturing output is produced by large firms, excessive and arbitrary government regulations constraining the operations of larger firms have a disproportionately negative impact on overall productivity growth.

**While there is no one-size-fits-all policy, there are potential quick wins.** Policy changes addressing the investment climate in Indonesia may not benefit all firms equally. Easing constraints on access to finance and regulating the practices of competitors in the informal sector are expected to benefit small, domestic, and non-exporting firms. Changes in labor regulation policy would address a major concern of large and exporting firms. Facilitating access to industrial land and improving political

stability might help attract more foreign firms. Policy-makers need to focus on issues that promise to improve the investment climate for as wide a range of firms as possible.

**Making regulations transparent and straightforward can have sizable effects on manufacturing performance.** For example, substantial improvements could be achieved at relatively low cost by tackling the issues around business licensing procedures. This implies simplification of procedures, and making information on (a) how to obtain the license, (b) which institutions are in charge of releasing them, and (c) what is the length of time and cost involved publicly available on requirements.

### 7. How did the sector fare in terms of productivity and job creation?

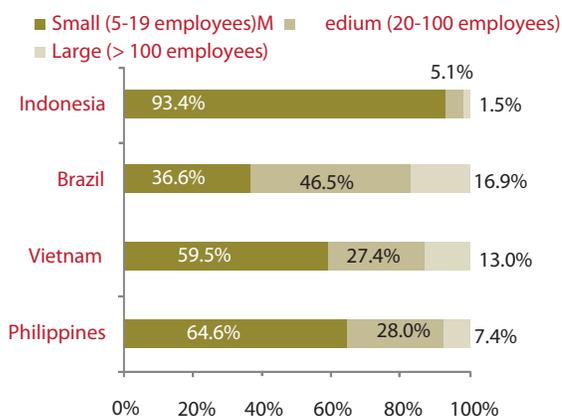
**Total factor productivity (TFP) — the efficiency with which inputs are transformed into outputs — in Indonesian manufacturing increased slowly over the period 1990-2009.** Policy Note 5 argues the reported increase was partly due to efficiency improvements at individual firms, implying that on average, plants became slightly more productive, and partly due to the reallocation of resources from less productive and into more productive firms.

**The increase in productivity was driven by just a few sub-sectors.** The increase in productivity was mainly driven by sub-sectors producing electronics, machinery and instruments, and textile, clothing and footwear (sub-sectors facing particularly adverse macro and external conditions, as discussed in Policy Note 3), while natural-resource-based sub-sectors, in which rents have been higher due to high commodity prices, displayed less productivity dynamism.

**Firms that are better integrated with the global economy showed faster productivity growth.** Firms that are better integrated with the global economy, either because they export a large part of their output, or use imported inputs, or are part of multinationals, not only are more productive, but also exhibit faster productivity growth. In addition, large firms tend to be more productive, while start-ups display faster-than-average productivity growth.

**The productivity gap across manufacturing firms has risen in Indonesia, with the top 10 percent of firms now five times more productive than the bottom 10 percent.** This means that overall productivity in the Indonesian economy could be greatly improved if resources were allowed to flow more freely from less efficient to more efficient uses. Such improvements can be achieved through regulatory reforms that make it easier for firms to enter/exit and exposure to foreign competition that incentivizes firms to innovate in order to remain competitive.

**Figure 10: The “missing middle” in Indonesia: distribution of manufacturing firms by size**



Source: World Bank, Enterprise Survey, 2009.

**But the striking prevalence in the Indonesian manufacturing sector is the “missing middle”.** In Indonesia several factors restrict firms’ capacity to grow, preventing businesses from exploiting gains from economies of scale. This is evidenced by the size structure of firms in Indonesia, which reveals a disproportionately large presence of small firms by international standards. Burdensome regulations and imperfect capital markets are two likely explanations for this phenomenon, usually known as the “missing middle” (with a large portion of small firms, and a comparatively small number of middle-sized firms transitioning from small into large; Figure 10).

**Our research shows that, as in other countries, start-up companies not only exhibit faster productivity growth but also play a crucial role in creating jobs.** This is relevant from a policy perspective, as it suggests that the focus of policy should shift from focusing only to support small and medium enterprises in general to promoting start-ups which, in general also happen to be small enterprises.

**Policies should also aim to reduce entry and exit barriers in output markets and rigidities in input markets, encouraging the entry of firms enjoying high productivity growth and the exit of less-productive firms.** In addition, policies increasing exposure to trade and integration with the global economy should be supported given their positive impact on both firm-level productivity and the allocation of resources to their most productive uses.

## **8. Are there manufacturing agglomerations in Indonesia and how do they affect competitiveness?**

**Agglomeration is present in Indonesian manufacturing. Manufacturing activities seem to be concentrated around major cities such as greater Jakarta, Bandung and Surabaya (Figure 11).** The process is self-replicating since new manufacturers tend to choose locations with a high density of other manufacturing activities. Location tends to be driven by availability of particular types of labor skills at reasonable costs, infrastructure, and proximity to markets of both inputs and of outputs, as well as export and FDI spillovers.

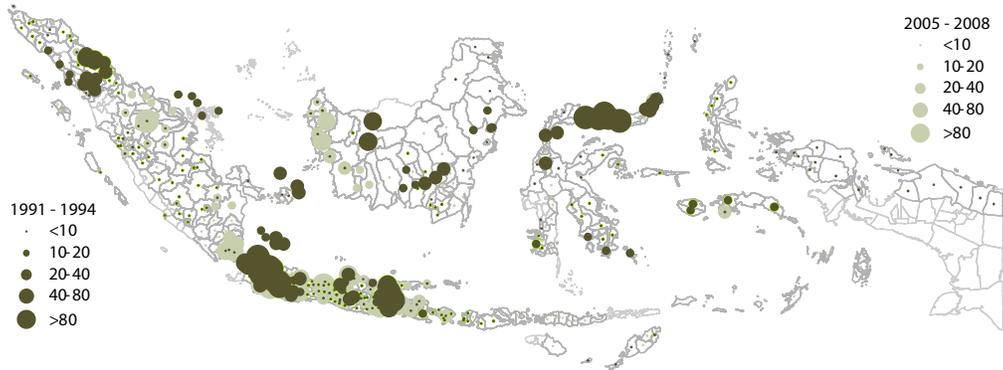
**New agglomerations have also been formed outside old manufacturing areas.** The formation of these new agglomerations is also driven by market forces. As congestion costs reduce the appeal of the 'traditional' agglomerations zone, firms locate elsewhere, and a new process starts. Labor costs, infrastructure bottlenecks, and multiple permits are typical examples of congestion costs. Eventually, wage pressures in highly urbanized areas may push manufacturing activities to new, non-traditional zones. It is worth mentioning that in Indonesia, firms choosing non-traditional zones in which to operate are those in light manufacturing, and those for which returns to scale are lower.

**In Indonesia, as in other countries, agglomeration is associated with higher productivity.** Evidence for Indonesia suggests that, over the period 1993-2009, firms operating in main agglomeration areas were on average 30 percent more productive than those that were not, and the gap increases over time. In addition, and over the same period, firms located in new agglomeration areas were 10 percent more productive.

**In Indonesia, agglomeration is also associated with an increase in the diversity of broadly defined industrial activities and, within each activity, with a process of product diversification.** Evidence suggests that the industrial diversity of each agglomeration has increased in Indonesia (i.e., each region has become less specialized). Within each sector of activity, there has been an increase in product diversification. The increase in varieties produced was substantially faster among firms located in the main agglomeration areas than among those located elsewhere.

**The policies that local governments implement can contribute to the formation of a manufacturing agglomeration.** Local governance and regulation are relevant issues for manufacturing firms and play an important role in the location decision. Districts in which business licensing regimes are perceived as favorable tend to attract more start-up firms. In addition, perceptions on transparency and certainty of labor policies in a district tend to be associated with the presence of high-productivity firms in that district. It is likely that high-productivity firms choose districts with better defined rules and, in addition, that better defined rules are conducive to productivity enhancing production processes. Special economic zones (SEZ) can also be used to facilitate agglomeration providing there are clear incentives for firms to locate there, such as infrastructure, access to energy, and streamlined licensing processes.

**Figure 11: New manufacturers established operations in Java and a few large cities in Indonesia**  
 Number of new manufacturing firms across districts (kabupaten) in 1991-94 and 2005-08



Source: World Bank, Enterprise Survey, 2009.

**The Implementation of MP3EI should consider further actions to facilitate firm-driven agglomeration forces to drive industrial development.** These actions should include improvements in connectivity, simplification of licenses/permits for investors, certainty in local policies towards the manufacturing sector, and building knowledge capabilities so that gains from interaction are maximized. Hence, the extent to which MP3EI can help revitalize the manufacturing sector will depend on synergies between policies at the central government and at the sub-national level.

## 9. Conclusion and Suggestion for a Policy Framework

How can Indonesia revive growth in its manufacturing sector? What kind of policy framework (industrial policy) should the Government think of adopting?

**Current problems undermining Indonesia's manufacturing competitiveness are mostly cross-cutting issues and these should become the main focus for policy actions.** Domestic and external environments for manufacturing activities are increasingly competitive and require the ability to innovate and operate more efficiently. To sustain a reasonable environment for manufacturers to operate in Indonesia, the Government should focus its effort in addressing problems on the supply side to allow higher expected profitability for manufacturers. The rigidity and large proportion of small manufacturing firms in Indonesia suggests that there are serious constraints to expansion, which may provide incentives for firms to remain small and inefficient. Addressing bottlenecks in infrastructure, domestic connectivity, uncertainties in regulations, barriers for competition, and access to finance for SMEs would bring high welfare gains and ensure the sustainability of organic growth in the Indonesian manufacturing sector.

**Indonesian manufacturers would benefit from interventions to position Indonesia's manufacturing sector for the next stage.** The ability for firms to add value and innovate will be a key factor in determining success in manufacturing in the future. Therefore, addressing generic constraints would constitute the preconditions for sustaining growth in the Indonesian manufacturing sector. On top of this, there are interventions that can bring positive externalities which increase the capacity of manufacturing sector to move up towards higher-value chains. Investing in human capital, high technology communication infrastructure, facilitating research and development, and facilitating technology transfer from FDI to local manufacturers would be the strategy that Indonesia might also want to pursue. Because those processes need relevant institutions with the right incentives, reviewing the effectiveness of existing institutions and their programs in order to identify opportunities for improvement would be a good start.

**Expanding participation of the manufacturing sector in the regional production network can also accelerate manufacturing development.**<sup>7</sup> Unlike countries in Latin America that are located far from Factory Europa or Factory America, Indonesia should take advantage of its location within the heart of Factory East Asia by participating more in the established regional supply chains of manufacturers. The success of the Indonesian automotive sector suggests that joining regional production networks can accelerate growth, provide a market for local suppliers, and facilitate the transfer of knowledge. However, for this strategy to deepen the industrialization process in Indonesia there needs to be an improvement in the capacity of Indonesian companies and workers' skills to engage with foreign counterparts.

**Focusing to promote certain industries is an option to accelerate growth in the manufacturing sector but the stakes are high.** Specific interventions such as concessions, tax incentives, subsidies, and non-tariff barriers have been used by other countries to promote and secure competitiveness of certain domestic industries.<sup>8</sup> While there could be benefits from implementing such strategies, the net impact of these strategies for Indonesia would depend on whether or not the generic problems constraining manufacturing sector growth are mostly addressed and whether or not the industrial policies are coherent. Without addressing infrastructure, access to inputs, and ease of entry for other manufacturers, incentives and protection for large investment in heavy industry could quickly limit competition and dampen productivity gains. Protecting downstream manufacturing industries using non-tariff barriers, while maintaining restrictions on imported inputs and FDI in logistics services, would undermine the downstreaming process. Success in promoting certain industries also depends on whether the Government can put in place certain disciplinary devices (domestic competition or export targets) to ensure firms in promoted industries are well motivated to perform efficiently as quickly as possible. Failure to complement targeted and protectionist industrial policies with measures to help ensure efficient behavior of firms could lead Indonesia into serious problems in the longer term.<sup>9</sup>

**Despite a large domestic market, Indonesia should remain proactive in expanding manufacturing exports.** A large and fast growing domestic market provides a base and economies of scale for the domestic manufacturing sector to flourish. Nevertheless, evidence in Policy Note 5 shows that there are productivity gains to firms from exporting that come from learning from foreign buyers and serving competitive markets. Improving trade facilitation and logistics services would help exporters import inputs and material that helps them to perform more efficiently. Supporting export promotion and linking it with trade financing with performance evaluation would be another option. Since Indonesia is already a member of the G20, support for the conclusion of the Doha Round and a reduction in trade barriers for South-South trade (i.e., trade among developing countries) would serve Indonesia's interests in promoting manufacturing exports.

A suggestion for strengthening the business environment for the manufacturing sector rests in at least three inter-connected pillars of sub-goals (Figure 12).

- **Improving cost competitiveness is important for manufacturers facing tougher global competition and trends of exchange-rate appreciation.** This would largely focus on improving logistics connectivity, ensuring reliable access to inputs, and removing barriers to reduce operational costs and maximizing the benefits from internal and external economies of scale.

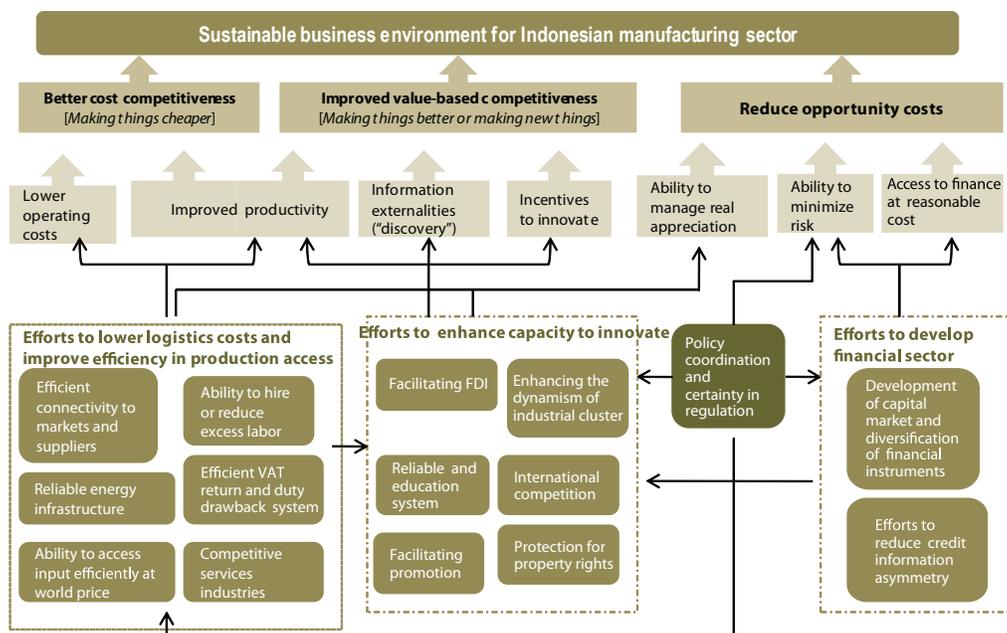
<sup>7</sup> See illustration in recent paper by Richard Baldwin (2011), "Trade and Industrialisation after Globalisation's 2nd Unbundling: How Building and Joining a Supply Chain are Different and Why It Matters", NBER Working Paper 17716

<sup>8</sup> See, for example, Pierre-Andre' Buigues and Khalid Sekkat (2009), "Industrial Policy in Europe, Japan, and the USA", Palgrave MacMillan.

<sup>9</sup> The risk would be over capacity, prolonged rent seeking activities, and bad investment decision that could expose fiscal burden to the Government or loss to domestic banking sector. Another risk would be creating regulatory capture due to inefficient incumbent firms.

- **Improving value-based competitiveness is important to facilitate Indonesia’s manufacturing sector to move up the value chain.** Policies in this pillar would largely focus on enhancing capacity and setting the right conditions and incentives to encourage innovation, such as improving higher education, ensuring both local and international competition, facilitating spillovers from FDI, and facilitating private sector R&D. At the same time, progress in improving cost competitiveness would also enhance progress in achieving value-based competitiveness.
- **Reducing opportunity costs for investment in manufacturing is an important pillar as Indonesia has rich potential in natural resources which, despite fluctuations in commodity prices, provide high returns relative to investment in manufacturing.** Progress in the previous two pillars would certainly help achieve this sub-goal, but reducing regulatory uncertainties and reducing financing constraints through better credit information, strengthened creditor protection, and further development in capital markets would be the key priorities.

Figure 12: A suggested policy framework



Such a framework can be useful to identify a list of priorities and policy interventions that the Government might want to consider. For example, policy areas that have an impact on manufacturing operations and need attention would be:

- **Strengthening macroeconomic resilience in order to reduce volatility in the domestic business environment.** Having a protocol to handle macroeconomic crises, preparing contingent fiscal stimuli, and preparing contingent trade financing support through the Eximbank, would help to mitigate the impact of a worsening external situation on manufacturers.
- **Reducing logistics costs and congestion costs to improve expected profit margins of manufacturers and strengthen the agglomeration process.** Better connectivity would allow manufacturers to increase operational efficiency. The Government might want to consider prioritizing the following policies:
  - o Strengthening connectivity around key manufacturing agglomeration areas — such as Greater Jakarta (Jabodetabek), Bandung, Cirebon, Semarang, and Greater Surabaya, and improving

inter-island connectivity by improving port infrastructure, increasing sea cargo services, and improving ferry crossing services.

- o Prioritizing improvements in port productivity at major sea ports near industrial agglomeration areas such Belawan, Tanjung Priok, Tanjung Mas, Tanjung Perak, and Makassar, and facilitating the use of dry ports for customs clearance in industrial areas located inland.
  - o Removing regulatory uncertainties for investment in modern third-party and end-to-end logistics services would be helpful in improving manufacturing productivity.
  - o Exploring the possibility for providing budgetary incentives through the special allocation fund (DAK) for sub-national governments to simplify licenses and permits for manufacturing investment and identifying action plans to revamp Special Economic Zones to facilitate agglomeration in manufacturing clusters.
- **Maintaining a relatively open economy to ensure access to, and variability of, inputs and access to technology for Indonesian manufacturers.** First, any policy that attempts to protect domestic producers by raising import barriers will substantially increase export costs for Indonesian manufacturers. Second, the presence of FDI leads to improved performance of Indonesian manufacturing firms in sectors supplying inputs to industries where FDI is located. The Government might want to consider the following actions
    - o Simplifying and improving transparency in the process of issuing import licenses and ensuring non-tariff measures are properly reviewed with feedback from the private sector.
    - o Implementing high-level coordination to ensure new laws and regulations that can affect foreign investment are consistent with the spirit of attracting FDI for improved competitiveness and growth of the Indonesian economy.
  - **Rationalizing tax incentives to facilitate investments with expected high positive externalities.** The use of tax incentives remains controversial because of administrative costs, the potential negative impact on economic efficiency, and rent-seeking. Furthermore, tax incentives are unlikely to play more than a marginal role, as there are more important factors that determine investment decisions. Nevertheless, certain tax incentives can be reserved to promote investments in activities that are likely to bring economic benefits beyond the project, but where their costs are too high for private sector to internalize. Investment in research and development and skills development are among the few examples. Note that tax incentives do not necessarily mean tax holidays, but rather tax credits, tax allowances, and the accelerated depreciation for new investments. In order to make such tax incentives work successfully it is also important to have a credible, simple and transparent mechanism for granting incentives to investors that provides a level playing-field for all investors.

Over the medium to longer term, the Government might also want to consider:

- **Addressing the “missing middle” by tackling bottlenecks and failures in input and output markets to reduce barriers to entry (and exit) for manufacturers.** The Doing Business survey puts Indonesia among the worst performers for firms to start up and close down their businesses, and this not only prevents firms with good potential from entering but also allows firms with poor performance to drag down overall economic productivity. Simplifying business licenses for opening and closing down a business would address the situation. Ensuring reasonably flexible labor regulations would also help firms to become larger without being too anxious about scaling down operations if the situation dictates. Strengthening protection for creditors and facilitating private credit bureaus would help the banking sector to lend more to domestic manufacturers, particularly small and medium enterprises. But this should also be accompanied by further developing Indonesia’s bond market, insurance market, and pension funds, all of which would help to bring down borrowing costs.

- **Building manufacturing clusters with the capability to better position Indonesia's manufacturing sector in global competition.** Fostering local innovation in design, marketing, process, and services, is crucial for extracting higher value-added along the spectrum of manufacturing processes. Improving the quality of the workforce is a necessity for enlarging the pool of high-skilled workers for the Indonesian manufacturing sector to draw from. Fostering cooperation between manufacturers and higher education institutions for worker training or research and development, through matching grants or tax incentives, could be practical options. But improving the quality of Indonesia's higher education system and making it relevant to the industrialization process is crucial.

However, addressing those challenges is a complex process and requires a mechanism for policy coordination and consultation with the private sector. Well-coordinated policies of central and local governments are absolutely vital for manufacturing operations. Meanwhile, the private sector is at the forefront of manufacturing business and therefore a feedback mechanism to the policy-making process would be an important step to strengthen policy dialogue. This could be achieved by strengthening the coordination structure that the Government introduced for implementing the MP3EI:

- o Establish a high-level Manufacturing Taskforce with a network across Working Groups of MP3EI or the National Team for Enhancing Export and Investment (Timnas PEPI) with a dedicated budget and a secretariat linked to the MP3EI Secretariat, to consolidate, harmonize, and prioritize action plans to revitalize the Indonesian manufacturing sector across different economic corridors.
- o Introduce good regulatory practices such as establishing inter-agency review processes and institutionalize public-private dialogue within the Working Group for Regulatory Reform or Timnas PEPI.
- o Strengthen fiscal incentives for local government to implement broad based policies that have a positive impact on private investment.

