AMRO
ASEAN +3 MACROECONOMIC RESEARCH OFFICE

Analytical Note

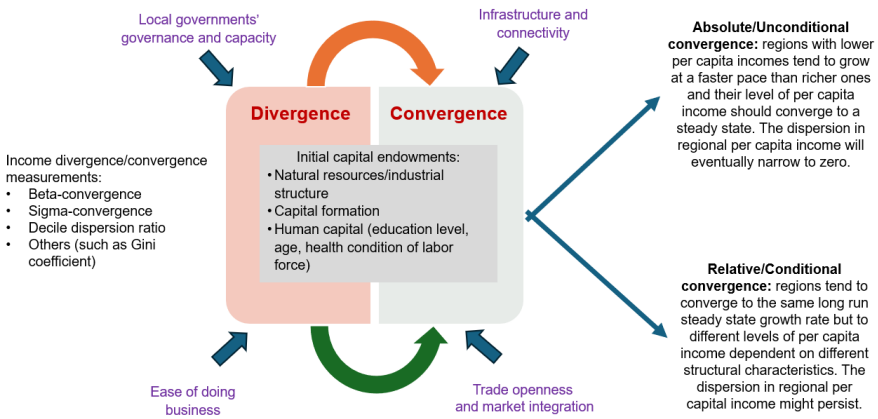
Regional Income Convergence in Indonesia[1]

April 2025

I. Introduction

1. **Regional income disparities have been prevalent in almost every economy, especially underdeveloped and developing, and how to reduce the income gap across regions is an important question facing policymakers.** Income convergence theories have provided useful policy insights. Neoclassical growth theories lead to *absolute/unconditional beta-convergence* where regions with lower per capita income would grow at a faster pace and their level of per capita income would converge in steady state. Under the absolute convergence, the dispersion in per capita income levels across regions is expected to disappear eventually, which is also known as *sigma-convergence*. New or endogenous growth theories, meanwhile, posit *relative/conditional beta-convergence* where income growth is dependent on inherited or acquired structural characteristics and reinforced by (im)mobility in production inputs and spatial interaction. Under such circumstance, only regions with similar characteristics tend to converge to the same long-run steady state. However, the dispersion in regional per capita income might persist, as different regions could have different steady state levels. Regardless of different approaches, the current literature recognizes the role of policy interventions in accelerating the convergence process. Examples of such interventions include policy measures to enhance the capacity/efficiency of local governments, to remove infrastructure and connectivity bottlenecks and other costs of doing business, and to strengthen inter-regional market integration, among others (Figure 1).

Figure 1. Regional Income Convergence: a Theoretical Framework



Source: AMRO staff compilations

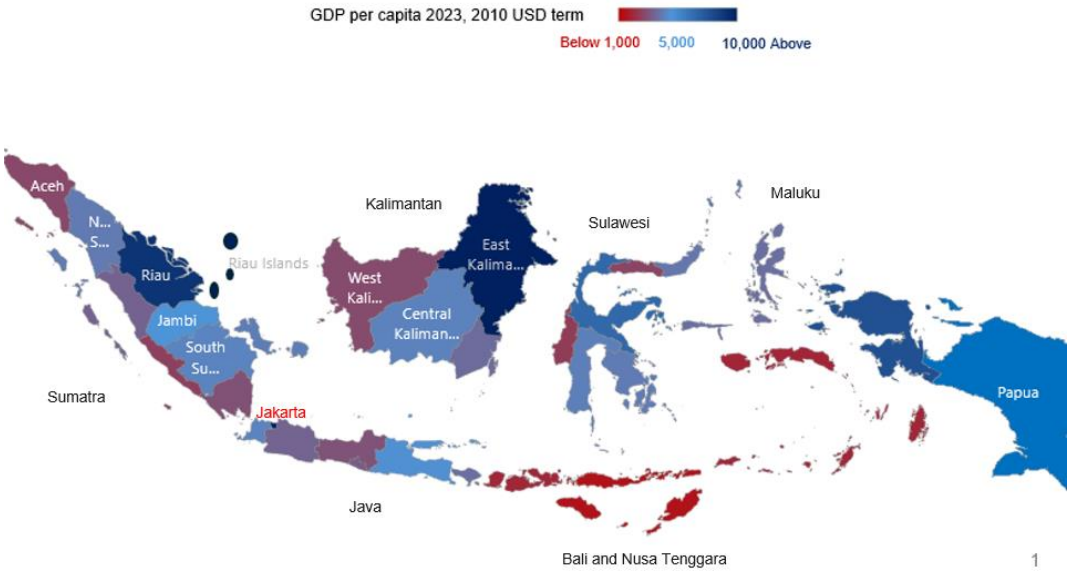
[1] This analytical note was prepared by Akifumi Fujii, Ginanjar Wibowo, and Thi Kim Cuc Nguyen under the guidance of Sumio Ishikawa and reviewed by Abdurohman; and approved for publication by Hoe Ee Khor. Thai Yangsingkham helped with data collection and chart presentation. The views expressed in this note are the authors' and do not necessarily represent those of AMRO or AMRO management. The authors wish to express their gratitude to Andi Kuncoro and Alfan Mansur from the Fiscal Policy Agency at Ministry of Finance of Indonesia for their collaboration on this study by providing relevant data inputs and reference materials, as well as valuable advice on the empirical analysis for Indonesia.

2. **Being a developing country with robust growth but diverse initial endowments, Indonesia provides a good case study for not only empirically testing different convergence theories, but also evaluating the effectiveness of regional growth policies.** To that end, this analytical note aims to answer the following questions: (i) Has Indonesia experienced regional income convergence?; (ii) If yes, are there other determinants than the initial per capita income that influence the convergence process and what are they?; and (iii) What are relevant policies to support income convergence in Indonesia? In so doing, the rest of the paper is organized as follows. **Section II** provides an overview of regional income disparities in Indonesia. The section also presents AMRO staff's empirical findings on Indonesia's convergence pathway and key determinants. **Section III** focuses on specific policy measures taken by the Indonesian authorities, namely fiscal decentralization and regional industrial transformation via economic zone establishment, and their impacts on narrowing the regional income gap. **Section IV** discusses the experience of convergence in Japan and Vietnam. **Section V** ends the note with relevant policy lessons/implications for Indonesia.

II. Regional Income Inequality in Indonesia

3. **Regional income disparities, albeit narrowing, remain significant in Indonesia.** Indonesia comprises 38 provinces, 514 regencies and cities, and 83,813 villages spreading across Sumatra and Riau islands, Java, Kalimantan, Bali and Nusa Tenggara, Sulawesi, Maluku, and Papua regions. About 90 percent of national economic wealth has been created in manufacturing and (financial) services hubs in Java and established resource-rich Sumatra and Kalimantan regions (Figures 2,3). However, growth in these regions has slowed to the national average level. At the same time, Sulawesi and Maluku have emerged as fast-growing regions, benefiting from metal-based (nickel, copper) downstreaming industries (Figure 4). This helps lift the income level in these regions but the gap with wealthier ones is still large. Indeed, the per capita income level of the top 10-percent richest provinces is about sevenfold of the bottom 10-percent poorest provinces in Indonesia. That ratio is about four times in Vietnam, and 1.6 times in Japan (Figure 5). Even with the emergence of new growth centres in Sulawesi and Maluku, only about 20 percent of provinces in Indonesia have per capita income above the national average (Figure 6), compared to about 30 percent in both Japan and Vietnam.

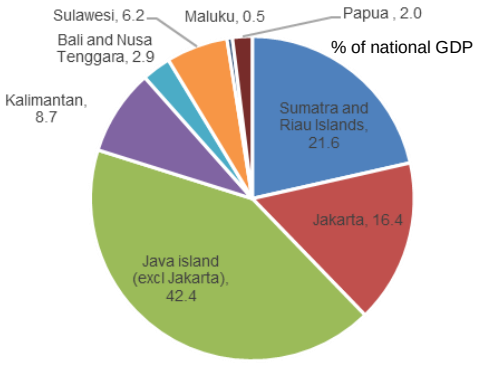
Figure 2. Indonesia: Per Capita Gross Regional Domestic Product (GRDP), 2023



Source: Statistics Indonesia; CEIC; AMRO staff calculations

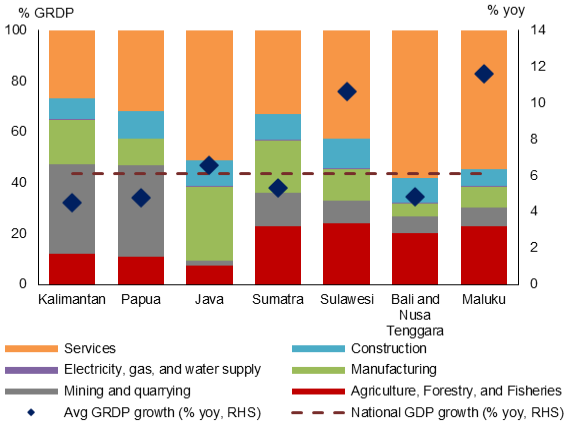
4. **AMRO staff panel regression analysis finds that regional economic growth can be boosted by public and private capital investments, a large manufacturing sector, and employment growth.** Using annual data spanning 2010 to 2023, AMRO staff conducted a simple regression of per capita gross regional domestic product (GRDP) growth of provinces by their initial per capita GRDP level in year 2010, the local government's capital expenditure, private sector's capital expenditure, size of the manufacturing sector,[2] provincial employment growth and population growth.[3] The empirical study finds per capita income growth of a province is negatively associated with the initial per capita income level of that province, or provinces with lower initial per capita income tend to grow at a faster pace to catch up with richer ones (Figure 7 and Table 1). It also finds that increased capital spending by local governments and the private sector, a larger manufacturing sector and job creation have boosted provincial per capita income growth (Table 1).

Figure 3. Indonesia: GDP Contribution by Regions, 2010-2023 Average



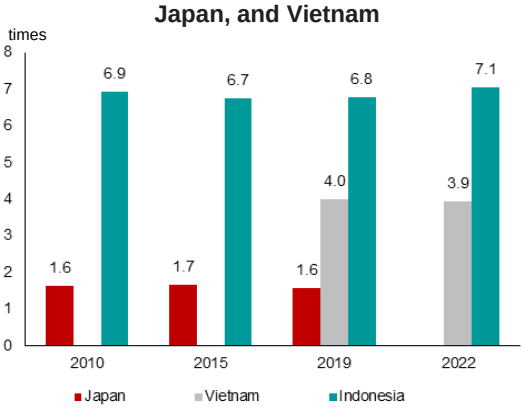
Source: Statistics Indonesia; CEIC; AMRO staff calculations

Figure 4. Indonesia: Regional Economic Structure and Growth, 2010-2023 Average



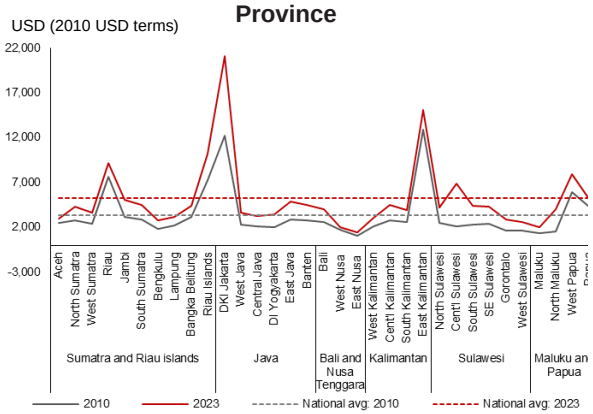
Source: Statistics Indonesia; CEIC; AMRO staff calculations
Note: The regions are arranged from left to right in descending order of per capita GRDP in 2010, with Kalimantan and Papua being the richest, while Bali and Nusa Tenggara, along with Maluku, were the poorest.

Figure 5. Decile Dispersion Ratio: Indonesia, Japan, and Vietnam



Source: National authorities; CEIC; AMRO staff calculations
Note: The decile dispersion ratio is calculated as the ratio of the top 10 percent richest provinces to the bottom 10 percent poorest provinces. Data for Vietnam exclude Ba Ria-Vung Tau, the province reporting highest per capita income on the back of its rich natural (oil and gas) resources.

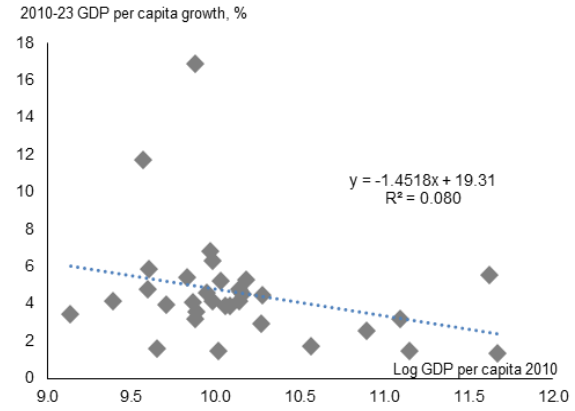
Figure 6. Indonesia: Per Capita Income by Province



Source: Statistics Indonesia; CEIC; AMRO staff calculations

[2] This variable acts as a proxy for the transformation of the regional economic structure toward sectors with higher productivity. As for the service sector, Ikhsan et al. (2021) found that workers moving from agriculture to services tended to be employed in less productive activities, such as retail and wholesale trade, government and non-market sectors.
[3] A lagged (one-lag) term of annual growth of per capita GRDP has been added to the regression to avoid autocorrelation.

Figure 7. Per Capita Income Growth vs. Initial Per Capita Income Level in Indonesia



Source: Statistics Indonesia; CEIC; AMRO staff calculations

Table 1. Drivers of Per Capita Income Growth in Indonesia

Dependent variable: Annual growth of per capital gross regional domestic value (GRDP)	
Sample period: 2010-2022	
Explanatory variable	**Coefficient**
Lagged GRDP growth (%)	0.214 (P-value: 0.000)
Initial per capita income (logarithmic value-2010)	-0.754 (P-value: 0.027)
Local government CAPEX to GRDP (%)	0.194 (P-value: 0.008)
Private sector CAPEX (% GRDP)	0.102 (P-value: 0.000)
Manufacturing share in GRDP (%)	0.035 (P-value: 0.052)
Provincial employment growth (%)	0.131 (P-value: 0.024)
Provincial population growth (%)	-0.620 (P-value: 0.000)
R-squared:	0.294
Adjusted R-squared:	0.280
F-statistics:	21.153
Durbin-Watson statistics:	1.988

Source: AMRO staff calculations

III. Current Policies to Foster Regional Income Convergence

5. **The Indonesian authorities have actively rolled out policy measures to narrow the regional income gap.** Such specific policies include: (i) fiscal decentralization to empower local governments and foster regional development and (ii) establishment of economic zones to transform regional economic activity to sectors of higher productivity, such as manufacturing and service industries.

Fiscal Decentralization

6. **Indonesia has been promoting fiscal decentralization after the Asian financial crisis**. The primary objective of fiscal decentralization is to enhance the fiscal capacity of local governments, thereby enabling them to take on a crucial role in promoting regional economic development and improving the welfare of local communities. This was marked by the enactment of Law 22/1999 on Regional Government and Law 25/1999 on Financial Balance between the Central and Regional Governments.[4] As a result, several state revenue items which were once concentrated within the central government, has been delegated as local governments' own revenue (Figure 8).[5] Local governments have the flexibility to set/adjust the rate of these local taxes/retributions within the ceiling regulated by the central government.[6] In addition, the central government has shared several national taxes and revenues with local

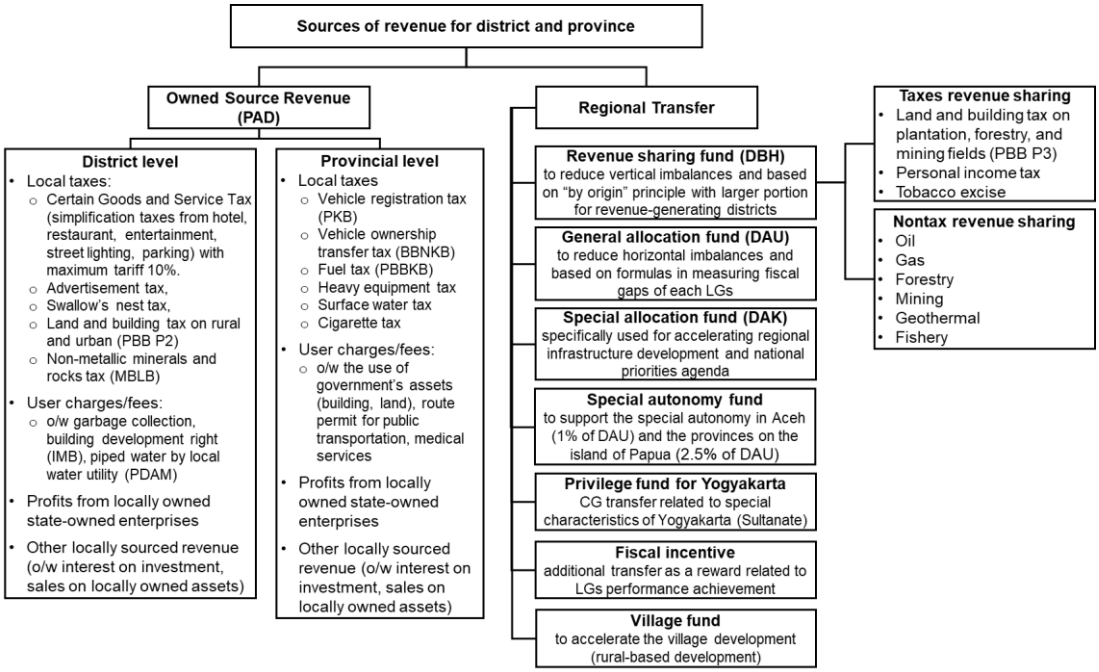
[4] Law 22/1999 granted local governments, particularly districts and municipalities, extensive authority to manage most governmental functions that were previously under the control of the central government, such as education, healthcare, and infrastructure. To support the delegation of such government functions, Law 25/1999 introduced the concept of fiscal decentralization ensuring a more equitable distribution of state revenue between the central and local governments that had been centralized. Law 22/1999 was subsequently revised/amended/replaced by Law 32/2004, and later by Law 23/2014. Similarly, Law 25/1999 was amended by Law 33/2004. Most recently, the government issued Law 1/2022 on Financial Relations Between the Central and Regional Governments, which replaces Law 33/2004, effective in 2024 with a 5-year transition period (for a summary of these legislations, please see the Appendix).

[5] Shared revenue between provincial and district governments includes land and building tax, land/property transfer fees, vehicle registration tax, vehicle ownership transfer tax, fuel tax, water exploitation tax. Meanwhile, revenue owned by district governments only includes Certain Goods and Service Tax (simplified taxes from hotel, restaurant, parking, streetlight, and entertainment), non-metallic mineral and rock tax. In addition, district governments can impose user charges/fees on building development rights, advertising related activities, and piped water provided by local suppliers.

[6] For example, Law 1/2022 mentioned that the maximum tariff of the Certain Goods and Services Tax that can be collected by district governments is 10 percent. Nevertheless, district governments may decide their local tax tariff differently from the maximum tariff, considering their domestic economic capacity. Additionally, there is an exception for entertainment services at discos, karaoke, nightclubs, bars and steam baths/spas, where the tariff can be set at a minimum of 40 percent and a maximum of 75 percent.

governments (Table 2).[7] To reduce vertical imbalance between central and local governments, as well as horizontal imbalances among regions, the government has provided balancing transfers via general allocation funds,[8] special allocation funds,[9] special autonomy fund,[10] privilege fund for Yogyakarta Province,[11] fiscal incentives,[12] and village funds[13] (Figure 8). Being allocated with increased revenue, local governments have been assigned with a more active role in regional development and the provision of public services within their jurisdictions.[14]

Figure 8. Indonesian Local Governments' Revenue



Source: Law 1/2022; AMRO staff compilations

Note: Law 1/2022 introduced "opsen" (split-payment) scheme on vehicle registration tax (PKB), vehicle ownership transfer tax (BBNKB), and non-metallic mineral and rocks tax (MBLB). Under this scheme, the payment is split and directly transferred to the respective local government bank accounts at the time of payment by taxpayers (shifting from previous revenue-sharing mechanism). For PKB and BBNKB, 66 percent of tax payment goes directly to districts bank accounts. For MBLB, 25 percent of tax payment goes directly to provinces bank accounts.

[7] The Revenue Sharing Fund (Dana Bagi Hasil - DBH) aims to reduce the vertical imbalances between central and local governments. The central government shared the revenue collected from personal income tax, land and building tax, excise tax and natural resources non-tax revenue, with local governments. The DBH is allocated based on "by origin" principle, meaning that the higher revenue is generated by a region, the greater share of revenue it receives. The new Fiscal Decentralization Law, Law 1/2022, has redesigned the portion of revenue sharing by adding more revenue sharing categories for non-tax revenue collected from natural resources (oil, gas and mining) in 4-12 miles of coastline and introducing the revenue sharing portion for neighboring districts which may be affected by the producing district's activities.

[8] General Allocation Fund (Dana Alokasi Umum - DAU) aims to reduce horizontal imbalances due to different fiscal capacities among regions. The DAU allocation is calculated based on certain formulas to measure the fiscal gaps (differences between fiscal capacities and fiscal needs) of each local government. As stipulated in Law 1/2022, the calculation of DAU has included the local government's performance and their specific characteristics, such as agricultural or tourism-based economies. Indicators used to measure the LG's performance include years of schooling, life expectancy, electrification ratio, regional roads in good condition, and access to piped water, among others (in the past, DAU was based on the population size, number of civil servants, and regional GDP, etc.). With the new formula, LGs with good public service deliveries will receive additional 10 percent of the DAU allocation and they can utilize the DAU as a block grant. Meanwhile, for LGs with lower performance will be transferred DAU as a specific grant earmarked to specific purposes only.

[9] Special Allocation Fund (Dana Alokasi Khusus - DAK) is another type of central government transfer to support local government's financing capacities to accelerate regional infrastructure development and national priorities agenda.

[10] To support the implementation of special autonomy in the provinces on the island of Papua (since 2001) and Aceh Province (since 2006).

[11] The allocation of the Privilege Fund started in 2013 to support the unique characteristics of governance structure of Yogyakarta, which is led by the Sultan.

[12] The central government provides an additional transfer as a reward related to local governments' performance achievement according to certain criteria such as regional financial management, government services and basic services improvement.

[13] The Village Fund has been introduced since 2015 due to the enactment of Law 6/2014 concerning villages, to accelerate rural economic development. The provision of this fund is a block grant in which villages authorities can decide the use of this fund based on their own priorities, related to achieving national priorities programs

[14] There are only few governmental affairs that are still fully under central government's responsibility, including foreign policy, defense, security, justice, national monetary and fiscal matters, and religion affairs.

Table 2. Indonesia: Changes in Revenue Sharing Arrangements

Sources of Revenue Sharing	Law 33/2004					Law 1/2022						
	Central	Province	Producing District	Districts within the same province	All Indonesia's other districts (equal share)	Central	Province	Producing District	Neighboring districts	Districts within the same province	Processing disricts	All Indonesia's other districts (equal share)
Taxes												
Income tax	80%	8%	8.4%	3.6%	-	80%	7.5%	8.9%	-	3.6%	-	-
Land and building tax	10%	16.2%	63.8%	-	10%	-	16.20%	73.80%	-	10%	-	-
Tobacco excise	98%	0.6%	0.8%	0.6%	-	97%	0.8%	1.2%	-	1%	-	-
Natural resources												
Oil												
- up to 4 miles of coast line	84.5%	3.1%*	6.2%*	6.2%*	-	84.5%	2%	6.5%	3%	3%	1%	-
- 4-12 miles of coast line	-	-	-	-	-	84.5%	5%	-	-	9.5%	1%	-
Gas												
- up to 4 miles of coast line	69.5%	6,1%*	12,2%*	12,2%*	-	69.5%	3%	13.5%	6%	6%	1%	-
- 4-12 miles of coast line						69.5%	10%	-	-	19.5%	1%	-
Forestry												
- Land rent	20%	16%	64%	-	-	20%	32%	48%	-	-	-	-
- Resource provision	20%	16%	32%	32%	-	20%	16%	32%	16%	16%	-	-
- Reforestration	60%	40%	-	-	-	60%	40%	-	-	-	-	-
Mining												
- Land rent: up to 4 miles of coast line	20%	16%*	64%*	-	-	20%	30%	50%	-	-	-	-
- Land rent: 4-12 miles of coast line	-	-	-	-	-	20%	80%	-	-	-	-	-
- Production fee: up to 4 miles of coast line	20%	16%	32%	32%		20%	16%	32%	12%	12%	8%	-
- Production fee: 4-12 miles of coast line	-	-	-	-	-	20%	26%	-	-	46%	8%	-
Geothermal	20%	16%	32%	32%		20%	16%	32%	12%	12%	8%	-
Fishery	20%	80%**	-	-	-	20%	80%**	-	-	-	-	-

*Under Law 33/2004. it was not divided by coastline distance
** distributed to all districts

Source: Law 33/2004; Law 1/2022; AMRO's staff compilations

7. **That said, local governments in Indonesia remain reliant on central government transfers and spend modestly on growth drivers.** Local governments' revenue to GDP peaked in 2016 but has since declined; local governments' own-source revenue has also remained below 30 percent of total local government revenue (Table 3). This has been attributed in part to local governments' relatively weak capacity in formulating detailed tax regulations and identifying/expanding the tax base.[15] A significant portion of their income hence relies on transfers from the central government. Central government transfers are in turn affected by their revenue performance due to the fluctuation of commodity prices and economic developments. The high dependency on transfers from the central government, coupled with limited borrowings[16], also affects the rate of local governments' spending disbursement (Figure 9).[17] In addition, the low rate of local government spending disbursement is also attributed to some weakness in their spending capacity. In terms of expenditure composition, most local government budget is spent on recurrent items, especially on wages and salaries of local government officers and the purchase of goods and services (material spending).[18] While capital spending has increased in nominal terms, it remains markedly low relative to regional peers at about 1.5 percent of GDP in 2020 (Box A), accounting for less than 20 percent of total local government budget (Figure 10).

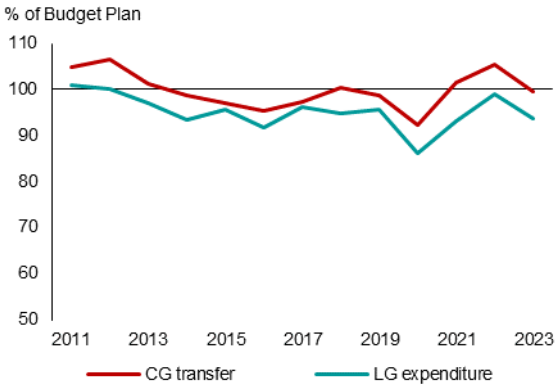
[15] Source: AMRO interim visit to Indonesia (2024)
[16] Financing options de facto limited to borrowings (including on-lent loans) from the central government are cited as one factor hindering the Jakarta government from spending more on basic infrastructure such as transportation and waste management.
[17] The rate of local governments' spending disbursement has been in line with the pace of the central government's transfers to local governments.
[18] During the Covid-19 pandemic, local government spending on goods and services increased to support the Covid-19 handling, such as healthcare equipment and vaccines supplies. Also, different spending priorities of local politicians could lead to less capital spending in that region. For instance, in South Sulawesi, regional parliament members tend to prioritize the purchase of goods and services to infrastructure development (Source: AMRO interim visit to Indonesia (2024)).

Table 3. Indonesia: Local Governments' Revenue and Expenditure

Items	2000	2005	2011	2016	2019	2023
in trillions of rupiah						
Local Government						
Revenue	38	181	548	1,003	1,198	1,198
Own source revenue	6	38	109	229	294	345
Transfer from CG	29	127	406	702	799	776
o/w revenue sharing	4	50	97	91	104	206
Others	3	16	32	19	4	77
Expenditure	36	162	519	1,003	1,188	1,205
Fiscal Balance	2	20	29	0	10	-7
Financing Surplus (+)/deficit (-)	4	5	39	84	79	92
Central Government						
Revenue	205	495	1,211	1,556	1,961	2,784
Expenditure	221	510	1,295	1,864	2,309	3,121
Fiscal Balance	-16	-14	-84	-308	-349	-327
Financing Surplus (+)/deficit (-)	0	-3	47	26	53	29
in percentage						
LG own-source revenue to total LG revenue	14.5	21.0	19.9	22.9	24.5	28.8
LG own-source & shared revenue to general government revenu	4.8	17.9	17.0	20.6	20.3	19.8
LG expenditure to consolidated expenditure	15.9	30.9	37.0	46.5	44.3	35.0
LG revenue to GDP	2.7	6.5	7.4	8.1	7.6	5.7
LG own-source & shared revenue to GDP	2.5	5.9	6.9	7.5	6.9	5.4
LG expenditure to GDP	2.6	5.8	7.0	8.1	7.5	5.8
Consolidated (CG and LG) revenue to GDP	15.2	19.0	18.1	14.9	14.8	14.9
Consolidated (CG and LG) expenditure to GDP	16.1	18.8	18.9	17.4	17.0	16.5
Consolidated (CG and LG) fiscal balance to GDP	-0.9	0.2	-0.7	-2.5	-2.1	-1.6

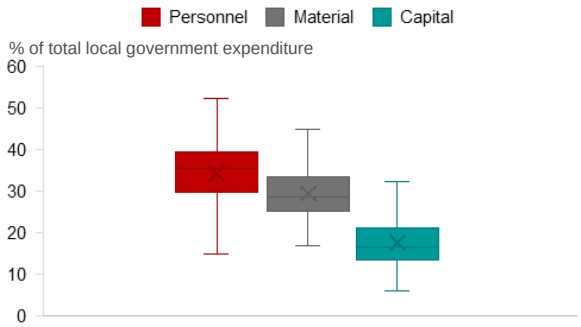
Source: Ministry of Finance; AMRO staff calculations

Figure 9. Indonesia: Regional Budget Realization



Source: Ministry of Finance; AMRO staff calculations

Figure 10. Indonesia: Local Governments' Expenditure Composition (2022)



Source: Ministry of Finance; AMRO staff calculations
Note: This chart shows the distribution of the share of different spending components in total local government expenditure from 34 provinces and 534 cities/districts. The lower whisker represents the lowest value, while the upper whisker represents the highest value. X represents the mean value, while the line inside the bar represents the median value. The lower edge of the bar represents the first quartile (25th percentiles), while the upper edge of the bar represents the third quartile (75th percentiles).

Box A. Fiscal Autonomy and Significance of Local Governments in Indonesia, Japan, and Vietnam

Indonesian local governments have relatively modest fiscal autonomy compared to Japan and Vietnam, reflected in their low own-source revenue and borrowings. Notwithstanding a recent increase, local governments' own-source and shared revenue has accounted for less than 20 percent of general government revenue in Indonesia; meanwhile, this ratio has been about 50 percent for both Japan and Vietnam (Figure A1). Local governments have been granted with less taxes and fees as their own-source revenues, and the central government has also shared fewer national taxes with them in Indonesia, than in Japan and Vietnam.[19] Like in Vietnam, the tax rate and base for local governments' own source revenues in Indonesia remained under the central government's control (Table A1). Weakness in formulating detailed tax regulations and identifying/expanding the tax base also underpinned local governments' small own-source revenue. Their fiscal autonomy has been further constrained by limited borrowings. The share of local government debt in total government debt stood at 1 percent in Indonesia, compared to about 8 percent in Vietnam, and 14 percent in Japan (Figure A2). The size of local government debt is small at below 1 percent of GDP.

Figure A1. Local Government Revenue and Expenditure (2020)

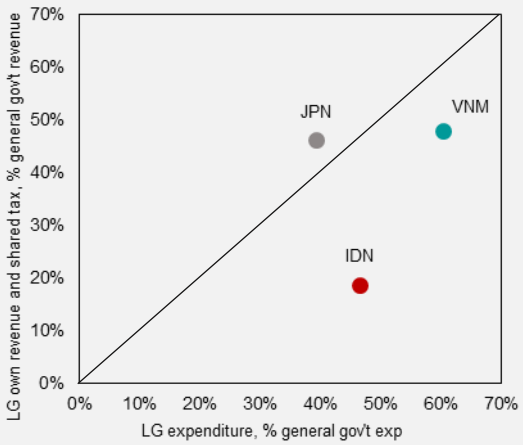
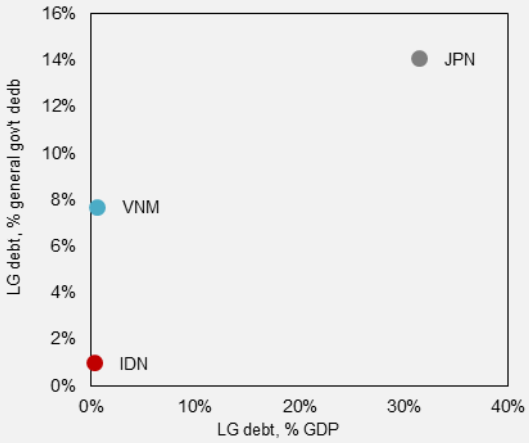


Figure A2. Local Government Debt (2020)



Source: World Observatory on Subnational Government Finance and Investment (SNG-WOFI) fiscal database (https://www.sng-wofi.org/country-profiles/)

Note: Data for Japan is as of 2019. LG stands for local governments, comprising provinces, regencies and cities, and villages for Indonesia, prefectures and municipalities for Japan, and provinces and centrally-run cities, districts, and communes for Vietnam.

Local government budget, notably capital spending, has been consequently small in Indonesia. Limited own-source revenues coupled with low borrowings imply Indonesian local governments' reliance on central government transfers to meet their spending assignments which accounts for almost half of total government expenditure (Figure A1). A small size of total government revenue relative to Japan and Vietnam indicate lower local government spending in Indonesia (Figure A3). Indeed, local government budget in Indonesia stood at about 9.1 percent of GDP in 2020, compared to 16.2 percent in Vietnam and 15.2 percent in Japan (Figure A4).[20] With above 80 percent of local government budget allocated for current expenditure,[21] capital spending accounts for less than 20 percent of total local government expenditure and stood at 1.5 percent of GDP in Indonesia in 2020, much lower than in Japan and Vietnam (Figures A4, A5.a). By spending function, the focus of local government budget remains on the provision of general public services, education and health, as well as housing and communities amenities, while spending on economic affairs/transports has been limited (Figure A5.b).

[19] Local governments in Japan enjoy the greatest level of fiscal autonomy. The Local Tax Law specifies the tax base, the "standard rate," the "maximum rate," or the "fixed rate" of most of local taxes. That said, local governments can set a rate that exceeds the standard rates through bylaws. Moreover, if local governments have specific spending needs, they can introduce new, non-statutory taxes, which are not stipulated in the Local Tax Law. In addition, the central government in Japan has shared all key national taxes with local governments. For Vietnam, besides own-source revenues, local governments have been also shared almost all key national taxes by the central government since 2004, using a uniform sharing ratio set for each province based on its fiscal capacity. Sharing ratios are updated every 3-5 years (stabilization period). Local government revenues are first concentrated at the provincial level, and provinces then make decisions on resources allocation to lower-level governments within their jurisdiction. Tax rates/bases are, nevertheless, still set by the central government.

[20] Data for Vietnam is as of 2020, while the data for Japan is as of 2019.

[21] Including compensation of employees, purchases of goods and services, and subsidies and current transfers.

Table A1. Revenue Decentralization: Indonesia versus Regional Peers

	Indonesia	Japan	Vietnam
Own source/ autonomous tax	**[Shared between provincial and district gov'ts] Vehicle registration tax; Vehicle ownership transfer tax; Fuel tax; Water exploitation tax** **[Owned by district gov'ts only] Certain Goods and Service Tax** (the simplification of taxes from hotel, restaurant, parking, streetlight, entertainment); **Non-metallic mineral and rock tax; Urban and rural land and building tax; Land/property transfer fees** **User charges/fees**: building development rights, advertising tax, piped water by local water utility.	**[Shared between prefecture and municipal gov'ts] Resident tax (income tax)** of 10% of annual income levied on individuals and businesses. **[Owned by prefectures only] Enterprise tax, local consumption tax, automobile tax,** light-oil delivery tax, prefectural tobacco tax, etc. (12 types of prefecture tax) **[Owned by municipal gov't only] Recurrent property tax** or known as fixed asset tax. Others include user charges and fees, revenues from property (sales of assets, rents, dividends) and social contributions (13 types of municipal tax).	**Land/real property-related taxes and fees** (incl taxes on land and housing, license taxes, taxes on transfer of land-use rights, taxes on agriculture land usage, fees on land use, land rent, revenue from leasing and sale of houses owned by the state), **Natural resources** (excl petroleum), **Registration fees, Revenue from lotteries, Other fees and charges**
Shared tax (with central gov't)	**[Tax revenue] Land and building tax on plantation, forestry, and mining; Personal income tax (PIT)**; **Tobacco excise** **[Natural resource revenue]** Oil, gas, mining (land rent & royalty), forestry (land rent, resource provision, & reforestation), fishery, and geothermal	**PIT, CIT, consumption tax, liquor tax** and all **local corporate tax** revenues	**[Tax revenue] CIT** (except for large SOEs), **PIT,** taxes on profits remitted abroad (except for the petroleum industry), Consumption-related tax (**VAT** except on imports, & **excise**) **[Natural resource revenue]** gasoline/oil fees
Grants and subsidies, equalization transfers	**General allocation fund** (DAU) to cover fiscal gap between expenditure needs and fiscal capacity; **Special allocation fund,** assignment based on national priorities; **Village Fund,** to accelerate the development of villages; **Fiscal incentives**, given to LGs for performance achievements	**Funds for local revitalization** and **subsidies for the Overcoming Population Decline and Revitalizing the Local Economy**, and national treasury disbursements	**Balancing transfers** are calculated based on recurrent and capital spending needs. **Targeted transfers** are conditional grants through which the central government aims to achieve socioeconomic development targets, via either (i) national target programs or (ii) other target transfers.

Source: National authorities; AMRO staff compilations
Note: LG stands for local governments, comprising of provinces, regencies and cities, and villages for Indonesia, prefectures and municipalities for Japan, and provinces and centrally-run cities, districts, and communes for Vietnam.

Figure A3. General Government Revenue and Expenditure (2000-23 average)

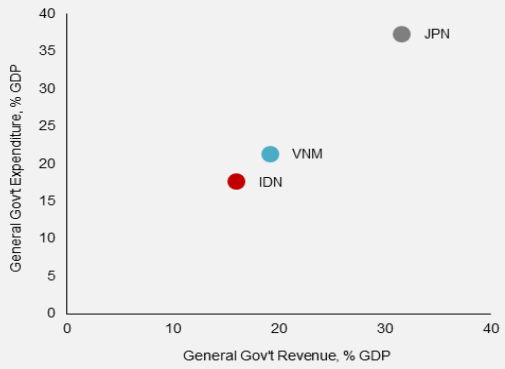


Figure A4. Local Government Expenditure and Revenue (2020)

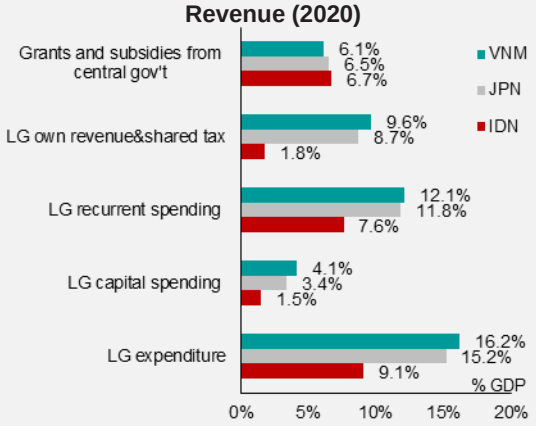
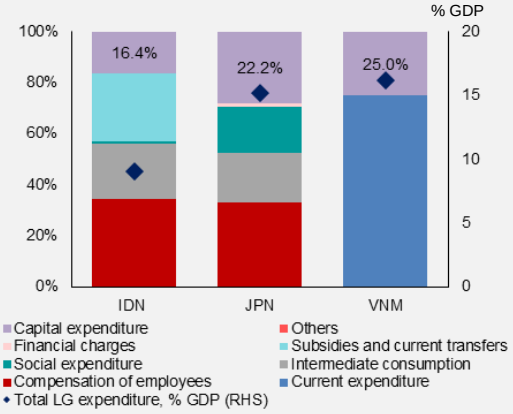
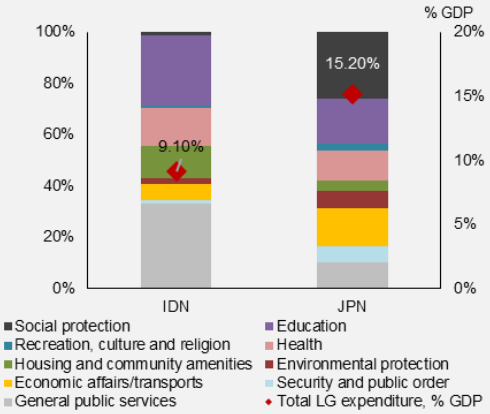


Figure A5. Local Government Expenditure

a. By Economic Classification



b. By Functional Classification



Source: SNG-WOFI fiscal database (https://www.sng-wofi.org/country-profiles/); AMRO staff calculations
Note: Data for Japan is as of 2019. LG stands for local governments, comprising of provinces, regencies and cities, and villages for Indonesia, prefectures and municipalities for Japan, and provinces and centrally-run cities, districts, and communes for Vietnam. IDN stands for Indonesia, JPN for Japan, and VNM for Vietnam.

8. **Efforts to improve local governments' fiscal capacity and align their budget priorities with regional growth-enhancing spending, or "quality" spending, are underway.** Notably, a new law on the Financial Relationship between the Central and Regional Governments, known as Law 1/2022, was approved in 2022 and effective from 2024.[22] The objective of this new legislation is to enhance regional fiscal capacity, improve the quality of local government expenditures, and strengthen the synergy of central-local governments policies (Box B). The implementation of Law 1/2022 at the local level has been supervised and supported by the Ministry of Home Affairs in close cooperation with the Ministry of Finance.

Box B. Key Changes to Strengthening Fiscal Decentralization in Law 1/2022

- **Addressing vertical and horizontal fiscal imbalances**

Law 1/2022 has redesigned the fiscal instruments to enhance local governments' fiscal capacity and reduce their vertical fiscal imbalances. More revenue sharing categories have been added (see the second bullet on this box), as well as a revenue sharing portion for neighbouring districts has been introduced to the revenue sharing fund (DBH)[23]. To provide greater certainty on the DBH allocation for each local government, the Law amended the calculation method by using the previous year's revenue performance as the baseline. Prior to Law 1/2022, the allocation was based on the current-year revenue achievement.[24]

To allocate resources more accurately and narrow the horizontal fiscal gap among regions, the general allocation fund (DAU) has been also reformulated so that it will be based on targeted output and clustered unit costs. In calculating the financing need of each local government, adjustment factors representing the regional characteristics are also incorporated in the formula. Additionally, Law 1/2022 emphasized that the allocation of DAU is based on local governments' performance to encourage them to improve their performance.[25]

- **Enhancing local governments' taxing power**

Law 1/2022 has restructured several local taxes and surcharges to enhance local governments' fiscal capacity yet preserving the ease of doing business in their regions. The Law now gives 100 percent of the revenue collected from land and building tax to the local government (previously 10 percent was retained by the central government). The Law also introduced a new mechanism related to revenue sharing transfer by providing additional mining related revenue to the local governments.[26] The Law has also adjusted the sharing arrangement between the provincial and district governments related to the vehicle registration tax and vehicle ownership transfer tax to ensure that district government will timely receive the revenue when taxpayers make their payment.[27] The Law also

[22] The government issued Decree 35 in 2023 to provide detailed implementation guidance for Law 1/2022. Law 1/2022 specifies what kind of taxes can be collected by local governments together with the ceiling tariff rates, while Decree 35/2023 describes how to collect these taxes and provides further details that are not explained in Law 1/2022.

[23] Law 1/2022 established a new revenue-sharing mechanism designed for neighboring districts that are located close to mining districts. This mechanism aims to provide compensation to these neighboring districts for potential negative externalities associated with mining activities.

[24] Prior to Law 1/2022 enactment, the central government transfers the revenue sharing fund (DBH) based on the actual revenue of the current fiscal year that LGs might receive higher/lower than the initial budget/plan due to the volatility of commodity prices in the current year.

[25] Recent efforts to enhance local governments' performance include the introduction of their performance indicators and specific characteristics in the formula to calculate DAU (Law 1/2022, effective 2024). Some indicators used to measure the LG's performance include years of schooling, life expectancy, electrification ratio, regional roads in good condition, and access to piped water (in the past, DAU was based on the population size, number of civil servants, and regional GDP, etc.). With the new formula, LGs with good public service deliveries will receive additional 10 percent of the DAU allocation and they can utilize the DAU as a block grant. Meanwhile, for LGs with lower performance will receive DAU transfers in the form of specific grants earmarked to specific purposes only.

[26] Law 1/2022 introduces a new revenue-sharing framework for revenue generated from mining activities, including oil, gas, coal, and other minerals, conducted within the 4 to 12-mile range from the coastline. This Law expands the previous legislation, which only accounted for activities occurring within four miles of the coastline. According to Law 1/2022, revenue generated from oil is classified into two categories. The first category pertains to revenue obtained from production in mining fields located within four miles of the coastline. The second category includes revenue derived from mining fields located within 4-12 miles from the coastline.

[27] Law 1/2022 introduced "opsen" (split-payment) scheme on vehicle registration tax (PKB), vehicle ownership transfer tax (BBNKB), and non-metallic mineral and rocks tax (MBLB). Under this scheme, the payment is split and directly transferred to the

simplified the district tax system by consolidating five existing local taxes into one single tax, known as the Certain Goods and Services Tax or PBJT.[28] Such simplification is expected to reduce the compliance cost for taxpayers and also administrative costs for the tax offices.[29]

Local governments' taxing power is also enhanced through the introduction of new local taxes and continues improvement on regional tax capacities. Law 1/2022 has introduced a new tax on heavy equipment used on certain fields, including but not limited to construction, mining, plantation, and forestry, to widen the tax base. The Law also mandated the government to continuously improve the competence of local apparatus. Examples of ongoing efforts to improve regional tax capacities include Ministry of Home Affairs' provision of regular development capacity training and technical assistance to strengthen regional data management to local apparatus.

- **Improving spending quality**

Law 1/2022 requires local governments' spending to be more productive and focus on public basic services and mandatory spending fulfilment. To that end, the Law caps personnel spending at maximum 30 percent of total local government expenditure, with a transition period of 5 years. Also, the budget allocation for capital expenditure must be minimum 40 percent, following the transition period. Local governments are also required to fulfil the budget allocation for mandatory spending, including education, health, and infrastructure.

Other efforts to enhance local governments' spending quality include the requirement to earmark more own-source revenue items to capital expenditure. Prior to the enactment of Law 1/2022, some of the local governments' revenues were already earmarked for specific uses. For instance, at least 10 percent of local governments' revenue collected from vehicle tax must be used to finance road maintenance and development. Also, at least 50 percent of revenue sharing from tobacco excise must be allocated for supporting the National Health Insurance program and 50 percent from forestry-related revenue for controlling/preventing forest and land fires. Law 1/2022 sets a new earmarked policy related to revenue from water surface fees that at least 10 percent of the revenue must be used to improve the quality and quantity of water surface in the regions.

- **Harmonizing central-local government fiscal regulations/relationship**

Law 1/2022 underscores the importance of strengthening the fiscal policy synergy, especially by reinforcing the harmonization between central and regional fiscal policy directions. Local governments are required to align their development plans with the national macroeconomic and fiscal policy framework, as well as the directives of the president. The Law also emphasizes the need to enhance the quality of local government budget reporting. Accounting standards will be synchronized and integrated across all levels of government. The central government can impose sanctions, such as delaying or reducing transfers to local governments that fail to comply with these obligations. Law 1/2022 also authorizes the central government to require local governments to reallocate or refocus their regional budgets to support counter-cyclical policy measures in the event of emergencies.

Economic Zones

9. **Economic zones are geographically defined areas created to offer well-developed industrial spaces with or without special rules and incentives and thereby boost the regional economic growth.** Economic zones are usually government-designated or approved industrial areas with specific geographical boundaries, offering enabling business environments such as a simple administrative regime, tax benefits and infrastructure. They are developed by public and/or private entities. Among various types of economic zones, special economic zones (SEZs) are well-known and unique in that they have a specialized legal regime and attractive fiscal/non-fiscal incentives. Typically, an SEZ is set up for export-oriented enterprises, particularly foreign invested, to boost a regional economy with the

respective local government bank accounts at the time of payment by taxpayers (shifting from previous revenue-sharing mechanism). For PKB and BBNKB, 66 percent of tax payment goes directly to districts bank accounts. For MBLB, 25 percent of tax payment goes directly to provinces bank accounts.

[28] The five local taxes are hotel, restaurant, parking, streetlight, and entertainment tax.

[29] Ministry of Finance estimated doing so could raise the local governments' tax collection by 10 percent.

assistance of FDIs. This section outlines two main types of economic zones in Indonesia including SEZs, and their impact on the regional economic development thus far (Table 4).

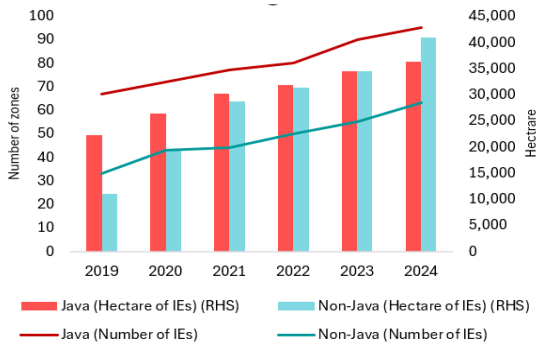
10. **Industrial estates (IEs) have been developed since 1970s to establish strategic, competitive, and sustainable industrial growth hubs across Indonesia**. As of July 2024, there are 158 IEs in total, with the occupancy rate being 64.4 percent. Since 2019, 28 and 30 IEs have been newly added inside and outside Java, respectively, helping increase the share of manufacturing in some non-Java regions (Figures 11&12). Development of an IE can be initiated either by the central government, a local government, or a private entity, frequently with an industrial focus specific to that region, such as nickel processing in Sulawesi. Investors in IEs can enjoy fiscal/non-fiscal incentives, including tax benefits for 18 pioneer industries[30] and vocational training provided by the government.[31] IEs which are included in the national medium-term development plan (RPJMN)[32] and national strategic projects (PSNs)[33] could also receive government support in the form of infrastructure development outside the estates, as well as fast-track permits. In addition, IE tenants are not required to obtain location and environmental permits separately from the estate developers.

Table 4. Type of Economic Zones in Indonesia

Type	Description
Industrial Estates	• Introduced in early 1970s to **encourage regional development** by promoting domestic and foreign investments. • As of July 2024, 158 industrial estates were operational, with the occupancy rate being 64.42 percent.
Integrated Economic Development Zones (KAPETs)	• Introduced in 1996 to **address regional inequality**, which comprise 13 zones mainly in the lagging islands. • In 2005-2010, KAPETs attracted 3.4% of the domestic investment while the target was 20%.
Science and Technology Parks	• Started in late 1970s to **pursue synergies between R&D and industries**. • As of 2020, 45 parks were operational, with 8 planned for 2021-2025, mostly in Java and at public universities.
Halal Parks	• Debuted in early 1990s in West Java, with halal certification facilities, halal waste treatment plants, and halal logistic facilities. • The government aims to develop 3 areas as halal hubs by 2024.
Bonded Zones	• Started in early 1970s to **enhance capacity to process goods and materials for export**, such as E&E, textile, plastic and rubber. • As of 2019, 1,372 bonded zones existed. Since 2015, bonded logistic centers have been set up together to reduce logistics costs.
Export-Oriented Production Entrepots (EPTEs)	• Introduced in 1993, EPTEs are bonded zones for a single enterprise. • The number of EPTEs is unknown.
Free Trade Areas and Free Ports (KPBPB)	• **Special ports where normal tax/customs rules do not apply**, also offering warehousing, processing, and distributing facilities. • There are 4 KPBPBs in Batam, Bintan, Riau Islands, and Aceh.
Special Economic Zones (KEK)	• Introduced in 2009, as **the most ambitious economic zone program with many fiscal and non-fiscal incentives**. • As of June 2024, there were 22 SEZs (10 tourism SEZs, 12 manufacturing SEZs). Another 4 SEZ proposals are under review.

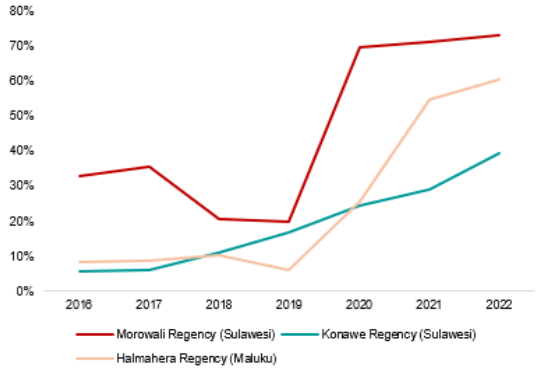
Source: ADB; AMRO staff compilations

Figure 11. Development of IEs in/outside Java



Source: Ministry of Finance; AMRO staff compilations

Figure 12. Manufacturing Share in Non-Java GRDP



Source: Ministry of Industry; AMRO staff compilations
Note: Each regency has nickel smelter-based IEs in its territory.

[30] 18 pioneer industries include upstreaming industries for base metals, downstreaming industries for agricultural crops and fossil fuels, and manufacturing industries for motor vehicles. Eligible entities can enjoy a different level of corporate income tax reduction, depending on the value of new investment (Table 5).
[31] As of July 2024, the Ministry of Industry established 11 vocational universities, two community academies, nine vocational high schools, and seven training centers across the nation, to help develop human resources around the existing IEs. Industries providing vocational training/apprenticeship program can benefit corporate income tax deduction.
[32] RPJMN is a medium-term development planning document formulated every five years under a national long-term development plan (RPJPN). The current RPJMN covers the period between 2020 and 2024.
[33] PSNs are projects and/or programs that have a strategic objective to increase equitable growth, listed in the appendix to the presidential regulation. The PSN list includes a number of infrastructure projects, and can be amended based on a study conducted by the Committee for the Acceleration of Provision of Priority Infrastructure (KPPIP).

11. **SEZs are the newest type of economic zones introduced in 2009, providing investors with the most attractive fiscal and non-fiscal incentives to nurture export industries, accelerate regional development, and boost employment**. These incentives include more generous tax benefits (Table 5), one-stop services for business licensing, and exemption of foreign ownership restrictions, while on-site infrastructure still needs to be constructed by SEZ developers. The SEZ National Council, which includes representatives from 17 ministries and is led by the Coordinating Ministry of Economic Affairs, plays a vital role in appraising and approving SEZs proposed mostly by local governments and/or private entities. These proposals are evaluated along various criteria, such as existence of anchor tenants, the number of expected tenants into the zone, spillovers effect to local communities, and developers' financial and administrative capacity. SEZs' performance is closely monitored by the National SEZ Council. As of June 2024, 22 SEZs were approved by the President, and additional 4 SEZs were approved by the SEZ National Council. Meanwhile, SEZs attracted USD12.6 billion investments[34] and 368 tenants in total, of which 72 percent are FDIs (Figure 13). Nevertheless, the occupancy ratio of these economic zones remains low, compared to industrial parks in Vietnam (Figure 14).

12. **The relatively low occupancy rate of economic zones in Indonesia can be attributed to investors' concern over the ease of doing business.** A recent diagnostic conducted by the Ministry of National Development Planning (Bappenas) found almost all regions (except Java) are facing serious constraints to growth, ranging from insufficient basic infrastructure and connectivity, and weak human capital quality to inefficient local governments. Likewise, firms mentioned inadequate infrastructure, notably electricity, and labour skill mismatches hinder their business plan. High minimum wages are cited as a factor contributing to elevated unemployment in big cities or major urban centres such as Jakarta and its surrounding provinces (e.g., Banten and Jawa Barat). The business registration and licensing process has been sped up for micro, small and medium-sized enterprises (MSMEs) with the launch of an online single submission (OSS) platform,[35] but remains lengthy for larger companies in high-risk sectors. Those challenges could be further amplified by local governments' issuing regulations inconsistent with the central government policy.[36] These observations are broadly in line with what was found in the survey conducted by the World Bank in 2023 (World Bank Enterprise Surveys[37]) (Table 6).

13. **Although IEs/SEZs have contributed to regional economic growth, more could be done to boost regional economies and thereby narrow income disparities among regional economies**. In fact, economic zones had some impacts on changing country's industrial structure until the Asian Financial Crisis, by increasing the share of manufacturing in GDP from 10 percent in 1970 to 27 percent in 1997. However, that share dropped to 18 percent in 2022, while the income disparities between Java and non-Java regions remain significant. The Indonesian government expects the share of manufacturing in GDP can be increased to 28 percent by 2045 (Golden Indonesia 2045 Vision).

[34] According to AMRO staff calculation, this corresponds to approximately 16 percent of the target investment amount for SEZs, or about IDR1,074 trillion.
[35] For those low-risk companies and MSMEs, it may take only about 30 minutes to complete the business registration procedure online and maximum 5 days to get licensed and/or start business.
[36] For example, some local governments add more procedures to the business registration regulation stipulated by the central government, lengthening the timeline for the firms to get licensed.
[37] World Bank Enterprise Surveys are nationally representative firm-level surveys with top managers and owners of businesses in over 150 economies that provide insight into many business environment topics such as access to finance, corruption, infrastructure, and performance, among others. For the 2023 survey on Indonesia, business owners and top managers in 2,955 firms (from manufacturing to services, from MSMEs to large corporates, across regions) were interviewed from December 2022 through September 2023.

Table 5. Corporate Income Tax Reductions[38] for SEZ Activities: Indonesia

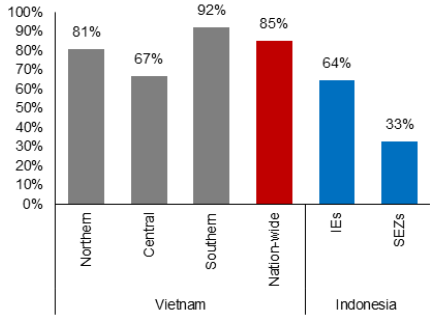
Standard CIT reductions applicable to 18 pioneer industries		Additional CIT reductions applicable SEZ activities
Investment	Reduction	Reduction
IDR 0.1-0.5 T	50% (5 yr) + 25% (2 yr)	Discretionary (5-15 yr)
IDR 0.5-1 T	100% (5 yr) + 50% (2 yr)	20-100% (5-15 yr)
IDR 1-5 T	100% (7 yr) + 50% (2 yr)	20-100% (10-25 yr)
IDR 5-15 T	100% (10 yr) + 50% (2 yr)	
IDR 15-30 T	100% (15 yr) + 50% (2 yr)	
IDR 30- T	100% (20 yr) + 50% (2 yr)	

Source: Ministry of Finance; ADB; AMRO staff compilations

Figure 13. Annual Growth in Investment and Workforce in SEZs: Indonesia

Source: National Council for SEZ; AMRO staff compilations

Figure 14. Economic Zone Occupancy Ratio: Indonesia and Vietnam



Source: Ministry of Industry of Indonesia; Indonesia National SEZ Council; Du Long Vietnam Industrial Park; AMRO staff calculations

Table 6. Investors' Perception on Doing Business Environment of Indonesia and Vietnam

% of firms identifying "..." as a major or very severe constraint	Indonesia	Vietnam	East Asia & Pacific	All Economies
Business Licensing	5.8	1.8	9.2	12.6
Access to Land	3.7	6.1	13.9	17.2
Tax Rates	11.5	5.3	15.4	27.7
Tax Administration	8.4	2.8	9.5	18.2
Access to Finance	14.9	9	10.9	21.2
Electricity	11.4	19.4	20.4	30.2
Transportation	10	8.4	12.6	17.4
Customs and Trade Regulations	4.7	3.7	8.7	14.5
Corruption	23.6	7.4	14.9	26.4
Practices of Competitors in the Informal Sector	8.2	15.5	11.3	24.3
Courts	8.9	1	5.9	12.2
Labor Regulations	3.5	2.2	6.1	9.9
Inadequately Educated Workforce	5.7	12.9	12.6	19.8

Source: World Bank Enterprise Surveys 2023; AMRO staff compilations

IV. Drivers of Income Convergence: Experience of Japan and Vietnam

Japan

14. **Japan is one of the countries with exceptionally low regional disparities in terms of per capita income.** Japan's Gini coefficient, which represents the regional per capita income inequalities, was 0.09 in 2007,[39] significantly lower than the OECD average of 0.17 (OECD, 2011) (Figure 15). Furthermore, the decile dispersion ratio, which is the ratio of the average per capita income of the top 10 percent richest prefectures to that of the bottom 10 percent poorest prefectures, hit as low as 1.6 in 2020, while the same ratio of Indonesia was around 7, indicating Japan's success in reducing regional income gaps (Figure 5).

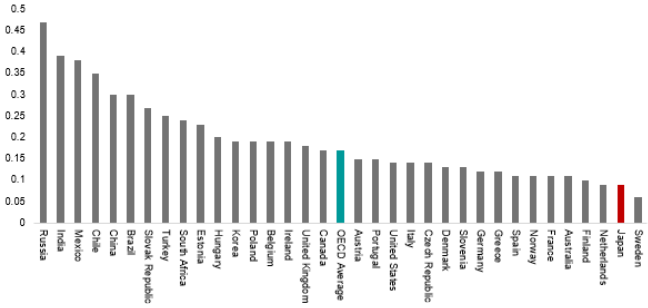
15. **Japan's regional income disparities decreased significantly in the 1960s and 1970s, when the central government took a strong initiative to achieve equitable growth.** The decile dispersion ratio, which had peaked at 2.2 in 1961, dropped to 1.6 in 1978 (Figure 16). During this period, the central government formulated several Comprehensive National Development Plans (CNDPs) to define policies for the balanced development.

16. **Regional manufacturing hubs and connecting infrastructure were developed during the periods of the 1st and 2nd CNDPs, with fiscal decentralization being promoted.** Under the 1st CNDP formulated in 1962, industrial hubs were built across the

[38] In addition, SEZ enterprises can be exempted from import/excise duties on certain imported goods, such as capital goods used for constructing SEZs and consumption goods sold in tourism SEZs.
[39] The calculation of this Gini coefficient is based on the GRDP per capita of the 47 prefectures in Japan. The Gini coefficient ranges from 0 to 1, where a higher value indicates a greater level of inequality.

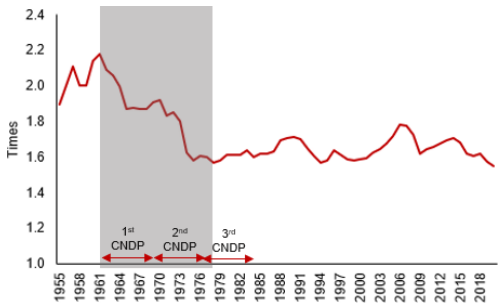
nation, in addition to the three metropolitan areas of Tokyo, Aichi and Osaka, which already had relatively high income levels. Subsequently, the 2nd CNDP commencing from 1969 accelerated the development of connecting infrastructure, such as expressways and high-speed railways, strengthening the connectivity of economic hubs across the country. These efforts supported the spatial development of Japan and thereby helped narrow the regional income disparities (World Bank, 2017) (Figure 17). It is also noteworthy that Japan promoted fiscal decentralization over the same period,[40] which might be another factor that enabled Japan's income convergence.

Figure 15. Gini Coefficient of Regional Disparities in Select OECD Countries (2007)



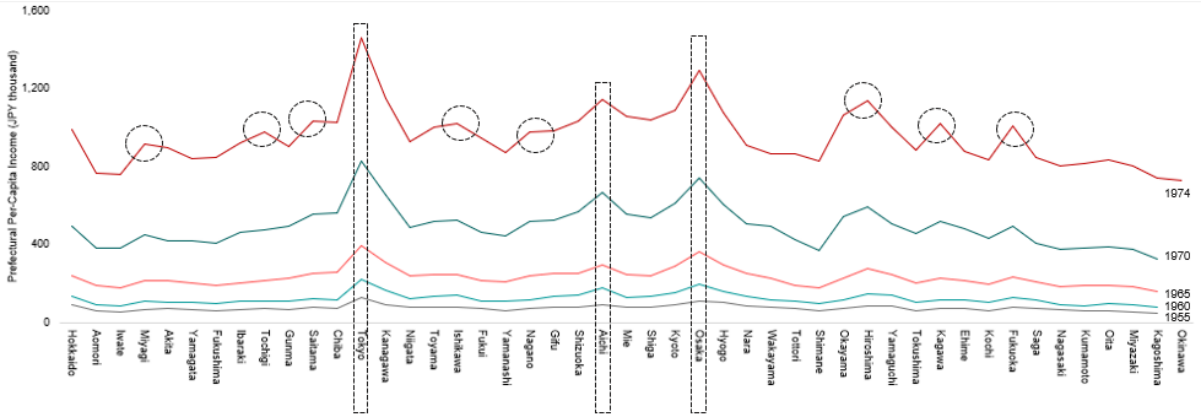
Source: OECD; AMRO staff compilation

Figure 16. Decile Dispersion Ratio of Japan



Source: Cabinet Office; AMRO staff calculations

Figure 17. Prefectural Per-capita Income Growth (1955-1974)



Source: Cabinet Office; AMRO staff calculations

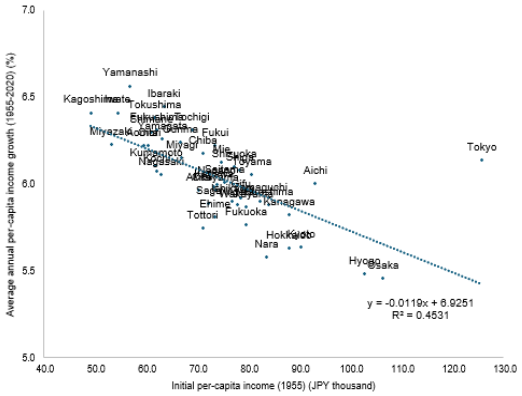
17. **The policy focus shifted from the development of industrial infrastructure to the improvement of living environments under the 3rd CNDP**. Starting from 1977, the 3rd CNDP aimed to ensure decent living environments, with housing, education, and medical facilities being developed nationwide (World Bank, 2017). This policy support made the movement of businesses and people easier, helping to stabilize the income disparities at the very low level after the 1970s.

18. **Access to ample and long-term funds was also the key to implementing these initiatives.** In Japan, postal savings collected from post offices across the country played an important role in funding these policies. Those funds were mandatorily deposited as a source of the central government's fiscal program (Fiscal Investment and Loan Program) and disbursed to each project/program through government-affiliated agencies. At its peak, the total amount of postal savings reached JPY260 trillion in 1999, which is equivalent of almost 50 percent of the current GDP.

[40] For example, the share of total spending by local governments in GDP increased from 11.9 percent in 1961 to 16.5 percent in 1974, while the share of the central government expenditure in GDP only increased from 10.2 percent to 13.8 percent over the same period.

19. **AMRO's empirical analysis supports the effectiveness of policy interventions adopted in Japan**. To empirically test if the beta convergence applied to Japan (i.e., prefectures with lower initial per-capita income grew at a faster pace) (Figure 18) and the abovementioned policies enhanced the convergence process, AMRO staff conducted a simple regression analysis by using sample data of 46 prefectures[41] during 1955 and 2020. The dependent variable is per capita income growth of a prefecture, while the explanatory variables are the following prefectural figures: (a) initial per capita income level (year 1955), (b) population growth, (c) public/private capital expenditure (CAPEX),[42] (d) size of the primary industry,[43] and (e) dummy variables.[44] The result suggests: (A) while the initial per capita income level and population growth are negatively associated with per capita income growth, (B) growth in CAPEX and non-primary industry production tends to have a positive impact on per capita income growth, particularly between 1955 and 1978, when Japan successfully narrowed the regional income disparities (Table 7). This implies that the policy measures deployed by the Japanese government (i.e., expansion of manufacturing hubs, investments in infrastructure and living environments) were effective in boosting the regional economic growth, and thereby helped to reduce the regional income gaps.

Figure 18. Per Capital Income Growth vs. Initial Per Capita Income Level in Japan



Source: Cabinet Office; AMRO staff calculations

Table 7. Empirical Findings on Drivers of Per Capita Income Growth in Japan

Dependent Variable: Annual Per-Capita Income Growth of a Prefecture (%)

Variable	Sample Period (1956-2020)	Sample Period (1956-1978)	Sample Period (1979-2020)
Initial Income Level (JPY thousand)	-0.005 (P-value: 0.503)	-0.103 (P-value: 0.000)	0.007 (P-value: 0.331)
Population Growth (%)	0.209 (P-value: 0.055)	-0.353 (P-value: 0.031)	0.322 (P-value: 0.053)
Public CAPEX (% of GRDP)	0.146 (P-value: 0.000)	0.129 (P-value: 0.022)	0.013 (P-value: 0.686)
Private CAPEX (% of GRDP)	0.304 (P-value: 0.000)	0.240 (P-value: 0.000)	0.170 (P-value: 0.000)
Primary Industry Production (% of GRDP)	-0.054 (P-value: 0.015)	-0.290 (P-value: 0.000)	0.094 (P-value: 0.116)
Post Oil Shock (1, if 1974-1990)	-7.070 (P-value: 0.000)	-5.138 (P-value: 0.000)	N.A.
Post Asset Bubble (1, if 1991-2020)	-12.768 (P-value: 0.000)	N.A.	-4.418 (P-value: 0.000)
R-squared:	0.667	0.224	0.353
Adjusted R-squared:	0.667	0.219	0.351
F-statistics:	854.481	50.518	174.969

Source: Cabinet Office; Ministry of Internal Affairs and Communications; AMRO staff calculations

Vietnam

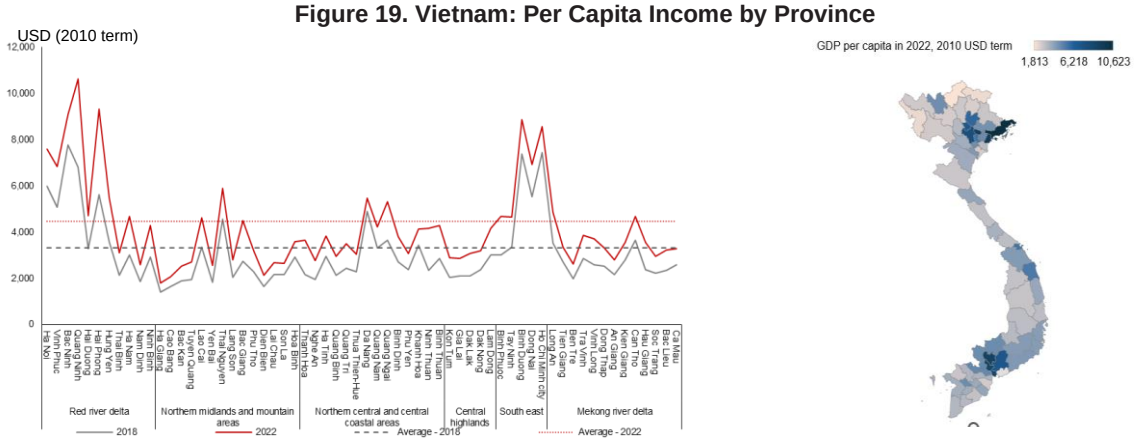
20. **Vietnam represents a developing country exhibiting partial regional convergence, fuelled by rapid economic growth in provinces neighbouring major economic hubs.** Starting with very low real incomes in nearly all 58 provinces and 5 centrally-run cities (or referred as 63 provinces thereafter) in the 1990s, approximately half of these provinces have experienced a process of convergence towards the much higher income level in major economic hubs such as Ho Chi Minh city and capital city Ha Noi. Notably, recently rapid economic growth, underpinned by a shift to the information technology and communication (ITC) manufacturing, has pushed up the income level of several northern provinces to exceed not only the income level of Ha Noi but also that of the leading Ho Chi Minh city (Figure 19).

21. **Fiscal decentralization is found to contribute to income convergence in regions with high public governance quality in Vietnam.** Vietnam has embarked on fiscal decentralization since the early 2000s with local governments being given more revenues and

[41] Okinawa Prefecture was not included in the sample, as there were no data available before its reversion to Japan in 1972.
[42] Share of a prefecture's gross fixed capital formation by public/private entities in GRDP (in percent).
[43] Share of a prefecture's primary industry production in GRDP (%). The primary industry includes agriculture, forestry, and fishery.
[44] Two dummy variables to capture the impact of idiosyncratic events that significantly affected Japan's growth trajectory – i.e., the oil shock in 1973 and the asset bubble burst in 1990.

spending assignments, aiming at enhancing the effectiveness and efficiency of public service delivery and narrowing the development gap across regions.[45] Indeed, fiscal decentralization seems to contribute to reduce income inequality in regions with efficient and less corrupted local governments (Nguyen et al, 2020)**.** Fiscal decentralization in the form of increased fiscal (revenue) autonomy and/or expenditure/investment in growth-enhancing areas, i.e., infrastructure, healthcare, and education, is found to be associated with higher economic growth and faster pace of regional income convergence (Le and Hart, 2022). In addition, transfers from the central to provincial governments have been found to be in greater conformity to their objective and pre-determined criteria since 2004. These transfers have hence contributed to balancing the gap in revenues and expenditures in poorer provinces, promoting economic growth in these provinces and reducing their output disparities with richer ones (Vu et al, 2015). On the downside, as fiscal decentralization brings more power to local governments, it might lead to state capture by local elites and/or an oversupply of incentives in competing for foreign direct investment (FDI). Local governments might be also reluctant to reinforce environmental regulations, resulting in a possible deterioration in environmental standards (Nguyen, 2019).

Figure 19. Vietnam: Per Capita Income by Province



Source: General Office of Statistics of Vietnam; AMRO staff calculations
Note: Data exclude Ba Ria-Vung Tau, the province reporting highest per capita income on the back of its rich natural (oil and gas) resources.

22. **Spatial proximity to major economic hubs, size of the manufacturing sector underpinned by strong FDI inflows, and degree of market integration, are also found to drive the income level of a province in Vietnam.** Bentzen and Tung (2021) finds that a province neighboring one of the major cities has a higher probability of experiencing a converging economic process, as spatial spillovers are expected to be greater, benefiting from better connectivity from the province with such economic hubs. Additionally, relatively large manufacturing or service sector activities have positive implications on growth and convergence. The authors point out that these two factors, i.e., better infrastructure/connectivity with major economic hubs and a larger manufacturing sector, are closely associated with robust FDI inflows to a province. Box C below presents anecdotal

[45] In Vietnam, local governments' own-source revenues include land/real property-related taxes and fees, natural resource fees (excluding petroleum), registration fees, revenues from lotteries, and several other charges and fees. That said, the central government is still the one who sets the tax rate and define the tax base for those own source revenues for the local government. In addition, the central government has shared almost all key national taxes, i.e., corporate income tax, personal income tax, value-added tax (except on imports) and excise, as well as gasoline/oil fees/royalties with local governments using the same sharing ratio across all tax items with a province, while this sharing ratio varies from province to province. The provincial government has the liberty to share the revenue and delegate the expenditure assignment among districts and communes under its purview. Local governments' own-source and shared revenue has accounted for about 40 percent of total general government revenue, while local governments share about 60 percent of total general government spending assignments. To address this vertical fiscal imbalance, the central government has transferred revenue to local governments in the form of (i) balancing transfers calculated based on unfunded recurrent and capital spending needs and (ii) targeted transfers or conditional grants through which the central government aims to achieve socio-economic development targets along with national target programs or other target transfers.

evidence of these factors contributing to the recent catch-up in a province in northern Vietnam. Significant market integration, measured as a narrowing gap in provincial commodity price indices and increased inter-regional commodity trade, is also found to have boosted regional economic growth and reduce regional fragmentation in Vietnam (Hoang and Dao, 2021).

Box C. Regional Income Convergence in Vietnam: the case of Bac Giang Province

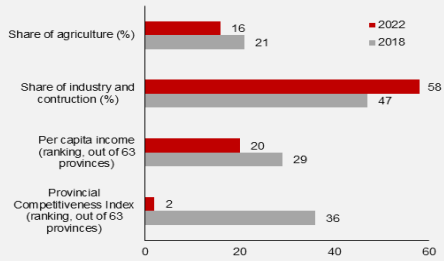
Bac Giang province in northern Vietnam has grown robustly and achieved an income level on par with the national average, in tandem with its transformation from a primarily agricultural producing region into an FDI-driven industrial hub. The share of industrial production and construction in Bac Giang's gross regional domestic product rose by more than 10 percentage points in the past five years to 58 percent in 2022. Such expansion has been driven by increased private investment, notably foreign direct investment (FDI), in the information technology and communication (ITC) sector, leveraging on the province's existing industrial parks (Figure C1). Consequently, the province has witnessed rapid economic growth and an increase in its per capita income to reach the national average. Indeed, Bac Giang province's per capita income, once ranked 29th among 63 provinces in 2018, improved to 20th in 2022 (Figure C2).

Figure C1. Bac Giang Province: Industrial Parks' Performance

	2010	2015	2023
Number of operating firms	77	182	451
Total revenue (VND trn)	18	171	515
Tax contribution (VND trn)	0.1	1.9	4.5
Total export value (USD bn)	0.2	7.0	20.5
Total employment (number of jobs)	19,600	47,218	196,000

Source: Bac Giang Province Statistics Portal

Figure C2. Bac Giang Province: Selected Economic and Governance Indicators



Source: Bac Giang Province Statistics Portal, Vietnam General Statistics Office, Vietnam Provincial Competitive Index website

Figure C3. Map of Provinces in Northern Vietnam

Source: Google Map

Enhanced competitiveness, reflected via improved connectivity and investor friendly policies, underpinned Bac Giang's phenomenal economic growth and convergence speed. The province's connectivity with major economic hubs in northern Vietnam, i.e., Ha Noi, Quang Ninh, and Hai Phong (Figure C3), has been improved with the development of highways, railways, and waterways in recent years. The provincial government has actively rolled out investor-friendly policies to attract investment, especially FDI, to the province and foster the recent shift to economic activity with higher productivity, notably ITC manufacturing. Examples of such policies include the streamlining of administrative process, establishment of a 24-hour hotline to receive feedback from investors and a working group to support large FDI projects in industrial parks, and investment incentives in the form of tax and land rent exemptions, and subsidies for labour skill training. Consequently, the province's ranking under the Vietnamese Provincial Competitive Index initiative jumped from the 39th place out of 63 provinces in 2018 to the second place in 2022 (Figure C2).

V. Conclusion and Policy Discussions

23. **The income gap across provinces, albeit narrowing, remains significant in Indonesia.** AMRO staff's empirical analysis finds policy interventions that led to increased capital spending by both public and private sector, a proliferation of manufacturing, and higher employment growth have contributed to higher regional growth and sped up the convergence process. Indonesian authorities have conducted specific policies, i.e., fiscal decentralization and economic zone establishments, to empower local governments and boost regional economic growth. Local governments' fiscal autonomy has increased following fiscal decentralization policies but remains modest relative to Japan and Vietnam. Consequently, local government spending, notably capital spending, is still low. Contributions of economic zones to the transformation of regional economic structure have been also limited, as reflected in a small share of manufacturing in GDP, on the back of a low occupancy ratio among IEs and SEZs.

24. **Experience of Japan and Vietnam confirms the role of policy interventions to accelerate the regional convergence.** Notably, income convergence can be achieved through the development of multiple economic centers/hubs and connecting infrastructure, along with the industrial transformation of these centers/hubs into highly productive sectors such as manufacturing with support of FDI (Table 8). To this end, the construction of the new capital Nusantara may help establish a non-Java economic center and thereby reduce the regional income disparities. Additional drivers of income convergence include regional market integration, human capital development, and fiscal decentralization with enhanced capacity of local governments. The experience of Japan highlights the central government's role in developing a master economic development plan, with increased participation from local governments in the form of capital spending and the importance of securing long-term financial sources to fund infrastructure development. The experience of Vietnam underscores the role of fiscal decentralization in boosting economic growth in provinces with good governance and narrowing their income gap with richer provinces. On the other side, empowerment of local governments might lead to state capture by local elites/politicians and oversupply of FDI incentives and deterioration in environmental standards due to the competition to attract FDI.

Table 8. Regional Income Growth/Convergence Drivers and Policy Actions

Drivers	Policy Measures Taken by Authorities
• Capital expenditure by the public sector • Capital expenditure by the private sector • Increased share of productive sectors (non-primary industry production/manufacturing) in the economy • Employment growth • Domestic market integration	• Development of multiple economic hubs and connecting infrastructure/decent living environment in line with a master economic development plan of the central government (JPN) • Fiscal decentralization to enhance local government fiscal autonomy and capacity (IDN, JPN, VNM) • Establishment of economic zones with generous investment incentives to attract private investment, notably FDI (IDN, VNM) • Streamlining the business registration requirement and enhancing the ease of doing business (JPN, IDN, VNM)

Source: AMRO staff
Note: IDN stands for Indonesia, JPN for Japan, and VNM for Vietnam.

25. **Enhancing local capacity and governance is key to achieving regional convergence through fiscal decentralization in Indonesia.** To enhance the fiscal capacity of local governments in Indonesia, the central government should boost revenue collection and provide sufficient and timely transfers, or local governments' taxing authority should be strengthened. It is essential to strengthen the competency of local governments in exploring new potential local taxes, as well as enhancing the data management related to businesses and economic activities within their jurisdiction. Policy measures to enhance the quality of local

government spending, notably to lower the share of current spending and increase capital expenditure, should also be implemented. AMRO staff's rough estimation suggests an effective implementation of Law 1/2022 could raise local government capital spending by about 2.2 percentage points of GDP from the current level of 1.5 percent, lifting per capita income growth by about 0.4 percentage point (Table 8). Decentralized capital spending would still necessitate the central government's role in infrastructure development, including the planning of national projects, oversight of and coordination with local governments, and capacity building through technical assistance. To avoid the risk related to fiscal decentralization, platforms to share the best practices among local governments and monitor the impact of FDI projects on the local economy could be developed. For example, the annual publication of Vietnamese Provincial Competitive Index (PCI) rankings since 2005 has been recognized as a reliable reference for evaluating the quality of local economic governance. And similar evaluation on the quality of local environment policy has been incorporated in the latest Provincial Green Index (PGI) initiative (Box D). To boost financing of capital spending in Indonesia, it is important to increase the availability of long-term funding sources while maintaining debt sustainability.

26. **IEs/SEZs can play a stronger role in boosting regional economies with properly designed policy supports to expand the production/market base and to improve zone competitiveness**. With the current occupancy ratio of 64 percent for IEs and 33 percent for SEZs, there is plenty of room to boost the participation of private investment in these economic zones. A back of the envelop calculation suggests regional per capita income growth in Indonesia could be raised by 0.8 percentage point from the current level if the occupancy ratio can be lifted to the level reported for industrial parks in Vietnam (Table 9 and Figure 20).[46] To boost the regional growth through economic zones, customized measures to improve each region's competitiveness and compensate for its locational disadvantages are essential. For instance, the government can provide differentiated supports for each region to develop infrastructure, living environment, skill training centers and environment-friendly facilities, which can also increase positive spillovers to the surrounding areas. With the enhanced capacity of local governments, fiscal decentralization could help properly address each region's specific issues. Efforts to integrate subregions, like the establishment of Indonesia-Malaysia-Thailand Growth Triangle (IMT-GT),[47] could also help unlock the potential of subregional areas by expanding market size and production base. Examples of subregional integration efforts include accelerating connectivity projects around the border, and removing non-tariff barriers through harmonized regulatory framework, technical standards and inspection procedures.

Box D. Vietnam Provincial Competitive Index and Provincial Green Index[48]

Provincial Competitiveness Index (PCI)

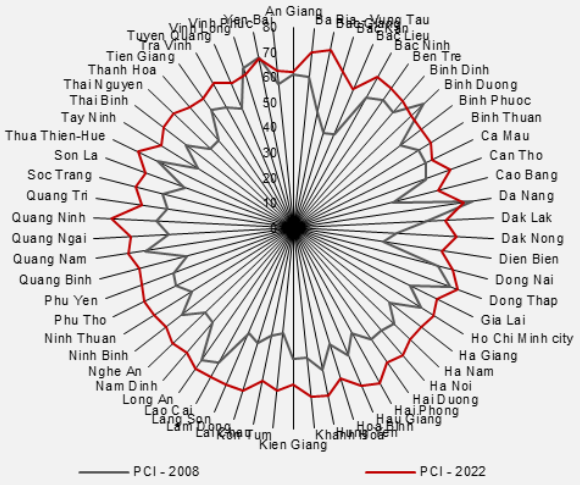
The Provincial Competitiveness Index is designed to assess the ease of doing business, the quality of economic governance, and the effectiveness of administrative reform efforts in 63 provinces in Vietnam. The Vietnamese PCI was first introduced in 2005 by the Vietnam Chamber of Commerce and Industry (VCCI) with the assistance of the United States Agency for International Development (USAID), piloting in 42 of 63 provinces of Vietnam and then applied to all provinces since 2006. It is based on annual surveys among approximately 10,000 domestic and 1,500 foreign

[46] The occupancy ratio of industrial parts and special economic zones in Vietnam averaged 85 percent, with the ratio varying from region to region: 81 percent in the northern region (out of a total 10,000 available hectares), 67 percent in the central region (out of a total 7,500 hectares), and 92 percent in the southern region (out of a total 25,000 hectares).
[47] Since its inception in 1993, the IMT-GT have been trying to stimulate economic development in 32 of the less-developed states and provinces in these three countries, including 10 provinces of Sumatra, Indonesia.
[48] The box is primarily sourced from the PCI-PGI 2023 Report, available at the following **link**.

invested enterprises.[49] The overall PCI index score comprises ten subindices: (1) low entry costs for business start-ups; (2) easy access to land and security of business premises; (3) a transparent business environment and equitable business information; (4) minimal informal charges; (5) limited time requirements for bureaucratic procedures and inspections; (6) minimal crowding out of private activity from policy biases toward the state, foreign, or connected firms; (7) proactive and creative provincial leadership in solving problems for enterprises; (8) high-quality business support services; (9) sound labour training policies; and (10) fair and effective legal procedures for dispute resolution and maintaining law and order.

The PCI score ranking and report have been recognized nationwide as a reliable reference for evaluating the economic governance quality of local authorities in creating a favourable business environment for enterprises. There is a significant correlation between the PCI and its subindices and a positive impact of the PCI of a province on all proxies of enterprise attraction, i.e., the number of enterprises, the employees in enterprises, and the capital value of enterprises in that province (Trinh and Lee, 2023). PCI improvement has been made a key performance indicator in many provinces. Figure D1 of the aggregate PCI indicates an overall improvement in local governance, as well as a significant decline in the dispersion of the index across provinces between 2008 and 2023.

Figure D1. Vietnamese PCI by Province: 2008-2022



Source: PGI-PCI reports, various years

Provincial Green Index (PGI)

A Provincial Green Index (PGI) has been recently introduced to inform local governments of the perception of businesses on the quality of their environmental policy. Like the PCI, the new index aims at providing actionable policy advice to national and subnational officials to reduce the impact of climate change and pollution on business performance and longevity. The index comprises of 4 sub-indices evaluating (1) efforts to combat pollution and private environmental accidents (pollution and disaster resilience); (2) design and implementation of reasonable regulations that ensure compliance without creating overwhelming burdens (regulatory standards); (3) provision of appropriate guidance to firms on green operations and operation of environmentally friendly procurement (leadership and assistance), and (4) promotion of green operations through targeted incentives and subsidy programs (incentives and support services).

[49] The PCI is conducted annually through a three-step process. First, data are collected from business surveys and published sources, with the sample including approximately 10,000 domestic and 1,500 foreign invested enterprises. Random sampling with stratification is used to ensure that the sample accurately represents firm age, legal type, and sector. Second, the subindices are calculated and standardized on a 10-point scale. Finally, the composite PCI is calibrated as the weighted mean of the subindices with a maximum score of 100 points. This calculation enables a province with a higher PCI to be considered more attractive to enterprises.

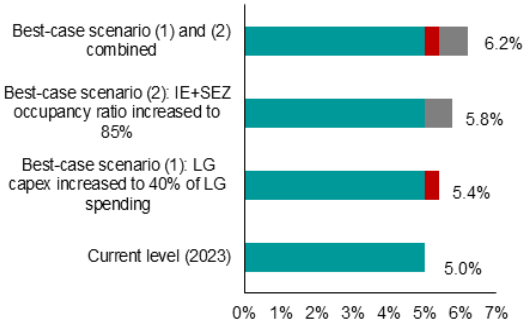
Table 9. Preliminary Estimates of Impacts of Increased CAPEX on Regional Growth in Indonesia

% GDP	Current level	Best case scenario	Change	Coefficient with GRDP growth	Contribution to per capita GRDP growth
	(1)	*(2)*	*(3)=(2)-(1)*	*(4)*	*(5)=(3)*(4)*
LG capital spending	1.5%	3.7%	2.2%	0.194	**0.4%**
Investment realization in IEs and SEZs	14.1%	21.8%	7.75%	0.102	**0.8%**

Source: Ministry of Industry of Indonesia, Indonesia National SEZ Council; SNG-WOFI fiscal database (https://www.sng-wofi.org/country-profiles/); AMRO staff calculations

Note: Data are calculated using the nominal value of GDP in 2023. The current level of investment realization in IEs and SEZs is estimated by AMRO staff using the occupancy ratio for IEs and actual investment realization reported for SEZs. Under the best case scenario, local government capital spending is assumed to increase to 40 percent of total local government budget as per Law 1/2022 stipulations and the occupancy ratio for IEs and SEZs increase from the current level of 64.4 percent and 16.3 percent, respectively, to 85 percent – on par with the occupancy ratio among industrial parks in Vietnam. The coefficients of local government and private sector (IEs & SEZs) capital spending are estimated by AMRO staff in the empirical testing on the drivers of per capita GRDP growth in Section II of this analytical note.

Figure 20. Indonesia's GDP Growth: Current Level vs. Increased CAPEX Scenarios



Source: National authorities; AMRO staff projections

27. Efforts to improve the overall investment climate and ease the cost of doing business should be continued. Despite the OSS launch, the business registration and licensing process remains lengthy for investors outside economic zones due to the challenge in obtaining spatial and environmental permits. This is in turn due to the slow progress in preparing regional spatial plans, known as Integrated Detailed Spatial Plans (RDTR), and integrating them into the OSS system.[50] The completion of all regional spatial plans and their full integration to the OSS requires a strong collaboration between line ministries and local governments. Investors are also facing challenges in meeting land acquisition and site clearance requirements due to legal uncertainty about land ownership and high acquisition costs. To assist investors with land acquisition, the central government has established a state-owned land acquisition support fund (LMAN) but its size is apparently modest. A pro-active role of local governments in facilitating land acquisition negotiations between investors and local communities, and investors' business registration process is crucial. Policy coordination between central and local governments, and across government agencies should be strengthened to ensure that national development priorities are built in regional development plans and effectively implemented. As improving the productivity in the agricultural and services (tourism) sectors will also boost regional economies, the government's recent initiatives such as the food barn program[51] are commendable and policy efforts to increase investment in these sectors should be continued.

[50] RDTRs are prepared by local governments and approved by Ministry of Agrarian and Spatial Planning/National Land Agency, upon which are included in the OSS as the basis to process investment permit applications. As of end-2023, the government completed 413 such plans against the target of 2,000 set in the 2020-2024 National Medium Term Development Plan (RPJMN). Out of which only 203 plans have been connected to the OSS (Source: Investor.id)

[51] The food barn program aims to achieve Indonesia's food self-sufficiency in the medium term, via increasing productivity/yields in existing fields of key staples (rice, corn, soybean, and cassava) as well as a rapid development of new fields to at least 4 million hectares by 2029 (including a plan to establish a new special economic zone in Merauke covering 1.2 million hectares). The program was allocated IDR15 trillion in the 2025 Budget, equivalent to about 0.1 percent of GDP, and to be implemented by Ministry of Public Works and Housing, Ministry of Agriculture, and local governments.

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Appendix. Regulations for Implementing Fiscal Decentralization in Indonesia

1999	Law 22/1999 on Regional Government	This law grants broad authority to districts and cities to independently regulate and manage government affairs, except for five matters that remain under the authority of the central government (foreign policy, defense and security, justice, monetary and fiscal matters, and religious affairs).
	Law 25/1999 on Financial Balance between Central and Local Government	• This law introduced the financial distribution mechanism between the central and regional governments to support the implementation of regional autonomy under Law 22/1999. • It established regional revenue sources, including the Revenue Sharing on natural resources non-tax revenue (DBH), General Allocation Fund (DAU), and Special Allocation Fund (DAK).
2003	Law 17/2003 on State Finance	This law stipulated the reforms in state finance management, including the scope and general principles of state financial management, the delegation of authority to manage state finances, the structure of central and local budget, budget cycles, as well as the financial relations between the government and state-owned enterprises, regional companies and private companies, and public fund management bodies.
2004	Law 32/2004 on Regional Government	• Regional heads are now elected directly by people through the regional general election, whereas under Law 22/1999, they were elected by the Regional People's Representative Council. • The central government is granted the authority to evaluate the performance of regional heads and to dismiss them if violations are identified.
	Law 33/2004 on Financial Balance between Central and Local Government	• This law introduced new revenue sharing on personal income tax, geothermal, oil and gas, fisheries. • Reclassified the reforestation fund from special allocation fund (DAK) to revenue sharing fund (DBH) • Refined the principles of General Allocation Fund (DAU), as well as the mechanism of regional loans including regional bonds
2014	Law 6/2014 on Villages	• Formal recognition for villages as an integral part to Indonesia's governance system and granted village governments greater autonomy to manage their local affairs. • Village Fund has been allocated as a regional transfer since the 2015 State Budget.
	Law 23/2014 on Regional Government	• The Governor is representative of the central government. • This law emphasized the hierarchical authority between the central government, provinces, and districts/cities • Introduced Special Autonomy Fund, Privilege Fund, and Interregional Transfer as part of regional transfer
2022	Law 1/2022 on Financial Relationship between Central and Local Governments	• Strengthening local taxing power through the restructuring of local taxes and surcharges, broadening the local tax base, and harmonizing regulations • Reducing vertical and horizontal imbalances through the refinement of central government transfers to be more precise and performance-based. • Improving the quality of local governments spending through disciplinary enhancement, strengthened human resource capacity and internal audits • Strengthening the central and regional policy harmonization