

# The Effect of the Commodity Boom on Indonesia's Macroeconomic Fundamentals and Industrial Development

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*The end of the commodity boom in 2012 once again exposed Indonesia to the vulnerability of the commodity price shocks. This article reviews how Indonesia managed its natural resources in 2001–12 and when the commodity boom ends. What are the lessons learned? Indonesia's experience is similar to that of other countries rich in natural resources, including the crowding-out of non-commodity sectors, premature deindustrialization, protectionist trade regimes, fiscal inefficiency, slow skill accumulation, rising inequality and environmental damages. In the aftermath of the global financial crisis of 2008–09, the early trade-policy response at the end of the commodity boom is inward-looking and protective of domestic markets and industries and aims to increase the value-added of commodities by downstreaming. This trend is clearly reflected in the 2014 Trade Law, the 2014 Industry Law and the mineral export ban, which was introduced in 2009 through the 2009 Law on Mining of Coal and Minerals and took effect in 2014. Indonesia should learn from other countries in managing its resource revenues, such as through a commodity fund designed to fit its domestic specificity. Reindustrializing, increasing agricultural productivity beyond palm oil and tapping the country's potential in the services sector including tourism and creative industries are also necessary to promote diversification in production and trade. Resource management policy should also include stronger environmental regulations.*

**Key words:** Indonesia, commodity boom, structural transformation, countercyclical fiscal policy, inequality, environmental degradation

## Introduction

The commodity boom from 2001 to 2012, with the exception of the global financial crisis in 2008, highlighted the vulnerability of the resource-dependent economy of Indonesia to external shocks. This is not the first time that Indonesia had experienced a resource boom and was forced to make a large adjustment when the boom came to an end. In the 1970s, there were two oil booms: 1973–74 and 1979–80. When oil prices slumped in the early 1980s, Indonesia was able to push through the necessary measures to reverse the effects of the shocks. The political economy of the 1980s, when the economic technocrats, the so-called “Berkeley Mafia,” were extremely influential in shaping Indonesian president Soeharto's economic policies, was favourable because policies were coordinated under his strong leadership. During the post-oil boom in the late 1980s and throughout the 1990s, Indonesia was able to take off as an industrializing economy with a high average growth of around 7%, supported mainly by manufactured

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goods and exports. The end of the commodity boom in 2012 once again exposed Indonesia to the vulnerability of the commodity price shocks. This article reviews how Indonesia managed its natural resources during the commodity boom period of 2001–12 and when the commodity boom ended. What are the lessons learned? As Ross Garnaut [2015] says, “The test of the ‘resources curse’ is how a country responds to the end of the boom.”

This article argues that the natural resource boom in 2001–12 was a step backward in Indonesia’s industrialization trajectory, with much of the economy driven by consumption-led growth fuelled by growth in the extractive industries. This step backward was evident when the commodity boom ended in 2012 and most of the country’s macroeconomic fundamentals were deteriorating. Revenues from the resource boom were spent on poorly targeted energy subsidies instead of on productive investment such as infrastructure or instead of saving the windfall in a resource fund. The high share of commodity exports also created a mini Dutch disease and crowded out other non-commodity and tradable sectors. During this commodity boom, Indonesia also saw rising inequality and environmental degradation. Indonesia’s experience is not uncommon to other resource-rich countries that have experienced a “resource curse” [Overseas Development Institute [ODI], 2006].

## Indonesia’s Successful Economic Stabilization Reform in the Post-1970s Oil Booms

Indonesia experienced a windfall of oil revenues from two oil booms in 1973–74 and in 1979–80 (see Table 1). These booms enabled Indonesia to resolve the balance-of-payments issues and budget constraints that had accumulated since President Soekarno’s era. Most importantly, Indonesia had used the oil revenues to implement ambitious development programs, including physical infrastructure and social development in rural areas and outlying regions [Thee, 2008]. Many of these regional developments were mandated by the so-called presidential instruction (*Instruksi Presiden*, or *Inpres*). Indonesia was not the only country to depend on resource rents to promote regional development. Many developing countries sustained strong growth in the early years of their “catching up” phase by using public revenues from mineral rents to promote broadly based development [Hill, 2000; Garnaut, 2015].

Table 1: Indonesia’s oil exports, 1969/70 to 1975/76 (millions of U.S. dollars)

1969/70	\$384
1972/73	\$965
1973/74	\$1,729
1974/75	\$3,727
1975/76	\$4,204

Source: Thee [2008].

Although the oil revenues were used to promote regional development, the oil boom period in the 1970s coincided with Indonesia’s industrialization policy of import substitution. The boom in the 1970s drove Indonesia to pursue one of the most inward-looking patterns of industrialization among Asia’s developing countries. In the first “easy” phase of import substitution, it imposed tariff and non-tariff protection including total import bans on some goods

already assembled or manufactured in Indonesia, enabling locally made light consumer goods and consumer durables to replace imported products. In the late 1970s, Indonesia conducted the second “easy” phase of import substitution, which involved deepening the industrial structure. The government embarked on a state-led program of import substitution involving the establishment of state-owned, upstream, basic industries. However, the government’s industrial-deepening plan was “‘one massive exercise in import substitution’ without any reference to efficiency or exportability considerations” [Gray, 1982, p. 42; quoted in Thee, 2002, p. 222; see also Wihardja and Negara, 2015]. And moreover, this industrial strategy was strongly supported “by the military/bureaucratic network whose economic fortunes are being (or have prospects of being) advanced by the establishment and operation of large state enterprises” [Gray, 1982, p. 49]. Indonesia also imposed mandatory “deletion programs,” under which producers were required to use more of locally made parts and components as intermediates. This hurt export-oriented firms, which required high-quality parts and components. This deletion program has never been successful. Indonesia still relies on imported parts and components until today [Wihardja and Negara, 2015].

After a decade of booms in the 1970s, Indonesia soon found itself running out of oil revenues with oil prices dropping twice in 1982 and 1986. To move the economy away from its dependence on oil exports, Indonesia shifted from import substitution to an export-oriented industrial strategy. Not until 1986, when oil prices fell more steeply than in 1982, did the government really push through trade reforms toward export promotions. This resulted in an anti-export bias, which provided exporters with the opportunity to purchase inputs from foreign and domestic suppliers at international prices. The government also adopted an active exchange rate policy to support the growth of non-oil exports by ensuring that the real effective exchange rate remained competitive. The government introduced a new tax law in response to the falling government revenues by increasing non-oil taxes, particularly personal and corporate income taxes, imposing a new value-added tax and pursuing a tight fiscal policy [Thee, 2008]. The banking sector was deregulated to allow state-owned banks to set their interest rates, and credit ceilings were lifted. To move away from high dependence on oil and gas exports, the government also introduced deregulation measures to improve the investment climate for both domestic and foreign investors by dismantling the complex regulatory framework [Thee, 2008]. In addition to making trade reforms, the government deregulated foreign direct investment (FDI), by removing restrictions that had been reintroduced in 1974. The most significant liberalization of FDI was in 1994.

The 1983 reform package succeeded in countering the post-oil boom shocks. Most of the credits went to the influential economic technocrats advising Soeharto. By the 1990s, the economy was able to diversify away from oil and gas (see Table 2). The surge of export-oriented investment by newly industrialized economies (NIEs), such as Korea, Japan, Taiwan, Hong Kong and Singapore, was a result of both the pull and push factors. The pull factors included all the abovementioned trade and investment reforms; the push factors included the substantial appreciation of the NIE currencies and a rapid rise in wages in NIEs, Taiwan’s abolition of foreign exchange control in 1986, Korea’s support to Korean private firms to invest in South East Asia, and Singapore’s development of Batam as an industrial estate to which its labour-intensive industries could relocate [Thee, 2008].

In the 1990s, Indonesia was able to industrialize by growing its manufactured exports rapidly. Manufactured exports were not yet dominated by China. Indonesia was also a large labour-surplus economy, attracting labour-intensive industries. Another factor in its relatively smooth acceleration was that the production network was less fragmented than it is now, so In-

Indonesia's manufacturing added value as a percentage of gross domestic product (GDP) reached 25% in 1996 and manufactured exports as a percentage of total exports reached 51% that same year (see Table 2).

Table 2: Indonesia's Comparative Industrial Growth, 1965–96

	Manufacturing added-value (millions of US\$)		Manufacturing added-value as % of GDP		Manufactured exports as % of total exports	
	1970	1996	1965	1996	1965	1996
Indonesia	994	58.244	8	25	4	51
Malaysia	500	34.030	9	34	6	76
Philippines	1.622	18.908	20	23	6	84
Thailand	1.130	51.525	14	29	3	73

Source: Thee [2008].

## The 2001–12 Period of High Commodity Prices

After the successful economic reforms in the late 1980s and early 1990s, external events and internal political developments caused setbacks, leading to political, social and economic instability in the Asian financial crisis 1997–98. Pervasive corruption, cronyism and collusion that stood alongside the financial liberalization that was introduced “without preparedness of institution,” brought political and social disorder triggered by the massive rupiah devaluation and the eventual collapse of the banking sector, followed by the collapse of the real sector [Pangestu, 2015]. By 1999, political order was restored within a new framework of electoral democracy. By that time, the international economic environment had changed fundamentally. China has begun an unprecedented rate of economic growth due to its economic opening to the global market. Manufactured exports in labour-intensive industries were dominated to a large extent by China. Double-digit growth in China and India were also fuelling global demands for resources-based products with an impact on international prices for resource-based products. China's competitiveness in the low-end manufacturing sector combined with skyrocketing commodity prices reversed Indonesia's competitive advantage in international trade back toward resource-based commodities [Garnaut, 2015]. The 1997–98 Asian financial crisis also hurt the manufacturing sector, which had been growing from pre-crisis double-digit growth to a low single-digit growth after. High import-content manufacturing firms collapsed due to significantly devaluing rupiah combined with a significant drop in Indonesians' purchasing power and a collapsing banking sector.

But, soon after the Asian financial crisis, which saw Indonesia's Soeharto step down after 32 years of leadership, prices for palm oil and coal skyrocketed except during the global financial crisis of 2007–08 (see Figure 1). Combined with licence issuances by regional governments for extractive activities in the decentralized post-Soeharto era and a shift from contract-based to licence-based system in the mining sector, palm oil and coal activities proliferated and became the main drivers of Indonesia's export growth during the commodity boom of 2001–12.

Indonesia's share of manufactured product exports also declined significantly as a result of the shift from a manufacturing-based economy to a resource-based economy during the commodity boom, particularly in mining and agricultural products dominated by coal and palm oil (see Figure 2). By 2014, palm oil and coal exports topped the list of export value share,

which made up about 20% of total export value (see Table 3). In 2000, crude oil, petroleum and gas topped the list of export value share. Indonesia's successful diversification in the post-oil boom away from oil and gas toward more manufactured products was also reversed. With the commodity boom, the relevance of the manufacturing and processed commodity sector in exports declined with regard to raw commodities; the export of high-technology goods also declined after the early 2000s [World Bank, 2014b]. Breaking down manufacturing exports into processed commodities and other manufacturing products reveals the diminished relevance of the manufacturing sector, especially non-processed-commodity manufacturing products, in the export market during the commodity boom (see Figure 3). Indonesia's export shares to China, its second biggest market, have increased in mining and minerals as well as in agricultural products (see Figure 4).

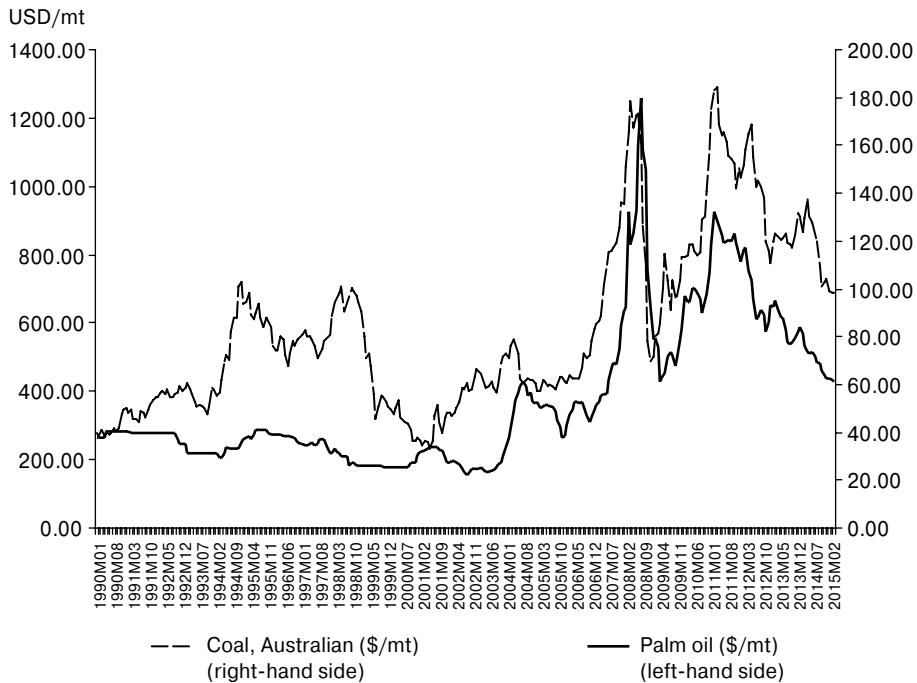


Figure 1: Coal and Palm Oil Prices (U.S. dollars/metric ton), 1999 – February 2015

Note: mt = metric ton.

Source: World Bank Databank [2016].

It was never obvious whether the commodity boom would ever end, and if it would, when. The supply of some commodities that Indonesia relied on for export, for instance tree crops such as palm oil, was very inelastic, but their abundant supply weakened the price once demand decreased. It was also never predicted that two of Indonesia's biggest importers of palm oil, for example, namely China and India, would see much weaker growth. China's structural reform resulted in a sharp decline in its growth and India's growth was halved in the past few years. Other vegetable oils such as soybean oil serve as perfect substitutes to palm oil, so a relative decline in the price of these substitutes also lowers demand for palm oil and, eventually, the price of palm oil.

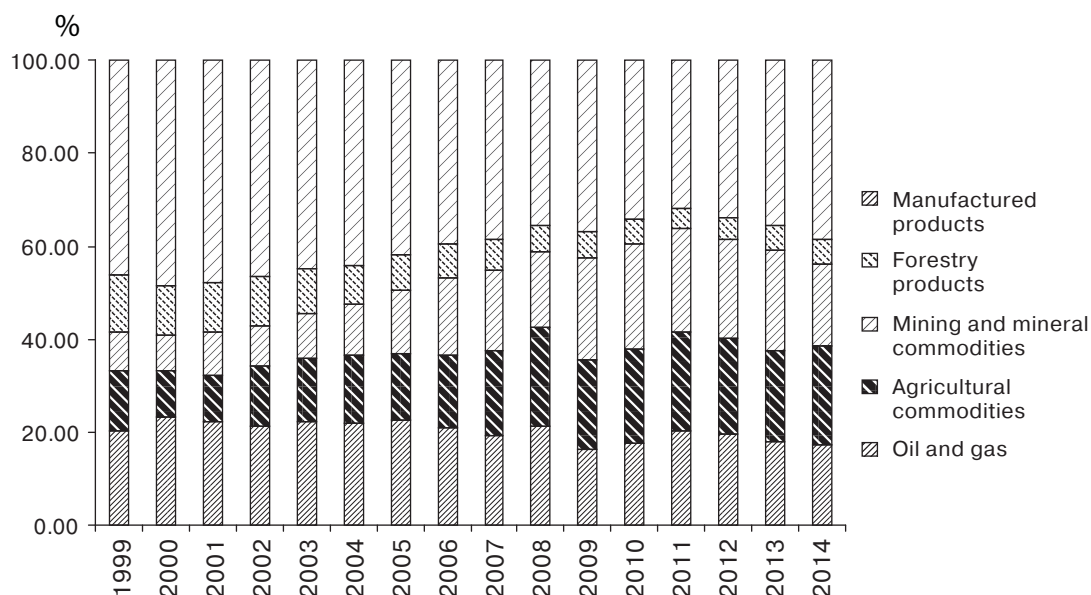


Figure 2: Export Shares (%), 1999–2014

Source: National Bureau of Statistics and World Bank staff calculations.

Table 3: Top Ten Commodity Groups by Export Share (%), 2014 and 2000

Commodity groups	% in 2014	Commodity groups	% in 2000
Coal	11.82	Gas	10.66
Palm oil	9.91	Crude oil/ petroleum	9.80
Gas	9.75	Garments	7.62
Chemical materials	6.84	Chemical materials	4.53
Crude oil / petroleum	5.40	Electronic parts	4.28
Garments	4.40	Plywood	3.74
Other manufactured products	3.41	Computers, auto data process	3.71
Transport equipment	3.06	Paper and paper products	3.64
Rubber	2.73	Video and audio recorder	3.51
Electronic parts	2.44	Textile fabric	3.51
Total % of top 10	59.76	Total % of top 10	55.01

Note: Bold indicates raw commodity exports.

Source: National Bureau of Statistics and World Bank staff calculations.

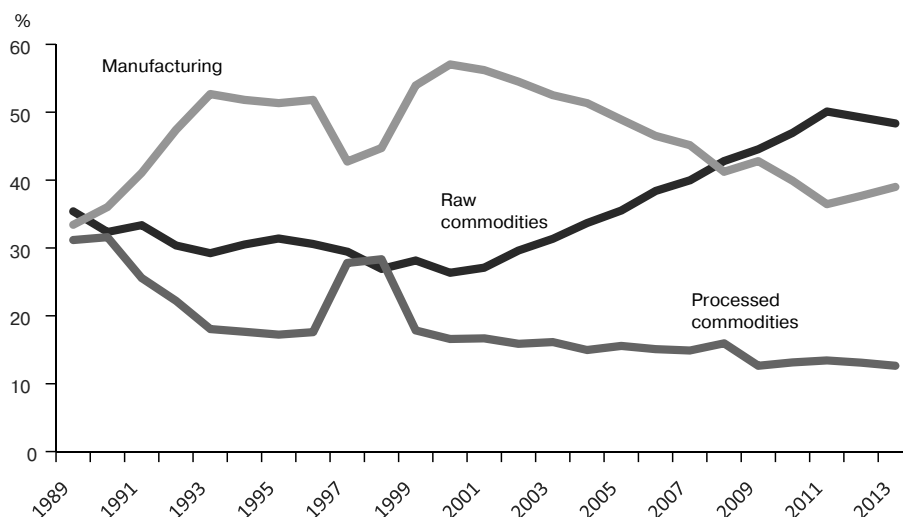


Figure 3: Export Shares (%), 1989–2013

Source: World Bank [2014b].

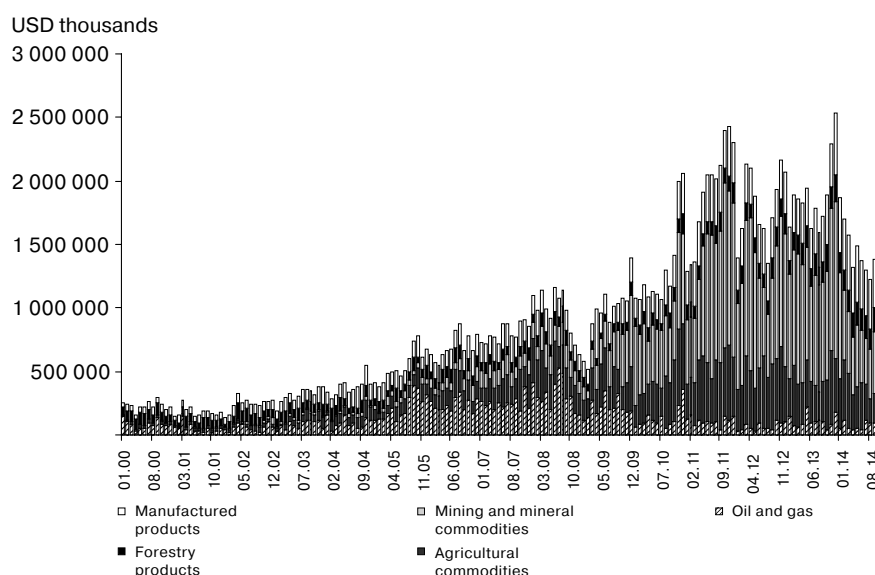


Figure 4: Indonesia's Exports to China, January 2000–October 2014 (US dollars, thousands)

Source: World Bank staff calculations.

## The Effect of the Commodity Boom on Macroeconomic Fundamentals

Indonesia's strong growth during the commodity boom, averaging around 6%, was fuelled mostly by strong domestic consumption, investment and net export (see Figure 5). Persistently rising commodity prices in 2003–07 and 2009–10 were major determinants of Indonesia's strong export growth, resulting in higher corporate profits, household incomes and govern-

ment revenues, which in turn boosted domestic consumption along with domestic output and imports [World Bank, 2015]. Combined with Indonesia's young population, this translated into Indonesia's rising middle class.

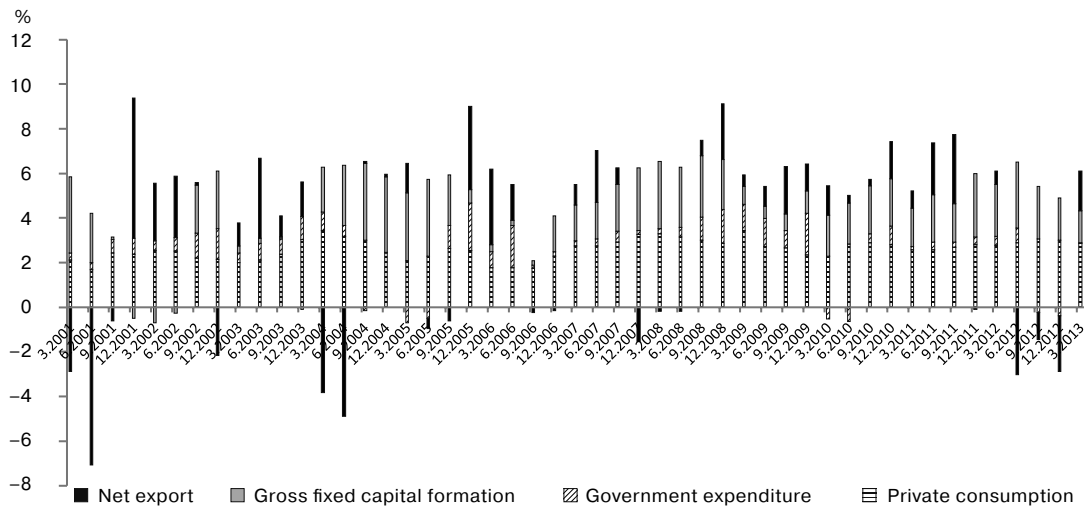


Figure 5: Contributors to Growth (%) (2001–2012)

Source: CEIC Data, author's calculation.

Meanwhile, a significant increase in investment had gone mostly to the mining and construction sectors, which translated into high returns on property equity market indexes in the period of 2001 until 2010 (see Figure 6). In addition, a strong portfolio investment was driven to some extent by two factors. The first was Indonesia's relatively high interest rates compared to its neighbouring countries (6.4% average from 2009 to 2012), with a reasonable level of inflation (5% average from 2009 to 2012). The second was the "easy money" period with global injections of liquidity, some going into Indonesia's investment after the global financial crisis, as well as Indonesia's perceived political stability.

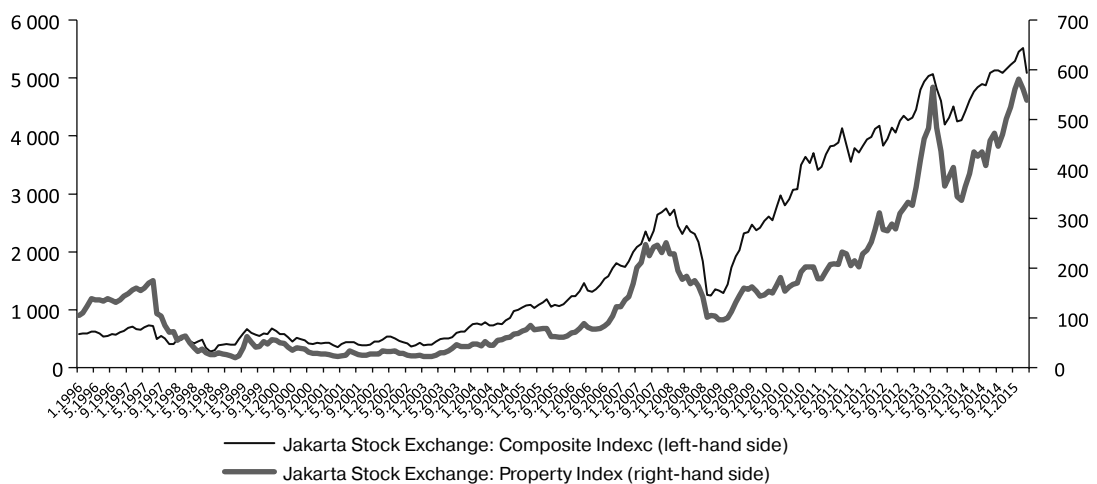


Figure 6: Equity Market Price Index, January 1996–January 2015

Source: CEIC Data.



All macroeconomic indicators show strengthening macroeconomic fundamental during the boom period, with the exception of 2008: improving the trade balance (see Figure 7), a balance-of-payment surplus (see Figure 8), rupiah appreciation and growing international reserves (see Figure 9), and loose monetary policy to support pro-growth policy (see Figure 10).

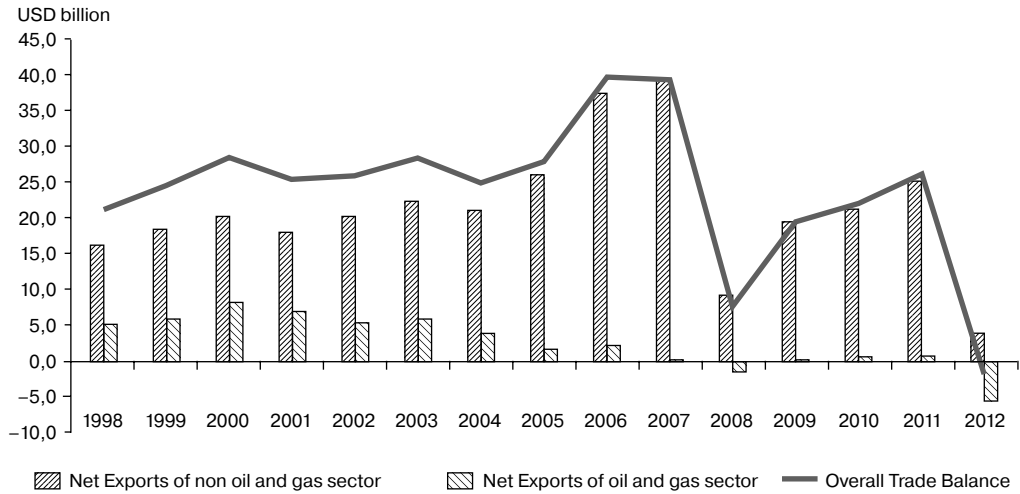


Figure 7: Indonesia's Annual Trade Balance (U.S. dollars, billion), 1998–2012

Source: Siregar, Wihardja [2015].

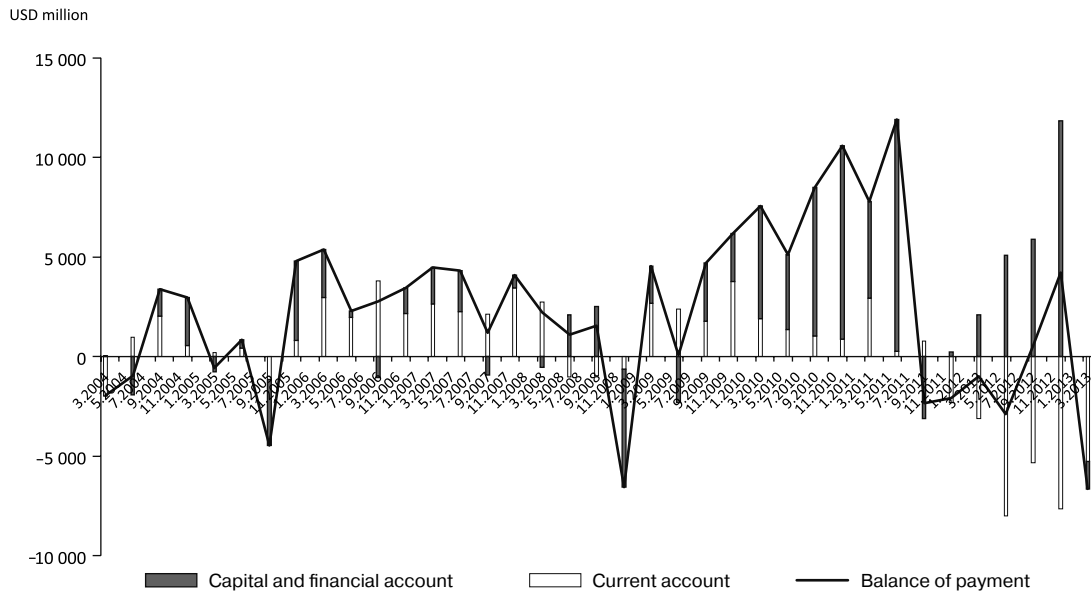


Figure 8: Balance of Payments (U.S. dollars, million), Third Quarter 2007–Third Quarter 2013

Source: CEIC Data.

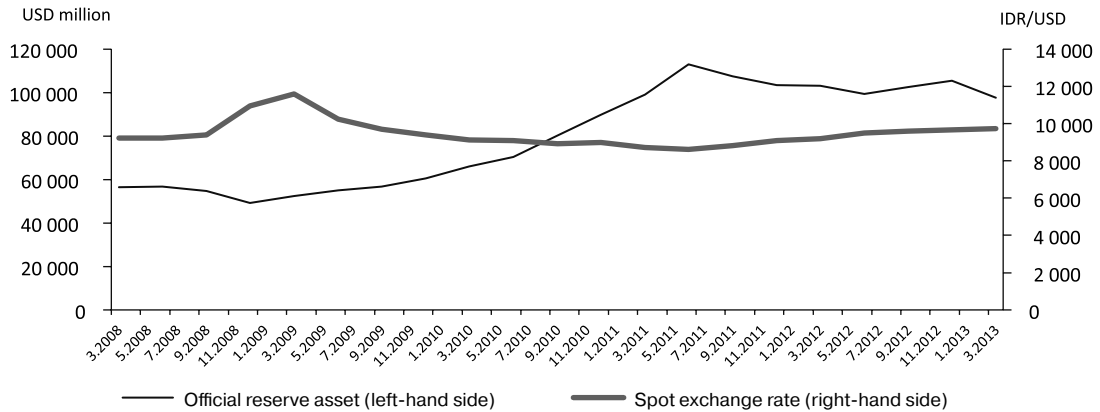


Figure 9: Spot Exchange Rate and International Reserves, January 2008 – April 2013

Note: USD = U.S. dollars.

Source: CEIC Data.

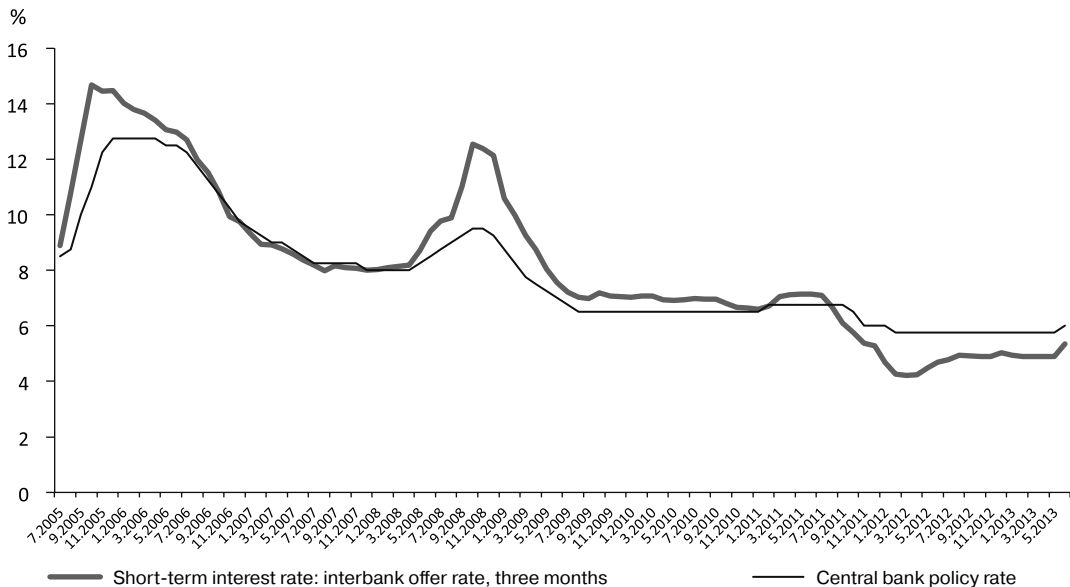


Figure 10: Short-Term Interest Rates and Policy Rates (%), July 2005 – April 2013

Source: CEIC Data.

Despite strong growth and macroeconomic fundamentals, it is nonetheless difficult to say that the revenues from the commodity boom were used to rebuild Indonesia's competitiveness in the manufacturing sector or to promote its further industrial development after the Asian financial crisis of 1997–98.

One obvious impediment to Indonesia's reform efforts is the country's fiscal spending structure, with about one third of the government's budget going into poorly targeted energy subsidies by 2013. Such a spending structure combined with inadequate discipline by local governments to use their own budgets to invest productively (instead of allocating high proportions

of their budgets to personnel) limited the fiscal room to build more competitive industries, in particular through physical infrastructure development and human resources, as well as to diversify away from its reliance on and vulnerability to external shocks. The Indonesian population was becoming very consumptive.

However, soon after the commodity boom ended, macroeconomic fundamentals deteriorated. By 2012, Indonesia had a trade deficit for the first time since before the Asian financial crisis. By the second quarter of 2014, current account deficit to GDP ratio was about 4.3%. With a growing consuming class, demand for imported goods and services was high. But domestic supply was not fast enough to respond. The slow structural transformation with a high reliance on commodity exports during the commodity boom meant that exports were weakened when the boom ended at the end of 2011. Meanwhile, manufacturing and services exports could not compensate for the weak commodity exports nor did the depreciating rupiah help much.

By 2013, the capital account had weakened and the balance of payments was in a deficit. International reserves were declining and the rupiah was still depreciating against the U.S. dollar. By the end of September 2014, the rupiah had depreciated to 12,100 rupiah to the dollar, passing the psychological barrier of 12,000 rupiah. By 2014, monetary policy was tightened by 5.75% at the end of 2012 to 7.5% by October 2015. Monetary policy switched from the pro-growth policy to a pro-stability one, despite declining inflation. By July 2014, the government had revised its 2014 budget to include cutting the budget for line ministries by 43 trillion rupiah [World Bank, 2014a].

## The Effect of Commodity Boom on Industrial Development

During the commodity boom, Indonesia's experienced a mini Dutch disease, where high commodity earnings drive the exchange rate to the point that manufacturing becomes internationally uncompetitive. Indonesia's real effective exchange rate appreciated by almost 24 percent between early 2000 and 2012 [Nehru, 2012]. That had an impact on the growth of the tradable sectors in Indonesia, including export of manufactured products. The role of the manufacturing sector had significantly declined in all dimensions, including value-added, share of exports and share of employment, since the Asian financial crisis. Moreover, there were some indications that policies were becoming protective in response to the stronger rupiah [Nehru, 2012].

The manufacturing sector lost international competitiveness not only because of the strong rupiah, but also of many other factors: poor infrastructure, land acquisition issues, high export–import and inter-island logistics costs, regulatory complexity, rigid labour laws, and a lack of skilled human resources. Their impact can be observed by indicators such as the Logistics Performance Index, the Ease of Doing Business, and so on. Growth during the commodity boom was driven by mostly commodities and low-productivity services, which affected job creation, labour productivity and the share of labour income. There was no significant real reform to improve the situation in order to boost Indonesia's competitiveness in manufacturing and all other sectors more generally during the era of high commodity prices.

By the time the commodity boom ended in 2012, there was a sense of panic as commodities could no longer be expected to drive strong economic growth while the annual trade balance went into deficit for the first time since 1998. The current account showed a significant reversal in 2012, starting from a small surplus in 2011 into a deficit of 2.7% of GDP in 2012. Through mid-2012 most of the decline originated from a rapidly shrinking non-oil and gas trade surplus, followed by an increased oil deficit.

The trade policy that responded to the end of the commodity boom was clearly different from the response in the 1980s. This time, it was more inward-looking and protective of domes-

tic markets and industries as well as seeking to increase the value-added value of commodities by downstreaming, as clearly reflected in the 2014 Trade Law and Industry Law. According to a senior minister, “with the implementation of the newly approved Industrial Law, Indonesia will have a strong legal base to promote import substitution as well as downstream industries in efforts to reduce the manufacturing sector’s heavy reliance on imports of components and machinery” [*Jakarta Post*, 2014]. The trade and industry policies also “fail[ed] to grasp the nature and operation of global value chain and technology acquisition” [Nellor, 2015]. Indonesia’s growing middle class was seen as a target by foreign competitors. Some policies were targeted at protecting the huge domestic market: non-tariff barriers to horticulture imports, imports of finished goods, export tax on minerals, and so on [Anas, 2012; Siregar and Wihardja, 2015; Wihardja, 2014]. However, most of these protective policies were the product of rent-seeking activities. These inward-looking policies of the post-commodity boom era reflect the policies during the oil boom more than those of the post-oil boom era.

More recently, the government has also implemented selective interventions by supporting certain industries through fiscal and non-fiscal incentives such as the shipbuilding industry and through increasing local content such as in automotive and telecommunication devices. FDI is becoming more restricted, especially in the extractive sectors.

It is still unclear where Indonesia’s structural transformation is heading. Most of the needed reforms are long term in nature and operation but policymakers under the new democratic system are more reactive and short-sighted, without considering any comprehensive cost and benefit analysis. Decision-making is also not as coordinated as it was in the 1980s because the government and parliament are much more divided. This poses a challenge to the investment climate as regulations become more uncertain and inconsistent, especially in extractive industries but also in other sectors including labour-intensive industries.

A case in point is the mineral export ban, which was introduced in 2009 through the Law on Mining of Coal and Minerals (Law 4, 2009). One of the most significant changes was in articles 102–03, which required miners to “increase the value added” by conducting ore processing and refining activities domestically. On 1 January 2014, Indonesia banned exports of raw minerals except coal, although before this ban was implemented there were already high-level talks between the government and some mining companies, especially big mining companies with significant export shares and tax payments, on exemptions. By 2015, the full export ban applied only to nickel and bauxite ore, which the government estimated would have much more value if they are processed.

In times when Indonesia needs to reduce the current account and fiscal deficits, this mineral export ban has proven to be a burden on growth. The contribution of net export growth to year-on-year growth in the first quarter of 2014 declined to  $-0.1\%$ , compared to the fourth quarter of 2013, when net export growth was the main driver of growth, partly thanks to exuberant exports of raw minerals before the ban took effect [World Bank, 2014a]. The decline in real exports in the first quarter of 2014 was “due to lower coal exports as well as virtual halt in the exports of ores, slags and ashes” [World Bank, 2014a, p. 3]. The mineral export ban hurt not only the current account balance but also the fiscal balance through lower tax revenues from mineral exports and employment due to the closing down of some mining companies and lower outputs.

Clearly, the past decade of high commodity prices posed challenges in terms of industrial development. Ian Coxhead and Muqun Li [2008] argue that Indonesia’s resource wealth diminishes the share of skill-intensive products in total exports, while FDI and human capital increase it. These in turn impede diversification in production and trade, while diversification would have reduced Indonesia’s vulnerability from external shocks.

The challenge to reform is greater now than it was in the 1980s because the global economic landscape is different. First, profitability in the financial sector is higher than in the real sector, attracting more financial investment than investment in the real sector. Second, production is much more fragmented, and hence the manufacturing share to GDP in economies that are still industrializing may not need to be as high as it was in the 1980s. This is probably why deindustrialization happens at a lower level of development now than in the 1980s [Rodrik, 2015]. Also, specialization is the rule, and the role of imported intermediaries in production is increasingly important. Third, although there is no evidence that there is a massive replacement of workers by machines in Indonesia, theoretically, as argued in Schumpeter's theory of creative destruction, job destruction may occur with new technological adoption. This poses new challenges to Indonesia's structural transformation today.

## Achieving Sustainable Development after the Commodity Boom

The end of commodity boom should not be the end of Indonesia's strong and sustainable growth and development. It is a critical time to reverse the cost of the boom through coordinated policies. The domestic political landscape and global economic landscape are very different from in the 1980s, so Indonesia's strategies must also be different, although the basic principles of good policies must still hold, such that they must be coordinated and have a long-term vision. Sustainability implicitly means a long-term prospect to begin with.

Indonesia's experience as a natural-resource rich country is not unlike what many other countries rich in natural resources experience:

- Dutch disease, crowding out of non-commodity and tradable sectors, deindustrialization;
- A protectionist trade regime trying to protect non-booming tradable sectors;
- Fiscal and administrative inefficiency, including diminished capability to raise taxes and translate resource revenues into economic development;
- Poor performance in alleviating poverty and reducing income inequality;
- Slow skill accumulation;
- Corruption, rent seeking; and
- Environmental damages [ODI, 2006].

What can Indonesia do to manage the risks of the resource curse and realize "resource blessings"?

First, Indonesia should have a countercyclical fiscal policy with respect to commodity booms [Garnaut, 2015]. This could be in the form of "a commodity fund that collects the royalties and other tax earnings denominated in foreign exchange, invest these conservatively in financial assets, and use the long-term real earnings to finance development projects on a sustainable basis" [Nehru, 2012]. Volatility in commodity prices could also be mitigated through hedging mechanisms, which needs to be further explored.

There is a wide range of international experiences in establishing commodity fund, whether for managing revenue volatility, stabilization, sterilization, savings, investments or some combination of these [ODI, 2006]. The central question of how to spend and save a commodity windfall is to avoid adverse outcomes such as "stop-go" public spending, unsustainable "boom-based" foreign borrowing, a shift to consumption rather than productive investment, exchange rate appreciation, disincentives to private sector investment, intergenerational inequality, and short- and medium-term fiscal budget volatility, as well as the experiences listed above [ODI, 2006]. However, each country needs to adjust the design and implementation of such a fund based on its domestic specificity, for example balancing foregone expenditure for the purpose of

long-term intergenerational equity with the returns of more immediate productive investment, poverty reduction. Norway has a large sovereign wealth fund accumulated from its oil and gas revenues, and successfully it “is happy to save its wealth” [Treanor, 2014]. Only 4% of the surplus from the fund is spent on or invested in public projects. Norway also has plans for when its oil and gas reserves run out. The population’s high level of trust that the government will spend tax money wisely is key for the system to work. Indonesia needs to design and implement a commodity fund most appropriate for its own domestic specificity.

Second, revenue and fund management should also be accompanied by forward planning and policy sequencing. For example, Kazakhstan, East Timor and São Tomé as well as some established oil economies have passed revenue management laws, sensitized their citizens to the risk of commodity booms and conducted public consultations on how to manage revenues to maximize social welfare [ODI, 2006]. Countries that have managed their commodity revenues well, such as Norway, the United Kingdom and Chile, have adopted strategies and economic policies that fit with the evolution of the extractive sector. For example, during the investment phase, policies may include adapting a production-sharing model and establishing royalties and tax regimes appropriate for local circumstances. As the sector develops, efforts can focus on medium- and long-term fiscal stabilization, and investment revenues can support competitiveness in other tradable sectors. Good governance including transparency, accountability and public participation is key to the success of all such programs.

Third, Indonesia should reindustrialize by promoting investment in labour-intensive industries to create jobs as well as in high-tech or capital-intensive industries to move to higher value-added and high-productivity manufacturing sectors. Currently labour-intensive industries are more likely, but Indonesia should be prepared for capital-intensive ones. China, for example, is now developing a higher value-added manufacturing sector after a successful phase of labour-intensive industrialization. “The manufacturing sector is both an important source of quality jobs in its own right, a major source of their merchandise exports and as a catalyst for the development of the services sector” [Thee, unpublished].

Indonesia should take advantage of businesses considering relocating factories in China because of the soaring prices for land, water, and labour as well as increasingly severe environmental constraints. Tapping this opportunity by setting the right policy is important. The Japan Bank for International Cooperation 2014 survey on Japanese manufacturers’ overseas operations shows that Japanese businesses placed Indonesia among the top investment destinations, competing with China. In order to do this, Indonesia must seriously reform its labour market and land acquisition process, reduce regulatory complexity and resolve uncertainties as well as improve its legal, judicial and enforcement institutions such as eradicating corruption and strengthening enforcement.

Fourth, Indonesia also needs to increase productivity in its agricultural sector beyond the palm oil industry. Indonesia’s structural transformation will only be complete if it includes small farmers, fishers and so on. Its rich natural resources should be a blessing to all Indonesians and not only a few. However, the windfall from higher commodity prices accrued to a few and posed a threat to the country’s industrialization and structural transformation that would have benefited more Indonesians. Competition for agricultural land and forest areas should be handled with transparency to minimize economic rent-seeking activities, especially because, in most cases, smallholders have less political power than capitalists. Protecting the indigenous population should be part of inclusive growth. Resource contracts must also be depoliticized [Pardede, 2015].

Fifth, Indonesia should also tap the potential in its services sectors including the tourism and creative industries. This will help to ease pressures on relying solely on growth in the manufacturing industry to create jobs and generate external financing.

Sixth, resource management policies should also include stronger environmental regulations. Environmental costs should be factored into resource contracts. Costs should be fair and balanced so that the incentives to industrialize would be sufficiently strong vis-à-vis investment in resource sector. Labour and capital should also be taxed in a fair and balanced way so that they can be allocated more efficiently.

Forest fires cannot continue to be “permitted” because the environmental damage to health and the ecosystem are immeasurable. Good governance needs to be strictly upheld. An international standard for verifying sustainable palm oil production may be needed so that only those products that meet the standard can be exported.

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