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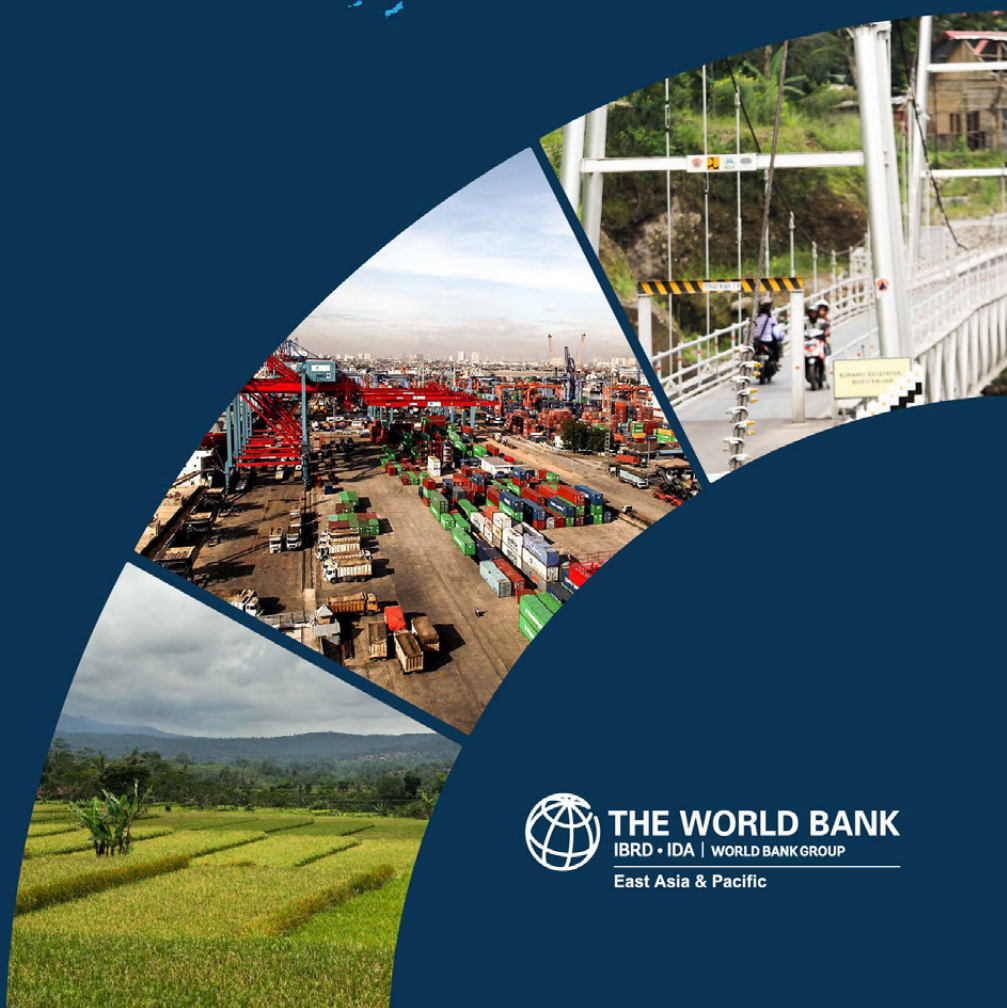
Pathways Towards Economic Security

INDONESIA POVERTY ASSESSMENT



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ABBREVIATIONS

AFC	Asian Financial Crisis
ANC	Ante-natal Care
Asabri	Asuransi Angkatan Bersenjata Republik Indonesia; Indonesian Armed Forces Insurance
ASEAN	Association of Southeast Asian Nations
B40	Bottom 40 Percent of Households
Bansos	Bantuan Sosial; Social Assistance
BPJS	Badan Penyelenggara Jaminan Sosial; Social Security Administration Agency
BPS	Badan Pusat Statistik; Central Bureau of Statistics
BRI	Bank Rakyat Indonesia; Indonesian People's Bank
CEQ	Commitment to Equity
CIT	Corporate Income Tax
COP26	United Nations Climate Change Conference
CPI	Consumer Price Index
D	Number of Dependent in the Household
DTKS	Data Terpadu Kesejahteraan Sosial; Integrated Social Welfare Database
E	Number of Earners in the Household
ECD	Early Childhood Development
EM-DAT	Emergency Events Database
EP	Extreme Poor
EU	European Union
FAO	Food and Agriculture Organization
GDP	Gross Domestic Product
GHG	Greenhouse Gas
GIEWS	Global Information and Early Warning System on Food and Agriculture
GVCs	Global Value Chains
GoI	Government of Indonesia
HIC	High Income Country
HiFy	High Frequency Household Phone Survey
IFLS	Indonesian Family Life Survey
IFPRI	International Food Policy Research Institute
ILO	International Labor Organization
IPL	International Poverty Line
Jamkesda	Jaminan Kesehatan Daerah; Regional Health Insurance
Jamkesmas	Jaminan Kesehatan Masyarakat; Public Health Insurance
JHT	Jaminan Hari Tua; Pension Program
JKK	Jaminan Kecelakaan Kerja; Work-accident Insurance Program
JKM	Jaminan Kematian; Death Insurance Program
JKN	Jaminan Kesehatan Nasional; National Health Insurance
JKP	Jaminan Kehilangan Pekerjaan; Unemployment Insurance
KOTAKU	Kota Tanpa Kumuh; City Without Slums Program
LIC	Low Income Country

LMIC	Lower Middle-Income Country
M40	Middle 40 Percent of Households
Mo	Months
MoH	Kementerian Kesehatan Republik Indonesia; Ministry of Health
MoSAUBR	Menteri Pendayagunaan Aparatur Negara dan Reformasi Birokrasi Republik Indonesia; Ministry of State Apparatus Utilization and Bureaucratic Reform
MP	Maluku-Papua
ND-GAIN	Notre Dame Global Adaptation Initiative
NDC	Nationally Determined Contribution
NEET	Neither in School nor Employed
NGO	Nongovernment Organization
NP	Non-poor
NPL	National Poverty Line
NT	Nusa-Tenggara
NTM	Non-tariff Measures
OECD	Organisation for Economic Co-operation and Development
OLS	Ordinary Least Squares
PA	Poverty Assessment
PAUD	Pendidikan Anak Usia Dini; Early Childhood Education
PBI	Penerima Bantuan Iuran; Recipient Contribution Assistance
PEKKA	Pemberdayaan Perempuan Kepala Keluarga; Empowerment of Female Heads of Family
PIP	Program Indonesia Pintar; Smart Indonesia Program
PISA	Programme for International Student Assessment
PIT	Personal Income Tax
PKH	Program Keluarga Harapan; Family Hope Program
PMT	Proxy-means Test
PP	Percentage Point
PPP	Purchasing Power Parity
Puskesmas	Pusat Kesehatan Masyarakat; Community Health Center
R	Rounds of HiFy Survey
R&D	Research and Development
Raskin	Beras Miskin; Rice for the Poor Program
Sakernas	Survei Angkatan Kerja Nasional; Labor Survey
Sembako	Sembilan Bahan Pokok; Affordable Basic Food Program
SPS	Sanitary and Phytosanitary Measures
Susenas	Survei Sosial Ekonomi Nasional; National Socio-Economic Survey
T20	Top 20 Percent of Households
T60	Top 60 Percent of Households
TFR	Total Fertility Rate
UMIC	Upper Middle-Income Country
VA	Value-Add
VAT	Value-Added Tax
WelTrAC	Welfare Tracking in the Aftermath of Crisis

FOREWORD

Indonesia arguably met its goal to eliminate extreme poverty when it reached 1.5 percent in 2022. Sustained economic growth combined with social protection has made this progress possible. Indonesia can now set its sights higher to improve the lives of the still one-third of Indonesians who remain economically insecure.

As Indonesia aims to become a high-income country by 2045, our analysis in this report uncovers opportunities as well as some important roadblocks to further progress. Even though economic growth has contributed to poverty reduction, nearly all sectors in rural, agricultural areas and in cities suffer from low productivity, while human capital development lags peer countries and half of Indonesian women remain excluded from the labor force.

Indonesians need better work opportunities offering higher income in higher productivity sectors. Despite a fast-growing digital sector, only one in ten Indonesian workers has a high-skilled job, and not enough workers have skills to take advantage of these opportunities when they arise.

These are areas in which policies can make a difference. Our analysis offers some perspectives that lead to a few recommendations. One set of recommendations focus on creating better opportunities. Integration into global value chains would increase Indonesia's productivity and help take advantage of its growing digital economy. Urban areas need investments to allow them to become the engines of productivity growth we have seen in other countries, while enhancing agricultural productivity would provide better livelihoods for farmers. More affordable, quality childcare would in turn help open opportunities for women.

Another set of recommendations focus on protecting people from staying and falling into poverty. Indonesia is prone to shocks, especially from weather-related incidents. Between 1990 and 2021, Indonesia experienced more than 300 natural disasters affecting more than 11 million people, with climate-related disasters accounting for around 70 percent of total disasters in this period. As usual, the poor and economically insecure carry a disproportionate burden when a disaster strikes.

Like many countries Indonesia needs to look at scaling up social protection, including both social assistance and insurance, as well as increasing financial inclusion. It is also vital to enhance the resilience of infrastructure to shocks. These measures would require resources, but Indonesian policymakers have options to increase financing for these "pro-poor investments". As our analysis of taxation and subsidy policies points out, Indonesia has opportunities to increase tax revenues while reducing spending on less effective and often regressive energy and agricultural subsidies. In this context, improving the efficiency and quality of sub-national governments' administration and spending, especially on education and healthcare, is also key to increase the quality of public services.

Our hope is that this Poverty Assessment will help inform and broaden public dialogue on opportunities and challenges as well as on possible solutions to creating better opportunities and protecting against poverty.

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Country Director
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PENDAHULUAN

Indonesia boleh dibilang telah mencapai tujuannya untuk memberantas kemiskinan ekstrim ketika kemiskinan tersebut mencapai 1,5 persen pada tahun 2022. Pertumbuhan ekonomi yang berkelanjutan digabung dengan perlindungan sosial telah memungkinkan kemajuan ini. Indonesia sekarang dapat menetapkan sasaran yang lebih tinggi untuk meningkatkan kehidupan sepertiga penduduk Indonesia yang secara ekonomi masih tidak aman.

Karena Indonesia bertujuan untuk menjadi negara berpenghasilan tinggi pada tahun 2045, analisis kami dalam laporan ini mengungkap beberapa peluang serta hambatan penting untuk kemajuan lebih lanjut. Meskipun pertumbuhan ekonomi telah memberi kontribusi terhadap pengentasan kemiskinan, hampir semua sektor, di pedesaan, daerah pertanian dan di perkotaan, memiliki produktivitas yang rendah, sementara pembangunan sumber daya manusia tertinggal dari negara-negara yang setara dan setengah dari perempuan Indonesia tetap tersisih dari angkatan kerja.

Masyarakat Indonesia membutuhkan kesempatan kerja yang lebih baik yang menawarkan penghasilan lebih tinggi di sektor-sektor dengan produktivitas yang lebih tinggi. Meskipun sektor digital berkembang pesat, hanya satu dari sepuluh pekerja Indonesia yang memiliki pekerjaan dengan keterampilan tinggi, dan tidak cukup banyak pekerja yang memiliki keterampilan yang tepat untuk memanfaatkan peluang ini di saat peluang tersebut muncul.

Ini adalah wilayah di mana kebijakan dapat membuat perbedaan. Analisis kami menawarkan beberapa perspektif yang mengarah pada beberapa rekomendasi. Serangkaian rekomendasi berfokus pada menciptakan peluang yang lebih baik. Integrasi ke dalam rantai nilai global dapat meningkatkan produktivitas Indonesia dan membantu memanfaatkan pertumbuhan ekonomi digitalnya. Daerah perkotaan membutuhkan investasi agar daerah-daerah tersebut dapat menjadi mesin pertumbuhan produktivitas yang telah kita lihat di negara-negara lain, sementara meningkatkan produktivitas pertanian dapat memberikan penghidupan yang lebih baik bagi para petani. Fasilitas penitipan anak yang lebih terjangkau dan berkualitas dapat membantu membuka peluang bagi perempuan.

Serangkaian rekomendasi lainnya berfokus pada melindungi masyarakat dari keterpurukan dalam kemiskinan. Indonesia rentan terhadap guncangan ekonomi, terutama dari kejadian-kejadian terkait cuaca. Antara tahun 1990 dan 2021, Indonesia mengalami lebih dari 300 bencana alam yang menimpa lebih dari 11 juta orang, dengan bencana terkait iklim mencapai sekitar 70 persen dari total bencana pada periode ini. Seperti biasa, masyarakat miskin dan tidak aman secara ekonomi memikul beban yang tidak proporsional ketika terjadi bencana.

Seperti banyak negara lainnya, Indonesia perlu meningkatkan perlindungan sosial, termasuk bantuan dan jaminan sosial, serta meningkatkan inklusi keuangan. Penting juga untuk meningkatkan ketangguhan infrastruktur terhadap guncangan. Langkah-langkah tersebut membutuhkan sumber daya, tetapi para pembuat kebijakan Indonesia memiliki pilihan untuk meningkatkan pembiayaan bagi "investasi yang berpihak pada masyarakat miskin" tersebut. Seperti yang ditunjukkan oleh analisis kami mengenai kebijakan perpajakan dan subsidi, Indonesia memiliki peluang untuk meningkatkan penerimaan pajak sambil mengurangi pengeluaran untuk subsidi energi dan pertanian yang kurang efektif dan seringkali bersifat regresif. Dalam konteks ini, peningkatan efisiensi dan kualitas administrasi dan belanja pemerintah daerah, terutama untuk pendidikan dan kesehatan, juga menjadi kunci untuk meningkatkan kualitas pelayanan publik.

Harapan kami adalah Kajian Kemiskinan ini akan membantu memberi informasi dan memperluas dialog publik tentang peluang dan tantangan serta kemungkinan solusi untuk menciptakan peluang yang lebih baik dan melindungi dari kemiskinan.

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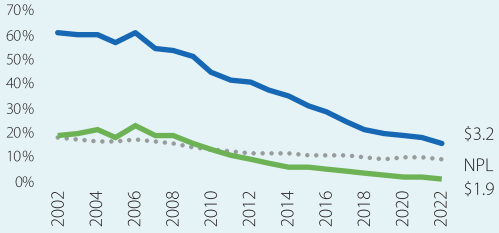
Poverty in Indonesia

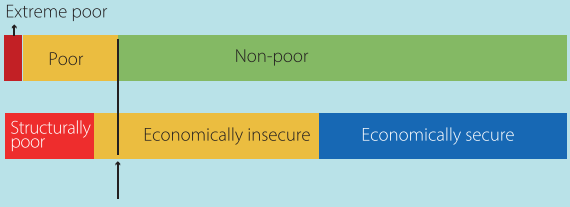
Poverty headcount rates using $1.90, $3.20 per-day 2011 PPP as well as national poverty line (NPL)



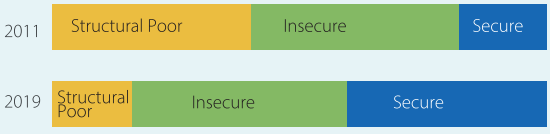
Gains in poverty reduction have basically eliminated extreme poverty (measured at US$ 1.90 2011 PPP), while 16 percent of the population remained poor in 2022.

16% of the population remained poor

However, many more people are susceptible to falling into poverty, upon shocks.



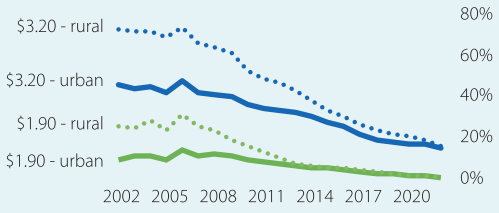
Share of population classified as structurally poor, economically insecure, and economically secure



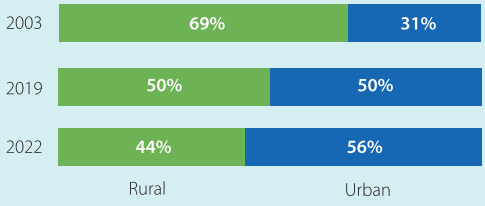
Urban and rural poverty rates have converged to similar levels.

This means that the majority of the poor is now located in urban areas.

Poverty rates, by urban/rural



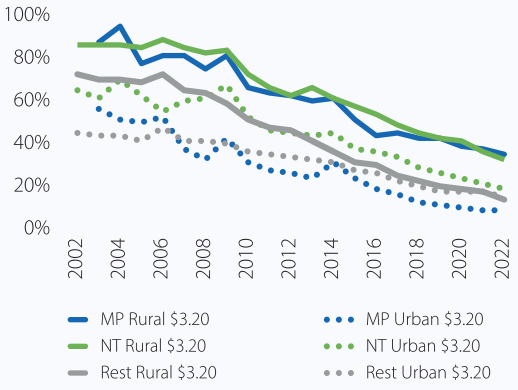
Share of the poor and the general population in rural and urban areas



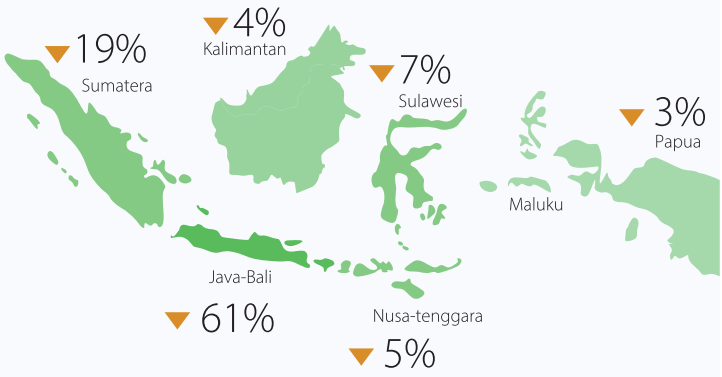
While generally catching up, rural Maluku Papua and rural Nusa Tenggara still have significantly higher poverty levels than the rest of Indonesia.

However, the majority of the poor live in Java, Bali, Sumatera and Sulawesi ... as Maluku Papua and Nusa Tenggara are less populous.

Poverty rates for Nusa Tenggara (NT), Maluku Papua (MP) and other regions



Share of the (extreme) poor, by region



Poorer households

	Extreme poor	Poor	Economically insecure	Economically secure
Are larger and have to take care of more dependent household members, mostly children	Size: 6.0	5.3	4.1	3.2
	Children: 0.38	0.34	0.24	0.19
Are more often working in agriculture rather than in services and more often either self-employed or casual workers	Education: 5.9	6.6	6.4	10.1
	Casual worker: 14%	15%	14%	5%
Have less often access to electricity and proper sanitation, use gas less often for cooking and less internet access	Electricity: 92%	97%	98%	100%
	Gas: 51%	66%	74%	89%
	Internet: 10%	16%	25%	55%

Indonesia has made impressive gains in reducing poverty, with previously lagging regions catching up, and the Government's goal to eliminate extreme poverty by 2024 practically met.

Photo: © Josh Estey/World Bank

EXECUTIVE SUMMARY

Overview

Indonesia can build on its impressive track-record of poverty reduction to tackle more ambitious poverty reduction targets. Indonesia has made impressive gains in reducing poverty, with previously lagging regions catching up, and the Government's goal to eliminate extreme poverty by 2024 practically met. As an aspiring upper middle-income country, however, Indonesia may want to widen its focus beyond extreme poverty by moving from the US$ 1.90 2011 PPP poverty line to higher lines for middle-income countries. The focus should also include economically insecure households susceptible to falling back into poverty. Is Indonesia's current effort ready for this challenge? Human capital outcomes are disappointing and worrying geographic disparities remain. Low productivity still prevents households from becoming economically secure. Shocks, including from climate change, continue to threaten reversal in poverty gains. We identify several major pathways to tackle these challenges in a comprehensive and sustainable manner (Figure ES1).

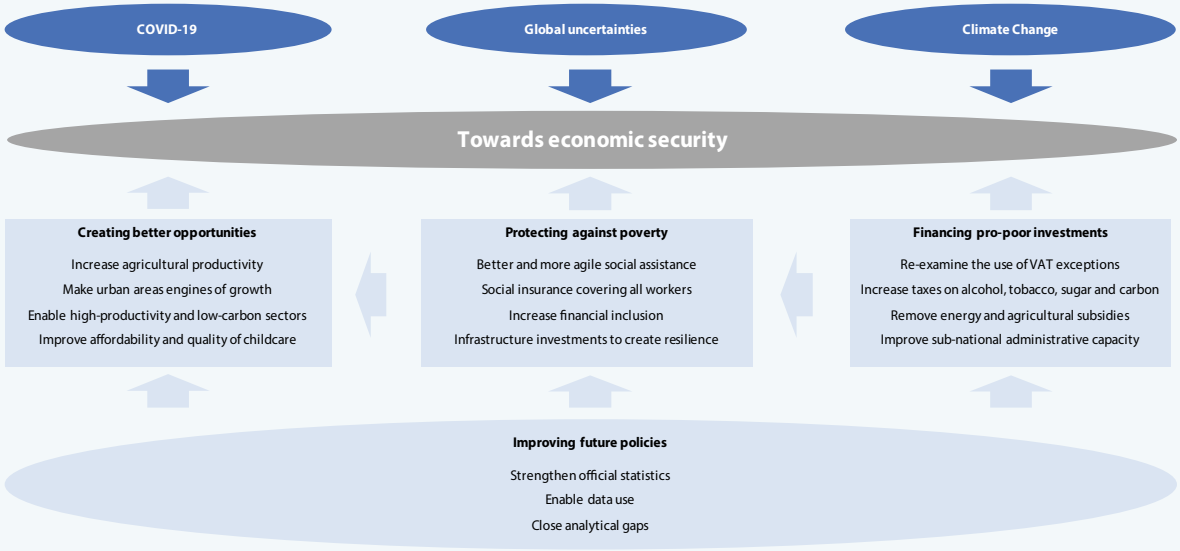
(i) Create better opportunities in higher productivity and low-carbon work to help households become economically secure.

(ii) Improve social protection and financial inclusion to mitigate harm from future shocks.

(iii) Develop a more effective fiscal system for more pro-poor investments contributing to human capital through better public service delivery.

(iv) Close data and knowledge gaps to improve future policies to support this agenda.

FIGURE ES1: Four pathways with policy priorities (green) towards economic security can tackle key challenges (orange) faced by Indonesia



Progress and challenges

Trends

Having eradicated nearly all extreme poverty, Indonesia can now turn to broadening its definition of poverty commensurate with its middle-income status. Extreme poverty, defined by living on less than US$ 1.90 2011 PPP per day, dropped from 19 percent in 2002 to 1.5 percent in 2022 (Figure ES2), practically meeting the Government's objective to eradicate extreme poverty ahead of its expected schedule of 2024. A small amount of extreme, frictional poverty is likely to remain for some time. With extreme poverty almost eliminated, poverty reduction strategies must widen their focus to also include poor – but not extremely poor – households. Lower middle-income countries use higher poverty lines set to US$ 3.20 2011 PPP per day.

Even with a broader definition of poverty, Indonesia has made remarkable poverty reduction progress while inequality slowly declined. Poverty, measured at the lower middle-income country line of US$ 3.20 2011 PPP per day, also declined steeply from 61 percent in 2002 to 16 percent in 2022. Increased domestic consumption drove poverty reduction in the last decade, contributing to job growth in a tight labor market and increased real wages. The largely inclusive nature of growth (Figure ES3) reversed the previous trend of rising inequality when economic growth mostly benefitted wealthier households (Figure ES4).

Poverty reduction was broad-based, allowing most lagging regions to catch up, except for rural areas in two provinces. Poverty converged from 46 percent in urban areas and 73 percent in rural areas in 2002 to 16 percent in both urban and rural areas in 2022. Today, over half of the poor (56 percent) reside in urban areas. Similar but slower convergence occurred between regions. The two main lagging regions, Nusa Tenggara (NT) and

FIGURE ES2: Poverty dropped starkly from 2002 to 2022 when measured with the absolute international poverty lines

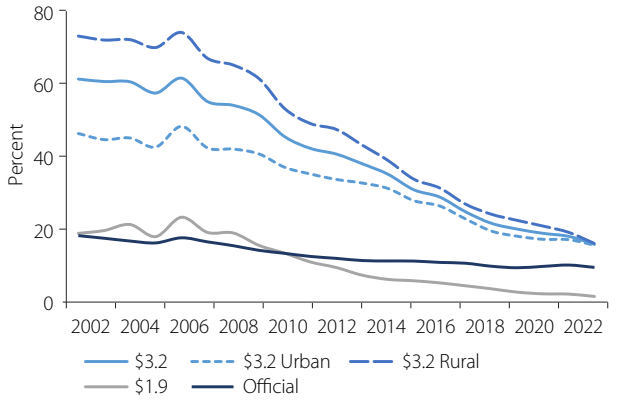


FIGURE ES3: Annualized consumption growth (by consumption percentile) became more pro-poor from 2011 onwards

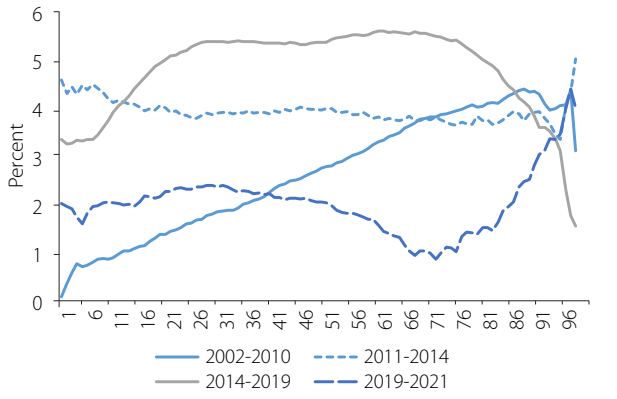


FIGURE ES4: Inequality increased substantially from 2002 until 2010 before stagnating and dropping from 2014 until 2019 and slightly increasing due to COVID-19 in 2021

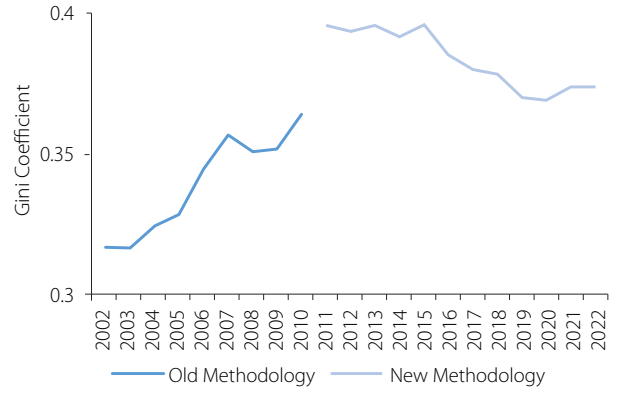


FIGURE ES5: Poverty rates across regions are converging, when using absolute poverty estimates

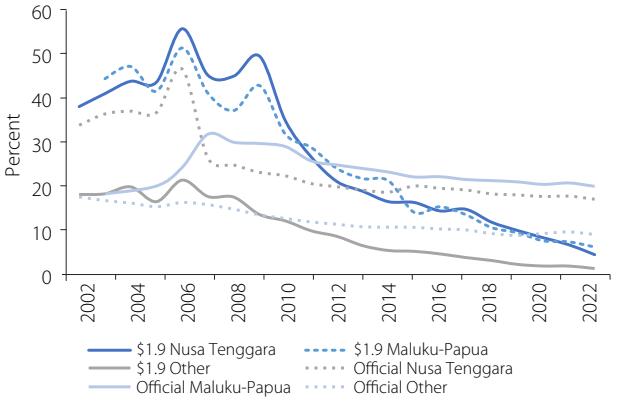
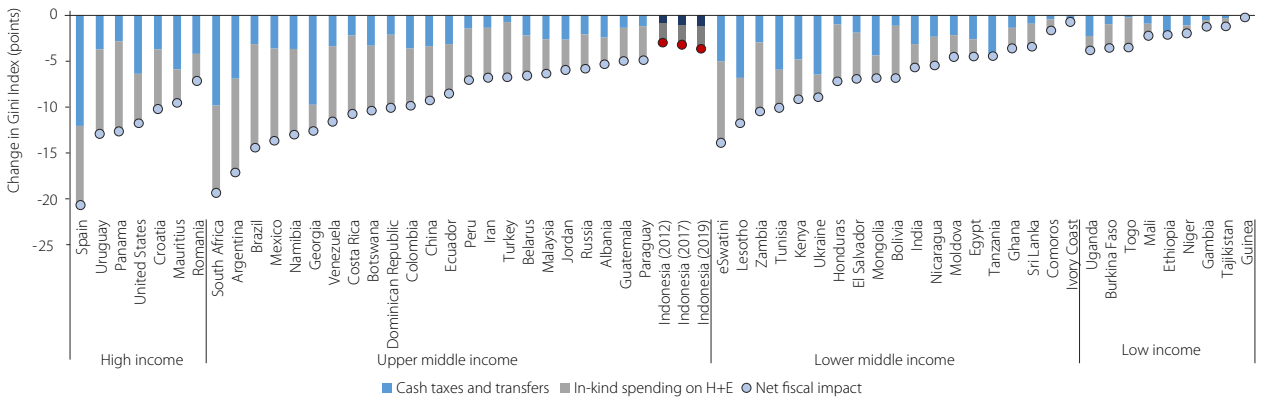


FIGURE ES6: Indonesia's fiscal policies only have limited impact on inequality, especially compared to middle income countries



Maluku-Papua (MP), saw their poverty rates decline by 50 percentage points from around 80 percent in 2002 to below 30 percent in 2022, compared to a drop of about 40 percentage points in the remaining regions (Figure ES5). However, rural areas in Nusa Tenggara and Maluku continue to lag.

Fiscal policies contributed to reduce poverty and inequality, but low government revenue collection and costly subsidies reduce fiscal space and limit more pro-poor investments. Inequality decreased by around 3 points of the Gini coefficient through fiscal policies (Figure ES6). This is substantially less than the range of 5 to 15 points for most middle and high-income countries for several reasons. First, fiscal revenues are low relative to GDP compared to peers (Figure ES7). Second, agricultural subsidies are high and distort the market, without obvious benefits for the poor. Third, costly energy subsidies have re-emerged after a temporary reduction, but with limited benefits for reduced poverty and inequality. Fourth, social assistance is more effective in reducing poverty (Figure ES8) but still insufficient to provide needed coverage and benefits despite its scale-up. Challenges in updating the targeting database increase inclusion and exclusion errors. Fifth, tight fiscal space led to under-investment in education and health, and—exacerbated by low administrative capacity of sub-national governments—hindered improvement in human capital outcomes and geographic disparities.

Low-productivity challenge

More than one-third of Indonesians remain at a such a low level of economic insecurity that a shock can push them into poverty. In 2019, 40 percent of Indonesians were economically insecure. Most of these households are non-poor but can fall into poverty when exposed to a shock. Economically insecure households can be forced to adopt adverse coping strategies, diminishing

FIGURE ES7: Indonesia's government revenues relative to GDP per capita remains low, limiting space for investments

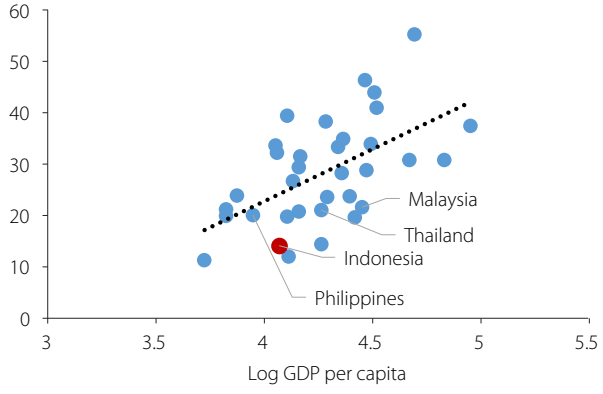
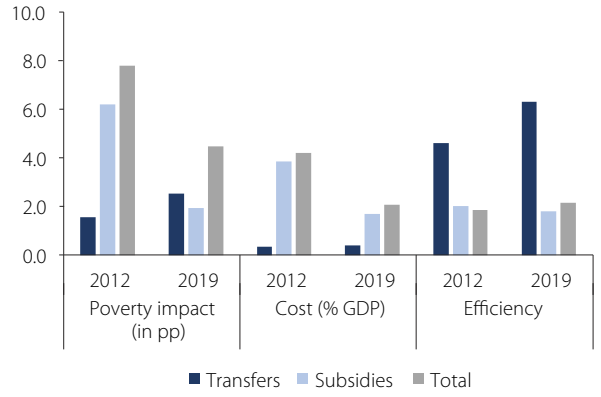


FIGURE ES8: Transfers are significantly more effective in reducing poverty than energy subsidies



their physical and human capital assets, which, in turn, reduces short and long-term productivity. They may also anticipate shocks and adopt conservative or risk-averse production and investment strategies, reducing their productivity even in the absence of a shock. Thus, regardless of whether adopted after or before a shock, adverse coping strategies reduce long-term productivity, which in turn lowers chances of securely escaping poverty.

Agriculture and low value-add (low-VA) services remained the most important drivers of poverty reduction, even though the work is often not very productive or sufficient to escape poverty. Agricultural incomes drove rural poverty reduction. However, many farmers remained poor as they were constrained to low-productivity subsistence and rice production. A distortionary set of incentives for agricultural producers and high prices for staples due to import restrictions contribute to slow diversification to higher value cash-crops, for which the soil might be more suited in some areas. Low-VA services played a key role in poverty reduction particularly in urban areas, with the share of workers rising in this sector. However, this work is often informal and low-productivity, with many workers remaining poor.

High-skilled jobs remain scarce in Indonesia, limiting pathways towards economic security. Some more productive opportunities were available—in manufacturing and high-VA services, for example. However, not enough workers had the right skills to take advantage of these opportunities. At the same time, the number of such high-skilled jobs – often found in manufacturing – remained well below expected levels relative to Indonesia's development status. In fact, premature deindustrialization reduced the output share of manufacturing from 48 percent in 2002 to 41 percent in 2019 while the service sector expanded from 36 to 46 percent. While service-led development is possible, the increasingly inward-looking economy missed out on productivity increases from global value chain integration and export competition. Productivity of services dropped from an average of 4.0 percent from 2000 to 2013 to 1.7 percent from 2014 to 2019 as growth of low-VA outpaced high-VA service jobs (Figure ES10). This absence of a productivity-increasing structural transformation undermines Indonesia's potential, not only in sustainably reducing poverty and economic insecurity, but also in economic growth.

Low urban migration limits productivity gains as fewer workers can take advantage of positive agglomeration forces. Urban areas in Indonesia gained more productivity from agglomeration forces than from more productive workers moving to urban areas. The official Indonesian urbanization trend is largely due to change of classification as rural areas increased density to become more urban, rather than rural households moving to urban areas. Nevertheless, urbanization is, and will remain, an important force. Even though urban areas offered most higher-productivity work, such as in manufacturing and high-VA services, the number of such opportunities was insufficient. In addition, urban areas suffered from high cost of living (due to housing costs), traffic congestions undermining urban connectedness, and high air pollution. Thus, urban areas were not able to attract more workers, hence limiting further agglomeration gains. This also limited their spill-over effects into nearby rural areas, providing fewer opportunities for diversification from agriculture.

Many women remained excluded from the labor force, constrained by cultural norms and home care responsibilities, thus limiting livelihoods opportunities for households. While above 80 percent of men (although on a slowly decreasing trend) are in the labor force, only about 50 percent of women are either employed or looking for work. Cultural norms played an important role, translating into labor market discrimination. Women earned less than men, driven by a specific "female effect". They also had care responsibilities for dependent household members, limiting their participation in the labor force. This explains a persistent small gender poverty gap, especially for women around child-bearing age. While caring for household members is work, it is often a less remunerative activity than participating in the labor market. This limits livelihoods for households, and can make the difference between being poor, economically insecure, or economically secure.

FIGURE ES9: Indonesia's human capital index is lower than peers, with some areas lagging far behind

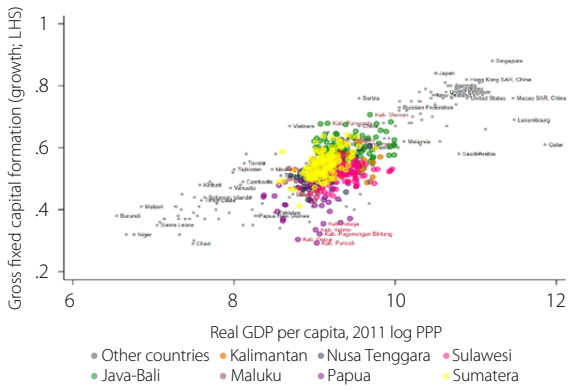
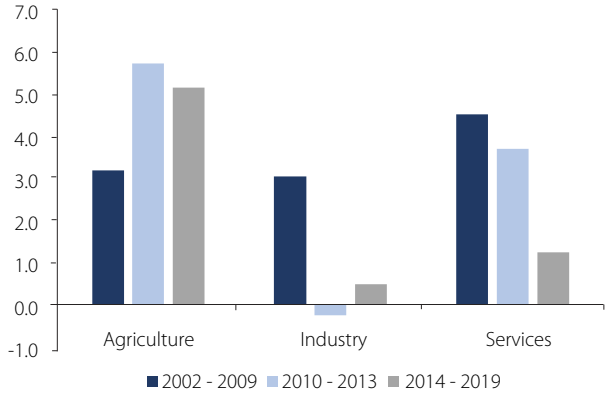


FIGURE ES10: Labor productivity growth is dropping especially in industry and services



Human capital outcomes in Indonesia are slowly improving but remain below peer countries, especially in the Indonesian provinces of Maluku-Papua and Nusa Tenggara, undermining productive potential of the population and exacerbating inequality. Access to basic education is nearly universal since 2015, except for Nusa Tenggara and Maluku-Papua, where primary school enrollment rates stagnated at around 80 percent. At the secondary level, enrollment rates between poor and non-poor converged but plateaued at a relatively low level of around 80 percent. Learning quality remains a concern, as the expected 12.4 years of schooling translates to only 7.8 learning-adjusted years. Indonesia's maternal mortality rate, and other key health indicators, fluctuated and remained significantly higher compared to peers. Accordingly, Indonesia's human capital index improved only slightly from 0.5 in 2010 to 0.54 in 2020; this means that a child born in Indonesia today would only be 54 percent as productive as if receiving full education and health. This is not only relatively low compared to Indonesia's peers (Figure ES9), but also exhibits strong geographic disparities. Nusa Tenggara and Maluku-Papua, have worse outcomes, comparable to countries with significantly lower GDP per capita, a continued cause of inequality in the medium and long-term.

Shock challenges

Shocks, such as COVID-19, can threaten poverty reduction progress. The COVID-19 pandemic pushed Indonesia's economy into a recession before rebounding in 2021. This provided a stark example of a severe shock affecting employment and health. It altered poverty reduction significantly, affecting better-off, but not the richest, households most, especially in urban areas (Figure ES11). The Government rapidly scaled-up social assistance, reaching more beneficiaries and increasing

FIGURE ES11: COVID-19 affected consumption growth from 2020 to 2021 (shown by consumption percentile) in urban areas much more strongly than in rural areas

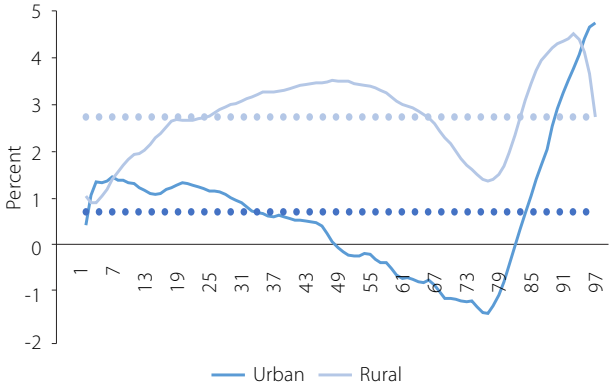


FIGURE ES12: Share of social protection beneficiaries in March 2021, who received any benefit since the onset of the pandemic

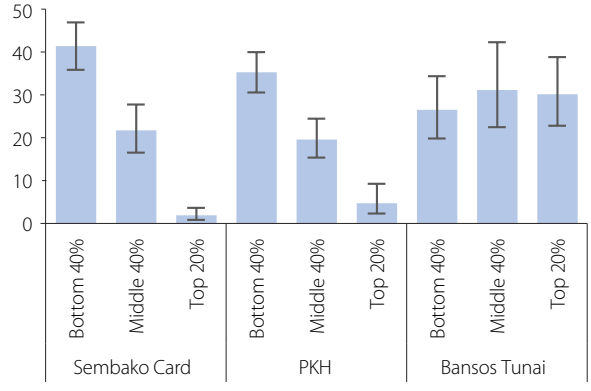


FIGURE ES13: Share of program beneficiaries assessing benefits as adequate

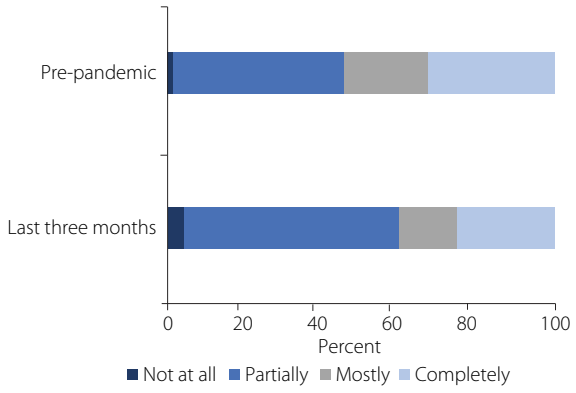
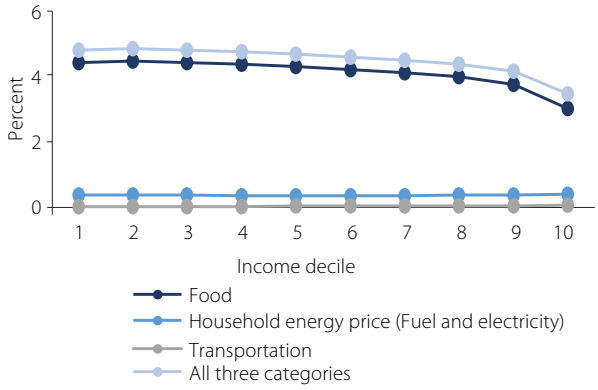


FIGURE ES14: Increase in prices in the first half of 2022 significantly deteriorated purchasing power, but less for richer households



the level of benefits. However, not all households in need received benefits, nor were benefits always adequate. Even among the bottom 40, less than 40 percent received benefits from the expanded social assistance programs (Figure ES12). Less than half of program beneficiaries self-assessed the benefits of current programs as adequate at the time of the COVID-19 pandemic (Figure ES13). Also, the social insurance program did not manage to protect all workers. In particular, informal workers often neither had no access to sick leave nor were not eligible for government unemployment insurance.

Climate change is expected to increase the frequency and severity of natural shocks, which can trap poor households into poverty and push economically insecure households back into it. Between 1990-2021, Indonesia experienced more than 300 natural disasters, including 200 floods, affecting more than 11 million people. Climate-related disasters already accounted for around 70 percent of the total number of disasters from 1990 to 2021. Although climate change affects the whole population, the poor and economically insecure are likely to carry a disproportionate burden. They rely more often on agriculture, which is particularly negatively affected, and they often live in areas prone to risk without resources to protect assets and less savings to recover.

Climate change mitigation will particularly harm workers in carbon-intensive industries if they are not protected. Alongside Indonesia's development over the last decades, its greenhouse gas (GHG) emissions rose sharply, making Indonesia the seventh largest emitter in the world. Indonesia is the world's largest coal exporter, with coal exports representing 2 percent of GDP, or 13 percent of total goods exports. In 2021, the Government committed to substantial reduction of GHG emissions and reaching net-zero emission by 2060. Phasing out coal will particularly affect coal-producing communities, with coal mining workers representing 0.2 percent of total formal employees in 2018. However, a larger number of coal workers are informally employed. With coal mining concentrated in specific areas and communities, phasing-out coal will directly decrease employment in mining but also indirectly through firms depending on coal mining and their workers.

Combined with global uncertainties, such as Russia's invasion of Ukraine, these risks threaten poverty reduction progress in Indonesia if households are not protected. The war in Europe has triggered high volatility in prices, especially for food and fuel. The purchasing power of households in Indonesia deteriorated (Figure ES14), mostly because of the increase in food prices and the large food share in consumption. At the same time, the Government kept fuel prices constant by implicitly increasing fuel subsidies, adding to fiscal strains given the larger budgetary needs. With insufficient access to social protection and financial services, poor and economically insecure households are less able to weather shocks and might have to resort to adverse coping strategies.

Pathways towards economic security

On the path to high-income, Indonesia's poverty reduction policies need to be broadened through a multi-pronged approach: creating better opportunities, protecting households against poverty, and focusing fiscal resources on pro-poor investments, while promoting better information and evidence for decision making. Given Indonesia's development and ambition, a broader definition of poverty, for example around the US$ 3.20 2011 PPP poverty line, would be more adequate. Better opportunities are needed in rural areas, through higher agricultural productivity, as well as urban areas, by making cities engines of growth. Higher productivity growth in low-carbon sectors can boost incomes and reduce poverty, while taking advantage of digital opportunities. However, shocks are inevitable and will become more frequent with climate change, but resilience can be fostered to minimize their harm. With about one-half of the non-poor population susceptible to falling back into poverty, better resilience and protection are needed. These measures will require public investments in a fiscally tight space. Policies need to ensure cost-effective design while raising revenues and lift constraints to improve human capital equitably across the country. Finally, policy makers need to close remaining data and knowledge gaps to inform more effective policies.

Creating better opportunities

Policies can support the private sector to create better, higher-productivity jobs, in the context of climate change, the ongoing redesign of global value chains (GVCs), and digitalization. To continue reducing broad poverty and help households to reach economic security, better opportunities are needed. Enhanced agricultural productivity can provide better livelihoods for farmers and allow them to escape poverty. Urban areas need investments to allow them to become engines of productivity growth. Better opportunities in low-carbon sectors with high-productivity growth can boost incomes. Integration into global value chains provides opportunities for Indonesia to increase its productivity through competitiveness. Digitalization similarly provides opportunities, and Indonesia can take advantage of its growing digital economy. Finally, more affordable and high-quality childcare can create jobs and provide opportunities for women to join the labor force.

Increasing agricultural productivity can boost agricultural incomes. Enhanced agricultural productivity using climate-smart approaches can provide better livelihoods for farmers and allow them to escape poverty, which is particularly relevant for households in remote areas. For the two-thirds of poor, rural agricultural households, their work is insufficient to escape poverty given low productivity. Improving agricultural extension services and market access can boost agricultural productivity. Removing agricultural subsidies focused on food production can encourage farming of cash crops, often better suited for some soil conditions. Current subsidies are expensive and show little benefits. Removing food import barriers can also help, as they keep food prices high without helping poor farmers—since most are net consumers of food—while diverting resources from higher value crops.

Investing in urban infrastructure can unlock the potential of cities to act as engines of growth and amplify rural spill-over effects. Urban areas need investments to become engines of productivity growth. Nurturing a more meaningful structural transformation can create more opportunities for workers in urban areas. Investments in urban infrastructure can help lower the cost of living in urban places. Together, these make cities more attractive places to live. More workers moving to urban areas increase agglomeration forces, helping to unlocking productivity gains. This also contributes to job creation in nearby rural areas, creating opportunities outside agriculture.

Better opportunities are needed in low-carbon sectors with high productivity growth to boost incomes and reduce poverty. Competitiveness policies, including less restrictive trade and foreign direct investment policies as well as more effective anti-competitive policies, can foster job growth, while eco industrial parks and circular economy solutions can lower the carbon footprint of high-productivity sectors. Integration into GVCs attracts foreign direct investment for exports and can increase productivity, especially in low-carbon sectors. The current global remapping of GVCs provides opportunities for Indonesia to bolster its integration, but this would require reversing increasingly restrictive trade policies

and opening the economy for external opportunities. Similarly, digitalization can provide opportunities but requires digital skills, connectivity, and a supportive policy environment. At the same time, workers need to be equipped with the right skill mix to prepare for new jobs; for example, policies must increase the level and quality of secondary and especially tertiary education and invest in technical and vocational trainings (TVET).

Offering affordable childcare can create jobs, foster female labor force participation, and improve productivity. With affordable childcare, women can shift from unpaid to higher-productivity work, improving labor market skills and firm productivity. Childcare helps close the gender wage gap, which is still substantial in Indonesia. Childcare creates jobs, and fosters early childhood learning, with long-term benefits for an economy's productivity.

Protecting against poverty

A combination of social assistance, social insurance, financial inclusion, and resilient infrastructure investments can help keep households out of poverty. Better opportunities are essential to sustainably lift households out of poverty and economic insecurity. However, social protection measures need to complement job creation to help poor households and to protect others from falling into poverty. Social assistance can be better targeted and be more comprehensive. A more agile social assistance system and expanded coverage of social insurance, including informal workers, are needed to improve household resilience against falling into poverty. Improved financial inclusion can help households smooth income shocks without resorting to adverse coping strategies. Investments in resilient infrastructure and climate-smart agricultural production are also important to limit the impact of shocks.

Scaling-up social assistance includes improving targeting and providing more adequate benefits. COVID-19 provided lessons on how to improve Indonesia's social assistance system. First, coverage of the targeting database can be expanded beyond the bottom 40 percent to include all households, to support swift and flexible expansion of targeting in the case of shocks. Second, targeting accuracy can be improved—for example, through regular updating of the targeting database and calibrating eligibility criteria to reflect new poverty definitions. Third, adequacy of benefits can be improved. Such an improved social assistance system will better mitigate negative shock effects on households, who will therefore reduce the use of destructive coping strategies and be better able to make longer-term investments in higher-productivity activities.

Expanding coverage of social insurance to all workers can increase protection and productivity. In addition to social assistance, social insurance can help mitigate the impact of harmful shocks. Unemployment and health shocks are the most important household-level shocks, and unemployment and health insurance can provide protection. However, unemployment insurance is now only available to salaried, usually formal, workers in Indonesia. In addition, health shocks often have implications for labor incomes, due to lower productivity or unavailability to work because of sickness or care needs. Only formal workers have protection for these events currently. Thus, poorer households, who have less secure work, benefit the least from protection, not only making them susceptible to falling into poverty, but also limiting progress on inequality.

Including the poor in the digital financial system can play a critical role in creating shock resilience and reducing poverty. Many Indonesian households remain unbanked; even though financial inclusion has improved, half of all adults in the bottom 40 still did not have a bank account in 2021. The lack of an account reduces the ability to save, which can smooth consumption during a shock and replace lost assets. It also excludes households from receiving digital payments—for example, from government delivering social assistance quickly and efficiently in response to a shock. Including more households in digital financial services can foster resilience against shocks as a complement to social assistance and insurance. Establishing a well-functioning and fully interoperable payment system together with digital IDs and open banking policies can expand financial services and make them more attractive for households, ultimately contributing to increased resilience.

Investing in resilient infrastructure and climate-smart investments can reduce the harmful effects of natural disasters. Shocks from disasters put poverty reduction progress at risk. Although poor households are not necessarily more exposed to natural disasters, they are less resilient and, thus, suffer the most from shocks. For example, in areas affected by the September 2018 earthquake in central Sulawesi, over one in five households from the bottom 40 percent were still in temporary housing seven months later, compared to 13 percent of the top 20 percent. Climate change will also reduce expected agricultural yields due to changes in precipitation, temperature, and extreme weather events. Thus, investments in resilient infrastructure and climate-smart agricultural production are important to limit shock devastation in the first place.

Financing pro-poor investments

Increasing tax revenues and removing wasteful subsidies can create fiscal space to make pro-poor investments, while increased sub-national administrative capacity can improve public services. Investments in education, health, and social protection will require more financial resources than currently available. Tax revenues can be increased through a reduction of value-added tax (VAT) exemptions as well as excise taxes on tobacco, alcohol, and sugar-sweetened beverages, which will create beneficial health effects. A carbon tax can raise revenue and incentivize a shift to a low-carbon economy, while reducing air pollution. Removing distortionary subsidies—especially for energy and agriculture—can also create additional fiscal resources. A well-functioning social assistance system can mitigate the adverse effects on the poor from these measures, at a fraction of the cost of current policies. The additional fiscal resources from these measures could be redirected to finance pro-poor investments to create better jobs and alleviate poverty. In addition, improving the administrative capacity of sub-national governments would increase spending quality, especially in education and health, to improve human capital and attenuate geographic disparities.

Removing VAT exemptions and increasing taxes on alcohol, tobacco, sugar, and carbon can generate additional government revenue. A practical way to quickly increase VAT revenue is to eliminate exemptions and preferred rates for various goods and services. While these items often represent a greater share of poorer household consumption, they are also consumed by richer households and usually in greater amounts. One-third of potential VAT revenues (0.7 percent of GDP) in Indonesia are lost through the current exemptions structure, enough to have funded the entire expanded social assistance budget in 2019. Tobacco, alcohol, and sugar-sweetened beverages have adverse health effects, with large cost implications for public health. Increasing tax on these goods will reduce their consumption, saving costs for the public health system while generating government revenue. Finally, a carbon tax can increase revenue while making investments in high-carbon sectors less attractive. This will help increase Indonesia's competitiveness—for example, with respect to exports to countries that levy import tariffs on high-carbon products, like the EU's carbon border adjustment mechanism. These reforms can hurt poor households, potentially reducing their income, but social assistance programs can compensate households. This would cost only a fraction of revenues gained but have a much larger effect on reducing inequality.

Removing energy and agricultural subsidies can raise further fiscal resources. Energy subsidies are costly and ineffective in reducing poverty and inequality. While an ambitious reform in 2015 started to reduce energy subsidies, social assistance was not scaled-up fast enough with sufficient compensation. This might have contributed to a political economy gravitating back to subsidies, which returned from costing 0.7 percent of GDP in 2016 to 1.7 percent of GDP in 2019. However, they reduced poverty only by 2.4 percentage points, as much as a core set of social assistance programs that cost only 0.4 percent of GDP. Social assistance is not only more efficient to reduce poverty but it is also strongly progressive in lowering inequality. Most fuel subsidies, on the other hand, are not well targeted and can even be regressive, while contributing to higher GHG emissions. The Government also spends 2 to 3 percent of GDP on agriculture, mostly on subsidies for agricultural products. However, subsidies are not well targeted to poor farmers, are largely ineffective, distort the agricultural market, and undermine agricultural productivity. Revisiting agricultural expenditures to enhance competitiveness and productivity can lead to large fiscal savings.

Increasing sub-national administrative capacity can improve quality of spending, service delivery, and human capital, while attenuating geographic disparities. Indonesia started to decentralize about two decades ago. Sub-national governments (SNGs) became responsible for about 40 percent of total government expenditures for service delivery in education and health. However, the quality of subnational spending is limited in both allocative and technical efficiency. Allocative efficiency suffers from misalignment of SNG resources, under-serving areas with higher poverty rates, thus exacerbating geographic disparities and worsening inequality. Technical efficiency is undermined by growing SNG budgets without improvement of service delivery outcomes. Improving administrative capacity, with a focus on the lowest-capacity SNGs, can improve overall outcomes and make them more equitable, while helping overcome stark geographic disparities in non-monetary poverty.

Improving future policies

Strengthening official statistics to enable data use and close analytical gaps can help inform and improve policy design. Closing some important gaps can improve official statistics. For example, Indonesia needs to create an absolute poverty line and create an appropriate rural consumer price index (CPI). Use of Indonesia's impressive data collection can be increased by providing more open access to data. New challenges—such as the role of structural transformation and informality, and their implications for poverty—will need new policies based on new and better data and evidence.

RINGKASAN EKSEKUTIF

Ikhtisar

Indonesia memiliki rekam jejak pengentasan kemiskinan yang mengesankan, dan dapat membangun diatas keberhasilan tersebut untuk mengatasi target pengentasan kemiskinan yang lebih ambisius. Indonesia telah mencapai hasil yang mengesankan dalam mengurangi kemiskinan, dengan daerah-daerah yang sebelumnya tertinggal berhasil mengejar ketertinggalan nya dan tujuan Pemerintah untuk mengentaskan kemiskinan ekstrim pada tahun 2024 secara praktis telah terpenuhi. Namun demikian, sebagai calon negara berpenghasilan menengah ke atas, Indonesia mungkin ingin memperluas fokusnya di luar kemiskinan ekstrem dengan beralih dari garis kemiskinan US$ 1,90 2011 PPP (paritas daya beli) ke garis yang lebih tinggi untuk negara berpenghasilan menengah. Fokusnya juga harus mencakup rumah tangga yang secara ekonomi tidak aman, yang rentan jatuh kembali ke dalam kemiskinan. Apakah Indonesia siap menghadapi tantangan ini? Hasil sumber daya manusia masih belum memuaskan dan masih ada perbedaan geografis yang mengkhawatirkan. Produktivitas yang rendah masih menghalangi rumah tangga untuk menjadi aman secara ekonomi. Guncangan, termasuk dari perubahan iklim, terus mengancam upaya pengentasan kemiskinan. Kami mengidentifikasi beberapa jalur utama untuk mengatasi tantangan ini secara komprehensif dan berkelanjutan (Gambar ES1).

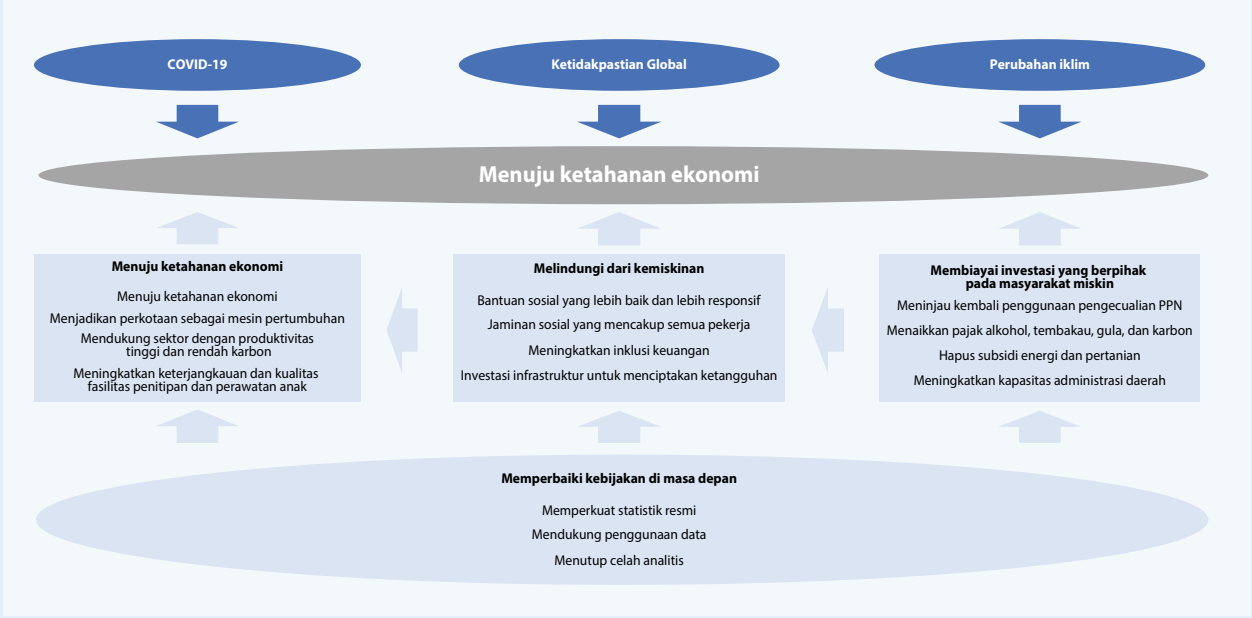
(i) Menciptakan peluang yang lebih baik dalam produktivitas yang lebih tinggi dan pekerjaan rendah karbon untuk membantu rumah tangga menjadi aman secara ekonomi.

(ii) Meningkatkan perlindungan sosial dan inklusi keuangan untuk memitigasi kerugian akibat adanya guncangan di masa mendatang.

(iii) Mengembangkan sistem fiskal yang lebih efektif untuk investasi yang lebih berpihak pada masyarakat miskin yang berkontribusi pada sumber daya manusia melalui pemberian layanan publik yang lebih baik.

(iv) Menutup kesenjangan data dan pengetahuan untuk memperbaiki kebijakan di masa mendatang untuk mendukung agenda ini.

GAMBAR ES1: Empat jalur dengan prioritas kebijakan (hijau) menuju ketangguhan ekonomi dapat mengatasi tantangan utama (oranye) yang dihadapi Indonesia



Kemajuan dan tantangan

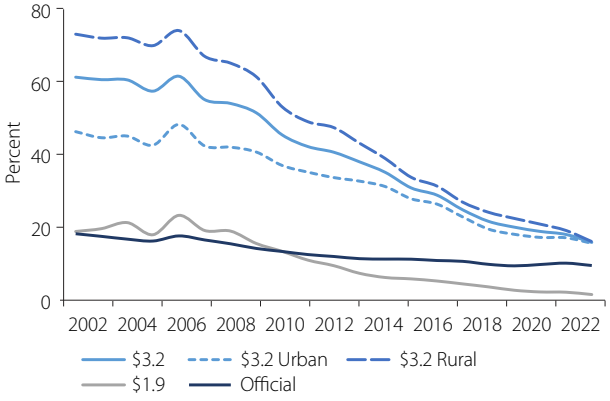
Tren

Setelah memberantas hampir semua kemiskinan ekstrim, Indonesia kini dapat beralih untuk memperluas definisi kemiskinannya sesuai dengan status pendapatan menengahnya. Kemiskinan ekstrim yangdidefinisikan sebagai hidup dengan kurang dari US$ 1,90 2011 PPP (paritas daya beli) per hari, turun dari 19 persen pada tahun 2002 menjadi 1,5 persen pada tahun 2022 (Gambar ES2), secara praktis memenuhi tujuan Pemerintah untuk memberantas kemiskinan ekstrim lebih cepat dari jadwal yang diharapkan pada tahun 2024. Sejumlah kecil kemiskinan friksional yang ekstrim kemungkinan besar akan tetap ada untuk beberapa waktu. Dengan kemiskinan ekstrim yang hampir hilang, strategi pengentasan kemiskinan harus memperluas fokus nya agar mencakup juga rumah tangga miskin – tetapi tidak sangat miskin. Negara berpenghasilan menengah ke bawah menggunakan garis kemiskinan yang lebih tinggi yang ditetapkan sebesar US$ 3,20 PPP (paritas daya beli) 2011 per hari.

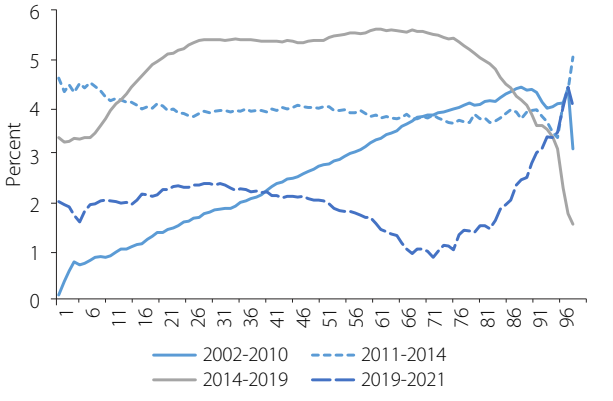
Bahkan dengan definisi kemiskinan yang lebih luas, Indonesia telah mencapai kemajuan yang luar biasa dalam pengentasan kemiskinan, sementara ketimpangan perlahan menurun. Kemiskinan, yang diukur pada lini negara berpenghasilan menengah ke bawah sebesar US$ 3,20 2011 PPP (paritas daya beli) per hari juga menurun tajam dari 61 persen pada tahun 2002 menjadi 16 persen pada tahun 2022. Peningkatan konsumsi dalam negeri mendorong pengentasan kemiskinan dalam dekade terakhir, berkontribusi terhadap pertumbuhan lapangan kerja di pasar tenaga kerja yang ketat dan peningkatan upah riil. Sifat pertumbuhan yang inklusif ini (Gambar ES3) membalikkan tren peningkatan ketimpangan sebelumnya di saat pertumbuhan ekonomi sebagian besar menguntungkan rumah tangga yang lebih kaya (Gambar ES4).

Pengentasan kemiskinan berbasis luas, yang memungkinkan sebagian besar daerah tertinggal untuk mengejar ketinggalan, kecuali daerah pedesaan

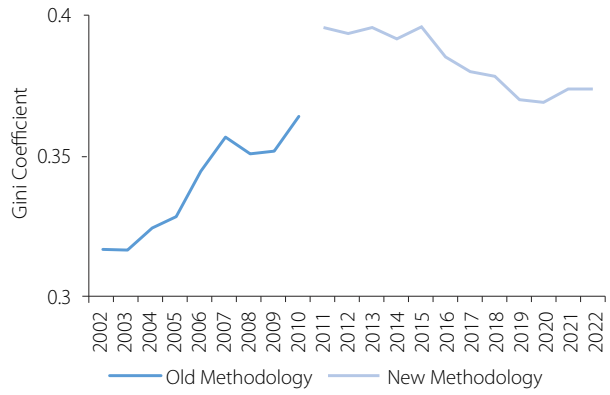
GAMBAR ES2: Kemiskinan turun drastis dari tahun 2002 hingga 2022 jika diukur dengan garis kemiskinan internasional absolut



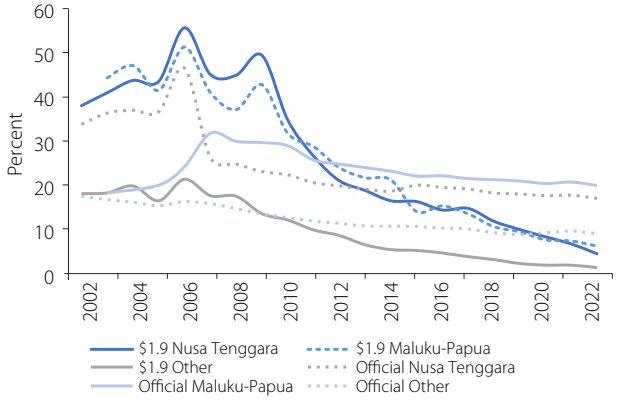
GAMBAR ES3: Pertumbuhan konsumsi tahunan (berdasarkan persentil konsumsi) menjadi lebih berpihak pada masyarakat miskin sejak 2011 dan seterusnya



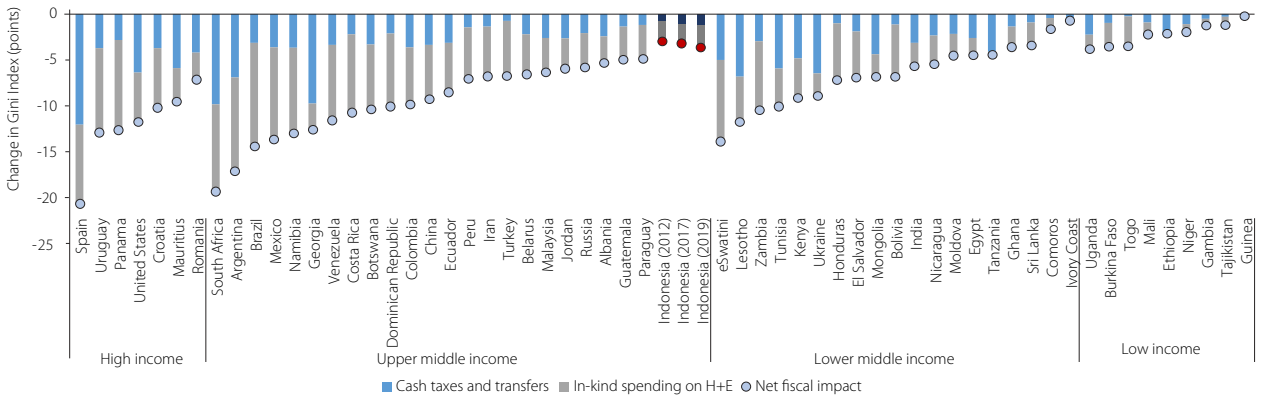
GAMBAR ES4: Ketimpangan meningkat secara substansial dari tahun 2002 hingga 2010 sebelum stagnan dan menurun dari tahun 2014 hingga 2019 dan sedikit meningkat akibat COVID-19 pada tahun 2021



GAMBAR ES5: Tingkat kemiskinan di seluruh wilayah mengalami konvergensi, saat menggunakan estimasi kemiskinan absolut



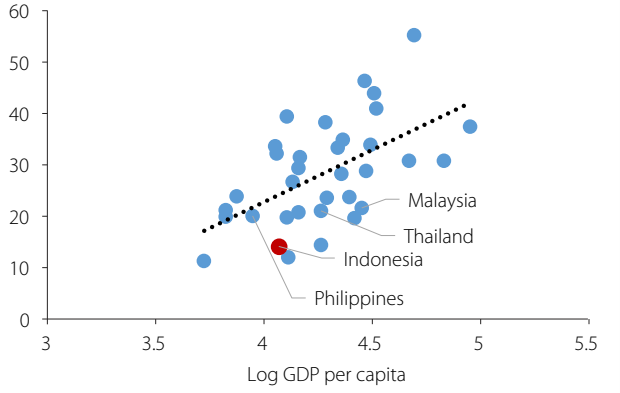
GAMBAR ES6: Kebijakan fiskal Indonesia hanya berdampak terbatas pada ketimpangan, terutama jika dibandingkan dengan negara-negara berpenghasilan menengah



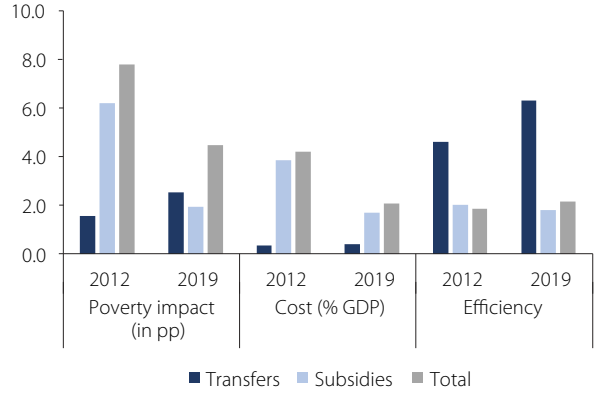
di dua provinsi. Kemiskinan menurun dari 46 persen di daerah perkotaan dan 73 persen di daerah pedesaan pada tahun 2002 menjadi 16 persen baik di daerah perkotaan maupun pedesaan pada tahun 2022. Saat ini, lebih dari separuh penduduk miskin (56 persen) tinggal di daerah perkotaan. Konvergensi serupa tetapi lebih lambat terjadi antar daerah. Dua daerah tertinggal utama, Nusa Tenggara (NT) dan Maluku-Papua (MP), mengalami penurunan tingkat kemiskinan sebesar 50 poin persentase dari sekitar 80 persen pada tahun 2002 menjadi di bawah 30 persen pada tahun 2022, dibandingkan dengan penurunan sekitar 40 poin persentase di wilayah yang tersisa (Gambar ES5). Namun demikian, daerah pedesaan di Nusa Tenggara dan Maluku masih tetap tertinggal.

Kebijakan fiskal berkontribusi dalam mengurangi kemiskinan dan ketimpangan, tetapi penerimaan pemerintah yang rendah dan subsidi yang berbiaya tinggi mengurangi ruang fiskal dan membatasi lebih banyak investasi yang berpihak pada masyarakat miskin. Ketimpangan menurun sekitar 3 poin koefisien Gini melalui kebijakan fiskal (Grafik ES6). Capaian ini dibawah capaian sebagian besar negara berpenghasilan menengah dan tinggi yang berkisar antara 5 hingga 15 Gini poin karena beberapa alasan. Pertama, pendapatan fiskal relatif terhadap PDB termasuk rendah dibandingkan dengan negara-negara setara (Gambar ES7). Kedua, subsidi pertanian tinggi dan mendistorsi pasar, tanpa manfaat nyata bagi kaum miskin. Ketiga, subsidi energi yang mahal muncul kembali setelah adanya pengurangan sementara, tetapi dengan manfaat yang terbatas untuk mengurangi kemiskinan dan ketimpangan. Keempat, bantuan sosial lebih efektif dalam mengurangi kemiskinan (Gambar ES8) tetapi masih belum cukup untuk memberikan cakupan dan manfaat yang dibutuhkan meskipun telah ditingkatkan. Tantangan dalam memperbarui Data Terpadu Kesejahteraan Sosial (DTKS), yang merupakan data rujukan untuk penetapan target, dapat meningkatkan

GAMBAR ES7: Pendapatan pemerintah Indonesia relatif terhadap PDB per kapita tetap rendah, sehingga membatasi ruang untuk investasi



GAMBAR ES8: Dana transfer jauh lebih efektif dalam mengurangi kemiskinan daripada subsidi energi



kesalahan inklusi dan eksklusi. Kelima, ruang fiskal yang ketat menyebabkan kurangnya investasi di bidang pendidikan dan kesehatan, dan – diperparah oleh rendahnya kapasitas administrasi pemerintah daerah – menghambat peningkatan hasil sumber daya manusia dan kesenjangan geografis.

Tantangan produktivitas yang rendah

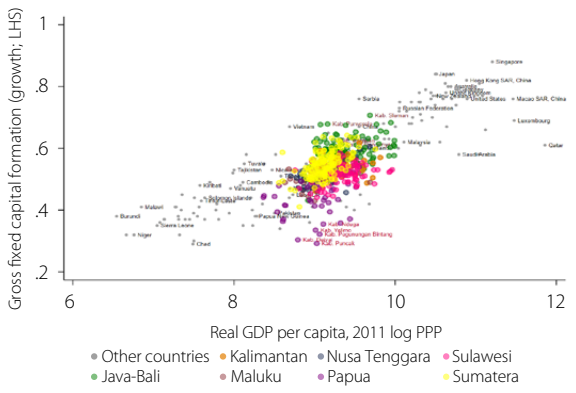
Lebih dari sepertiga penduduk Indonesia rentan jatuh miskin jika terkena guncangan Pada tahun 2019, 40 persen penduduk Indonesia tidak aman secara ekonomi. Sebagian besar rumah tangga ini tidak miskin tetapi dapat jatuh miskin jika terkena guncangan. Rumah tangga yang tidak aman secara ekonomi dapat dipaksa untuk mengadopsi strategi yang merugikan mereka untuk mengatasi guncangan seperti mengurangi aset fisik dan sumber daya manusia mereka, yang pada gilirannya mengurangi produktivitas jangka pendek dan jangka panjang. Mereka juga dapat mengantisipasi guncangan dan mengadopsi strategi produksi dan investasi yang konservatif atau menghindari risiko, mengurangi produktivitas mereka bahkan tanpa adanya guncangan. Jadi, terlepas dari apakah diadopsi setelah atau sebelum guncangan, strategi penanggulangan yang merugikan mengurangi produktivitas jangka panjang, yang pada gilirannya menurunkan peluang untuk keluar dari kemiskinan dengan aman.

Sektor pertanian dan jasa dengan nilai tambah rendah (NT rendah) tetap menjadi pendorong utama pengentasan kemiskinan, meskipun pekerjaan tersebut seringkali tidak terlalu produktif atau tidak cukup untuk mendukung upaya keluar dari kemiskinan. Pendapatan pertanian mendorong pengentasan kemiskinan di pedesaan. Namun demikian, banyak petani tetap miskin karena mereka terkendala pada produktivitas rendah dalam strategi pemenuhan kebutuhan hidup dan produksi beras. Serangkaian insentif yang menyimpang bagi produsen pertanian dan harga bahan pokok yang tinggi karena pembatasan impor berkontribusi pada lambatnya diversifikasi ke tanaman komersial bernilai lebih tinggi, di mana tanah di beberapa daerah mungkin lebih cocok. Sektor jasa dengan NT rendah memainkan peran penting dalam pengentasan kemiskinan, khususnya di daerah perkotaan, dengan jumlah pekerja yang meningkat di sektor ini. Namun demikian, pekerjaan ini seringkali bersifat informal dan produktivitasnya rendah, dengan banyak pekerja yang tetap miskin.

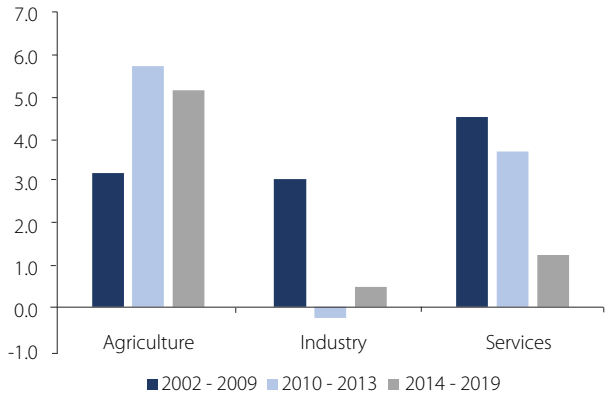
Pekerjaan berketerampilan tinggi tetap langka di Indonesia, membatasi jalan menuju keamanan ekonomi. Beberapa peluang yang lebih produktif sebenarnya tersedia – seperti di bidang manufaktur dan jasa dengan NT tinggi . Namun demikian, tidak cukup banyak pekerja yang memiliki keterampilan yang tepat untuk memanfaatkan peluang ini. Pada saat yang sama, jumlah pekerjaan berketerampilan tinggi tersebut – yang sering didapati di bidang manufaktur – tetap jauh di bawah tingkat yang diharapkan jika dibandingkan dengan status pembangunan Indonesia. Faktanya, deindustrialisasi prematur mengurangi pangsa keluaran manufaktur dari 48 persen pada tahun 2002 menjadi 41 persen pada tahun 2019 sementara sektor jasa bertumbuh dari 36 menjadi 46 persen. Meskipun pembangunan berbasis jasa dimungkinkan, ekonomi yang semakin berorientasi ke dalam kehilangan potensi peningkatan produktivitas dari integrasi rantai nilai global dan persaingan ekspor. Produktivitas sektor jasa turun dari rata-rata 4,0 persen dari tahun 2000 hingga 2013 menjadi 1,7 persen dari tahun 2014 hingga 2019 karena pertumbuhan pekerjaan jasa dengan NT rendah melampaui pekerjaan jasa dengan NT tinggi (Gambar ES10). Tidak adanya transformasi struktural yang meningkatkan produktivitas melemahkan potensi Indonesia, tidak hanya dalam menurunkan kemiskinan dan kerawanan ekonomi secara berkelanjutan, tetapi juga dalam pertumbuhan ekonomi.

Migrasi perkotaan yang rendah membatasi peningkatan produktivitas karena lebih sedikit pekerja yang dapat memanfaatkan kekuatan aglomerasi positif. Peningkatan produktivitas di daerah perkotaan lebih banyak dipicu oleh kekuatan aglomerasi dibandingkan karena pekerja yang lebih produktif pindah ke daerah perkotaan. Tren urbanisasi resmi Indonesia sebagian besar disebabkan oleh perubahan klasifikasi karena daerah pedesaan meningkatkan kepadatannya menjadi lebih ke perkotaan, daripada rumah tangga pedesaan pindah ke daerah perkotaan. Namun demikian, urbanisasi akan tetap menjadi kekuatan yang penting. Meskipun daerah perkotaan menawarkan

GAMBAR ES9: Indeks modal manusia Indonesia lebih rendah dari negara-negara lain, dengan beberapa daerah tertinggal jauh



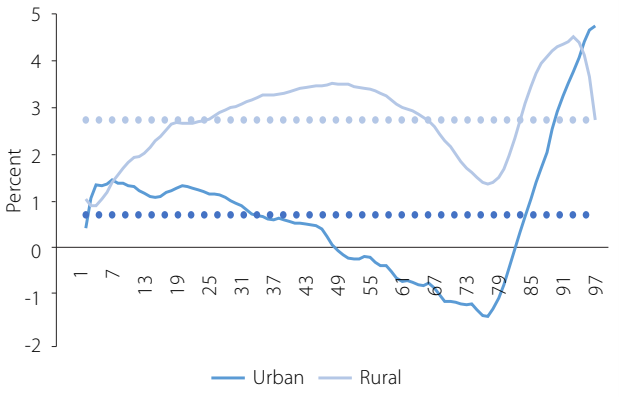
GAMBAR ES10: Pertumbuhan produktivitas tenaga kerja menurun terutama di sektor industri dan jasa



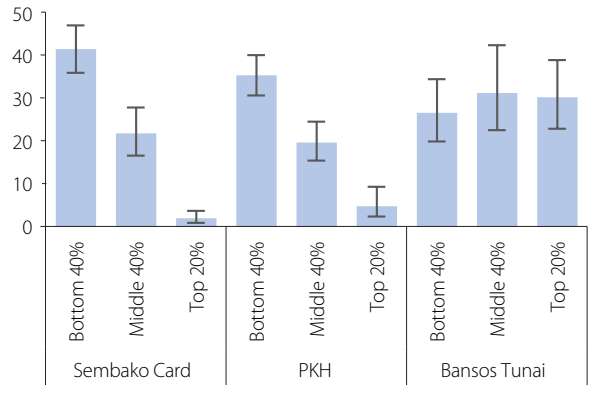
sebagian besar pekerjaan dengan produktivitas lebih tinggi, seperti di sektor manufaktur dan jasa dengan NT tinggi, jumlah peluang seperti itu tidak mencukupi. Selain itu, daerah perkotaan memiliki biaya hidup yang tinggi (karena biaya perumahan), kemacetan lalu lintas yang mengganggu keterhubungan perkotaan, dan pencemaran udara yang tinggi. Dengan demikian, daerah perkotaan tidak dapat menarik lebih banyak pekerja, sehingga membatasi keuntungan aglomerasi lebih lanjut. Hal ini juga membatasi efek limpahan mereka ke daerah pedesaan terdekat, memberikan peluang yang lebih kecil untuk diversifikasi dari pertanian.

Banyak perempuan belum menjadi bagian dari angkatan kerja, dibatasi oleh norma budaya dan tanggung jawab perawatan keluarga di rumah, sehingga membatasi peluang mata pencaharian untuk rumah tangga. Sementara lebih dari 80 persen laki-laki (walaupun dengan tren yang secara perlahan menurun) berada dalam angkatan kerja, hanya sekitar 50 persen perempuan yang bekerja atau sedang mencari pekerjaan. Norma budaya memainkan peran penting, yang diterjemahkan senagai diskriminasi pasar tenaga kerja. Perempuan berpenghasilan lebih rendah dari pria, didorong oleh "efek perempuan" tertentu. Mereka juga memiliki tanggung jawab merawat anggota keluarga, membatasi peran serta mereka dalam angkatan kerja. Hal ini menjelaskan adanya kesenjangan kemiskinan gender yang kecil, terutama bagi perempuan di sekitar usia subur. Sementara merawat anggota rumah tangga adalah pekerjaan, seringkali merupakan kegiatan yang kurang memberikan hasil banyak dibandingkan dengan berperan serta dalam pasar tenaga kerja. Hal ini membatasi mata pencaharian rumah tangga, dan dapat membuat perbedaan antara menjadi miskin, tidak aman secara ekonomi, atau aman secara ekonomi.

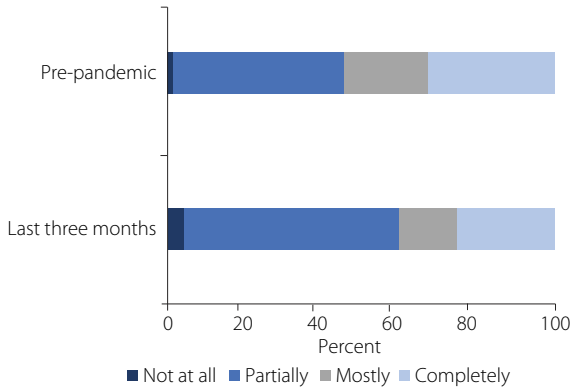
GAMBAR ES11: COVID-19 memengaruhi pertumbuhan konsumsi dari tahun 2020 hingga 2021 (ditunjukkan oleh persentil konsumsi) di perkotaan jauh lebih kuat dibandingkan dengan di pedesaan



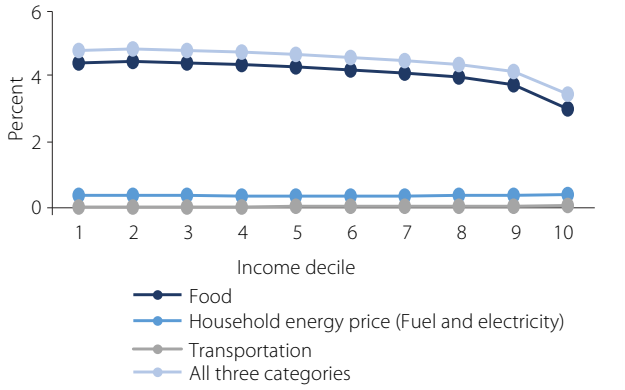
GAMBAR ES12: Persentase penerima manfaat perlindungan sosial pada Maret 2021, yang menerima manfaat apa pun sejak awal pandemi



GAMBAR ES13: Pangsa penerima manfaat program yang menilai manfaat sudah memadai



GAMBAR ES14: Kenaikan harga pada paruh pertama tahun 2022 menurunkan daya beli secara signifikan, tetapi lebih rendah untuk rumah tangga yang lebih kaya



Capaian sumber daya manusia di Indonesia perlahan-lahan membaik tetapi tetap di bawah negara-negara setara, terutama di provinsi Maluku-Papua dan Nusa Tenggara di Indonesia, melemahkan potensi produktif penduduk dan memperburuk ketimpangan. Akses ke pendidikan dasar hampir merata sejak tahun 2015, kecuali Nusa Tenggara dan Maluku-Papua, di mana angka partisipasi sekolah dasar stagnan di sekitar 80 persen. Di tingkat menengah, angka partisipasi antara penduduk miskin dan tidak miskin menyatu tetapi tetap pada tingkat yang relatif rendah, sekitar 80 persen. Kualitas pembelajaran tetap menjadi perhatian, seperti yang diharapkan 12,4 tahun sekolah menjadi hanya 7,8 tahun yang disesuaikan dengan pembelajaran. Angka kematian ibu di Indonesia, dan indikator kesehatan utama lainnya, berfluktuasi dan tetap jauh lebih tinggi dibandingkan dengan negara-negara lain. Oleh karena itu, indeks modal manusia Indonesia hanya sedikit meningkat, dari 0,5 pada tahun 2010 menjadi 0,54 pada tahun 2020; artinya, anak yang lahir di Indonesia saat ini hanya 54 persen yang produktif jika mendapat pendidikan dan kesehatan penuh. Ini tidak hanya relatif rendah dibandingkan negara-negara setara lainnya (Gambar ES9), tetapi juga menunjukkan disparitas geografis yang kuat. Nusa Tenggara dan Maluku-Papua, memiliki hasil yang lebih buruk, sebanding dengan negara-negara dengan PDB per kapita yang jauh lebih rendah, menjadi penyebab berlanjutnya ketimpangan dalam jangka menengah dan panjang.

Tantangan dari guncangan

Guncangan, seperti COVID-19, dapat mengancam kemajuan pengentasan kemiskinan. Pandemi COVID-19 mendorong perekonomian Indonesia ke dalam resesi sebelum pulih kembali pada tahun 2021. Hal ini memberikan contoh nyata tentang guncangan hebat yang berdampak pada pekerjaan dan kesehatan. Hal ini mengubah pengentasan kemiskinan secara signifikan, karena berdampak pada sebagian besar rumah tangga yang relatif lebih kaya, tetapi bukan yang terkaya, terutama di daerah perkotaan (Gambar ES11). Pemerintah dengan cepat meningkatkan bantuan sosial, menjangkau lebih banyak penerima manfaat dan meningkatkan tingkat manfaatnya. Namun demikian, tidak semua rumah tangga yang membutuhkan menerima manfaat, juga tidak selalu menerima manfaat yang memadai Kurang dari 40 persen dari masyarakat 40 persen termiskin menerima manfaat dari perluasan program bantuan sosial (Gambar ES12). Kurang dari separuh penerima manfaat program menilai sendiri manfaat program saat ini sebagai memadai pada saat pandemi COVID-19 (Gambar ES13). Demikian pula, program jaminan sosial tidak berhasil melindungi semua pekerja. Secara khusus, pekerja informal seringkali tidak memiliki akses ke cuti sakit atau tidak memenuhi syarat untuk mendapatkan jaminan pengangguran pemerintah.

Perubahan iklim diperkirakan akan meningkatkan frekuensi dan tingkat keparahan guncangan alam, yang dapat menjebak rumah tangga miskin ke dalam kemiskinan dan mendorong rumah tangga yang tidak

aman secara ekonomi kembali ke dalam kemiskinan. Antara tahun 1990-2021, Indonesia mengalami lebih dari 300 bencana alam, termasuk 200 banjir, yang berdampak pada lebih dari 11 juta orang. Bencana terkait iklim telah mencapai sekitar 70 persen dari total jumlah bencana dari tahun 1990 hingga 2021. Meskipun perubahan iklim memengaruhi seluruh penduduk, masyarakat miskin dan tidak aman secara ekonomi kemungkinan besar akan menanggung beban yang tidak proporsional. Mereka lebih sering mengandalkan pertanian, yang terkena dampak negatif, dan mereka sering tinggal di daerah yang rawan risiko tanpa sumber daya untuk melindungi aset dan lebih sedikit tabungan untuk pulih kembali.

Mitigasi perubahan iklim secara khusus akan merugikan pekerja di sektor industri padat karbon jika tidak dilindungi. Seiring dengan pembangunan Indonesia selama beberapa dekade terakhir, emisi gas rumah kaca (GRK) meningkat tajam, menjadikan Indonesia sebagai penghasil emisi terbesar ketujuh di dunia. Indonesia adalah pengekspor batu bara terbesar di dunia, dengan ekspor batu bara mewakili 2 persen dari PDB, atau 13 persen dari total ekspor barang. Pada tahun 2021, Pemerintah berkomitmen untuk mengurangi emisi GRK secara substansial dan mencapai emisi net-zero pada tahun 2060. Penghapusan batubara secara bertahap akan berdampak terutama pada masyarakat penghasil batubara, dengan jumlah pekerja tambang batubara sebesar 0,2 persen dari total pekerja formal pada tahun 2018. Namun demikian, jumlah yang lebih besar dari pekerja batubara dipekerjakan secara informal. Dengan pertambangan batu bara terkonsentrasi di wilayah dan komunitas tertentu, penghapusan batu bara secara bertahap akan secara langsung mengurangi lapangan kerja di pertambangan tetapi juga secara tidak langsung melalui perusahaan-perusahaan yang bergantung pada pertambangan batu bara dan para pekerjanya.

Dikombinasikan dengan ketidakpastian global, seperti invasi Rusia ke Ukraina, risiko ini mengancam kemajuan pengentasan kemiskinan di Indonesia jika rumah tangga tidak terlindungi. Perang di Eropa telah memicu volatilitas harga yang tinggi, terutama untuk makanan dan bahan bakar. Daya beli rumah tangga di Indonesia memburuk (Grafik ES14), terutama karena kenaikan harga pangan dan porsi konsumsi pangan yang besar. Pada saat yang sama, Pemerintah mempertahankan harga bahan bakar secara konstan dengan secara implisit meningkatkan subsidi bahan bakar, yang semakin menambah beban fiskal mengingat adanya kebutuhan anggaran yang lebih besar. Dengan akses yang tidak memadai ke perlindungan sosial dan layanan keuangan, rumah tangga miskin dan tidak aman secara ekonomi kurang mampu menghadapi guncangan dan mungkin harus menggunakan strategi penanggulangan yang merugikan.

Jalan menuju keamanan ekonomi

Di jalur menuju pendapatan tinggi, kebijakan pengentasan kemiskinan Indonesia perlu diperluas melalui pendekatan multi-cabang: menciptakan peluang yang lebih baik, melindungi rumah tangga dari kemiskinan, dan memfokuskan sumber daya fiskal pada investasi yang berpihak pada masyarakat miskin, sambil mendorong pemanfaatan informasi dan bukti yang lebih baik untuk pengambilan keputusan. Mengingat pembangunan dan ambisi Indonesia, definisi kemiskinan yang lebih luas, misalnya di sekitar garis kemiskinan US$ 3,20 2011 PPP , akan lebih memadai. Diperlukan peluang yang lebih baik di daerah pedesaan, melalui produktivitas pertanian yang lebih tinggi, serta daerah perkotaan, dengan menjadikan kota sebagai mesin pertumbuhan. Pertumbuhan produktivitas yang lebih tinggi di sektor rendah karbon dapat meningkatkan pendapatan dan mengurangi kemiskinan, sekaligus memanfaatkan peluang digital. Namun demikian, guncangan tidak dapat dihindari dan akan menjadi lebih sering dengan adanya perubahan iklim, tetapi ketangguhan dapat dipupuk untuk meminimalkan kerugiannya. Dengan sekitar setengah dari penduduk tidak miskin yang rentan untuk jatuh kembali ke dalam kemiskinan, diperlukan ketangguhan dan perlindungan yang lebih baik. Langkah-langkah ini akan membutuhkan investasi publik dalam ruang fiskal yang ketat. Kebijakan perlu memastikan desain hemat biaya sambil meningkatkan pendapatan dan menghilangkan kendala untuk meningkatkan sumber daya manusia secara merata di seluruh negeri. Yang terakhir, para pembuat kebijakan perlu menutup kesenjangan data dan pengetahuan yang masih ada untuk dapat memberi informasi bagi pengambilan kebijakan yang lebih efektif.

Menciptakan peluang yang lebih baik

Kebijakan dapat mendukung sektor swasta untuk menciptakan pekerjaan yang lebih baik dengan produktivitas lebih tinggi, dalam konteks perubahan iklim, desain ulang rantai nilai global (global value chains, GVC) yang sedang berlangsung, dan digitalisasi. Untuk dapat terus mengurangi kemiskinan yang luas dan membantu rumah tangga mencapai keamanan ekonomi, diperlukan peluang yang lebih baik. Peningkatan produktivitas pertanian dapat memberikan mata pencaharian yang lebih baik bagi para petani dan memungkinkan mereka untuk keluar dari kemiskinan. Daerah perkotaan membutuhkan investasi untuk memungkinkan mereka menjadi mesin pertumbuhan produktivitas. Peluang yang lebih baik di sektor rendah karbon dengan pertumbuhan produktivitas tinggi dapat meningkatkan pendapatan. Integrasi ke dalam rantai nilai global memberikan peluang bagi Indonesia untuk meningkatkan produktivitasnya melalui daya saing. Digitalisasi juga memberikan peluang, dan Indonesia dapat memanfaatkan pertumbuhan ekonomi digitalnya. Yang terakhir, fasilitas penitipan anak yang lebih terjangkau dan berkualitas tinggi dapat menciptakan lapangan kerja dan memberikan peluang bagi perempuan untuk bergabung dengan angkatan kerja.

Peningkatan produktivitas pertanian dapat meningkatkan pendapatan pertanian. Peningkatan produktivitas pertanian dengan menggunakan pendekatan cerdas iklim dapat memberikan penghidupan yang lebih baik bagi petani dan memungkinkan mereka untuk keluar dari kemiskinan, yang sangat relevan untuk rumah tangga di daerah terpencil. Bagi dua pertiga rumah tangga pertanian pedesaan yang miskin, pekerjaan mereka tidak mencukupi untuk dapat keluar dari kemiskinan mengingat produktivitas yang rendah. Meningkatkan layanan penyuluhan pertanian dan akses pasar dapat meningkatkan produktivitas pertanian. Menghapus subsidi pertanian yang berfokus pada produksi pangan dapat mendorong pertanian tanaman komersial, seringkali lebih cocok untuk beberapa kondisi lahan. Subsidi saat ini mahal dan hanya menunjukkan sedikit manfaat. Menghilangkan hambatan impor pangan juga dapat membantu, karena hambatan tersebut membuat harga pangan tetap tinggi tanpa membantu petani miskin – karena sebagian besar adalah konsumen bersih pangan – dan mengalihkan sumber daya dari tanaman bernilai lebih tinggi.

Berinvestasi dalam infrastruktur perkotaan dapat membuka potensi kota untuk menjadi mesin pertumbuhan dan memperkuat dampak limpahan pedesaan. Kawasan perkotaan membutuhkan investasi untuk menjadi mesin pertumbuhan produktivitas. Memelihara transformasi struktural yang lebih bermakna dapat menciptakan lebih banyak peluang bagi para pekerja di daerah perkotaan. Investasi dalam infrastruktur perkotaan dapat membantu menurunkan biaya hidup di perkotaan. Secara bersama-sama, hal tersebut membuat kota menjadi tempat yang lebih menarik untuk ditinggali. Lebih banyak pekerja yang pindah ke daerah perkotaan meningkatkan kekuatan aglomerasi, membantu meningkatkan produktivitas. Hal ini juga berkontribusi pada penciptaan lapangan kerja di daerah pedesaan terdekat, menciptakan peluang di luar sektor pertanian.

Diperlukan adanya peluang yang lebih baik di sektor rendah karbon dengan pertumbuhan produktivitas tinggi untuk meningkatkan pendapatan dan mengurangi kemiskinan. Kebijakan daya saing, termasuk kebijakan perdagangan dan investasi asing langsung yang tidak terlalu ketat serta kebijakan anti persaingan yang lebih efektif, dapat mendorong pertumbuhan lapangan kerja, sementara kawasan industri ramah lingkungan dan solusi ekonomi sirkular dapat menurunkan jejak karbon dari sektor produktivitas tinggi. Integrasi ke dalam rantai nilai global (*global value chains, GVC*) menarik investasi asing langsung untuk ekspor dan dapat meningkatkan produktivitas, khususnya di sektor rendah karbon. Pemetaan kembali GVC secara global saat ini memberikan peluang bagi Indonesia untuk memperkuat integrasinya, tetapi hal ini memerlukan adanya perubahan kebijakan perdagangan yang semakin ketat dan membuka ekonomi untuk peluang eksternal. Demikian pula, digitalisasi dapat memberikan peluang tetapi membutuhkan keterampilan digital, konektivitas, dan lingkungan kebijakan yang mendukung. Pada saat yang sama, para pekerja perlu dibekali dengan bauran keterampilan yang tepat untuk mempersiapkan diri bagi jenis pekerjaan baru; misalnya, kebijakan harus meningkatkan tingkat dan kualitas pendidikan menengah dan khususnya pendidikan tinggi dan berinvestasi dalam pendidikan dan pelatihan vokasi teknis *(Technical and Vocational Trainings,* TVET).

Menawarkan fasilitas penitipan anak yang terjangkau dapat menciptakan lapangan kerja, mendorong peran serta angkatan kerja perempuan, dan meningkatkan produktivitas. Dengan fasilitas penitipan anak yang terjangkau, perempuan dapat beralih dari pekerjaan tidak berbayar ke pekerjaan dengan produktivitas lebih tinggi, meningkatkan keterampilan pasar tenaga kerja dan produktivitas perusahaan. Fasilitas penitipan anak membantu menutup kesenjangan upah gender, yang masih cukup besar di Indonesia. Fasilitas penitipan anak menciptakan lapangan kerja, dan memupuk pembelajaran anak usia dini, dengan manfaat jangka panjang untuk produktivitas ekonomi.

Menciptakan peluang yang lebih baik

Kombinasi bantuan sosial, jaminan sosial, inklusi keuangan, dan investasi infrastruktur yang tangguh dapat membantu rumah tangga keluar dari kemiskinan. Peluang yang lebih baik sangat penting untuk mengangkat rumah tangga keluar dari kemiskinan dan kerawanan ekonomi secara berkelanjutan. Namun demikian, langkah-langkah perlindungan sosial perlu melengkapi penciptaan lapangan kerja untuk membantu rumah tangga miskin dan melindungi masyarakat lainnys agar tidak jatuh ke dalam kemiskinan. Bantuan sosial dapat lebih tepat sasaran dan lebih komprehensif. Diperlukan adanya sistem bantuan sosial yang lebih responsif dan perluasan cakupan jaminan sosial, termasuk bagi para pekerja informal, untuk meningkatkan ketangguhan rumah tangga agar tidak jatuh ke dalam kemiskinan. Inklusi keuangan yang lebih baik dapat membantu rumah tangga mengatasi guncangan pendapatan tanpa menggunakan strategi penanggulangan yang merugikan. Investasi dalam infrastruktur yang tangguh dan produksi pertanian yang cerdas iklim juga penting untuk membatasi dampak guncangan.

Peningkatan bantuan sosial mencakup peningkatan kualitas penetapan target dan pemberian manfaat yang lebih memadai. COVID-19 memberikan pelajaran mengenai cara meningkatkan sistem bantuan sosial Indonesia. Yang pertama, cakupan basis data penetapan target dapat diperluas melampaui 40 persen masyarakat terbawah untuk mencakup semua rumah tangga, untuk mendukung perluasan penetapan target yang cepat dan fleksibel jika terjadi guncangan. Kedua, akurasi penetapan target dapat ditingkatkan – misalnya, melalui pemutakhiran basis data penetapan target secara rutin dan penyesuaian kriteria kelayakan untuk mencerminkan definisi kemiskinan yang baru. Ketiga, kecukupan manfaat dapat ditingkatkan. Sistem bantuan sosial yang lebih baik seperti itu akan mengurangi dampak kejutan negatif pada rumah tangga dengan lebih baik, dan dengan demikian akan mengurangi penggunaan strategi penanggulangan yang merusak dan lebih mampu melakukan investasi jangka panjang dalam kegiatan produktivitas yang lebih tinggi.

Memperluas cakupan jaminan sosial ke seluruh pekerja dapat meningkatkan perlindungan dan produktivitas. Selain bantuan sosial, jaminan sosial dapat membantu mengurangi dampak guncangan yang merugikan. Guncangan pengangguran dan kesehatan merupakan guncangan tingkat rumah tangga yang paling penting, dan jaminan pengangguran serta jaminan kesehatan dapat memberikan perlindungan. Namun demikan, di Indonesia jaminan pengangguran saat ini hanya tersedia bagi pekerja bergaji, biasanya pekerja formal. Selain itu, guncangan kesehatan sering berimplikasi pada pendapatan tenaga kerja, karena produktivitas yang lebih rendah atau tidak tersedianya pekerjaan karena sakit atau membutuhkan perawatan kesehatan. Saat ini, hanya pekerja formal yang memiliki perlindungan untuk kejadian-kejadian tersebut. Dengan demikian, rumah tangga yang lebih miskin, yang memiliki pekerjaan yang kurang terjamin, adalah yang paling sedikit mendapat manfaat dari perlindungan, tidak hanya membuat mereka rentan jatuh ke dalam kemiskinan, tetapi juga membatasi kemajuan ketidaksetaraan.

Mengikut-sertakan masyarakat miskin dalam sistem keuangan digital dapat memainkan peran penting dalam menciptakan ketangguhan terhadap guncangan dan mengurangi kemiskinan. Banyak rumah tangga Indonesia tetap tidak memiliki rekening bank; meskipun inklusi keuangan telah meningkat, setengah dari semua orang dewasa di masyarakat di desil 40 terbawah masih belum memiliki rekening bank pada tahun 2021. Dengan tidak memiliki rekening mengurangi

kemampuan menabung, yang dapat memperlancar konsumsi saat terjadi guncangan dan mengganti aset yang hilang. Hal ini juga menyebabkan rumah tangga tidak dapat menerima pembayaran digital – misalnya, dari pemerintah yang memberikan bantuan sosial dengan cepat dan efisien sebagai tanggapan terhadap guncangan. Melibatkan lebih banyak rumah tangga dalam layanan keuangan digital dapat menumbuhkan ketangguhan terhadap guncangan sebagai pelengkap bantuan dan jaminan sosial. Membangun sistem pembayaran yang berfungsi dengan baik dan sepenuhnya dapat dioperasikan bersama dengan ID digital dan kebijakan perbankan yang terbuka dapat memperluas layanan keuangan dan menjadikannya lebih menarik bagi rumah tangga, yang pada akhirnya berkontribusi pada peningkatan ketangguhan.

Berinvestasi dalam infrastruktur yang tangguh dan investasi cerdas iklim dapat mengurangi dampak merugikan dari bencana alam. Guncangan akibat bencana membahayakan kemajuan pengentasan kemiskinan. Meskipun rumah tangga miskin belum tentu lebih rentan terhadap bencana alam, mereka kurang tangguh sehingga paling menderita akibat guncangan. Misalnya, di daerah yang terkena dampak gempa bumi pada bulan September 2018 di Sulawesi Tengah, satu dari lima rumah tangga dari masyarakat di desil 40 terbawah masih menempati rumah sementara tujuh bulan kemudian, dibandingkan dengan 13 persen dari masyarakat di desil 20 persen teratas. Perubahan iklim juga akan mengurangi hasil pertanian yang diharapkan karena perubahan curah hujan, suhu, dan peristiwa cuaca ekstrem. Oleh karena itu, investasi dalam infrastruktur yang tangguh dan produksi pertanian yang cerdas iklim penting untuk membatasi kehancuran akibat guncangan sejak awal.

Pembiayaan investasi yang berpihak pada masyarakat miskin

Meningkatkan penerimaan pajak dan menghilangkan subsidi yang tidak efisien dapat menciptakan ruang fiskal untuk melakukan investasi yang berpihak pada masyarakat miskin, sementara peningkatan kapasitas administrasi daerah dapat meningkatkan layanan publik. Investasi dalam pendidikan, kesehatan, dan perlindungan sosial akan membutuhkan lebih banyak sumber daya keuangan daripada yang tersedia saat ini. Penerimaan pajak dapat ditingkatkan melalui pengurangan pembebasan pajak pertambahan nilai (PPN) serta cukai atas tembakau, alkohol, dan minuman berpemanis, yang akan menciptakan dampak kesehatan yang menguntungkan. Pajak karbon dapat meningkatkan penerimaan dan mendorong peralihan ke ekonomi rendah karbon, sekaligus mengurangi pencemaran udara. Menghapus subsidi yang terdistorsi – khususnya untuk energi dan pertanian – juga dapat menciptakan sumber daya fiskal tambahan. Sistem bantuan sosial yang berfungsi dengan baik dapat memitigasi dampak negatif bagi masyarakat miskin dari langkah-langkah tersebut, dengan sebagian kecil dari biaya kebijakan saat ini. Sumber daya fiskal tambahan dari langkah-langkah tersebut dapat diarahkan untuk membiayai investasi yang berpihak pada masyarakat miskin untuk menciptakan pekerjaan yang lebih baik dan mengentaskan kemiskinan. Selain itu, peningkatan kapasitas administratif pemerintah daerah akan meningkatkan kualitas belanja, terutama di bidang pendidikan dan kesehatan, untuk meningkatkan sumber daya manusia dan mengurangi kesenjangan geografis.

Menghapus pembebasan PPN dan menaikkan pajak atas alkohol, tembakau, gula, dan karbon dapat menghasilkan tambahan penerimaan pemerintah. Cara praktis untuk meningkatkan penerimaan PPN dengan cepat adalah dengan menghilangkan pengecualian dan tarif pilihan atas pajak untuk berbagai barang dan jasa. Sementara barang-barang tersebut seringkali merupakan pangsa yang lebih besar dari konsumsi rumah tangga yang lebih miskin, barang-barang tersebut juga dikonsumsi oleh rumah tangga yang lebih kaya dan biasanya dalam jumlah yang lebih banyak. Sepertiga dari potensi penerimaan PPN (0,7 persen dari PDB) di Indonesia hilang melalui struktur pembebasan PPN saat ini, cukup untuk mendanai seluruh anggaran bantuan sosial yang diperluas pada tahun 2019. Tembakau, alkohol, dan minuman berpemanis memiliki dampak

kesehatan yang negatif, dengan implikasi biaya yang besar bagi kesehatan masyarakat. Menaikkan pajak atas barang-barang tersebut akan mengurangi konsumsinya, menghemat biaya untuk sistem kesehatan publik sekaligus menghasilkan penerimaan pemerintah. Yang terakhir, pajak karbon dapat meningkatkan penerimaan dan membuat investasi di sektor karbon tinggi menjadi kurang menarik. Hal ini akan membantu meningkatkan daya saing Indonesia – misalnya, terkait dengan ekspor ke negara-negara yang mengenakan tarif impor untuk produk-produk berkandungan karbon tinggi, seperti mekanisme penyesuaian batas karbon UE. Reformasi ini dapat merugikan rumah tangga miskin, berpotensi mengurangi pendapatan mereka, tetapi program bantuan sosial dapat memberi kompensasi kepada rumah tangga. Ini hanya akan menelan biaya sebagian kecil dari penerimaan yang diperoleh tetapi memiliki dampak yang jauh lebih besar dalam mengurangi ketimpangan.

Menghapus subsidi energi dan pertanian dapat meningkatkan sumber daya fiskal lebih lanjut. Subsidi energi mahal dan tidak efektif dalam mengurangi kemiskinan dan ketimpangan. Sementara reformasi yang ambisius pada tahun 2015 mulai mengurangi subsidi energi, bantuan sosial tidak ditingkatkan dengan cukup cepat dengan kompensasi yang memadai. Hal ini mungkin telah berkontribusi pada ekonomi politik yang kembali ke subsidi, yang kembali dari biaya 0,7 persen dari PDB pada tahun 2016 menjadi 1,7 persen dari PDB pada tahun 2019. Namun demikian, subsidi tersebut hanya mengurangi kemiskinan sebesar 2,4 poin persentase, sebanyak seperangkat program bantuan sosial inti yang biayanya hanya 0,4 persen dari PDB. Bantuan sosial tidak hanya lebih efisien untuk mengurangi kemiskinan tetapi juga sangat progresif dalam menurunkan ketimpangan. Di sisi lain, sebagian besar subsidi BBM tidak tepat sasaran dan bahkan dapat bersifat regresif, tetapi berkontribusi terhadap emisi GRK yang lebih tinggi. Pemerintah juga membelanjakan 2 hingga 3 persen dari PDB untuk pertanian, sebagian besar untuk subsidi produk pertanian. Namun demikian, subsidi tersebut tidak tepat sasaran bagi petani miskin, sebagian besar tidak efektif, mendistorsi pasar pertanian, dan melemahkan produktivitas pertanian. Meninjau kembali belanja pertanian untuk meningkatkan daya saing dan produktivitas dapat menghasilkan penghematan fiskal yang besar.

Meningkatkan kapasitas administrasi daerah dapat meningkatkan kualitas belanja, pemberian layanan, dan sumber daya manusia, sekaligus mengurangi kesenjangan geografis. Indonesia mulai melakukan desentralisasi sekitar dua dekade lalu. Pemerintah daerah (Pemda) bertanggung jawab atas sekitar 40 persen dari total belanja pemerintah untuk penyediaan layanan di bidang pendidikan dan kesehatan. Namun demikian, kualitas belanja daerah terbatas, baik dalam efisiensi alokatif maupun teknis. Efisiensi alokatif mengalami ketidaksejajaran sumber daya Pemda, daerah yang kurang terlayani dengan tingkat kemiskinan yang lebih tinggi, sehingga memperparah kesenjangan geografis dan memperburuk ketimpangan. Efisiensi teknis diperlemah oleh peningkatan anggaran Pemda tanpa adanya peningkatan hasil penyampaian layanan. Meningkatkan kapasitas administratif, dengan fokus pada Pemda yang berkapasitas paling rendah, dapat meningkatkan hasil keseluruhan dan menjadikannya lebih adil, sambil membantu mengatasi kesenjangan geografis yang mencolok dalam kemiskinan non-moneter.

Memperbaiki kebijakan di masa depan

Memperkuat statistik resmi untuk memungkinkan penggunaan data dan menutup kesenjangan analitis dapat membantu memberi informasi bagi pengambilan kebijakan dan meningkatkan desain kebijakan. Menutup beberapa celah penting dapat meningkatkan statistik resmi. Misalnya, Indonesia perlu menciptakan garis kemiskinan absolut dan menciptakan indeks harga konsumen (IHK) pedesaan yang sesuai. Penggunaan pengumpulan data Indonesia yang mengesankan dapat ditingkatkan dengan menyediakan akses data yang lebih terbuka. Tantangan baru – seperti peran transformasi struktural dan informalitas, serta implikasinya terhadap kemiskinan – akan membutuhkan kebijakan baru berdasarkan data dan bukti yang baru dan lebih baik.

CHAPTER 1

CONTEXT

Photo: © Ed Wray/World Bank

1. CONTEXT

Looking Back

Indonesia's extensive literature on poverty reduction highlights successes, including progress in poverty reduction, as well as recurring challenges, such as low productivity in both urban and rural economies, non-monetary deprivations, and inequality, including a "digital divide".

Indonesia has sustained impressive economic growth and poverty reduction. Over the last half century, Indonesia has experienced rapid and sustained economic growth averaging 5.3 percent, despite the massive shock of the 1997 Asian Financial Crisis (AFC). It progressed from a low-income to a lower middle-income country before reaching upper middle-income status in 2019.[1] Extreme poverty, measured at US$ 1.90 PPP 2011, fell from an estimated 69 percent of the population in 1984, the first point at which the measure becomes relatively consistent, to 2 percent by 2021.[2] Using the lower middle-income country poverty line, or US$ 3.20 PPP 2011, poverty dropped from 91 percent in 1984 to 18 percent in 2021. The President of Indonesia, Joko Widodo, announced the same year the country's goal to eradicate extreme poverty by 2024.

The World Bank's last major poverty analysis for Indonesia in 2006 expanded the focus beyond monetary poverty to include economic insecurity, non-monetary poverty dimensions, and regional disparities.[3] By 2006, Indonesia had recovered from the Asian Financial Crisis and started to benefit from the global commodity boom with high growth. Even though inequality started to rise, poverty dropped rapidly, reaching 61 percent, at US$ 3.20 PPP 2011. Three poverty features were identified at that time as salient for Indonesia: (i) a high degree of vulnerability to poverty for a many people, (ii) the serious nature of non-income poverty, and (iii) regional disparities. Since then, Indonesia has transformed with changes at the global, regional, national, and sub-national levels and across a range of sectors fundamentally altering the structure of the economy, livelihoods, and poverty.

Since 2006, inequality in Indonesia continued to rise into the 2010s. The main factors contributing to inequality were inequality of opportunity, a low-productivity work trap for less educated workers, concentration of financial assets, and greater vulnerability to shocks for the poor compared to the non-poor.[4] Inequality of opportunity to access education meant that children in poorer households did not develop skills needed to obtain a well-paying job later in life. They would join the ranks of less educated workers trapped in informal, low-productivity jobs without the right skills needed in a modern economy. These jobs might not even pay enough to escape poverty, while increasing wage inequality. In addition, financial resources were becoming more concentrated in the hands of a few wealthy households.[5] This exacerbated income gaps in the current generation and would increase human and financial resource inequality in the future. Finally, shocks more negatively affected poor households as they often did not have the ability to even cope even with small shocks. For them, a shock quickly eroded their ability to earn, save, and invest in health and education.

Urbanization has accelerated, partly driving Indonesia's economic rise, but has not benefitted all of Indonesia's urban residents equally.[6] Indonesia was—and still is—urbanizing rapidly. However, poverty levels were higher than countries with similar levels of urbanization.[7] Even though cities provided better jobs and better access to services, the gaps between the poor and non-poor remained stark. In particular, households residing at the fringes of urban centers were not able to fully reap the benefits of urban living. They were exposed to higher living costs and long commute times, often in the absence of reliable public transportation.

[1] The country fell back to lower middle-income status in 2020 with the impact of COVID-19.

[2] The national poverty measurement methodology has not stayed constant over this time, but this will not change the overall trend of a very large decrease in poverty. See Hill 2021 for detailed discussion of poverty reduction back to the 1960s.

[3] World Bank 2006.

[4] World Bank 2016; Asian Development Bank 2020b; Hill 2021.

[5] Credit Suisse 2019.

[6] Roberts, Gil Sander, and Tiwari 2019.

[7] Asian Development Bank 2022.

Rural development continued to depend on agriculture, but diversification into non-agricultural incomes has started to play a larger role.[8] Over the last two decades, most rural households remained engaged in agriculture. While agriculture can provide a pathway out of poverty, many rural farmers remained poor, struggling with low productivity, poor market access, and exposure to shocks without access to resilience measures.[9] Not surprisingly, rural households were, hence, diversifying their income, but often in low value-add (low-VA) services. These were able to provide an escape from poverty, but hardly offered a pathway towards the middle class.

Significant progress has also been made on several dimensions of gender equality. These included achieving gender parity in gross school enrollment rates[10] and expanding basic health services, although these improvements had not yet translated into increased women's economic participation. Indonesia's female labor force participation rates have remained low and were stubbornly stagnant over the last two decades.[11]

More generally, upward mobility has been a success story in Indonesia, and remains critical to reach its high-income country ambitions.[12] Of everyone who was poor or vulnerable to fall into poverty in 1993, over half had become either middle class or realistically aspiring to it twenty years later. By 2016, one in five Indonesians had entered the middle class, compared to less than 7 percent at the beginning of the millennium.[13] Continued expansion of the middle class in the years and decades to come underpin Indonesia's ambitions to become a high-income country, driving economic growth, widening, and deepening the tax base, and expanding the constituency for better governance.[14]

However, a lack of middle-class jobs hampered productivity and put at risk livelihoods for a growing class of economically insecure households.[15] Even before the COVID-19 pandemic, Indonesia struggled to create enough jobs providing sufficient income to belong to the middle class. Instead, many workers remained trapped in low-VA services with limited productivity. As Indonesia's population begins to age and lose its "demographic dividend" over the next decade, enabling the private sector to create more middle-class jobs becomes even more important to sustain economic growth, as well as to continue reducing poverty.

Digitalization can create new opportunities, but if not well managed can heighten the risk of a "digital divide".[16] Indonesia has made big strides in improving connectivity. Access to the internet jumped from 13 percent in 2011 to 51 percent in 2019. However, households in rural and remote areas continued to have significantly lower access, while poorer households struggled to afford good quality access. Nevertheless, the benefits of digitalization in Indonesia cannot be overstated. Using eCommerce, consumers benefitted from more choice, lower prices, and more comfort, although the high cost of logistics, limited connectivity, and low trust in digital payments constrained the benefits from eCommerce. For workers, digitalization offered new opportunities in the gig economy or as digital entrepreneurs, but also transformed existing opportunities by increasing productivity. But taking advantage of these opportunities requires digital skills, and poorer households and remote areas often did not have the connectivity and skills to take advantage of eCommerce and digital opportunities. Digitalization also improved delivery of public services, but – as COVID-19 has shown – fragmentation of data and systems as well as a lack of coordination diminished the ability to fully exploit these benefits.

8 World Bank 2020b.

9 Asian Development Bank 2019.

10 Parity in gross enrollment rates at the primary school level was achieved in the mid-1990s, and at the secondary level by mid-2000s. (UNESCO Institute for Statistics (UIS). UIS.Stat Bulk Data Download Service. Accessed October 24, 2022. apiportal.uis.unesco.org/bdds).

11 World Bank 2020a; Cameron, Suarez, and Rowell 2018.

12 World Bank 2018b.

13 Pratomo, Syafitri, and Anindya 2020.

14 World Bank 2019a; see report for class definitions.

15 Wihardja and Cunningham 2021.

16 World Bank 2021a.

Looking ahead

Indonesia is an aspiring upper middle-income country facing new challenges such as climate change, COVID-19, and global uncertainties in its inclusive growth path.

The path towards high-income country status will be challenging. The transition to high-income status often involves a change in growth strategies,[17] a challenge that has been successfully navigated only by few countries. Some of them in East Asia, such as South Korea, pursued a strategy of labor-intensive, export-led manufacturing while taking advantage of a youthful population and demographic dividend.[18] However, these successes occurred in a context without the headwinds that Indonesia and the region are now facing with an aging population[19] and shifting regional and global trade patterns.[20] Sustaining inclusive economic growth in the region requires fostering greater economic mobility while enhancing economic security across the income distribution.[21]

Climate change affects the economy and livelihoods through domestic and international mitigation measures as well as adaptation.[22] International mitigation measures, such as the EU's carbon border adjustment mechanism, are likely to reduce demand for carbon-intensive goods, affecting countries like Indonesia which export such goods. In addition, domestic policies to reduce carbon emissions such as, for example, the Nationally Determined Contributions (NDCs), will affect relative prices and the structure of the economy, creating winners and losers. Strategies need to be put in place to identify and compensate the losers. Although nationally the number of mining workers is relatively low, in Kalimantan almost 1 million workers, representing 8 percent of the population of the region, work in mining, emphasizing the need for contextual solutions. Adaptation will also continue to play a large role, given the increasing frequency and intensity of natural disasters and other environmental shocks.[23] Many of the poor live in high-risk areas and will need to become more resilient, which will require infrastructure as well as social investments.[24] Thus, the readiness of Indonesia's social protection and disaster response frameworks will be tested in the medium term while questions will also be raised about the distributional impacts of policy measures aimed at both adaptation and mitigation.

Indonesia will need to recover from COVID-19's disruption of economic and social progress. The global coronavirus pandemic (COVID-19) dramatically slowed economic activity around the world, causing governments to implement lockdown measures, individuals to reduce both their mobility and economic activity, and disrupting firms' production processes. These broader economic shifts affected both firms' demand for labor and workers' ability and willingness to work, with potentially structural implications for post-COVID-19 economies. Indonesia was no exception. The Government deployed various fiscal and other policy responses to cushion the impact of the crisis while recognizing the importance of including Indonesia's most vulnerable in the recovery, setting a target of eliminating extreme poverty by 2024.[25] Despite falling into recession, the recovery is already underway—although the implications of the pandemic are not yet fully understood.

Photo: © Fatray/World Bank

[17] Bulman, Eden, and Nguyen 2016.
[18] World Bank 1993; Asian Development Bank 2007.
[19] World Bank 2015a; Widianto and Isdijoso 2020.
[20] World Bank 2022i.
[21] World Bank 2018a.
[22] World Bank 2022h.
[23] Asian Development Bank 2022.
[24] Kementerian PPN (Bappenas) 2021.
[25] World Bank 2020e; World Bank 2020g.

Russia's invasion of Ukraine further creates uncertainties for the future. Prices for most commodities have risen significantly in 2022 after the start of Russia's invasion of Ukraine, and are expected to remain high in the medium-term.[26] In addition to exacerbating food insecurity globally, they can increase inflation, magnifying financial vulnerabilities. Even though Indonesia exports commodities and benefits from improved terms-of-trade, it imports food and domestic prices are increasing. Thus, the shock affects the economy and livelihoods, and careful mitigation measures are needed at a time when both household and government finances and coping mechanisms are already severely strained by the pandemic.

This report

This Poverty Assessment for Indonesia recommends policies to promote inclusive growth and shared prosperity in the context of COVID-19, climate change, and global uncertainties based on existing and new analysis of trends and drivers of poverty and inequality.

Facing these challenges, Indonesia will need to derive a careful way forward to meet its economic and social objectives, while broadening its poverty focus. The 2022 Indonesian Poverty Assessment considers household welfare in Indonesia as the country and the world emerge haltingly from the COVID-19 crisis, deal with climate change adaptation and mitigation, and are exposed to global uncertainty. It employs a broadened definition of poverty given the gains in reducing extreme poverty. It asks what can be done to eradicate extreme poverty, lift the remaining poor and economically insecure into economic security, and drive greater inclusivity.

First, this report reviews trends and developments over the last two decades. The first chapter updates poverty and inequality trends based on the US$ 3.20 PPP (2011) poverty line the World Bank uses to define poverty.[27] In addition, we show trends for extreme poverty, defined using the US$ 1.90 PPP (2011) poverty line. However, the focus of the report is on the poor rather than the extreme poor, given the extreme poor now represent a small and declining 2 percent of the population in 2021. We analyze spatial differences with greater consideration of prices, rather than focusing only on official poverty lines, which shift every year, thus limit comparability across provinces. This section also presents trends beyond poverty, expanding the focus to economically insecure households, as well as non-monetary dimensions of poverty by deploying a "lifecycle opportunity" approach.

Second, this Poverty Assessment explores drivers of poverty reduction and inequality to understand challenges on the path towards higher income. Examining the structural drivers of poverty and inequality reduction, the analysis zooms into the period from 2014 to 2019. We discuss COVID-19 effects starting in 2020 in-depth in the following chapter. This allows extracting medium-term structural drivers of poverty reduction without confounding the analysis with COVID-19 issues. We look at the drivers of poverty reduction through a simple framework, including demographics, employment and education, prices, and taxes, and public spending policies. Taxes and public spending are particularly relevant in the current context of a tighter fiscal position. The analysis of drivers of inequality looks back to previous periods and explains inequality trends over time.

Third, this Poverty Assessment analyzes and discusses shocks in the context of climate change, COVID-19, and global uncertainties. Idiosyncratic and covariate shocks can destroy households' livelihoods. Idiosyncratic shocks affect households but leave their communities

Photo: © World Bank

[26] World Bank 2022a; Bank Indonesia 2022.

[27] This report deploys the 2011 PPP poverty lines for alignment with the Government's goal (Box on p. 8).

largely unaffected. In contrast, co-variate shocks, such as natural disasters, affect whole communities at once. In addition, climate change mitigation measures—that is, coal and carbon taxes—will affect specific type of workers, but also affect households overall due to overall economic effects. Price shocks recently triggered by Russia's invasion of Ukraine also affect livelihoods. Finally, this section will discuss COVID-19 in more detail given its large and recent negative effects on livelihoods, including a discussion of drivers of poverty reduction in those years.

Fourth, based on the analysis, we offer policy recommendations to foster inclusive and sustainable growth towards economic security. Three complementary pathways to reach economic security emerge, supported by crucial data, and we identify knowledge gaps in each area to improve future policies:

(i) Create better opportunities to increase productivity and its implications for economic growth, poverty and inequality reduction.

(ii) Better protect against poverty by safeguarding poverty reduction progress and building resilience against shocks.

(iii) Finance pro-poor public investments in the context of limited fiscal space.

CHAPTER 2

POVERTY AND INEQUALITY TRENDS

Photo: © World Bank

2. POVERTY AND INEQUALITY TRENDS

After experiencing high growth rates during the commodity boom, Indonesia's growth moderated, but with domestic consumption picking up, generated higher labor income than capital gains.

After a strong recovery from the 1997-98 Asian Financial Crisis (AFC), Indonesia enjoyed solid growth fueled by a commodity boom until 2013. Following a 13 percent contraction in 1998, Indonesia's output growth recovered strongly (Figure 2.1) driven by a commodity boom since 2003. The commodity boom, thanks to rapid growth in China, India, and other emerging economies, led to high demand for many commodities and increases in their prices. Indonesia benefitted from increased international demand for commodities it exported, such as coal, crude palm oil, rubber, and crude oil. The improved terms-of-trade translated into increased investments (Figure 2.2), creating jobs and spurring domestic consumption, which in turn stimulated the service sector. However, the agricultural sector declined only slowly together with an early shift from the manufacturing to the services sector.[28]

From 2014 to 2019, the tailwinds of the commodity boom receded, revealing the natural resource dependence of Indonesia's capital investments. The ending of the commodity boom exposed Indonesia to the typical aftermath resource-dependent countries experience, with growth dropping to an average of 5 percent per year. With declining terms-of-trade, the twin surplus in current and fiscal accounts turned into twin

FIGURE 2.1: GDP growth (LHS) and GDP -per-capita (RHS) from 1990 to 2021

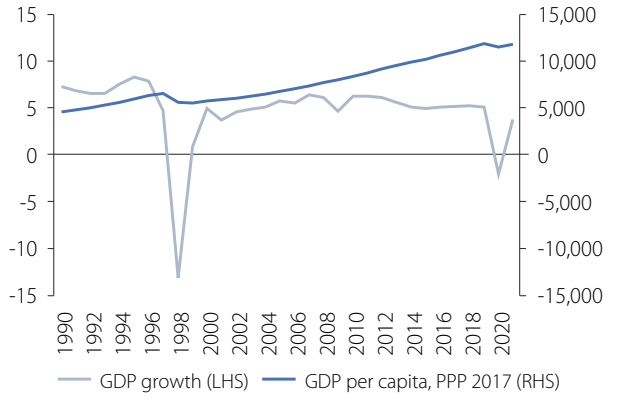


FIGURE 2.2: Terms-of-trade in US$ billions and growth of gross fixed capital formation from 2007 to 2019

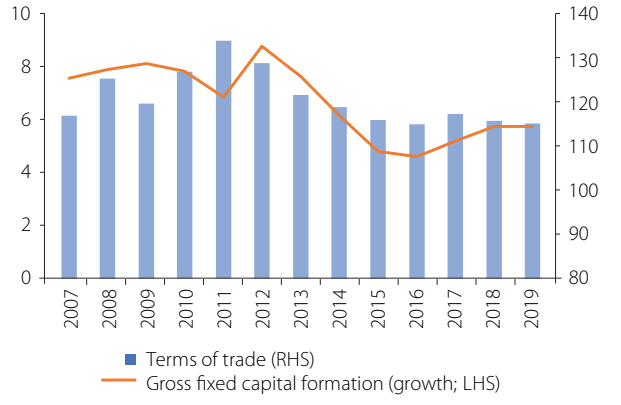


FIGURE 2.3: GDP composition from 1997 to 2021

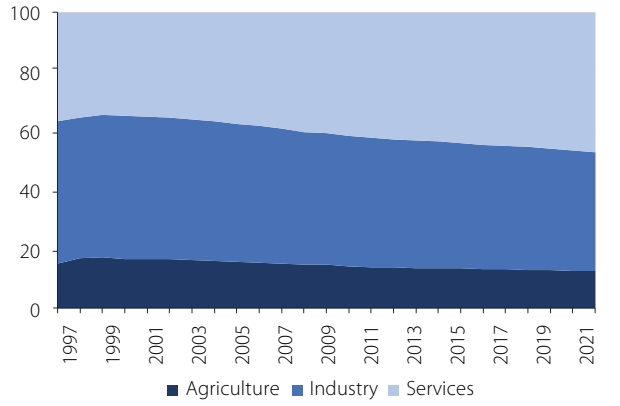
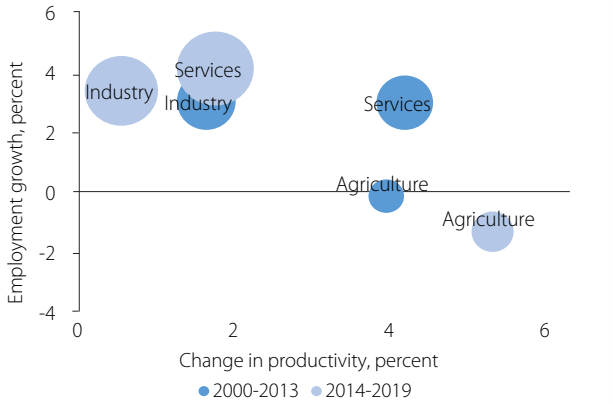


FIGURE 2.4: Annualized employment growth and change in productivity, bubble size reflects value-add of sec



[28] World Bank 2015c.

deficits exerting pressures on both the monetary and fiscal situation. Despite some success in diversifying the economy in previous years, gross fixed capital investment declined with terms-of-trade (Figure 2.2) exposing its resource dependence.

Despite slow-down in the economy, Indonesian households benefitted from strong employment growth, even though this came in service sector and with limited productivity gains. The output share of manufacturing dropped from 48 percent in 2002 to 41 percent in 2019. In the same period, the service sector expanded from 36 to 46 percent (Figure 2.3) with annualized growth in employment in services increasing from 3.0 between 2000 and 2013 to 4.1 percent between 2014 and 2019 (Figure 2.4). Hence, the economy continued the deindustrialization that began at the turn of the century. This phenomenon—often called premature deindustrialization[29]—is reflected in minuscule productivity increases gained from a shift of workers from agriculture to low-productivity services.[30] While service-led development is possible,[31] growth in productivity of services in Indonesia dropped from an average of 4.0 percent from 2000 to 2013 to 1.7 percent from 2014 to 2019 as growth of low-VA outpaced high-VA service jobs.

As a result, Indonesia's structural transformation, although lagging other countries, was still sufficient to briefly allow the economy to reach upper-middle income status. Indonesia's agricultural share of GDP remains relatively high, while its manufacturing share is prematurely dropping (Figure 2.5). Non-tradable services are increasing, but tradable services—often of higher productivity—stagnating at a low level. Nevertheless, Indonesia graduated to an upper middle-income country in 2019 and became the seventh largest economy in the world ranked by GDP, and the only G20 nation in Southeast Asia.

FIGURE 2.5: Terms-of-trade in US$ billions and growth of gross fixed capital formation from 2007 to 2019

Source: Authors' compilation based on World Bank 2023

[29] Rodrik 2015.

[30] World Bank 2020c.

[31] Nayyar, Hallward-Driemeier, and Davies 2021.

The COVID-19 pandemic, which reached Indonesia in March 2020, made Indonesia's achievement to upper middle-income status short-lived. The COVID-19 pandemic severely disrupted the economy, first due to far-reaching mobility restrictions, and later by the spread of the virus itself. This took a significant toll on economic activity and triggered Indonesia's first recession since the AFC. The economy shrank by 2.1 percent in 2020, necessitating a downgrading to lower middle-income status.[32] Its contraction in real GDP, however, was smaller than in most ASEAN countries, in part due to more limited mobility restrictions and a large government fiscal package put in place to support households, firms, and healthcare.[33] The contraction was also much smaller than that experienced during the AFC (Figure 2.1). Growth rebounded to 3.7 percent in 2021, supported by public expenditures, exports, and improved terms-of-trade.[34]

National

Indonesia made impressive gains in poverty reduction with more inclusive growth and declines in inequality since 2014, but more focus on people beyond the extreme poor is warranted.

To maintain consistency with the Government's definition of extreme poverty, this report continues to use 2011 PPP poverty lines instead of the new 2017 PPP estimates. The World Bank adopted the 2017 PPP exchange rates for global poverty monitoring, revising slightly the estimates for poverty also for Indonesia (Box 2.1). The revision is driven by declines in purchasing power against the US$ and increases in the real value of the global poverty lines. However, the revision is not an actual increase in poverty due to economics, but a change in measurement and its definition. It is recommended to use the 2017 PPP estimates for future analysis and poverty tracking as they are based on improved data collection and methodology and, hence, better capture relative price differences across countries. However, given the Government's current objective to eradicate extreme poverty measures at the 2011 PPP, this report will continue to use the 2011 PPP estimates.

Indonesia achieved impressive reduction in extreme poverty, having virtually achieved the goal of eradicating extreme poverty. Indonesia's extreme poverty rate dropped from 18.8 percent in 2002 to 2.7 percent in 2019 (Figure 2.6), using the US$ 1.90 2011 PPP per day. Amidst these promising developments, the Government of Indonesia (GOI) committed in 2020 to eradicating extreme poverty by 2024. Indeed, extreme poverty continued to drop further to 1.5 percent in 2022, basically eradicating extreme it. A small amount of frictional poverty is likely to remain, with further progress being difficult to monitor given measurement error and statistical inaccuracies.

Poverty, more adequately defined at US$ 3.20 2011 PPP, similarly dropped steeply, but remained higher than for peer countries. The share of the poor defined as living below the poverty line for lower-middle income countries at US$ 3.20 2011 PPP dropped from 61 percent in 2002 to 20 percent in 2019 and further to 15.7 percent in 2022. While the pace of poverty reduction is comparable to peers (Figure 2.9), the poverty rate is slightly above other countries with a similar PPP GDP per capita (Figure 11) and still higher than for its regional peers (Figure 2.10). Going forward, a broader definition of poverty, e.g., around the lower-middle income poverty line, is more appropriate in a country like Indonesia, which is on the verge of becoming a higher-middle income country.

However, progress almost stagnated using official poverty estimates due to complications in calculating comparable official poverty lines between years. Using official poverty lines, poverty declined from 18 percent in 2002 to 11 percent in 2014 before reaching 9.4 percent in 2019, followed by a slight uptick to 10.1 percent in 2021, then dropping back to 9.5 percent in 2022. However, the official poverty lines are updated annually at the province-level based on prices and diet for an ever-wealthier reference group. This makes the poverty lines hard to compare as they shift each year at the province level (Box 2.3). Therefore, this Poverty Assessment defines extreme poverty at the international poverty line (IPL) of US$ (1.90) 3.20 2011 PPP[35].

[32] OECD 2021.

[33] International Monetary Fund 2022.

[34] World Bank 2022i.

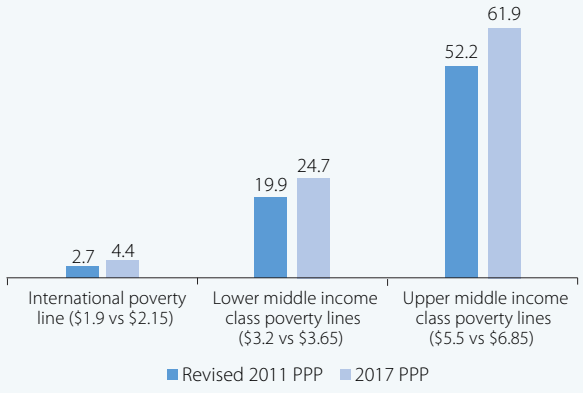
[35] USD 1.90 (2011 PPP) is equivalent to IDR 10282.4; USD 3.20 (2011 PPP) is equivalent to IDR 17317.7.

Box 2.1: Poverty for Indonesia is assessed based on revised 2011 PPP estimates

Indonesia's poverty rate under the 2017 PPP estimates is higher than under 2011 PPP estimates. The World Bank adopted the 2017 PPP exchange rates for global poverty monitoring in fall 2022. The new global poverty lines of US$2.15, US$3.65, and US$6.85 reflect the typical national poverty lines of low income, lower middle-income, and upper middle-income countries in 2017 prices. Given improvements in data collection and methodology for the 2017 PPP estimates, the new poverty lines represent better measures of poverty. For Indonesia, a higher poverty rate will be reported when expressed in 2017 PPP, particularly at the lower middle and upper middle-income lines (Figure Box 2.1.1).

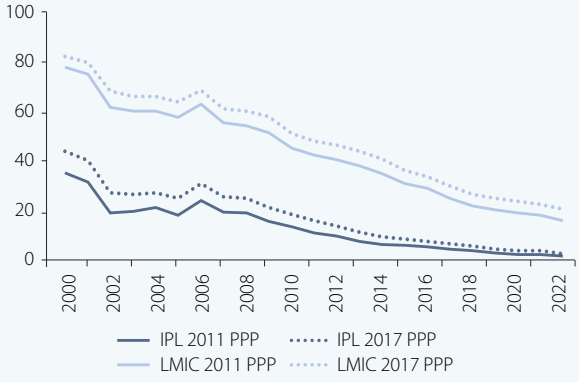
The different poverty rates do not represent a change in poverty in Indonesia. The change in the poverty rate when using 2017 PPP is consistent over time (Figure Box 2.1.2), emphasizing that this is not an actual change in poverty. The change can be explained by two factors: (i) declines in purchasing power against the US$, with Indonesia having become more expensive in relative terms; and (ii) increases in the real value of the global poverty lines, as many upper middle-income countries raised the standards by which they determine people to be poor since the previous update.[36]

FIGURE BOX 2.1.1: Indonesia's poverty rate at 2011 and 2017 PPP estimates for 2019



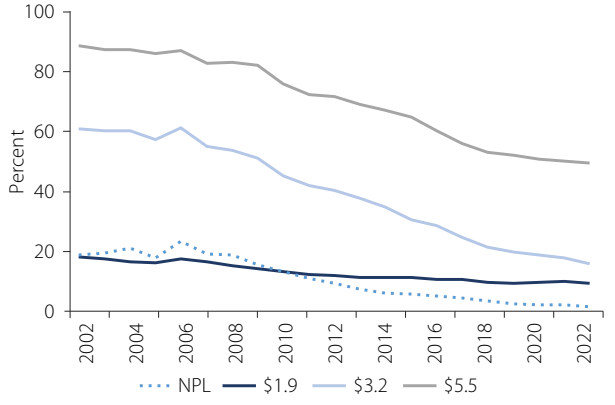
Note: IPL: International Poverty Line; LMIC: Lower Middle Income Class Poverty Line.
Source: World Bank Dataviz

FIGURE BOX 2.1.2: Extreme poverty headcount rates for Indonesia



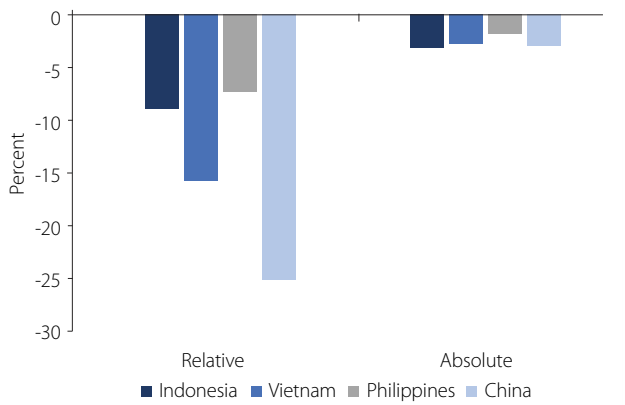
For consistency with the Government's goal to eradicate extreme poverty, we apply the 2011 PPP poverty lines consistently. The Government has set a target of eliminating extreme poverty by 2024, measured by the 2011 PPP poverty lines. Hence, this Poverty Assessment will continue to define (extreme) poverty using the 2011 PPP poverty lines, to ensure consistency and alignment with Government's objectives.

FIGURE 2.6: Poverty headcount rates using $1.90, $3.20, and $5.50 per-day 2011 PPP as well as national poverty line (NPL)



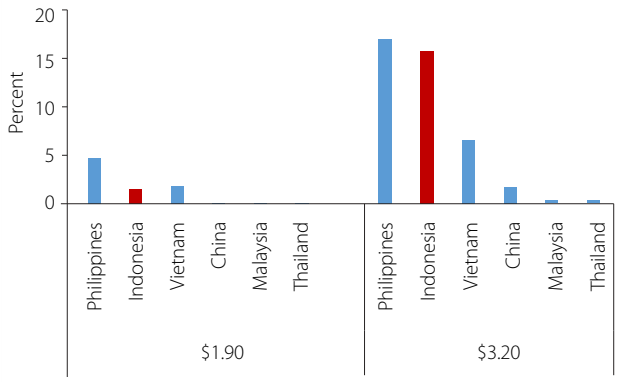
Source: Authors' calculations using SUSENAS (2002-2022)

FIGURE 2.7: Relative and absolute change in poverty at US$ 3.20 2011 PPP from 2009 to 2018/2019



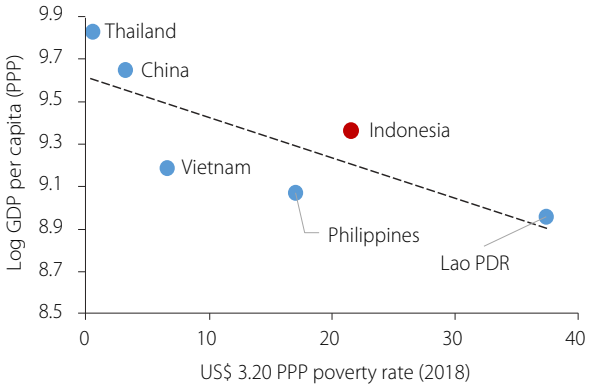
Source: Authors' compilation using World Development Indicators

FIGURE 2.8: Poverty rates for Indonesia and its economic peers



Source: Author's compilation using World Development Indicators, using latest available estimates: Indonesia 2022, Thailand 2020, China 2019, Philippines and Vietnam 2018, Malaysia 2015.

FIGURE 2.9: Log GDP per capita (PPP) vs poverty rate for peers



Source: Authors' compilation using World Development Indicators.

Despite progress, one in six households are structurally poor; that is, they have insufficient assets to escape poverty. The level of structural poverty dropped from 40 percent in 2011 to 16 percent in 2019 (Figure 2.10), slightly outpacing the reduction in poverty. Structurally poor households have consumption levels below US$ 3.20 2011 PPP, and are likely to remain poor in the future (Box 2.2). This generally occurs when a household's physical assets and/or human capital endowments are too low to allow the household to generate adequate income and sustain a consumption level above the poverty line.

In addition, a large share of the population remains economically insecure as they still are susceptible to becoming poor in the future. In 2019, 40 percent of Indonesians were economically insecure (Figure 2.10). Most of these households are non-poor, but can fall into poverty when being exposed to a shock (Box 2.2). The share of economically insecure households has hardly changed since 2011, but a substantial share of structurally poor became economically insecure, while a similar share of economically insecure households managed to reach economic security.

Indonesia's success in reducing poverty notwithstanding, this degree of economic insecurity undermines productivity progress. Short spells of lowered consumption can reduce productivity in the long run due to adverse effects on human capital investments at the household level. Reliance on adverse strategies when coping with income shocks —such as the sale of productive assets— can further reduce productivity.[37] Even before shocks, economically insecure households may anticipate them and adopt conservative or risk-averse production and investment strategies that lower consumption and/or investment.[38] Thus, regardless of whether poor household adopt adverse coping strategy after or before shocks, they reduce long-term productivity, which in turn lowers their chances of securely escaping poverty.

Since 2014, consumption growth has been stronger for Indonesia's bottom 40 percent of households, a reversal from commodity-boom years. Until 2014, consumption growth—especially during the commodity boom—was biased against the poorest 40 percent of households (bottom 40). From 2002 to 2005, the consumption growth rate for the bottom 40 was only 80 percent of the annualized consumption growth for all households, and only 65 percent of that from 2006 to 2013. This trend reversed from 2014 to 2019 when consumption of the bottom 40 grew by 4.8 percent annually compared to an overall annualized growth of 4.2 percent. Thus, the bottom 40 had 1.2 times the average consumption growth, translating into a "shared prosperity premium" of 0.6 percentage points. However, this reversal was not substantially due to higher consumption growth of the bottom 40 (annualized at

[36] World Bank 2022b.

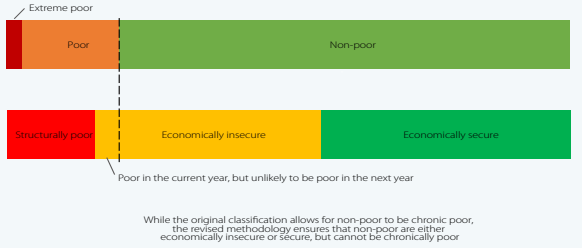
[37] See for example Alderman, Hoddinott, and Kinsey 2006; Gubert and Robilliard 2007; Rosenzweig and Binswanger 1993; Klasen and Waibel 2013.

[38] Elbers, Gunning, and Kinsey 2007.

Box 2.2: Definition of economic insecurity

Economic insecurity covers subsets of poor but also "non-poor" households not structurally poor but remain susceptible to falling into poverty. Structurally poor is defined as being poor with a likelihood of more than 10 percent to remain poor the next year. Economic insecurity is defined as either: (i) being poor with a likelihood of less than 10 percent to be poor next year, or (ii) being non-poor with a likelihood of more than 10 percent to be poor next year. Thus, economically secure households are non-poor with a likelihood of less than 10 percent to be poor next year. We thus categorize the three groups as (i) extreme poor, (ii) poor, and (ii) non-poor (Figure Box 2.2.1).[39]

FIGURE BOX 2.2.1: Visualization (for 2019) of the extreme poor, poor and non-poor and its relationship to economic (in-) security



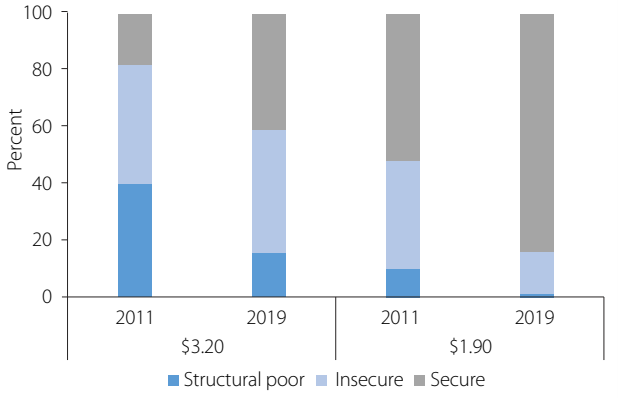
Source: Authors' illustration

The structurally "extreme poor", economically insecure "poor", and economically secure "non-poor" face different challenges. The extreme poor are not only coincidentally poor at the time of the survey (typically a fraction of the poor) but have high probability of being poor across time periods due to, for instance, missing human and physical assets to escape poverty. In contrast, the economically insecure poor may have such assets but are susceptible to falling into poverty due to a shock. The economically secure non-poor households are more resilient and not susceptible to falling into poverty even during shocks.

The concept of economic insecurity roughly equivalent to "vulnerability to poverty" used previously in Indonesia, but is based on a different methodology. Previous work[40] estimating vulnerability exploited SUSENAS (National Economic Survey) 2008 to 2010 panel household data to estimate the chance of a household of falling below the official poverty line in the next year based on its per capita consumption in the current year.[41] The consumption level that corresponded to a 10 percent chance of being poor next year was defined as the "vulnerability line".[42] Given the unavailability of more recent panel data,[43] we used a cross-sectional approach to estimate the probability of being poor next year for each household.[44] Both approaches yield similar estimates of vulnerability/economic insecurity and its trends, but the cross-sectional approach has the advantage of allowing assessment of susceptibility of falling into poverty due to covariate and idiosyncratic shocks (see chapter on Shocks).

4.6 percent from 2006 to 2013) but came at the cost of the top 60, whose annualized growth dropped from 7.1 percent from 2006 to 2013 to 4.1 percent from 2014 to 2019. All of Indonesia's peer countries, except for Vietnam, have a positive—but often significantly larger—shared prosperity premium (Figure 2.11).

FIGURE 2.10: Share of population classified as structurally poor, economically insecure, and economically secure



Source: SUSENAS 2011 and 2019

[39] See Estimating economic insecurity 'Estimating economic insecurity' in the Annex for details of the methodology.

[40] The past approach was introduced by López-Calva and Ortiz-Juarez 2014 and adopted by Wai-Poi (2014) for Indonesia, and used since in many country publications including World Bank 2019a.

[41] Pritchett & Suryahadi, 2000; Wai-Poi, 2014; Chaudhuri, Jalan, and Suryahadi 2002; World Bank 2019a.

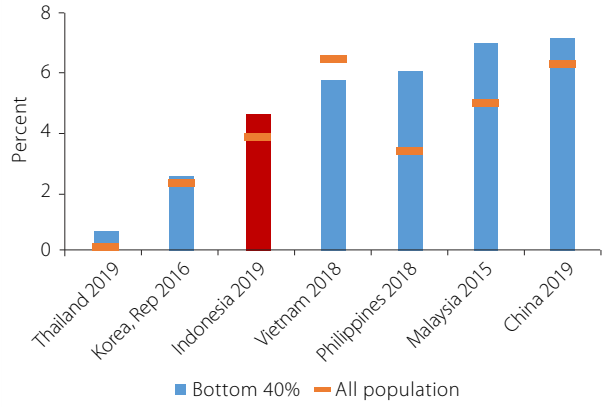
[42] This consumption level was IDR 530,000 in 2016, equivalent to 1.5 times the poverty line.

[43] The last round of the Indonesia Life Family Survey is from 2014, while the panel information for national surveys is currently not made available.

[44] Following Günther and Harttgen 2009. For its application to Indonesia, see Ali and Setiawan 2022.

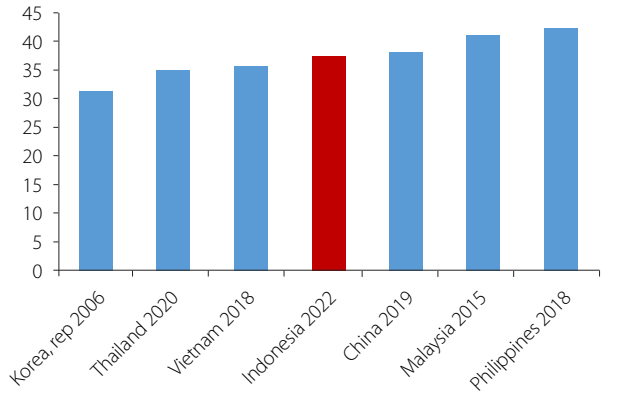
[45] Note that references cited within the Box applied Indonesia's official poverty line while here the deflated international poverty lines are used.

FIGURE 2.11: Consumption growth among the bottom 40 and across the population, for Indonesia and peer countries



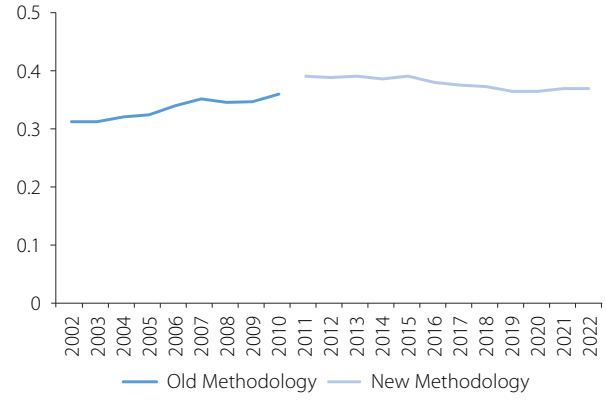
Source: Authors' compilation based on World Development Indicators

FIGURE 2.12: Gini coefficient for Indonesia and its economic peers



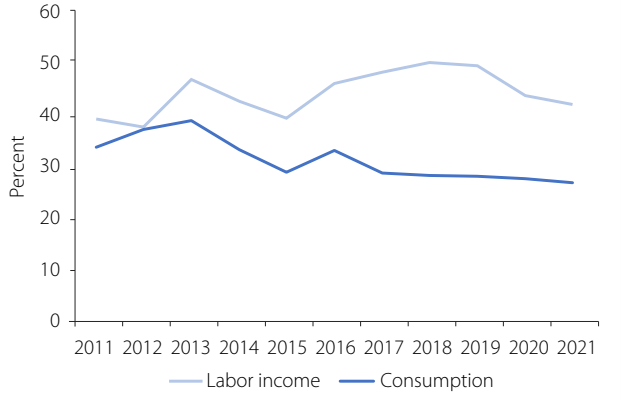
Source: Authors' compilation based on World Development Indicators. Gini estimates for Republic of Korea, Malaysia, and the Philippines are based on income, while Thailand, Vietnam, Indonesia, and China are based on consumption

FIGURE 2.13: Gini coefficient from 2002 to 2022



Source: Authors' compilation based on SUSENAS
Notes: The underlying survey design and protocol changed from 2010 to 2011 by improving the representativeness of the sample.43 Thus, the increase between those years might be attributable to a change in measurement.

FIGURE 2.14: Unfair inequality in consumption and labor income, across years



Source: Authors' calculation based on SUSENAS and SAKERNAS
Notes: Results based on estimating general entropy of consumption/income predicted by a regression of log consumption/income on gender and location (urban/rural as well as provinces) compared to predicted value using a regression with a full set of co-variates.

Accordingly, inequality declined after peaking in 2014. From 2002 to 2010, inequality increased considerably from a Gini coefficient of .32 to .36 points (Figure 2.13), due to unequal consumption growth during the commodity boom.[46] The large increase of 3 points between 2010 and 2011 was possibly due to a change in survey methodology.[47] Following stagnating inequality from 2011 to 2013, inequality started to drop from .39 in 2014 to .37 in 2019, driven by the shared prosperity premium for the bottom 40. From 2019 to 2022, the Gini stayed constant at .37. Inequality in Indonesia is in the mid-range of its regional peers (Figure 2.12).

Unfair inequality remains high, explaining between one-third to one-half of monetary inequality. Inequality can stem from two sources: (i) differences in preferences, abilities, and effort; and (ii) differences in access to opportunities ("unfair" inequality). Unfair inequality due to gender and location explains about one-third of income inequality and one-half of consumption inequality (Figure 2.14). Thus, place of birth and gender often determine access to opportunities and disadvantages some vulnerable groups face for the duration of their lives.

[46] The Gini coefficient measures the inequality within a population, with respect to a measure like income or consumption. A Gini coefficient of 0 reflects perfect equality, where all individuals have the same income / consumption, while the highest Gini coefficient of 1 (or 100%) reflects maximal inequality with one individual holding all income/consumption. Technically, the Gini is the area between the diagonal and the cumulative income/consumption distribution (Lorenz curve). The area is 0 if each individual contributes the same to the population's income/consumption. It is 1 if only 1 individual contributes everything.

[47] Note that the Gini time series is affected by a change of survey methodologies related to sampling and survey protocol, such that the increase from 2010 to 2011 should not be interpreted economically. The time-series until 2010 was based on the Economic Census 2010, while from 2011 onwards the master sampling frame was taken from the Population Census 2010, resulting in new sampling weights. With an improved protocol to minimize unit non-response, the surveys from 2011 onwards were also able to interview richer households, which previously were more often replaced with other – often still non-poor but less rich – households. This explains the stark impact on inequality measures with only limited impact on poverty measures (SUSENAS User Guide).

Sub-national

Poverty rates across Indonesia have converged, but with some regions still lagging.

Urban and rural poverty rates have converged over the last two decades.[48] While the rural poverty rate remains higher, over time it has converging toward the urban poverty rate (Figure 2.15).[49] Between 2002 and 2022, the poverty rate at US$ 3.20 2011 PPP fell from 73 to 16 percent in rural areas, almost completely closing the gap with urban areas from 27 to less than 1 percentage point (pp). Extreme poverty rates in urban and rural areas have been virtually indistinguishable since 2015, and in 2022 stood at 1.5 percent. The depth (poverty gap) and severity (squared poverty gap) of poverty continuously declined since 2002 and have similarly converged in urban and rural areas.

Poverty rates in lagging regions remain higher than elsewhere but are catching up, contrary to common perception. Underneath national aggregates, different regions in Indonesia's vast archipelago face varied levels of deprivation (Figure 2.16). The so-called lagging regions of Eastern Indonesia—namely the Maluku-Papua and Nusa Tenggara island-regions—have had the highest poverty rates in the country. However, since 2002, these regions have achieved impressive gains in poverty reduction, almost catching up with other regions. Poverty headcount rates declined from around 80 percent in 2002 to 26 and 27 percent in 2022 in Maluku-Papua and Nusa Tenggara respectively, compared to an average of 15 percent in the rest of country. Extreme poverty also reached closer to that in other regions but remained about 5 pp higher in 2022. These estimates contrast with the popular discourse around "lagging regions", which describes poverty rates in Eastern Indonesia as stagnating and not converging to the national poverty rate.[50] This view partly arises from the nature of the official poverty line methodology in Indonesia (Box 2.3), under which poverty lines across provinces and within urban and rural areas increased at different rates over time while adjusting to changes in prices and living standards. In practice, the minimum standard of living represented by lines in Eastern Indonesia and other initially poorer regions increased by more than in initially richer regions, obscuring the convergence of these regions. They lag, in fact, by much less when using an absolute measure of poverty.

Most of Indonesia's poor now live in urban areas, roughly in proportion to the share of the general population classified as urban. As Indonesia's urbanization rate has gradually increased,[51] so too has the share of poor living in urban areas, rising steadily from 30 to 53 percent, so that by 2022 a slight majority of the poor were residing in urban areas (Figure 24). In absolute terms, the number of poor living in rural areas declined from 82 million in 2002 to 19 million in 2022, and in urban areas from 41 to 24 million respectively. The share of extreme poor living in urban areas also rose from 39 to 60 percent over the same period. In 2022, 2.5 and 1.7 million extreme poor were living in urban and rural areas respectively. A larger share of the poor in urban areas has important implications for service delivery and social protection, often making service delivery less expensive.

While the Java-Bali region is still home to the vast majority of the poor, an increasing share of the extreme poor live in the lagging regions. Historically, Indonesia has had a highly uneven distribution of poor, and this remains the case today. Traditionally lagging regions have the country's lowest populations, resulting in the vast majority of poor Indonesians living in the populous, higher-density island regions of Java-Bali and Sumatera (Figure 2.18). Combined, they hold 76 percent of Indonesia's poor in 2022. The lagging regions, in contrast, were home to only 12 percent of the poor. The geographical distribution of extreme poverty shows a similar pattern, but with a notable difference: the share of extreme poor in the Java-Bali and Sumatera regions declined from 79 to 64 percent between 2002 and 2022, while that of Nusa Tenggara and Maluku-Papua increased from 12 to 22 percent.[52] In other words, extreme poverty

[48] See Box 2.3 for a thorough discussion of spatial deflation and its limitations.

[49] Note that urban and rural poverty trends are not independent of each other, as urbanization is partly driven by a re-classification of rural settlements becoming urban (see footnote 105 on page 31 for more details). Given converging rural-urban trends, this mixing effect is unlikely to explain the general urban and rural trends for socio-economic indicators.

[50] World Bank 2006; World Bank 2020b; Roberts, Gil Sander, and Tiwari 2019.

[51] Roberts, Gil Sander, and Tiwari 2019.

[52] This was disproportionately high relatively to the share of these regions in Indonesia's population (7 percent).

became more concentrated in lagging regions, further from areas that areas that are the economic engine of the country. As the number of extreme poor continues to decline, those that remain extremely poor live in increasingly remote and difficult to reach areas.

Box 2.3: The advantage of using absolute poverty lines to compare poverty across Indonesia's provinces

Indonesia's poverty lines are annually adjusted for each province, separately for urban and rural areas. The poverty lines are defined by Indonesia's national statistics office *Badan Pusat Statistik* (BPS) at the provincial urban/rural level. Each poverty line is updated annually as the amount of money required to obtain 2,100 calories per day, using as the reference group households that fall between the consumption percentile of last year's poverty line and the next 20 percentiles. The methodology adds a small amount for basic non-food items.

The methodology to estimate poverty lines leads to complications in comparing provincial urban to rural poverty, undermining the ability to compare trends across provinces. The lines are updated based on a reference group, which is above the last year's poverty line. With improving living standards, the reference group will consume more expensive calories as they transition from a diet of necessity to a diet of choice. This increase of the minimum standard of living (Figure Box 2.3.1) can be conceptually desirable. However, moving the poverty lines annually as well as independently across provinces and urban/rural erodes comparability, especially between provinces and when comparing urban to rural areas. For example, the US$ 3.20 2011 PPP poverty line has doubled over the last 20 years due to prices, while the national poverty line nearly tripled due to prices and changes in diet.

FIGURE BOX 2.3.1: National and international poverty lines in nominal and constant terms (IDR)

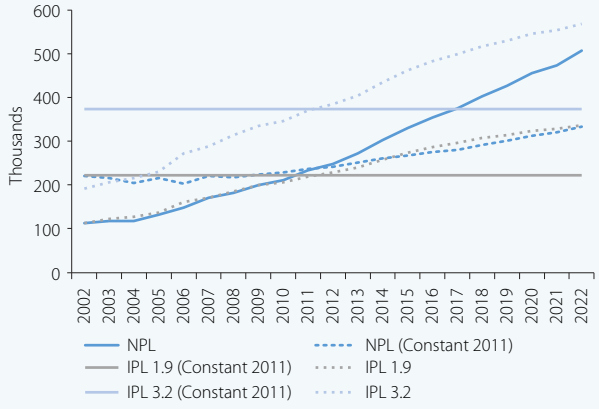
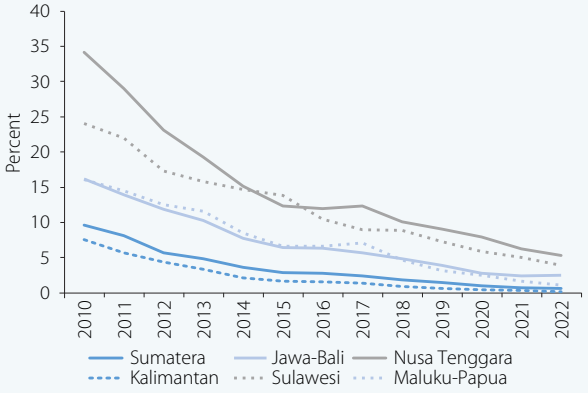


FIGURE BOX 2.3.2: Poverty rates based on official poverty lines, by regions



Source: Authors' calculations based on SUSENAS

FIGURE BOX 2.3.3: Poverty rates at US$ 1.90 2011 PPP without within-year spatial deflation, by region

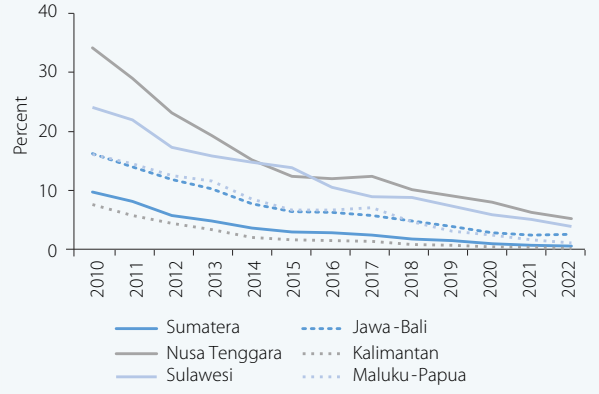
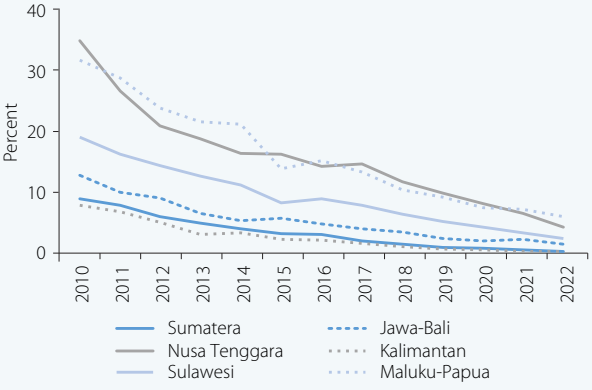


FIGURE BOX 2.3.4: Poverty rates at US$ 1.90 2011 PPP after applying within-year spatial deflation, by region



Source: Authors' calculations based on SUSENAS

Box 2.3: The advantage of using absolute poverty lines to compare poverty across Indonesia's provinces *(contd)*

The international poverty lines are absolute lines lacking appropriate spatial deflation. In contrast, the international poverty lines for the extreme poor at US$ 1.90 2011 PPP, the poor at US$ 3.20 2011 PPP, and US$ 5.50 2011 PPP are absolute lines, with their values only updated every few years to reflect changes in purchasing power parity. For Indonesia, they are deflated for urban and rural areas in 2011 by using the PPP estimator split into urban/rural based on the spatial differences implicit in the national official lines and the sample distribution of the International Comparison Program (ICP) data collection.[53] Temporal deflation across years is based on Indonesia's urban-only Consumer Price Index (CPI). Thus, the estimated poverty rates implicitly assume parallel price trends in urban and rural areas. Since no deflation is applied beyond urban and rural, it is not recommended to use the resulting estimates to spatially disaggregate further.[54]

This Poverty Assessment introduces spatial differences across provinces, separately for urban and rural areas to the international poverty line to allow comparisons of trends across provinces. Separately for urban and rural areas, the food consumption aggregate is spatially deflated at the province-level.[55] The spatial food deflators are survey-based, derived from unit prices reported in the corresponding consumption surveys (SUSENAS). Given the lack of comparable non-food prices at the province and urban/rural level, non-food consumption, whose share hovers around 40 percent of consumption in Indonesia, cannot be spatially deflated. The spatial deflation is anchored at the existing national urban and rural poverty rates. Thus, only the province-level poverty rates are revised.

Contrary to when using national poverty lines, the new provincial estimates show a converging trend for lagging regions. Indonesia's poverty lines based on the official methodology reveal a stagnating, parallel trend of poverty across island regions, with Maluku-Papua and Kalimantan around 20 percent, lagging other island regions at around 10 percent (at US$ 1.90 2011 PPP; Figure 2.3.2). In contrast, the non-spatially adjusted international poverty lines show a strongly converging trend with all island regions approaching 5 percent, and Nusa Tenggara as well as Sulawesi only slightly trailing (Figure2.3.3). The spatial deflation adds more nuance with a larger range of poverty rates across island regions, but still well below 10 percent (Figure 2.3.3). In addition, Indonesia's official poverty lines indicate a slight uptick of poverty in 2021 across island regions due to COVID-19, while the spatially deflated international poverty line only shows a small increase in poverty for Java-Bali. The remainder of this Poverty Assessment will exclusively use the spatially deflated PPP poverty lines.

FIGURE 2.15: Poverty rates based on official poverty lines, by regions

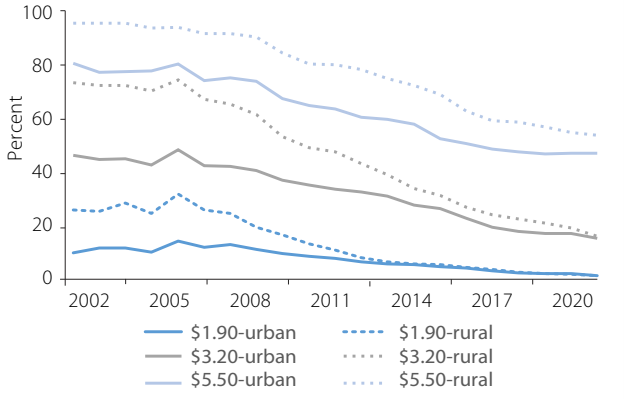
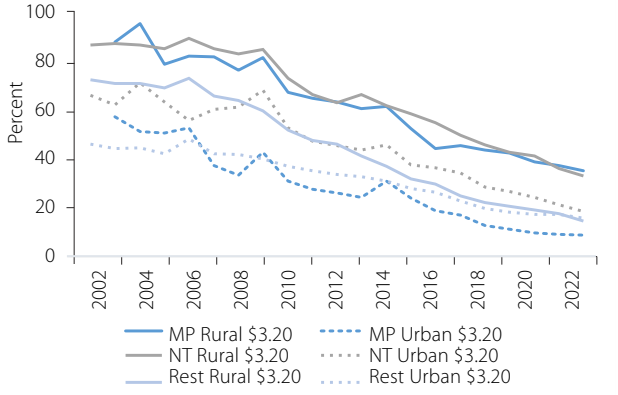


FIGURE 2.16: Poverty rates for Nusa Tenggara (NT), Maluku Papua (MP) and other regions



Source: Authors' calculations based on SUSENAS

[53] Note that only 3 percent of Indonesia's market prices for the PPP are collected in rural areas. Asian Development Bank 2020a: pages 215 and 340.

[54] Indonesia's poverty lines do not require spatial deflation as the province and urban/rural estimation already implicitly deflates for spatial differences in prices.

[55] Deflation of the consumption aggregate is the inverse of the deflation of the poverty line.

FIGURE 2.17: Share of the poor and the general population in rural and urban areas

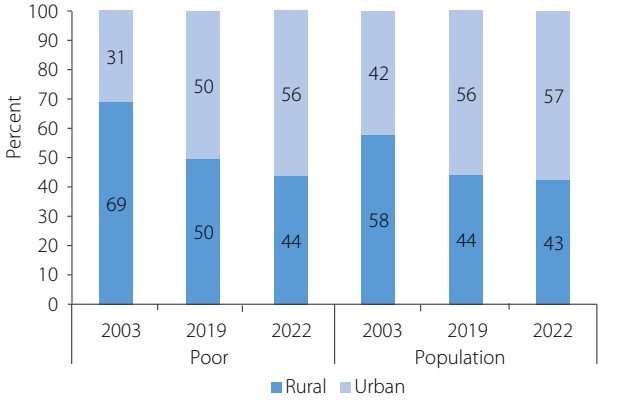
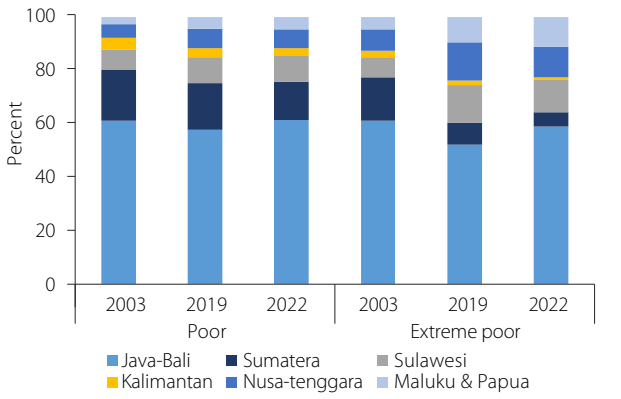


FIGURE 2.18: Share of the (extreme) poor, by region



Source: Authors' calculations based on SUSENAS

Opportunities over the lifecycle

Compared to monetary poverty, progress in non-monetary dimensions of wellbeing was relatively muted and lagged Indonesian peer countries.

Progress was uneven in improving access to education and basic infrastructure services, important dimensions of wellbeing beyond monetary poverty. Since 2002, the highest level of education completed rose both among young adults (Figure 2.19) and in the adult population (Figure 2.20). Access to electricity and gas expanded in both urban and rural areas (Figure 2.21 and Figure 2.22). In 2022, the vast majority of Indonesians owned a cell phone, and internet access steadily rose. In contrast, provision of clean water and sanitation services remained a challenge. Indonesia still has one of the highest percentages of open defecation, with 29 percent among the rural population and 14 percent among the urban population. Poor sanitation and hygiene practices and unsafe water lead to high infectious disease rates, which contribute to chronic malnutrition and worse health outcomes. Overall, despite substantially increasing over the last decade and closing important gaps, investment in infrastructure remains quite inadequate; the gap between resources allocated and actual needs is estimated to exceed the size of the entire Indonesian economy.[56]

FIGURE 2.19: Educational attainment among young adults (19-25 yo) in Indonesia

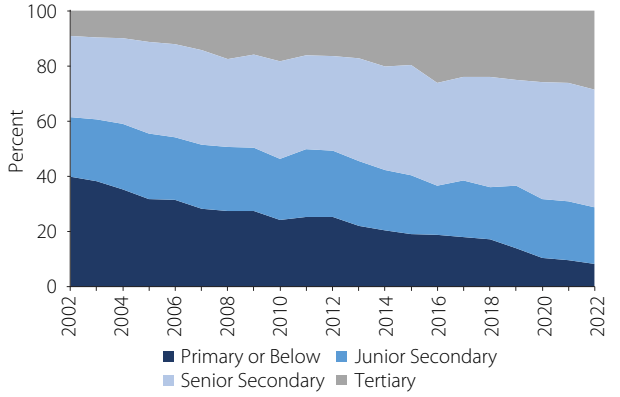
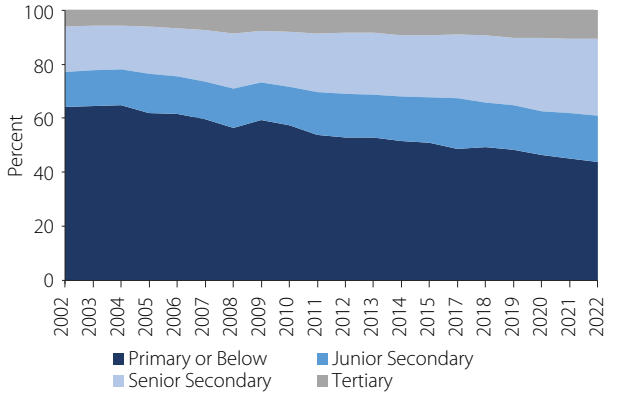


FIGURE 2.20: Educational attainment among Indonesian household heads



[56] World Bank 2020d. Between 2000 and 2013, Indonesia spent an average of 3.6 percent of GDP on infrastructure per year, compared with 17.7 percent in China, 11.3 percent in Malaysia and 6.3 percent in Thailand. The deficit in spending is estimated to be US$1.6 trillion compared to other emerging and developing economies. In water and sanitation, for example, Indonesia is among countries with the lowest public sector spending (0.2 percent of GDP).

FIGURE 2.21: Access to infrastructure services in 2015

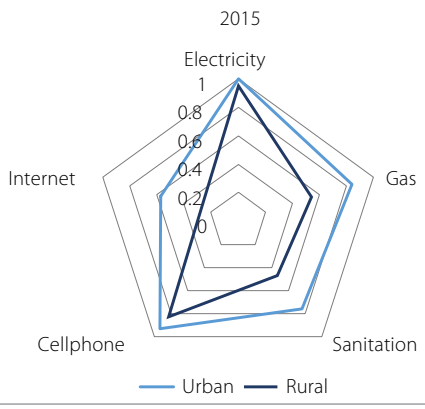
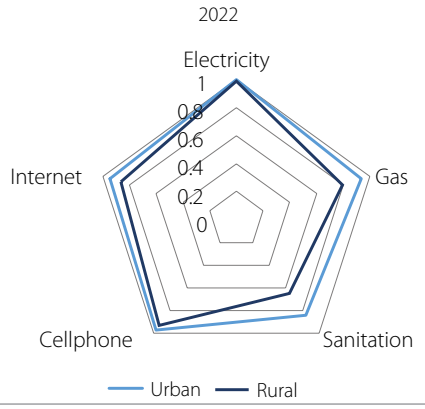


FIGURE 2.22: Access to infrastructure services in 2022



Despite expanded access to services, the foundations of human capital remain weak. Human capital consists of the knowledge, skills, and health people invest in and accumulate throughout their lives, enabling them to realize their potential as productive members of society. Indonesia's investments in education and basic services have substantially expanded access to services that support human capital development. Still, human development outcomes have shown limited progress. Indonesia's Human Capital Index (HCI), a summary measure of the amount of human capital that an Indonesian child born today can expect to acquire by age 18, grew only modestly from 0.50 in 2010 to 0.54 in 2020.[57] The value remains below average for the East Asia and Pacific region as well as upper middle-income countries, mainly due to Indonesia's relatively poor performance on child survival and nutrition outcomes, as well as on standardized test scores.[58]

Early childhood development (ECD) outcomes show limited progress and nutritional deficits are large. The period from a child's birth to age 5 is a critical time for shaping long-term skills and productivity.[59] Childhood health outcomes are therefore an important component of the HCI. In Indonesia, these outcomes have improved but lag regional peers (Figure 2.21 and Figure 2.22). In 2022, 21.6 percent of children under age 5 were stunted,[60] higher than among peers.[61] Unlike the sustained, dramatic declines in extreme poverty that have brought Indonesia very close to its target of zero extreme poverty by 2024, progress in reducing stunting was slow and only improved recently. This ECD deficit reflects weak foundations of human capital formation with long-term implications for productivity. Indonesians whose growth was stunted in childhood were shorter as young adults, exhibited lower cognitive function, and spent fewer years in education, factors linked to lower earnings later in life.[62]

Stagnating learning outcomes at older ages indicate that many Indonesians are not adequately prepared for the transition from school to work. While educational attainment has risen, the quality of learning remained low, with the attained 12.4 years of schooling translating into 7.8 learning-adjusted years of schooling.[63] More than half (53 percent) of children aged 10 were unable to read and understand a short, age-appropriate text.[64] More broadly, learning outcomes among students aged 15 changed little in the last two decades and remain

57 Ranging between 0 and 1, the index takes the value 1 only if a child born today can expect to achieve full health (defined as no stunting and survival up to at least age 60) and achieve her formal education potential (defined as 14 years of high-quality school by age 18). A value of 0.54 implies that a child born in Indonesia today will be 54 percent as productive as he/she could be if he/she enjoyed complete education and full health.

58 Human Capital Project 2020.

59 Heckman 2007. During this time, the brain develops rapidly to build the foundation of skills needed to thrive not just in school, but also later in life as an adult, for example, in the labor market. Analyses of the long-term impact of early childhood interventions in the United States have helped quantify the long-term benefits of targeted investments early in life (García et al. 2020). And cognitive ability in early childhood has been shown to influence labor market outcomes in adult life (Case and Paxson, 2008). Small-scale studies in Guatemala, South Africa, and Jamaica show that children with low levels of cognitive development in early childhood do poorly in school. See Stith, Gorman, and Choudhury 2003, Liddell and Rae 2001, and Walker et al. 2005 respectively.

60 Kementerian Kesehatan Republik Indonesia 2022.

61 Progress was slower even than in Laos and Cambodia, which exhibited similar levels of stunting, as well as China and Mongolia, where stunting levels were lower by about a third. The pace of reduction in stunting has recently picked up. Since rollout of Indonesia's Stranas Stunting strategy, the stunting rate declined by as much as 6.4 percentage points from 30.8 percent in 2018 to 24.4 percent in 2021.

62 Giles et al. 2017; Perkins et al. 2016; Alderman, Hoddinott, and Kinsey 2006.

63 Human Capital Project 2020.

64 World Bank 2021b.

much lower than in peer economies (Figure 2.23). This low level of basic cognitive skills among youth in reading, mathematics, and literacy provides a weak foundation for skills needed for tertiary education, which remains relatively rare (Figure 2.19) and also lags regional peers. It also constrains capacity to build more advanced skills increasingly in demand in Indonesia, most prominently for the digital economy.[65]

Maternal health—a key contributor to development outcomes, especially in childhood—improved little over the last two decades. Indonesia's maternal mortality rate has stagnated and remains significantly higher than peer countries (Figure 2.24). Poor maternal health contributes to poor fetal and child health and are associated with higher chances of intrapartum-related complications, infections, defects, and a higher probability of neonatal death. Poor nutrition and high adolescent fertility contribute to the high child stunting rate.[66]

Progress in strengthening women's agency—integral to their health and wellbeing, as well as that of their households—was also limited. Women's agency matters for several reasons. First, a person's ability to make effective choices and exercise control over one's life is a key dimension of well-being. Further, women's exercise of agency improves their children's welfare.[67] The median age at first marriage slowly increased

FIGURE 2.23: Infant mortality for Indonesia and its economic peers

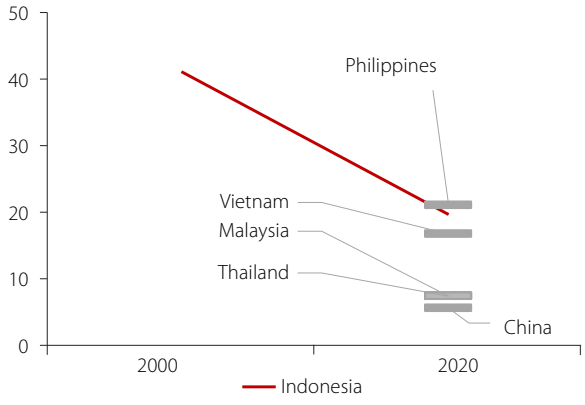


FIGURE 2.24: Stunting levels for Indonesia and its economic peers

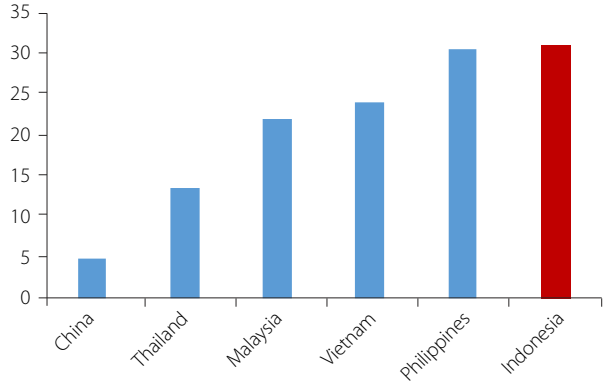


FIGURE 2.25: Learning outcomes in Indonesia and its economic peers

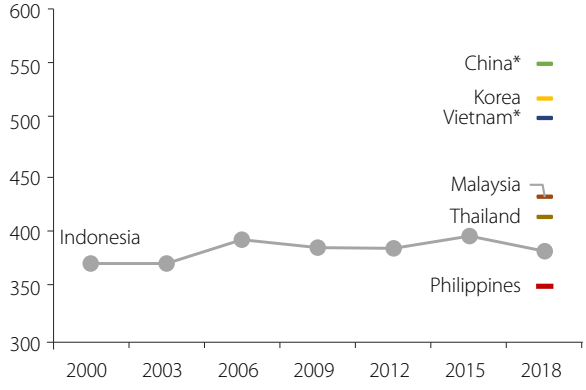
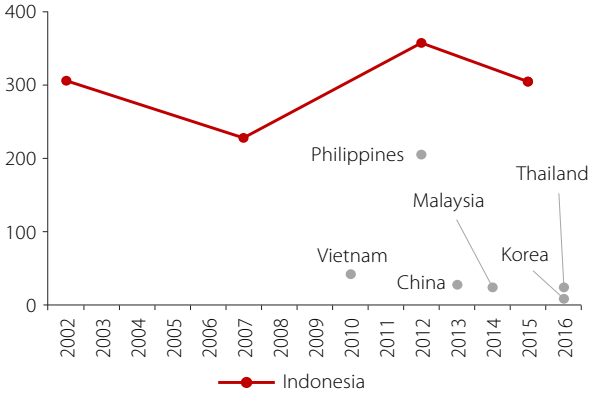


FIGURE 2.26: Maternal mortality in Indonesia and its economic peers



[65] World Bank 2021a.

[66] World Bank 2020a. Almost a third of girls entering pregnancy are undernourished and have micronutrient deficiencies.

[67] Gender differences in preferences are reflected in different patterns of expenditure and consumption within the household, with women more strongly favoring investments in children's human capital.

over time[68] but remained low at 21.8 years in 2017.[69] Younger age at marriage is associated with lower intra-household bargaining power and higher risk of domestic violence.[70] Concerningly, attitudes toward wife beating showed little change over time, with nearly one-third of women—compared to 17 percent of married men[71]—agreeing that a husband was justified in beating his wife in at least one of five specified circumstances (Figure 2.25), with less wealthy women more likely to agree.[72] Given widespread violence against women and girls in Indonesia, this not a theoretical question, and has physical and mental implications.[73] While violence is one extreme, decision power has many facets. Over one in five women did not exercise control over her own earnings or was not involved in decisions related to household expenditures, and about one-third did not participate in decisions regarding their own health care, major household purchases, and visits to family or relatives. Women were also significantly less likely to own property and land than men, and the gap was larger among the least wealthy.[74]

Children in poor households and lagging regions remained more likely to have an unhealthy start in life, a disadvantage compounded by lower access to opportunities at all stages of life.

Inequities in access to child health services contribute to persistent wealth gaps in health outcomes. Gaps between the poor and the rich in childhood mortality rates reduced significantly since 2007 but remained twice as high among children in the bottom wealth quintile as those in the richest (Figure 2.26).[75] Children from households in the bottom wealth quintile were significantly less likely to have received basic vaccinations (57 percent) than the richest (69 percent), and almost twice as likely to receive no vaccines at all (8.4 versus 4.7 percent) (Figure 2.27). They were also much less likely to be fed adequately diverse diets; only 44 percent of children were fed a minimally diverse diet, compared to 75 percent of the richest children.[76]

Wealth gaps in access to maternal health care services contribute to inequities in child outcomes. Richer women were significantly more likely to receive higher quality prenatal care, such as a complete battery of essential diagnostic tests (Annex Figure A6).[77] The total fertility rate (TFR) declined significantly among richer women, but not among those from poorer households (Figure 2.28). By 2017, the gap in TFR between women in the richest and poorest wealth quintiles rose to 0.6. A higher TFR among poorer women, compounded with poorer quality of maternal care, contributes to poorer health outcomes during reproductive years as more pregnancies lead to more pregnancy-related illness and limit resources for routine care during each pregnancy. In turn, children born to less healthy mothers have inferior health outcomes immediately after birth and during infancy.

Gaps in education between the rich and poor were slow to close. Preschool access remained low across the population. Preschool enrollments improved somewhat since 2002 but remained quite low in 2022 across the population' 33 and 40 percent of 10-year-old children from extreme poor and poor households are enrolled in preschool compared to 46 percent of the non-poor. With access to basic education nearly universal since 2015, net primary education enrollment rates among the poor had already caught up with the non-poor by the turn of the century. Catch-up was evident at the secondary school level as well. However, while the rates reflected increasing access among the poor, they also showed plateauing rates among the non-poor since 2015,

68 Badan Pusat Statistik, National Population and Family Planning Board, and Ministry of Health 2018. Among ever-married women aged 25-49, the median age of marriage increased from 17.7 years in 1991 to 21.8 years in 2017. 97% of employed women participate in decisions about the use of their earnings, 73% make decisions on their own, and 24% make decisions jointly with their husbands.

69 Badan Pusat Statistik, National Population and Family Planning Board, and Ministry of Health 2018.

70 World Bank 2020a.

71 The latest data on men are available only in the 2012 round of the survey.

72 Badan Pusat Statistik, National Population and Family Planning Board, and Ministry of Health 2018.

73 World Bank 2020a.

74 Among women, use of cellphones, computers and the internet rose steadily since 2018, and differences between men and women were relatively small among the poor and non-poor, at most a few percentage points (authors' calculations using SUSENAS 2018-2021).

75 Badan Pusat Statistik, National Population and Family Planning Board, and Ministry of Health 2008; Badan Pusat Statistik, National Population and Family Planning Board, and Ministry of Health 2018.

76 Estimates were for children aged 6-23 months living with their mother.

77 Less than half of women in the poorest wealth quintile delivered in a health facility compared to over 90 percent of the richest; the latter were over six times as likely to access ante-natal care (ANC) through an obstetrician than the former and the gap grew over time. The wealth gap in the share of share of births that received a post-natal check within two days of birth grew over time. Nearly half of women in the poorest wealth quintile had a serious problem accessing the care they needed, compared to under a third of women in the richest.

indicating system-wide stagnation. This is a concerning development in the context of increasing public spending on education.[78] Average years of schooling completed by heads extremely poor households rose somewhat faster than among the non-poor (1.9 vs. 0.1 years of schooling between 2003 and 2022). In 2022, most household heads in the bottom quintile still only had completed primary education or less (Figure 2.29). Only a tiny minority had completed tertiary education (2.9 percent compared to 25 percent in the top quintile). The overall slower progress among adults highlights the significant time for improvements In youth school enrollment to reflect in average population educational attainment.

Gaps in health and education outcomes by wealth status undermines Indonesia's workforce productivity while exacerbating inequalities. Worse health and education outcomes among the poor create barriers to entry into decent livelihoods and/or jobs that help secure a path of out of poverty. Worse, lags in these outcomes means lack of access to the same opportunities as the better off, meaning that poor households, even with improvements, may never be able to catch up, increasing long-term income and consumption inequality.

Poor and extreme poor households benefited from increased access to basic infrastructure services, but still lagged the non-poor by significant margins.

FIGURE 2.27: Childhood mortality rates, by wealth quintile

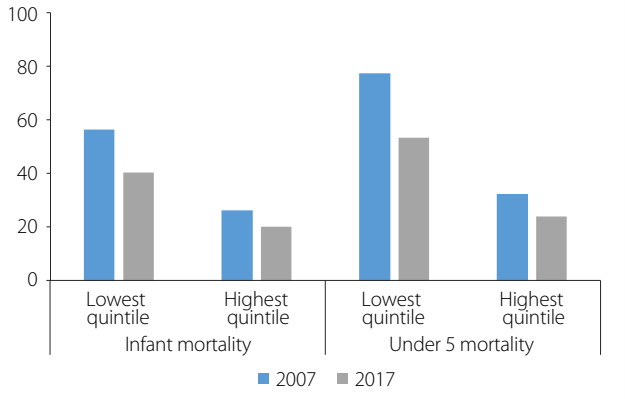


FIGURE 2.28: Vaccination rates and dietary diversity among children, by wealth quintile

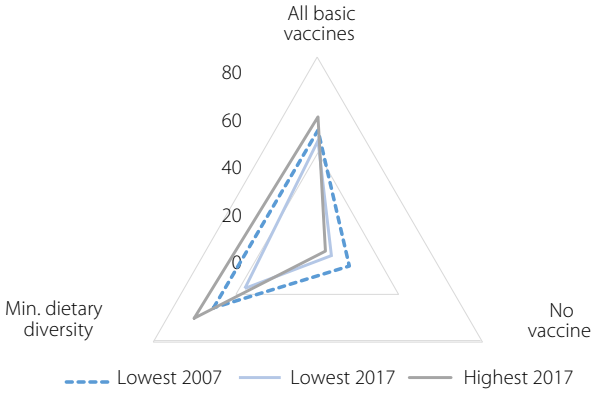
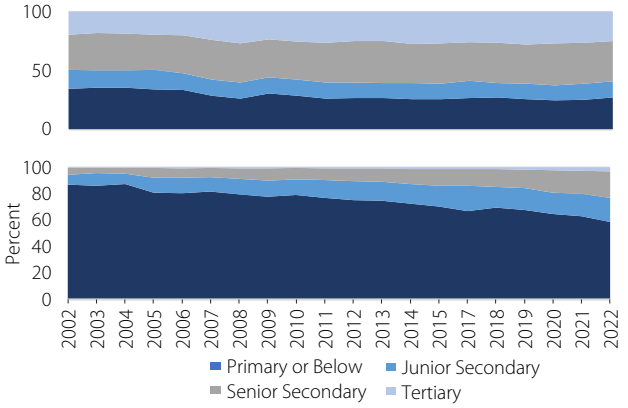


FIGURE 2.29: Total fertility rates among women, by wealth quintile

FIGURE 2.30: Educational attainment among the top 20 (top) and bottom 20 percent (bottom), household heads



[78] World Bank 2020d. The share of education spending in total government spending increased from 11.3 percent in 2001 and has fluctuated between a sizable 17-20 percent since 2009. The share of public health spending in total government spending increased from 2.9 percent in 2001 to over 8 percent by 2017.

Among the poor, access to electricity, gas, clean water, and sanitation has been slowly catching up to that among the non-poor, but gaps remain large, except in the case of electrification (Annex Figure A7). For example, in 2021, 45 of the extreme poor still lacked access to gas and 50 percent lacked adequate sanitation services.

Indonesia's lagging regions exhibit severe deficits in aggregate human capital. Subnational disaggregation of the HCI presents a grim picture (Figure 2.30).[79] Some districts in the country, concentrated in the Nusa Tenggara and Maluku-Papua island-regions (Box 2.4), have human capital levels comparable to Chad, Niger, and Sierra Leone, while others regions are almost at par with countries like Vietnam and China. Differences in learning outcomes, as measured by harmonized test scores, account for the largest share of variation in HCI scores. In addition to generally lower child survival rates (Figure 2.31), early nutrition deficits are particularly acute in eastern Indonesia: in provinces such as Nusa Tenggara Timur and Papua in 2022, children were over twice as likely to be stunted (nearly 35 percent of children under age 5) compared to DKI Jakarta and Bali (14.8 and 8 percent respectively). Poor maternal health contributes to these deficits. Maternal mortality is significantly higher in the lagging regions than elsewhere (Annex Figure A9).

While sectors of employment among the poor diversified, the poor remained more likely to be engaged in less productive, insecure livelihoods.

Labor force participation and employment rates stayed large constant over the last two decades.[80] Labor force participation stayed relatively constant within a narrow range of 65 to 69 percent (Figure 2.32). With job creation around 2 million new jobs per year between 2014 and 2019, the labor market managed to absorb new labor entrants, and the employment rate remained near constant at around 94 percent (94.1 percent in 2015 and 94.7 percent in 2019).

Under-employment remains high, squeezing income at the intensive margin. Under-employment (working less than 35 hours per week) continues to be high at around 40 percent for workers with no more than primary education (Annex Figure A8). They also work fewer hours per week, dropping by 1 hour from 22 hours in 2014 to 21 hours in 2019. At the same time, real wages increased from 2014 to 2019 by about 24 percent for workers of no more than primary education and also with junior secondary degrees (Figure 2.33).

FIGURE 2.31: Sub-national human capital index relative to GPD per capita

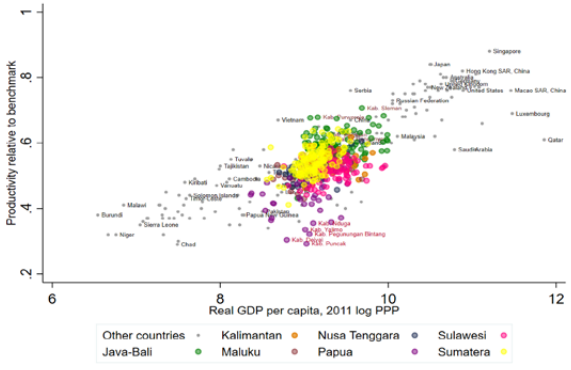
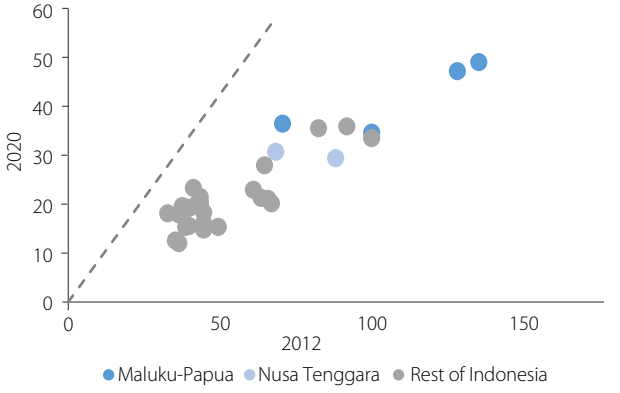


FIGURE 2.32: Childhood mortality rates in 2012 and 2020, by region



Note: Mortality for children under 5 years. Y-axis = mortality rate in 2020 (Indonesia Population Census); x-axis = mortality rate in 2012 (MOH 2013).

[79] World Bank 2022c.

[80] Due to the lack of comprehensive labor data in the consumption household survey (Susenas) and no household information in the labor force survey (Sakernas), both datasets cannot be readily linked. Therefore, analyses on the labor force survey are conducted using educational attainment as a proxy for wealth status. Future work could build on the results presented here by imputing consumption and hence poverty status into the Sakernas.

Box 2.4: Access to opportunities in Indonesia's lagging regions

Eastern Indonesia's lagging regions have the highest poverty rates in the country and are home to an increasing share of the country's extreme poor. The economies of these regions are different from the rest of the country. Per capita GDP of the Maluku-Papua region (RGDP) has remained close to that elsewhere in Indonesia (excluding Nusa Tenggara), in sharp contrast to the region's poverty rate, which remains the highest (Figure Box 2.4.1). The Papua region has a higher share of output coming from the non-labor-intensive mining and quarrying sectors, included under the "other industries' category" (Annex Figure A10). Contribution to output from low-value added (VA) services picked up only in recent years. Overall, the RGDP and labor employment shares by sector indicate a significantly lower level of diversification than elsewhere (Annex Figure A11). Half of workers are employed in agriculture. The Nusa Tenggara region, on the other hand, has the lowest RGDP per capita among Indonesia's island regions, and a much higher dependence on agriculture and low-VA services compared to the rest of the country.

While education attainment in Nusa Tenggara lags other parts of the country, the region is rapidly catching up. Over the last decade, educational attainment among adults increased in both urban and rural Nusa Tenggara, but remained lower than other parts of the country (Figure Box 2.4.2). However, completion rates among young adults have caught up. The share of the population aged 19-25 years in urban Nusa Tenggara that had completed senior secondary education rose from 27.7 percent in 2002 to 44.4 percent in 2022, close to that in the rest of urban Indonesia (44.4 percent).[80] Likewise, in rural Nusa Tenggara, the share rose from 14.7 percent to 38.6 percent over the same period, almost closing the gap with other parts of rural Indonesia (40.9 percent).

FIGURE BOX 2.4.1: Regional GDP per capita

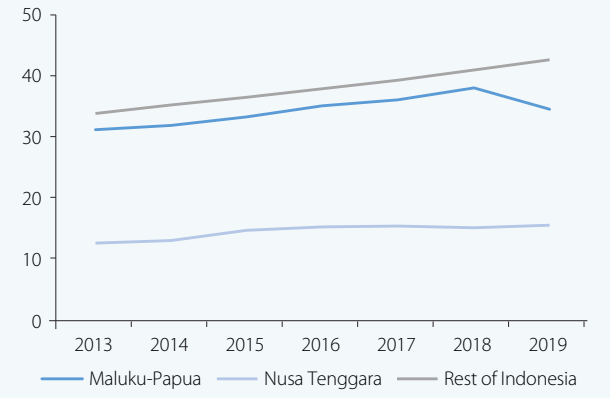


FIGURE BOX 2.4.2: Educational attainment, by urban and rural regions

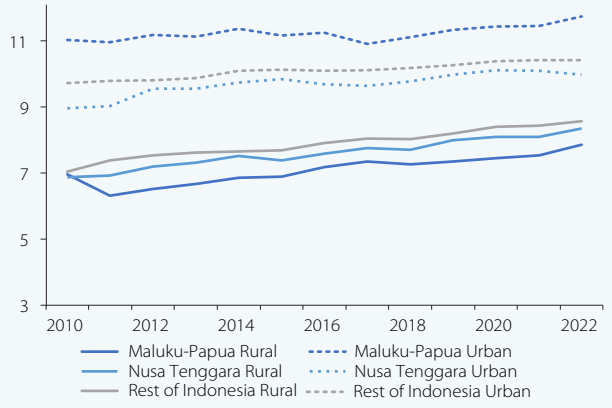


FIGURE BOX 2.4.3: Access to basic infrastructure services in urban areas in 2022, by region

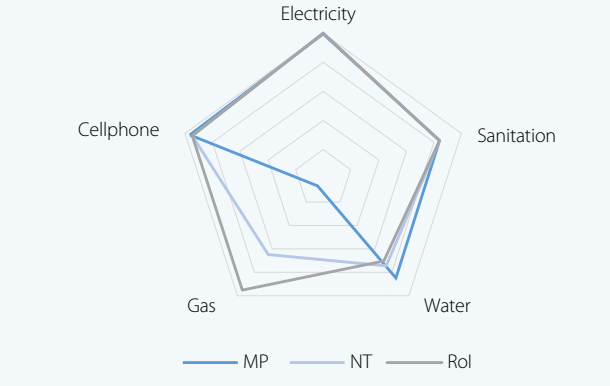
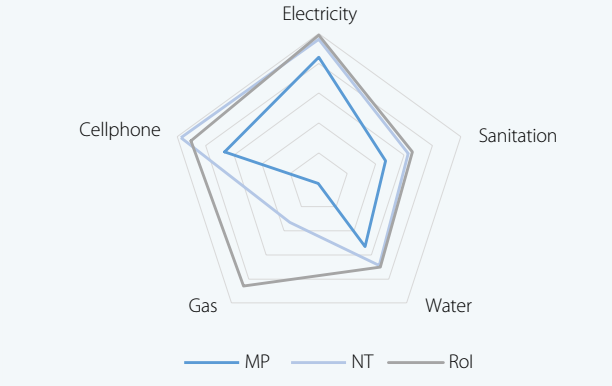


FIGURE BOX 2.4.4: Access to basic infrastructure services in rural areas in 2022, by region



Notes: MP = Maluku-Papua; NT = Nusa Tenggara; RI = Rest of Indonesia

[81] Catchup was also evident at the tertiary level. The share of young adults in urban Nusa Tenggara that had completed tertiary education rose from 5.3 percent in 2002 to 37.1 percent in 2022, higher than the share of 33.9 percent in the rest of urban Indonesia. Similarly in rural Nusa Tenggara, the share rose from a mere 2.4 percent to 21.4 percent, similar to the rest of rural Indonesia (20.4 percent).

Box 2.4: Access to opportunities in Indonesia's lagging regions *(contd)*

Educational attainment in the rural Maluku-Papua region remains the lowest in the country, with relatively slow progress over time. Over the last decade, the average years of schooling completed among adults increased in rural Maluku-Papua but remained lower than anywhere else in Indonesia (Figure Box 2.4.2). While education completion rates among young adults were similar to those in rural Nusa Tenggara in the early 2000s, progress was significantly slower. The share of young adults that had completed senior secondary education stood at 33.7 percent in 2022, far below that in rural Nusa Tenggara and the rest of rural Indonesia.

The urban-rural gap in education completion in the Maluku-Papua region is staggeringly large. Historically, urban Maluku-Papua has had the highest educational attainment in Indonesia (Figure Box 2.4.2). The urban-rural gap is largest among Indonesia's island regions, at nearly four years of schooling, over twice the rest of the country. This is linked to presence of skilled workers who migrate to urban locations in the Papua region, many employed in mining and the extractives industry and services.

With the notable exception of rural Maluku-Papua, lagging regions have caught up to other parts of Indonesia in access to many infrastructure services. By 2022, access to electricity, water, and sanitation services in urban areas of Maluku-Papua and Nusa Tenggara was similar to that elsewhere in urban Indonesia (Figure Box 2.4.3). Access in rural Nusa Tenggara was also very similar to rural areas elsewhere. Rural Maluku-Papua, however, was an outlier as barely half of households had access to adequate water and sanitation services, compared to over two-thirds in rural areas elsewhere. Nusa Tenggara made remarkable progress since 2012, starting with very low access like that in Maluku-Papua and rapidly catching up to the rest of Indonesia. In rural Maluku-Papua, however, progress was limited. The lagging regions also stand out from the rest of Indonesia in their slow transition from "dirty" energy sources for cooking to cleaner ones. But again, progress was impressive in Nusa Tenggara, with the share of households using gas as the primary cooking fuel increasing from under 10 percent to over 40 percent over the last decade. In contrast, the share stood at a mere 1 percent of households in Maluku-Papua in 2012, rising to only 2 percent a decade later.

Agriculture still holds the largest share of workers from poor households, although the sector's share declined over time. Employment sources diversified for all workers, with the share of household heads in agriculture declining, especially among the extreme poor, while the shares in industry and services increased, albeit slowly (Figure 2.34). Given the pace of the transition, a large share of the rural poor will continue to be engaged in agriculture in the coming decades. More broadly, sector of employment is one of the key characteristics that distinguishes the economically secure from the poor and insecure; the secure have a significantly higher share of employment in services (50 percent) and a much lower share in agriculture (17 percent; Annex Table A1).

FIGURE 2.33: Labor force participation, by education and for women

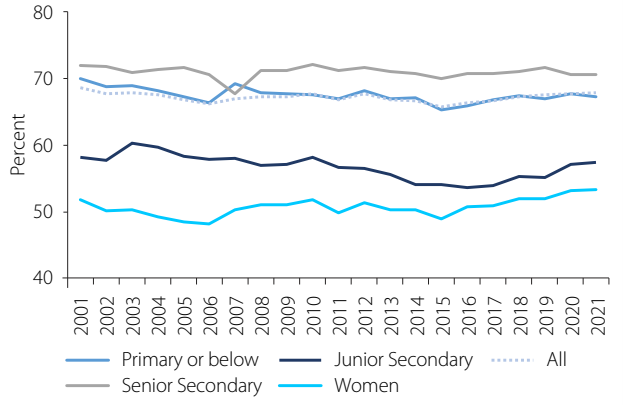
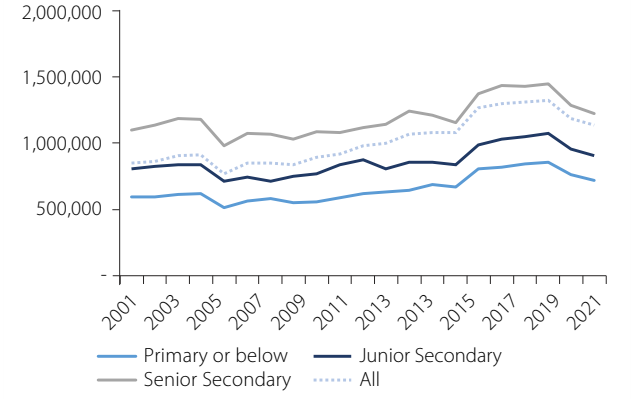
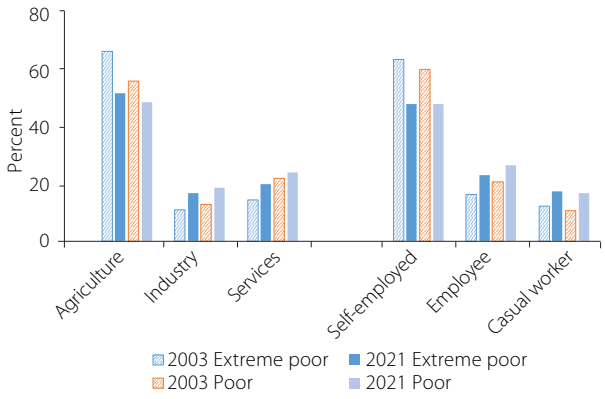


FIGURE 2.34: Real labor income, by education from 2001 to 2021



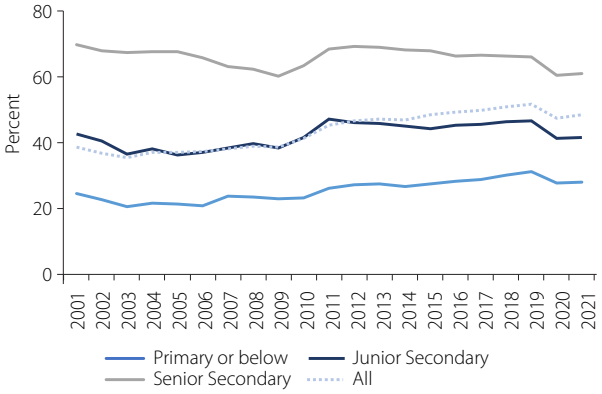
Source: Authors' calculations based on SAKERNAS and SUSENAS

FIGURE 2.35: Share of household heads by sector and type of employment, by poverty status, for 2003 and 2021



Source: Authors' calculations based on SAKERNAS and SUSENAS

FIGURE 2.36: Formalization by education, from 2001 to 2021



The share of poor working as employees increased somewhat, but engagement in casual work also increased. In 2019, heads of extreme poor, poor, and economically insecure households tended to concentrate in self-employment or casual work, while the economically secure were more likely to be engaged as employees, often in formal work (Annex Table A1). The share of poor working as employees rose slowly from 20 to 26 percent between 2003 and 2021, suggesting a shift toward more secure forms of employment. However, this positive trend was offset by a moderate increase in the share in casual work or unpaid labor, from 11 to 17 percent.[82]

The labor market still exhibits high levels of informality despite a slow but steady trend towards formalization. Formalization increased from around 30 percent in the 2000s reaching 44 percent in 2019 (Figure 2.35).[83] Lower socioeconomic status was associated with a higher likelihood of being in informal work. In 2019, workers with no more than primary education were much more likely to be in informal work, with only 23 percent formally employed. The sizable gap between the rich and poor in educational attainment described earlier likely contributes to these employment outcomes by limiting the poor to move out of insecure, low-productivity employment.[84]

[82] Trends among the poor were qualitatively similar to those among the extreme poor.

[83] Informality is measured using the BPS official definition using type and sector of employment. Other definitions, e.g., ILO, can yield significantly higher estimates, e.g., 80 percent compared to 50 percent in 2019.

[84] Indeed, while average years of schooling completed by heads of households that were (extreme) poor, or economically insecure, were comparable to each other (annex Table A1), they were much lower than those among the economically secure, with the gap standing large at over three years of schooling.

Most women, poor, and non-poor, remained outside the labor force.

Indonesia's female labor force participation is low, with little change over the last two decades.[85] Only half of women were employed or looked for work in 2019. This is a relatively low labor force participation rate compared to men (83 percent) as well as in the East Asia and Pacific region (60 percent). Improvements in women's education outcomes have not lifted constraints or changed preferences for entering the labor force. The female disadvantage in adult educational attainment was small (less than a year of schooling) and declined over time (Figure 2.36). Among younger cohorts, the gender gap has reversed, favoring women over the last couple of decades. This points to existence of multiple barriers women face in joining the labor force arising from sources other than lack of formal education alone.

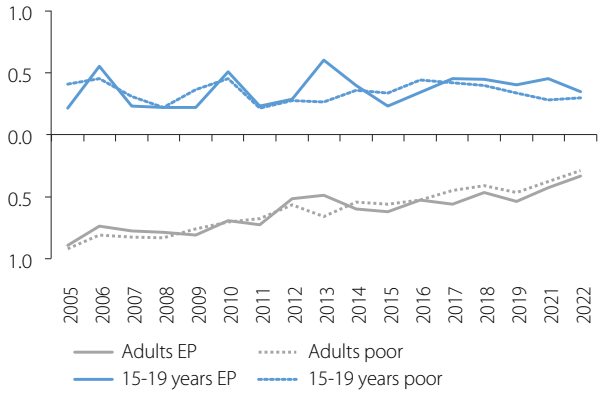
Lack of high-quality childcare is a critical barrier to women's work. Marital status and presence of young children in the household are significant predictors of women's presence in the workforce.[86] Very few men and women believe that a child suffers when a mother works for pay outside the home (Figure 2.37). Still, young men feel that women can work outside the home until they become pregnant.[87] Young women likewise find it difficult to reconcile family life with careers, describing secure, high-quality childcare as critical for working outside the home once they have children. Others

[85] World Bank 2020a; Cameron, Suarez, and Rowell 2018.

[86] World Bank 2020a.

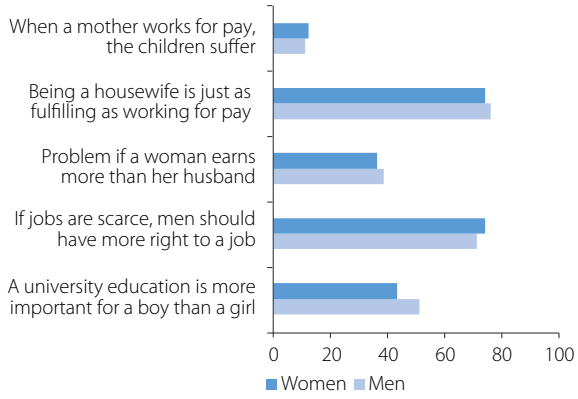
[87] Ririn Salwa Purnamasari et al. 2020.

FIGURE 2.37: Gender gap in years of education completed among adults and 15-19-year-olds



Notes: A negative value reflects a female disadvantage. EP = extreme poor. Adults = 15-64 years. The gender gap among the poor and extreme poor was not significantly different from that among the non-poor (not shown)

FIGURE 2.38: Attitudes around women's work, among women and men



Source: Haerpfer et al. 2020

prefer to leave children only in care of parents or nannies and would stop working rather than rely on daycare they do not trust. This indicates that cultural and social norms around gender-based roles and responsibilities in the household are prevalent. The limited progress in women's agency noted earlier also reflects this: neglect of children is the most reported justification for wife-beating.[88] However, there are signs of change. The propensity for women to participate in the labor force increased across cohorts, and was notably higher for those born in the 1980s and 1990s than birth cohorts in earlier decades.[89] That the change mainly occurred in urban areas suggests increasing acceptance of women into non-agricultural employment, which is a good sign. Expanding high-quality childcare is likely to further facilitate this transition: an additional preschool per 1,000 eligible children increased maternal work by 4.8 percentage points.[90]

Women workers concentrate in low-productivity sectors. Outside of agriculture, women remain predominantly in informal jobs and low-productivity service sector jobs such as retail, restaurants, and hotels.[91] Men dominate the construction, electricity, gas, water supply, transport, and finance and business services sectors. This segregation has been linked to inadequate childcare supply: preschools in Indonesia operate for less than half a day, not enough to facilitate employment of mothers outside of low-productivity, unpaid family and casual work.[92] Occupational segregation has also been linked to norms around professions designated acceptable for men and women, which influences young people's educational choices.[93] University students, for example, feel pressured to conform to gender norms in choosing fields of study; families and peers may not support young men studying nursing or a woman studying a STEM subject.

Married women in poor households had worse employment outcomes than those in non-poor households, suggesting that being poor may intensify constraints women's work productivity.[94] The vast majority of poor households in Indonesia are composed of at least one married couple living with children (Figure 2.38).[95] In 2019, these households were overrepresented

88 Badan Pusat Statistik, National Population and Family Planning Board, and Ministry of Health 2018.

89 Cameron, Suarez, and Rowell 2018.

90 Halim, Johnson, and Perova 2022.

91 World Bank 2020a.

92 Halim, Johnson, and Perova 2022.

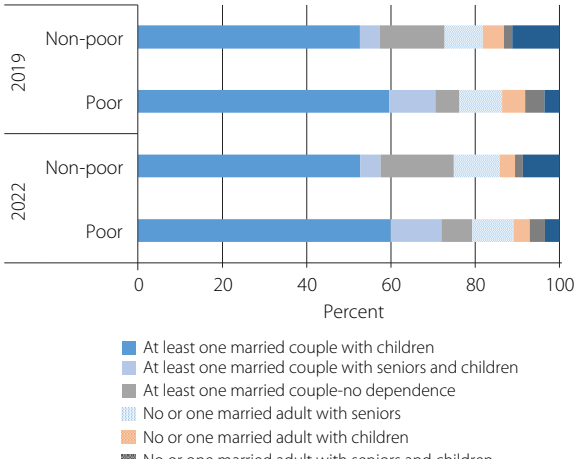
93 Ririn Salwa Purnamasari et al. 2020.

94 In contrast to married women living in married-couple households, women in poor households with no or only one married adult exhibited employment outcomes that connected in complex and varied ways with presence of dependents. For one, unmarried women in these households are much more likely to work than married women when either no children are present or children alone are present (annex Table A2). This is likely a consequence of necessity of working as the vast majority of these households are female-headed, and as non-traditional households, unlikely to have access to informal and formal networks of support available to households with married couples. This is especially concerning because even when working-aged men are present, they are much less likely to be working than other men in poor households (also see annex Table A3). Second, the forms of employment women in these households were engaged in varied with the type of dependent present. With no dependents or with children only, just under half were in self-employment. This share fell to one-third in the presence of seniors. In contrast, the share in casual or unpaid work was significantly higher in the presence of seniors, rising from one-quarter to one-third of working women.

95 Examining the relationship between the demographic composition of households and poverty rates can shed light on how gender differences in access to opportunities are associated with poverty. See for example Munoz Boudet et al. 2018.

among the poor. Married women in poor households were only slightly less likely to work than married women in non-poor households, and presence of children was associated with a somewhat lower likelihood of working (Annex Table A1).[96] Presence of seniors seemed to mitigate this; the share of women working was the same as, or even slightly higher, in households where seniors were present than among households where only children were present. However, married women in poor households were much more likely to be in low-productivity and unpaid work than those in non-poor households. A far larger share was in casual labor and unpaid work, where just under half of married women in poor households concentrated, compared to 25 percent of non-poor married women.[97] Notably, while shares across types of employment did not vary significantly with presence of dependents, presence of children in poor households – but not seniors – was associated with a higher likelihood of being in low-VA services and a lower likelihood of being in agriculture.[98]

FIGURE 2.39: Poor and non-poor households in 2019, by demographic classification



Deficits in women's wellbeing, often larger among poor women, can constrain women's labor productivity both within and outside the home. Limited declines in fertility of women from low socioeconomic status backgrounds and stagnating health outcomes constrain women's access to economic opportunities. Quality maternal care can ease health challenges women face during childbearing years. Lowered burden of illness during the reproductive years, bearing fewer children, and reduced childcare responsibilities at home can give women more time to invest in their own education and skills, and to engage in income-generating activities within and outside the home. Given health outcomes below peer countries, and usually worse for poorer women, women's productivity—and especially of poorer women—remains constrained.

Data on use of men and women's time within and outside the home, as well as associated norms and preferences, would help inform policies to lift constraints on women working. Women are often burdened with unpaid care work, limiting their time available for income generating activities.[99] Women who work may have to carry a double burden of working in a paid activity while continuing to provide care at home. Deficits in basic infrastructure services such as water, sanitation systems, and electricity can make the time needed to perform household work unnecessarily high. Time-use surveys to measure the amount time people spend doing various activities such as paid work and household, family, and personal care can inform policies for freeing women's time for economically productive activities. Further, to understand time-use patterns, data are also needed on men and women's preferences and cultural norms about time use, and the perceived and actual barriers to entry into fields of study and occupations of choice.

[96] Among households with married couples, the likelihood of men and women working was in line with what could be expected given male and female labor force participation rates in the general population, regardless of the type of dependents present.

[97] Wage employment, the largest employer of non-poor married women (around 40 percent), held only under a quarter of women from poor households. The shares employed in self-employment were similar across poor and non-poor households.

[98] Among non-poor married women, the majority of whom were employed in low-VA services (nearly 60 percent), the differences across households with different types of dependents were muted in comparison.

[99] World Bank 2020a.

CHAPTER 3

DRIVERS FROM 2014 TO 2019

Photo: © Achmad/World Bank

Poverty reduction

Economic growth reached the poor more than the extreme poor. Both urban and rural places offer pathways out of poverty.

Consumption growth across the entire population, rather than redistribution, characterized poverty reduction. In the period from 2006 to 2013, high consumption growth translated into large poverty reduction while rising inequality (redistribution) harmed poor households and weakened poverty gains (Figure 3.1).[100] A commodity boom drove economic growth in this period, which led to higher household incomes, but also to capital gains accruing to wealthier households, increasing inequality. Since 2014, economic growth slowed but poverty reduction managed to maintain its momentum. Solid macro-economic fundamentals combined with large job creation allowing a larger share of economic growth to reach households and reduce poverty.[101] Hence, consumption growth remained the dominant factor. Gains from labor income helped especially poorer households, such that redistribution no longer slowed poverty reduction but accelerated it.

Economic growth reached the poor, but increasingly less so for the extreme poor. From 2014 to 2019, each percentage point of GDP per-capita growth reduced poverty by 3 percent and extreme poverty by 5 percent (Figure 3.2). The larger reduction for extreme poverty is not surprising, given its significantly lower level.[102] In comparison to other countries, Indonesia's poverty elasticity is slightly below its expected level, given its GDP per capita (Figure 3.3). In absolute terms though, the semi-elasticities reveal that extreme poverty only dropped 0.2 percentage points while poverty dropped by 0.8 percentage points for each percentage point of GDP per-capita growth. Thus, economic growth started to have a diminishing role in extreme poverty reduction. With relatively low levels of extreme poverty, the remaining extreme poor are more marginalized from social and economic progress and benefit less from growth. In addition, about one-fifth of the extreme poor was not economically active. This emphasizes the importance of social assistance for these households to complement insufficient labor incomes.

Rural and urban areas' contributions to poverty reduction reflected their share of poor, suggesting similar strengths of poverty reduction.[103] Rural poverty reduction contributed two-thirds to overall poverty reduction from 2006 to 2013, and then dropped to just above half (55 percent) from 2014 to 2019 (Figure 3.4). Urban poverty reduction explained almost fully the remainder, since urbanization—or the population-shift effect—contributed below 2 percent across periods. As rural poverty rates converged towards urban poverty rates, the share of rural poor among the poor declined; in 2006, about two-thirds of the poor were rural, dropping to about one-half in 2014.

With urbanization continuing, removing constraints for urban poverty reduction will become more critical. Urbanization was mainly driven by re-classification of rural areas as urban due to urban sprawl, as well as the natural growth of the population in urban areas. Together, these factors explain about 80 percent of urbanization in Indonesia.[104] Official re-classification reflects an actual transformation and not just a bureaucratic relabeling of settlements.[105] Urbanization will remain an important force, but is currently not delivering an urban premium for poverty reduction, in part because most of the urban poor live in less productive urban peripheries rather than productive and prosperous urban cores.[106] Compared to other countries, Indonesia's poverty levels are higher than expected given its level of urbanization (Figure 3.5). Thus, constraints to poverty reduction in urban places will need to be addressed.

100 From 2002 to 2010, consumption growth was strongly biased towards richer households, but became equally distributed by 2011.

101 World Bank 2020c.

102 Cuaresma, Klasen, and Wacker 2016.

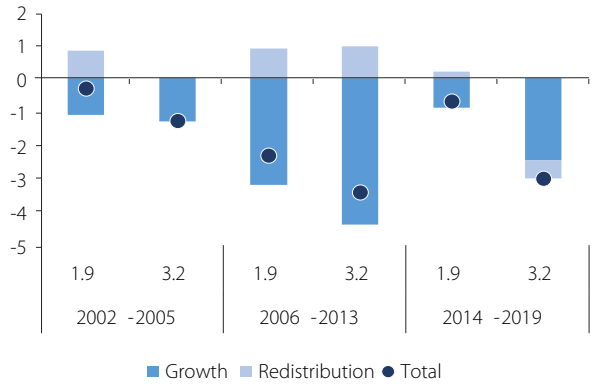
103 The use of an absolute poverty line, rather than the weakly relative national poverty lines, is driving these results. With the convergence of poverty rates in urban and rural areas, rural poverty is progressing faster than urban pove.

104 Roberts, Gil Sander, and Tiwari 2019.

105 Official re-classification is triggered when a settlement records a higher score on a composite index. The composite index measures progress towards higher population density, a transition away from agriculture, and more infrastructure, especially related to typically urban facilities.

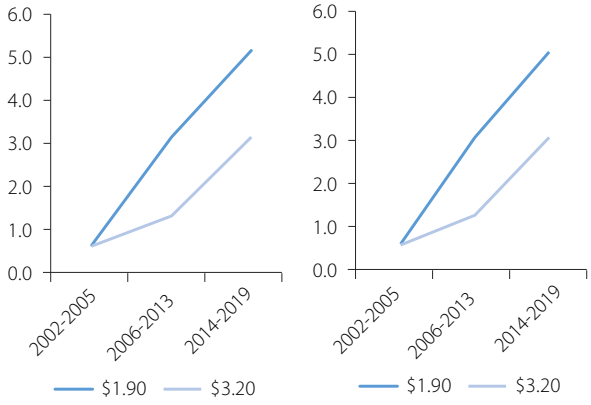
106 Roberts, Gil Sander, and Tiwari 2019.

FIGURE 3.1: Annualized contributions of growth and redistribution to poverty reduction



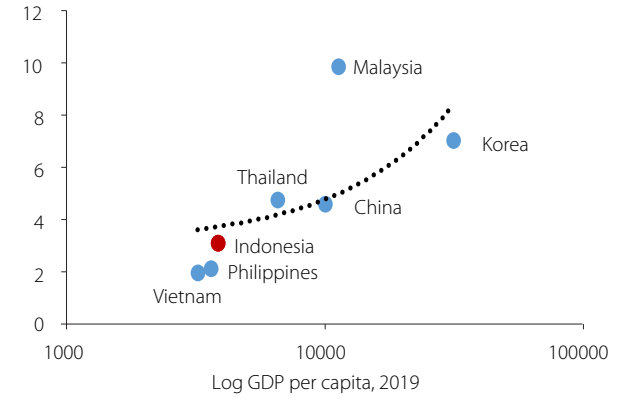
Note: Datt-Ravallion decomposition at US$ 1.90 PPP (2011) and US$ 3.20 PPP (2011)

FIGURE 3.2: Elasticity (left) and semi-elasticity (right) of poverty to per-capita growth



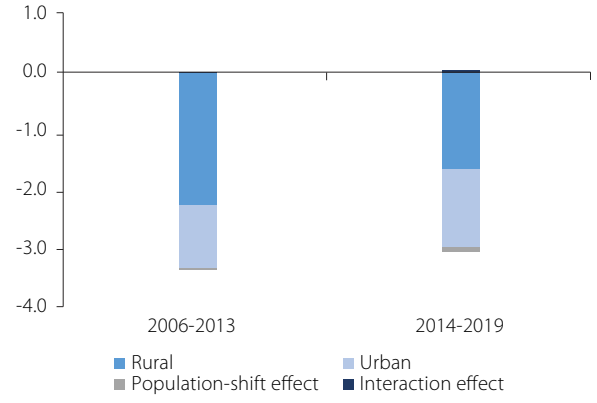
Notes: Elasticities reflect the relative change in the poverty rate (in percent) for each 1 percentage point of GDP per capita growth. Semi-elasticities reflect the absolute change in the poverty rate (in percentage points) Years 2020 and 2021 are omitted due to negative growth.

FIGURE 3.3: Elasticity of poverty to per capita growth



Notes: Elasticities estimated at $3.20-a-day (2011 PPP). Estimates for China, Indonesia and Thailand are between 2014-19; Korea: 2010-16; Malaysia: 2008-15; Philippines: 2012-2018; and Vietnam: 2013-18. Periods chosen on the basis of latest year for which poverty rates were available. Linear trend line

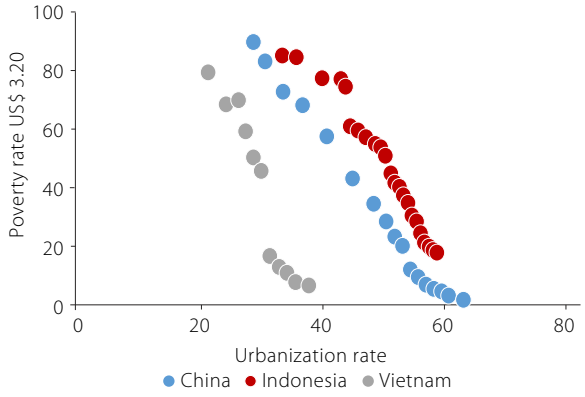
FIGURE 3.4: Ravallion-Huppi decomposition of poverty reduction, by urban/rural



Several factors contributed to poverty reduction from 2014 to 2019: demographics, employment, and education as well as spatial factors, prices, and fiscal policies. Using a simple framework (Box 3.1), we can analyze poverty reduction factors and quantify effects from demography, employment, and education (Figure 3.6).[107] The observed, albeit small, reduction in fertility contributed to poverty reduction from 2014 to 2019 by reducing household sizes (Figure 3.6). The effect can be split into endowment (the drop in household size from 2014 to 2019) as well as the increased "return" of household size for poverty reduction (the change in the impact of household size on poverty), which is only significant in rural areas. Employment contributed to poverty reduction, though not due to a change in the level of employment, but because being employed created higher returns for escaping poverty, especially in rural areas. An increase in education contributed to poverty reduction, particularly in rural areas. However, the returns from education were lower in 2019 compared to 2014, such that the change in the pay-off slowed poverty reduction, especially in urban areas. Thus, holding at least a secondary degree is becoming less of a distinguishing feature between poor and non-poor households.

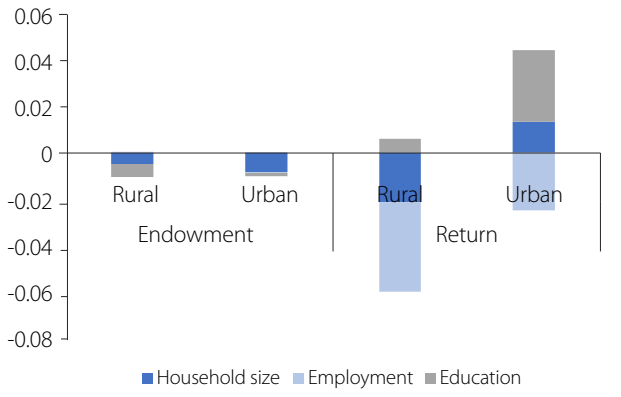
[107] Datt and Ravallion 1992.

FIGURE 3.5: Poverty vs. urbanization rate by year



Source: Authors' compilation based on World Development Indicators

FIGURE 3.6: Contributions of endowment and return to poverty reduction, by urban/rural

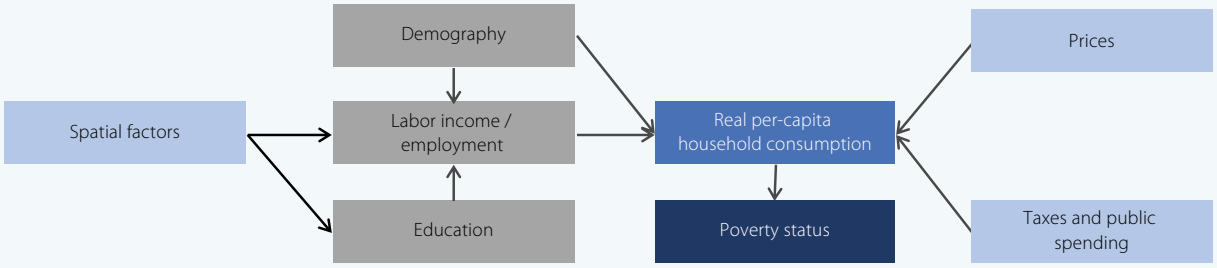


Source: Authors' calculation based on SUSENAS
Notes: Oaxaca-Blinder decomposition of changes in poverty (by percentage points) from 2014 to 2019, distinguishing between changes in endowment (co-variates) and returns (coefficients).

Box 3.1: Analytical framework for poverty reduction in Indonesia

We use a simple framework to investigate poverty reduction drivers. Several factors critically influence real-per-capita household consumption, which—in conjunction with a poverty line— determines poverty status of a household. Demographics affect household size and composition; larger households share resources among a larger number of individuals. At the same time, additional working age adults can increase household income. Labor income is one key source of household income. Individuals with higher education often earn more, while less skilled workers might suffer from longer unemployment spells. Spatial factors—for example, if a household is residing in an urban or rural areas—affect the availability and type of employment opportunities. Real per-capita household consumption is also determined by prices; higher prices, if not offset by higher wages, erode purchasing power. Finally, taxes reduce household consumption, while subsidies and direct transfers (arguably a form of income) increase household budgets.

FIGURE BOX 2.3.1: Framework to analyze drivers of poverty reduction in Indonesia



Source: Authors' visualization

Other determinants are excluded for conceptional and data availability reasons. A multitude of additional factors influence poverty status, such as land ownership and more generally access to capital. However, gaps in data availability undermine the ability to include these factors into the framework. Public services including sanitation, health, and education, are also important factors but we exclude them from the framework because they are also consequences of escaping poverty.

Demography

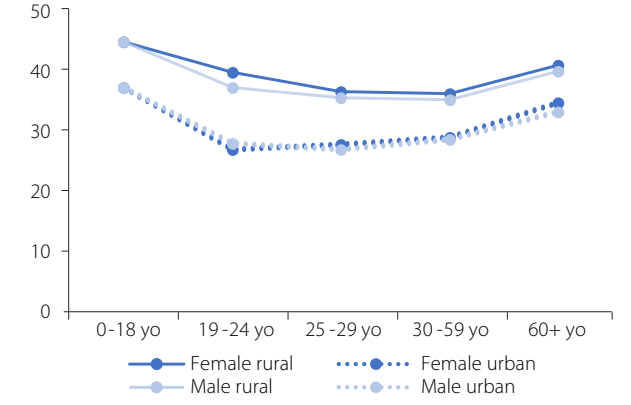
Fertility rates declined, reducing household sizes and contributing to poverty reduction.

Lower fertility contributed to poverty reduction through smaller household sizes, while the dependency penalty dropped in the context of a shrinking demographic dividend. Even though fertility declined only slowly, it contributed to poverty reduction through smaller households. The increased returns from for smaller rural households help them catch up with urban households through avoiding a dependency penalty, as improved family planning increases women's choices for work.[108] The population share of households with fewer dependents and, to a lesser extent, more earners have increased, helping spur poverty reduction among those groups (Figure 3.9). For rural households, closing this gap has contributed to poverty reduction by increasing the returns of smaller household sizes in rural areas (Figure 3.6).

However, the "demographic dividend" will soon be exhausted. Indonesia's share of working-age population is expected to start falling between 2025 and 2030.[109] At the same time, the number of old-age dependents will increase, reversing gains in the dependency penalty through both demographic and economic factors. Thus, workers will need to earn more to stay out of poverty and reach economic security. In developed countries, this is achieved through higher labor productivity, driven by better human capital and use of technology. This emphasizes the importance of making such investments while Indonesia's economy still benefits from the demographic dividend.

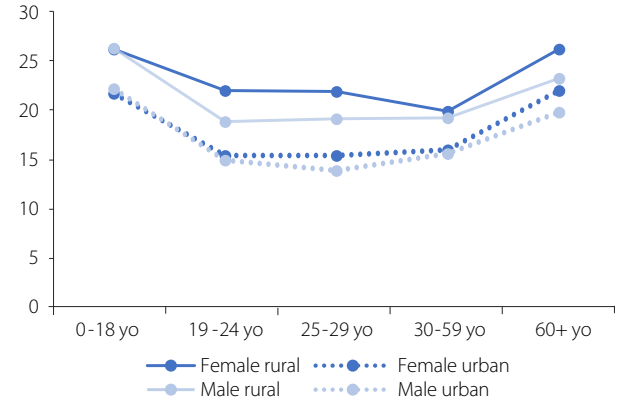
In addition, a gender poverty gap remains, with women—especially of child-bearing age—more likely to be poor, driven by the dependency penalty and anticipatory fertility. A small gender gap has emerged particularly for rural women in their prime reproductive years and old age (Figure 3.7 and Figure 3.8).[110] The prime reproductive years are formative years to join the labor market and get trained with new remunerable skills to apply throughout life. Even after controlling for education and location, a small but persistent gender poverty gap remained significant at around 2 percentage point for the cohorts aged 19 to 24 and over 60 years, and a slightly smaller gap persisted for women between those ages, but the gender gap is not significant for younger women (Figure 3.10). The gender poverty gap was highest for married women with children, as well as when they were older, often outliving men. A large part of the gap was driven by the dependency ratio, as the gap collapsed for women aged 25 to 29 and above 60 years when controlling for the dependency ratio. Interestingly, the gap for women aged 19 to 24 years remained, possibly

FIGURE 3.7: Gender and age-cohort poverty rates for 2014



Source: Authors' calculations based on SUSENAS

FIGURE 3.8: GDP growth (LHS) and GDP -per-capita (RHS) from 1990 to 2021

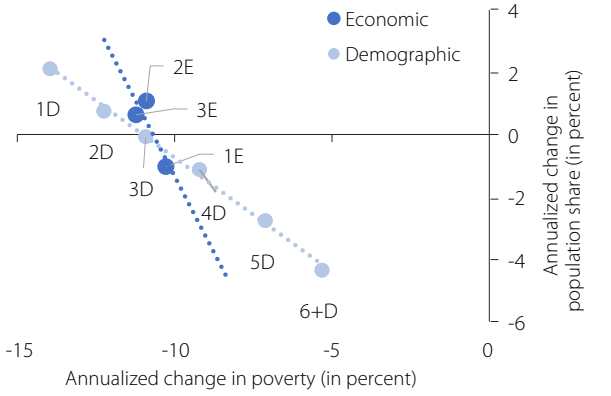


[108] The dependency penalty comprises demographic factors (households with more dependents) and economic factors (households with fewer earners).

[109] Wihardja and Cunningham 2021.

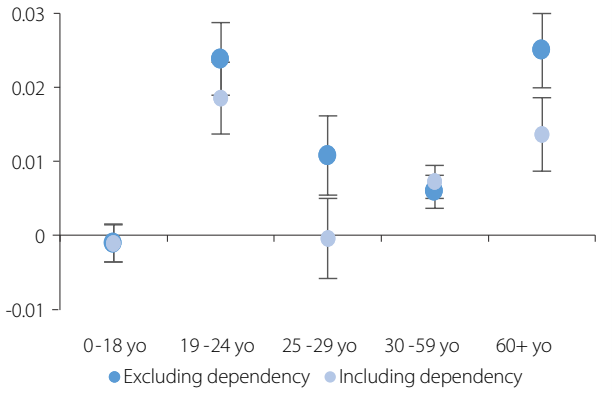
[110] Poverty is estimated at the household level, because consumption is usually not reported at the individual-level due to measurement constraints (methodologically as well as conceptually). This analysis obtains gender-specific poverty estimates by conservatively splitting consumption equally across household members. Equivalence scales and economies of scale affect estimates.

FIGURE 3.9: Annualized changes in poverty rate and population share from 2014 to 2019 for demographic and economic groups of households



Notes: 1E to 3E indicate the number of earners in the household; 1D to 5D indicate the number of dependent; 6+d corresponds to at least 6 dependents, using SUSENAS

FIGURE 3.10: Female effect on poverty status, with and without controlling for dependency ratio, for 2019



Note: Regression of individual poverty status on female dummy plus controls for highest education in household, region and urban-rural, using SUSENAS.

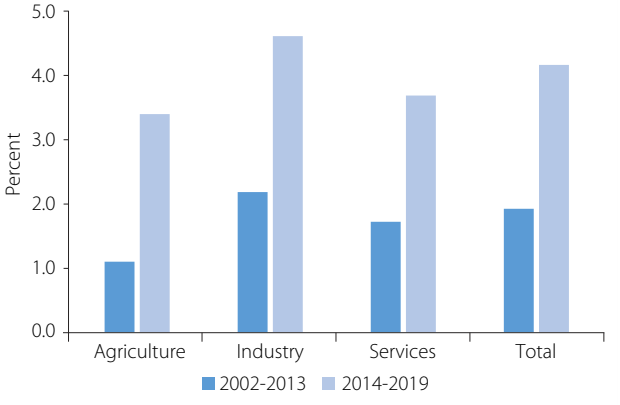
driven by anticipatory fertility: young women who have married but not yet had children were not entering the workforce as they expected to have children soon.[111]

Labor incomes

Employment drove poverty reduction, but women were not able to fully participate. While the workforce was becoming more educated, informal jobs in low-VA services limit workers' earnings to reach economic security. An inward-looking economy with limited exposure to international competition undermines the creation of high-productivity jobs, exacerbated by challenges in skills matching. Urban centers were limited in producing positive agglomeration forces and making them available in rural areas, limiting rural diversification, while subsistence farming was often insufficient to escape poverty.

Wage gains explain the increased returns of employment for poverty reduction, while increased labor force participation—especially for women—can accelerate poverty reduction. Real wages—a proxy for productivity—grew more strongly in the period from 2014 to 2019 compared to the earlier years of this century (Figure 3.11), reflecting the increased benefit of growth on labor incomes and, hence, poverty reduction. Growth from 2014 to 2019 explains the increasing returns of employment for poverty reduction. In contrast, labor force participation as well as employment stayed largely constant over the last two decades. It is not surprising that poverty reduction in this period was not explained by a change in endowment of employment. Nevertheless, employment by itself contributed to poverty reduction[112] despite little changes in employment 2014 to 2019. Bringing more women into the labor force can accelerate poverty reduction, while increasing women's empowerment and child health.[113]

FIGURE 3.11: Annualized real wages by sector



Source: Authors' calculation based on SAKERNAS.

However, unmet childcare needs in Indonesia prevented many women from working outside their home. Care responsibilities posed a key barrier to female labor force participation.[114] The absence of affordable and high-quality care, especially for children, limited opportunities for women to participate in the labor market.[115] When this constraint was lifted, women were

[111] Cameron, Suarez, and Rowell 2018.

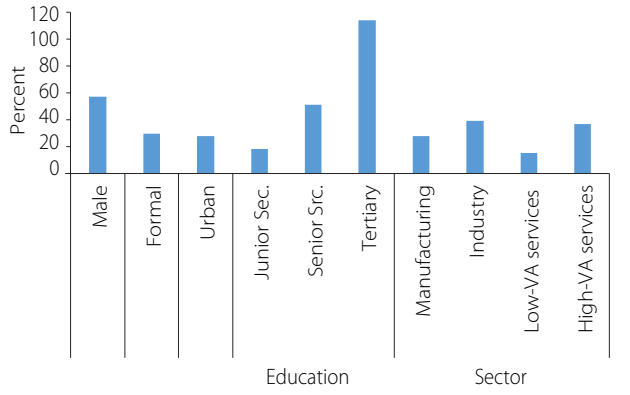
[112] Feriyanto, Aiyubbi, and Nurdany 2020.

[113] Schaner and Das 2016; Majlesi 2016.

[114] R. Purnamasari, Hambali, and Halim Forthcoming.

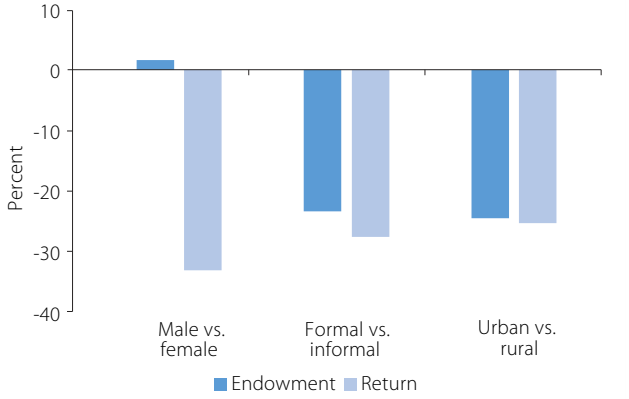
[115] Halim, Johnson, and Perova forthcoming.

FIGURE 3.12: Wage premium for gender, formalization, location, education, and sector



Note: OLS regression on log-transformed wage, including age, age-square and province dummies. Bars show exponentiated coefficients to reflect relative difference in wage.

FIGURE 3.13: Contributions of endowment and return to wages, by gender, formalization, and location



Note: Oaxaca-Blinder decomposition based on Sakernas 2019, including age, education, sector, type of work and location. Bars show the explained difference of observed wages.

likelier to work.[116] For example, opportunities in the digital economy provided more flexibility to align work with care responsibilities and women sometimes use this as a first step to enter the labor market.[117]

Women, however, faced additional barriers in the labor market, including cultural norms, as well as sectoral segregation. Cultural norms were biased against women seeking employment, especially when in child-bearing age, but there are indications that norms are softening.[118] An increase in women's labor force participation, however, was masked by sectoral segregation. Women worked more often in agriculture, whose employment is declining, putting downward pressures on female labor force participation. The agricultural sector also offered less opportunities to use education and skills, as well as transitioning into higher productivity work. This counteracts the aggregate increasing rate of women entering the labor force outside agriculture.

Women also earned significantly less than men, even after controlling for differences in individual and work characteristics. On average, women earned 74 percent of the wage of men in 2019. However, the difference was not driven by lower education or other individual characteristics. Instead, an average worker in Indonesia earned 54 percent more just by being male (Figure 3.13). Female and male workers had similar endowments, so worker characteristics did not explain the large gender wage gap. Instead, the observed difference in wages is completely explained by differences in returns to endowments. Thus, women earned smaller premiums, for example on their education.[119] This suggests that women might be disadvantaged in their quality of education, as well by employer discrimination. This makes the labor market not only unfair but also less attractive for women.

Informality limited worker's ability to use their skills, and exposed them to additional risks. Differences in endowments (level of education, for example) explain 24 percent of higher wages for formal work. Higher returns to endowments explain another 28 percent of differences (Figure 3.12). Thus, formal workers were able to put their endowments to better use, increasing their productivity. In addition, informal workers did not benefit from formal regulations for workers, including access to subsidized contributory insurance schemes such as for unemployment. Lack of unemployment and health insurance can further lower productivity. Unemployment insurance allows workers to be more selective in accepting job offers, contributing to better matching and, hence, productivity gains.[120] Health insurance makes workers miss fewer workdays, similarly increasing their overall productivity.[121] However, pushing towards formalization and its enforcement can also

[116] Halim, Johnson, and Perova 2022.
[117] World Bank 2021a.
[118] Cameron, Suarez, and Rowell 2018.
[119] It is unlikely that the full wage gap can be explained by differences in productivity due to unobserved characteristics, or better matching in the labor market.
[120] Rujiwattanapong 2022.
[121] Dizioli and Pinheiro 2016.

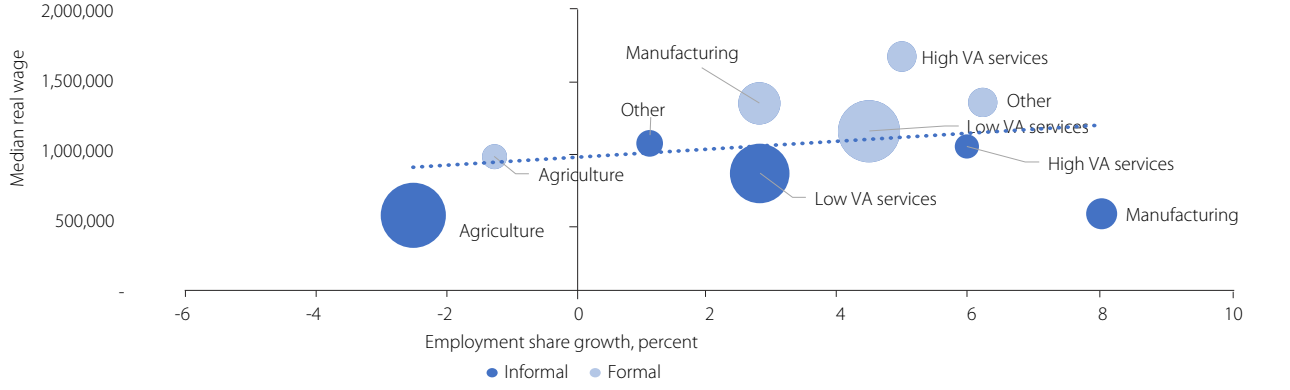
destroy viable informal incomes and deter formal job creation. A more nuanced approach is needed based on a better understanding of the characteristics, costs, and benefits of informal work in Indonesia, and whether workers and firms choose informality as a last resort or by preference.

Even though employment was increasing in sectors with higher wages, most workers remained trapped in low-productivity sectors. Almost half of all workers in 2019 were engaged informally in agriculture and low-VA services. These sectors offered the lowest median wages, often insufficient to escape poverty and economic insecurity (Figure 3.14). While employment in agriculture was slowly declining, formal employment in the better paid sectors of manufacturing and high-VA services was growing. However, formal employment in manufacturing was growing at the same speed as informal employment in low-VA services. Furthermore, the combined share of formal employment in manufacturing and high-VA services remained below 15 percent of total employment in 2019. At the same time, the low-VA service sector was the fastest growing sector in absolute numbers, adding almost 8.5 million (or 71 percent) of new workers between 2014 and 2019.

Indonesia's premature deindustrialization explains the under-performance of high-productivity sectors.[122] Before the Asian Financial Crisis (AFC) in 1997-98, Indonesia rapidly industrialized through manufacturing exports. Due to a business-friendly climate, trade- and financial openness, and a large labor surplus, Indonesia attracted investment in labor-intensive industries such as textiles, food, and beverages. In 1996, manufacturing accounted for one-quarter of GDP and contributed to half of total exports. After the AFC, Indonesia shifted to a natural resource-based growth model during the commodity boom. Sources of growth shifted towards commodity exports and services, especially non-tradables. After the end of the commodity boom, the economy remained focused on often low-VA services without recovery in manufacturing, which only contributed 22 percent to GDP in 2019 compared to 28 percent in 2002.

The inward-looking economy missed out on opportunities and integration into global value chains due to export competition.[123] Compared to Malaysia, Thailand, and the Philippines, Indonesia had lower levels of exports (Figure 3.15 and Figure 3.16), and is less competitive in manufacturing (Figure 3.17) with lower export sophistication (Figure 3.18). It also is less integrated into global value chains.[124] Its foreign direct investment focused on the extractive industries and access to local markets. Not surprisingly, Indonesia's growth in labor productivity was low especially in the industrial sector, which includes manufacturing (Figure 3.19). Despite low growth in labor cost per hour, its unit labor costs were increasing significantly faster than for its peers, diminishing its competitiveness (Figure 3.20).

FIGURE 3.14: Annualized employment growth (2014 to 2019) by median sector wage and employment share (bubble size) in 2019



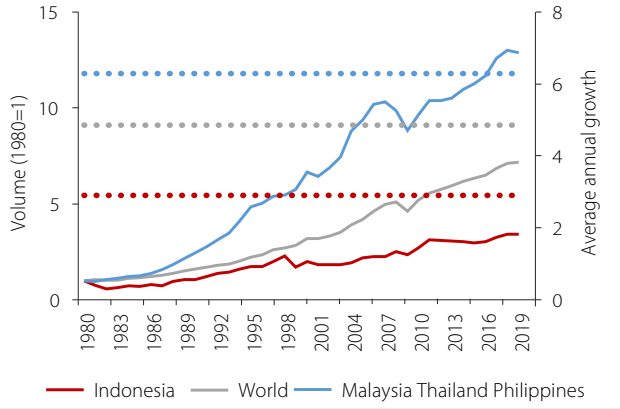
Source: Authors' calculation based on SAKERNAS.

[122] Wihardja and Cunningham 2021.

[123] Wihardja and Cunningham 2021.

[124] World Bank 2022d.

FIGURE 3.15: Average volume and annual growth of exports of goods and services



Source: World Bank 2022d

FIGURE 3.16: Export to GDP ratio vs. change in GDP per capita

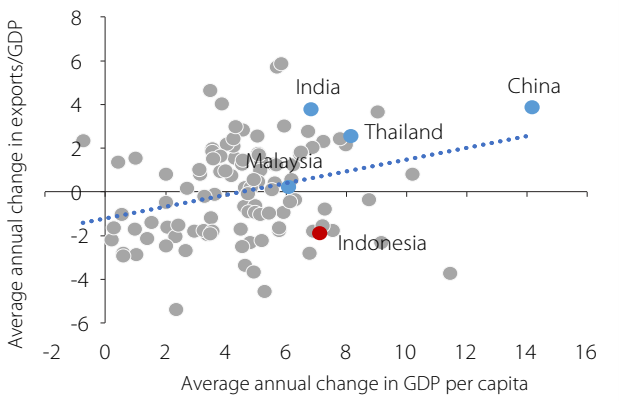
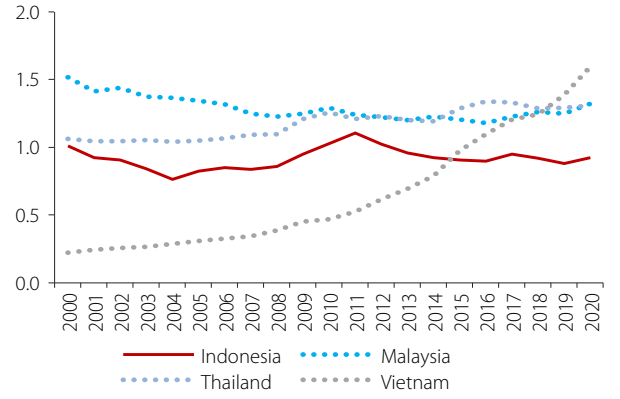


FIGURE 3.17: Manufacturing export competitiveness



Source: World Bank 2022d

FIGURE 3.18: Export sophistication

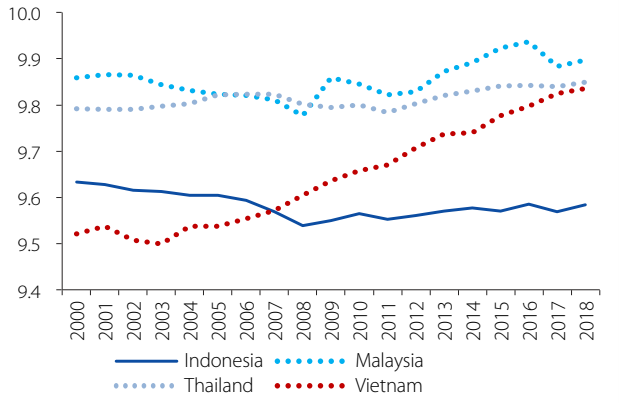
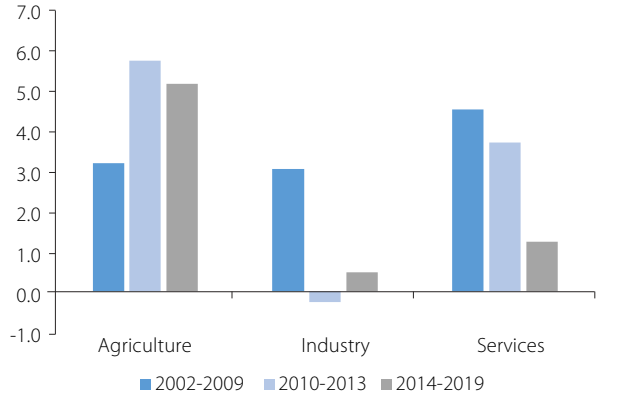
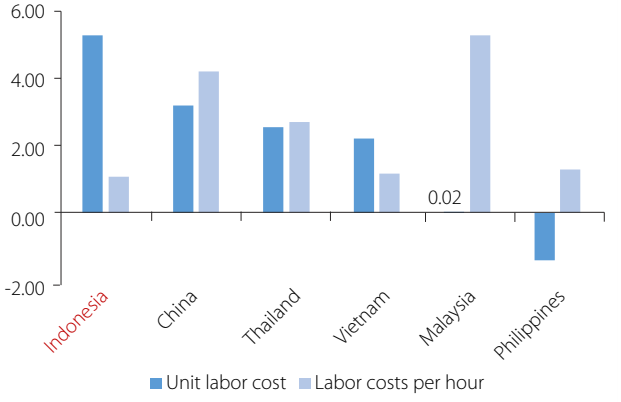


FIGURE 3.19: Growth in labor productivity



Source: BPS

FIGURE 3.20: Average annual growth (2010 to 2019) of unit labor cost per output and labor cost per hour



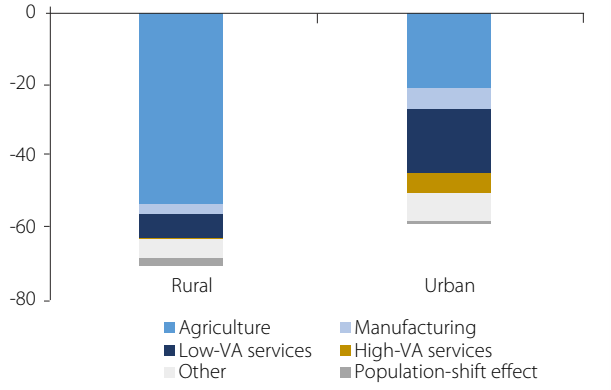
Source: Authors' compilation based on Economist Intelligence Unit

This inward focus did not create the quality and quantity of jobs needed to escape economic insecurity, and will exacerbate the risk of reversal of the demographic dividend. Indonesia's labor market provided significantly fewer high-skilled jobs compared to other countries at similar levels of development. In fact, the share of high-VA services had dropped in the longer-term from 2006 to 2014. Hence, workers needed to accept low-productivity jobs in the low-VA service sector. In addition, these jobs were often informal, without insurance coverage and other benefits, which further reduced productivity (Figure 3.19). These jobs will not be able to mitigate the negative effects from reversal of the demographic dividend expected before the end of the decade. This trend, however, can be reversed by attracting export-oriented foreign direct investment, which is associated with more innovation, and by integrating into global value chains, which increases productivity.

Inadequate and mismatching skills further contributed to the inability of workers to engage in higher-productivity jobs. Almost 80 percent of employers faced difficulties in hiring high-skilled workers (managers, senior professionals), about two-thirds faced difficulties in finding mid-skilled workers (such as non-production technicians, associate professionals, sales representatives), and 40 percent could not find low-skilled workers (unskilled, non-production workers).[125] Low education, as well as inadequate levels of non-routine interpersonal and digital skills, further increase skills mismatch. Technical and vocational training (TVET) as well as better labor market information systems can help to reduce skills mismatch, as addressed by the Government's plan to revitalize vocational education.[126]

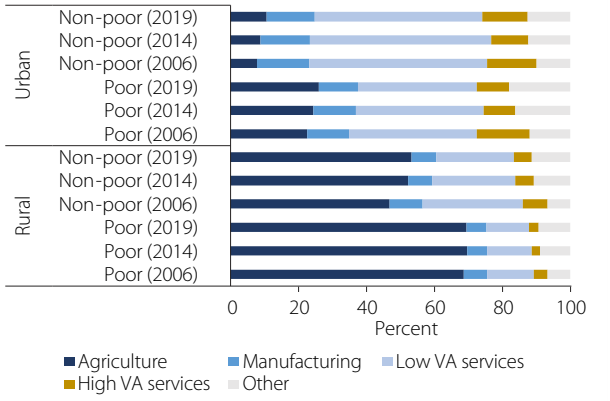
With the lack of opportunities from structural transformation, low-VA services drove poverty reduction in urban areas, but limited returns to education and corresponding productivity gains. Urban workers were able to take advantage of broader work opportunities, and in 2019 earned an average 36 percent more than rural workers. Differences in worker characteristics explain half of this urban-to-rural wage gap. Urban workers were, on average, better educated than rural workers. The other half reflects advantages from being in an urban area and putting endowments to better use. This included better quality education, better matching of job skills, and better infrastructure, which increases productivity. Urban jobs often provide better social insurance. Hence, they provided sustainable paths out of poverty. However, growth in the low-VA services sector provided the largest contribution to poverty reduction of about 1 percentage point per year, and this also provided the largest sectoral employment.

FIGURE 3.21: Sectoral contributions to poverty reduction



Source: Authors' calculation based on SUSENAS and SAKERNAS
Note: Ravallion-Huppi decomposition for 2014 to 2019. Visualization omits coefficient of households not working.

FIGURE 3.22: Sectoral composition of household heads from 2006 to 2019, by poverty status and urban/rural



Source: Authors' calculation based on SUSENAS and SAKERNAS

[125] Indonesia Enterprise Survey (2015).

[126] Presidential Decree No. 68 of 2022.

Digital work is likely to play an increasingly important role for livelihoods, and potentially for poverty reduction. Indonesia's digital economy grew five-fold between 2015 and 2019—a pace unmatched by any other country in the region. In 2020, it stood at US$ 44 billion, roughly four times as large as Malaysia's and five times as large as the Philippines' and Singapore's digital economies.[127] It is expected to continue its stellar growth, possibly tripling in size by 2025. Almost 10 percent of informal workers in Indonesia were gig workers, whose jobs depended on digital platform's intermediation. Indonesia's gig workers were relatively young and better-educated than other workers.[128] They earned 6 percent more per hour, but also worked 10 hours more per week.[129] Almost two of three gig workers were providing location-based services in urban settings, explained by the prevalence of ride-hailing, which requires a relatively concentrated market. Gig workers opted to do gig work for flexibility, but about one in five gig workers reported digital work as a buffer for income shocks, for example from COVID-19.[130] Thus, gig work is becoming an important opportunity for livelihoods. However, these opportunities are not open to all. They require digital skills, good connectivity, and usually an urban setting. Thus, a growing digital divide can limit opportunities, particularly for the most disadvantaged workers.[131]

The agriculture sector dominated rural poverty reduction, but many agricultural households remained poor. The agricultural sector contributed 53 percent to rural poverty reduction, or about 2 percentage points per year from 2014 to 2019 (Figure 3.21). The large benefit to poverty reduction is not surprising given that the largest share of rural workers remained in agriculture (55 percent in 2014 and 53 percent in 2019), especially among the poor (64 percent in 2014 and 32 percent in 2019; Figure 3.22). Notably, many agricultural households continued to be poor even though a large share managed to escape poverty.

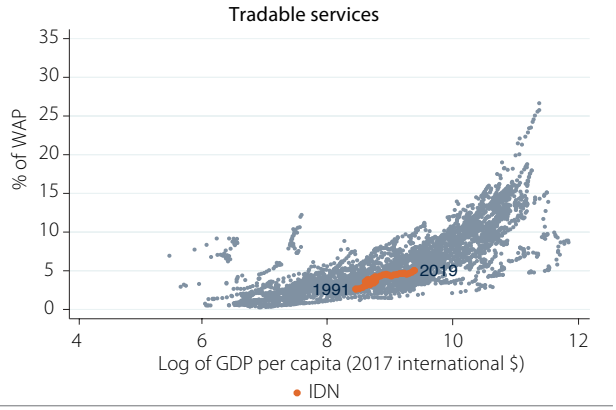
Especially for poor farmers, agriculture often suffers from low productivity due to crop choice, the quality of agricultural extension services, and limited market access.[132] Poor farmers yielded about 1 ton less harvest per hectare compared to non-poor farmers, hinting at potential avenues to overcome barriers specific to poor farmers. Poor farmers are often constrained to subsistence and rice production even though productivity might be lower. A distortionary set of incentives and high food prices have contributed to slow diversification to higher-value cash crops, for which in some areas the soil might be more suited. Large differences exist between poor and non-poor farmers, with the non-poor using fewer inorganic fertilizers (with long-term benefits) and more often using irrigation and mechanization. Agricultural extension services remained ineffective in increasing agricultural productivity, especially of poor farmers. Market access is often difficult because of gaps in infrastructure, but also because middlemen drive a wedge between farm gate and market prices.

Lack of land tenure further reduces livelihoods of poor farmers, investments into land, and access to credit. Indonesia has embarked on the largest land reform program in the world, distributing and formalizing 12 percent of the entire country (21.7 million hectares). Nevertheless, lack of land tenure continues to negatively affect livelihoods and investments, especially in agriculture. Poor farmers without land ownership lost about 40 percent of their harvest due to sharecropping.[133] In addition, lack of land tenure limits incentives for investments in land and potentially encourages overuse of inorganic fertilizers. It also reduces access to credit as land is often held as collateral. This constrains the ability to invest into, for example, irrigation and mechanization, and has implications beyond agriculture.

Economic diversification in rural areas was slow outside Java-Bali, and mostly limited to low-VA jobs. Economic diversification is a typical pathway toward economic prosperity. A structural transformation characterized by a shift from low-productivity agriculture to higher-productivity sectors such as industry and

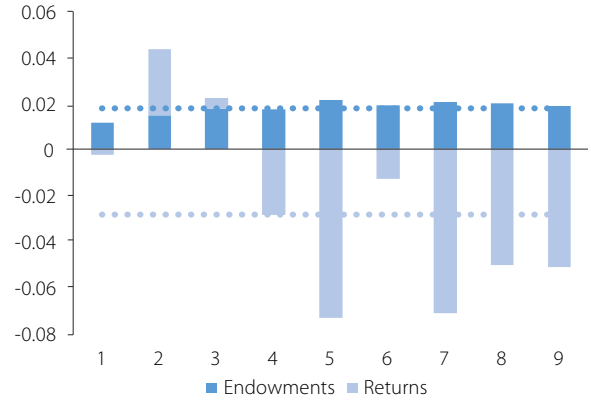
127 Presidential Decree No. 68 of 2022.
128 World Bank forthcoming.
129 World Bank 2021a.
130 World Bank forthcoming.
131 World Bank 2021a.
132 World Bank 2020b.
133 World Bank 2020b.

FIGURE 3.23: Share of working-age population in high-skilled jobs vs. log GDP per capita (Indonesia highlighted)



Source: Forthcoming Jobs report based on ILO data

FIGURE 3.24: Changes in endowment and returns to education for real wages by income deciles, 2014 versus 2019



Source: SAKERNAS
Note: Recentered-Influence-functions (RIF) for real wages, including dummies for gender, formal work, sectors and urban, by thresholds between deciles (10, 20, …, 90)

services can increase wages and improve aggregate productivity. However, manufacturing opportunities were rare in rural areas, with only 5.3 percent of poor and 6.7 percent of non-poor rural households taking advantage of them. Even in regions with large mining and quarrying sectors, employment opportunities in manufacturing or the broader industrial sector were very limited, in large part due to the capital-intensive nature of mining and quarrying. Across all rural areas, mostly low-VA jobs represented the only real alternative to agricultural work, but few poor rural households could take advantage of them. A notable exception was Java-Bali where higher-quality off-farm opportunities started playing a more important role, enabled by increased connectivity that encourages agglomeration and its spill-over effects.[134] In addition to lack of demand for higher skilled workers, deficits in human capital suggests that many poor, especially in rural areas, might not have the skills needed to enter types of employment offering higher wages and incomes outside agriculture.

Lack of spill-overs from urban areas limited economic diversification and creation of more and better rural opportunities, except for Java-Bali. Place-based advantages from agglomeration forces were drivers of productivity increases.[135] Thus, opportunities were more likely to arise close to existing opportunities, naturally feeding into spatial inequality. Improved connectivity through better infrastructure, for example, can help bring areas closer to each other and expand spill-over effects. Also, digitalization can play a significant role by overcoming place-based disadvantages, but this requires good digital connectivity, particularly in remote areas.[136]

Education

Returns to education were diminishing as workers suffered from low-quality education and continued to be trapped in low-VA jobs.

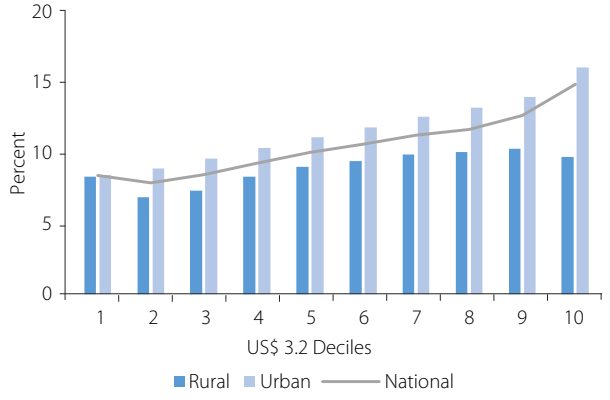
While changes in educational endowment played only a minor role, returns to education continued to increase incomes and, hence, contributed to poverty reduction. Increasing levels of education of household heads did not play a significant role in poverty reduction. Their endowment of education among the poor hardly changed from 2014 to 2019, given that most households heads were already out of school. Being educated, however, still earned a substantial wage premium. Each additional year of education increased returns by 6.9 percent, about the same as global middle-income countries but below middle-income countries in the region.[137] An average worker with junior secondary education earned 17 percent more than a worker with no more than primary education (Figure 3.24). For senior secondary education, the premium increased to 48 percent and for tertiary education to 108 percent. Thus, education continued to contribute to poverty reduction. However, returns to education played a less important role in 2019 compared to 2014 due to diminishing returns to education for better-off households. From 2014 to 2019,

[134] World Bank 2020b.
[135] Roberts, Gil Sander, and Tiwari 2019.
[136] World Bank 2021a
[137] SAKERNAS 2019.

the overall level of education, or endowments, increased for workers (though less so for household heads) leading to higher wages across the income distribution. Returns to education, though still positive, diminished for the top 60.[138] This explains the reduced contribution of returns to education for poverty reduction discussed earlier. With lower returns to education among the top 60, the difference in returns to education between the poor and non-poor narrows. Thus, returns to education contributed less (though still positively) to poverty reduction in 2019 than in 2014. On other words, returns of education are less of a distinguishing feature between the poor and non-poor in 2019 compared to 2014. Increased supply of skills in the labor market as well as limited productivity gains from education may have contributed to this result. Indeed, the (low-VA) service sector, which employs most workers outside agriculture, showed dismal productivity gains.

Low-quality education also contributed to low returns to education. Higher education helped to get better jobs in Indonesia, but it did not guarantee it. While job availability and skills match played important roles, so did quality of education. From 2006 to 2018, quality of education stagnated, with PISA scores settling just below 400. Not surprisingly, the increase in educational attainment has not translated into higher skills.[139] In fact, closing Indonesia's quality gap in education would have and estimated seven times higher benefits for economic growth compared to closing the access gap.[140]

FIGURE 3.25: Consumption share for rent payments, by urban/rural and decile in 2019



Source: Authors' calculation based on SUSENAS

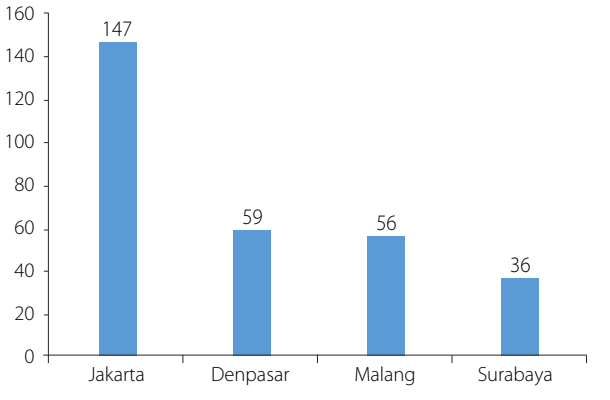
Spatial factors

Urban areas offered opportunities but costs of living in cities attenuated benefits on poverty reduction.

Urban areas offered better services and higher connectivity, providing access to better opportunities. Urban areas provided better labor incomes, supported by place-based agglomeration effects increasing productivity, but also better labor market matching.[141] Urban households also had access to better services, including electricity, sanitation, education, and health. Urban dwellers had cheaper and faster internet access, allowing them to access eCommerce to take advantage of lower prices, larger selection, and more comfort. Urban workers enjoyed more opportunities to become digital gig workers and digital entrepreneurs, or to become more productive in their regular jobs when using digitalization. Also, digital services were increasingly offered digitally, enabling urban citizens with better internet access to access them more easily and at lower cost.[142]

However, urban Indonesian households suffered from higher housing costs than rural households, as well as when compared internationally. Urban dwellers paid a larger share of their consumption in housing costs compared to rural households. While the difference was larger for the top 60 at 3.4 percentage points, it was still sizable for the bottom 40 at 1.6 percentage points (Figure 3.25). Also compared internationally, many urban Indonesians—especially in the cities of Bandung (12.1

FIGURE 3.26: Hours in lost congestion by city per year



Source: Author's compilation based on INRIX, 2019

138 Ferreira, Firpo, and Messina 2017; World Bank 2019c.
139 World Bank 2020d.
140 OECD 2015.
141 Roberts, Gil Sander, and Tiwari 2019.
142 World Bank 2021a.

pp), Denpasar (11.9 pp), and Jakarta (10.3 pp)—paid a higher share of their income on housing compared to Bangkok (7.7 pp), Singapore (4.8 pp), and Kuala Lumpur (4.0 pp).[143] Consequentially, about one-third of urban households (31 percent in 2018) were estimated to live in slums.[144] More affordable housing can help to relieve pressure on household incomes, especially for the poor, and help more households to access services and jobs in urban areas.

In addition, long commutes and congestion in urban areas reduced productivity and cost 0.5 percent of GDP annually. High costs for housing in core urban areas extended commutes to jobs, often located in the center of urban areas. Large ownership of private vehicles created congestion, adding to commute times. About one-third of commuters in core Jakarta and one-half in greater Jakarta spent more than 1 hour commuting to work.[145] Accordingly, Jakarta was the third most congested city among 18 megacities, adding 58 percent of travel time to every trip.[146] An average urban driver lost between 36 and 147 hours per year in congestion in the four most congested urban areas (Figure 3.26). Lack of viable public transportation options made commutes longer and more expensive. Congestion reduced productivity and cost about 0.5 percent of GDP annually[147] while damaging health of citizens and the environment. Improved urban planning and better public transportation can reduce economic costs as well as costs for households while improving urban wages through increased productivity.

Air pollution also reduced the quality of urban life. Congestion, use of fuels for household power generation, and industrial coal power plants in or near urban centers created air pollution. Indonesia ranked 17th among countries with most polluted cities from 2018 to 2021, with Jakarta often the most polluted city.[148] High air pollution is associated with illnesses that reduce productivity and decrease the life quality and length. Pollution levels in Indonesia lower life expectancy by and estimated 1.2 years on average, with losses of over 4 years in some pollution hotspots (at sustained 2016 levels of pollution).[149] The poor often lived in more polluted areas and did not have the means to protect themselves, by using air filters, for instance. Not surprisingly, air pollution is often identified as the most pressing urban environment issue.[150]

The substantial costs for living and working, especially in core urban areas, triggered urban sprawl with households moving to urban peripheries, diminishing urban agglomeration effects. Even though urban households benefitted from access to more stable and better paid jobs and education, substantial costs arose from living and working in urban areas. High housing costs and long commutes as well as congestion disincentivized households to move into urban core areas where agglomeration effects were strongest. Instead, they moved to urban peripheries connected to urban core areas. However, households in urban peripheries had less access to good public services, like education and health, with its implications for human capital. It also reduced knowledge-spillovers and prosperity-enhancing agglomeration effects.[151]

Diminished agglomeration effects limited the urban premium for poverty reduction and positive spill-overs to rural areas, while reducing incentives for migration. Urban dwellers benefitted less from urban connectedness, but suffered from its high density. This helps explain the minuscule contribution of urbanization on poverty reduction in Indonesia. Furthermore, it limited positive spill-over effects to rural areas as the urban growth engine was not able to create demand for higher-VA goods and services in the nearby rural economy.[152] It also disincentivized rural-urban migration, undermining urbanization acceleration that could unleash productivity gains from urban agglomeration effects.[153] In fact, rural-urban migration contributed less than 20 percent to urban growth,[154] with Java-Bali and especially Jakarta being less of a magnet for migrants as one might expect from a capital city.[155]

143 Roberts, Gil Sander, and Tiwari 2019.
144 World Development Indicators.
145 Roberts, Gil Sander, and Tiwari 2019.
146 Tomtom Traffic Congestion Index.
147 Roberts, Gil Sander, and Tiwari 2019.
148 IQAir World Pollution Index.
149 Greenstone and Fan 2019.
150 World Bank's Urban Perception Survey, 2018.
151 Roberts, Gil Sander, and Tiwari 2019.
152 World Bank 2020b.
153 World Bank 2020b.
154 Roberts, Gil Sander, and Tiwari 2019.
155 Wajdi, Mulder, and Adioetomo 2017; Pardede, McCann, and Venhorst 2020.

Prices

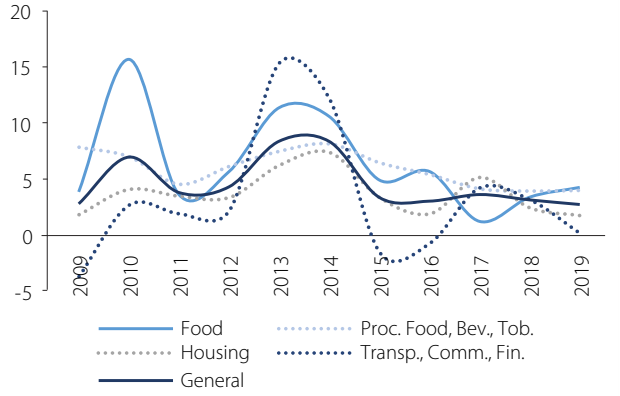
Structurally high food prices limited purchasing power for the poor, while producer subsidies were costly, largely ineffective, and did not target the poor.

Food prices were increasing faster than inflation, limiting purchasing power especially of the poor. Food price inflation from 2009 to 2019 has consistently outstripped general inflation by 1.8 percentage points on average per year (Figure 3.27). This particularly affected poor households as they spend a large share of their consumption on food (63 percent for the bottom 40 percent). Even though net producers of food benefitted from higher food prices, most agricultural households in the bottom 40 were subsistence farmers producing insufficient quantities to cover their own consumption and remained net consumers. Only about 15 percent of households were net producers.[156] Most of them had land holdings of more than 1 ha and, thus, were unlikely to be in the bottom 40.

Import trade barriers partly explain the high staple food prices. The retail price for rice, the main staple food in Indonesia, has remained highest among neighboring countries throughout the last decade (Figure 3.28).[157] Burdensome, inefficient, and costly non-tariff measures (NTM) contribute to the price gap.[158] These include Sanitary and Phytosanitary Measures (SPS), pre-shipment inspections, specific port of entry requirements, and import monopolies. While some measures are important for food safety, lifting a subset of unnecessary NTMs and streamlining their implementation could lower food prices by 8 to 55 percent, and reduce under-nourishment by about 5 percent, or about 0.5 percentage points.[159,160] It would also improve the use of imports as buffers when domestic production drops, in the case of a shock for example.

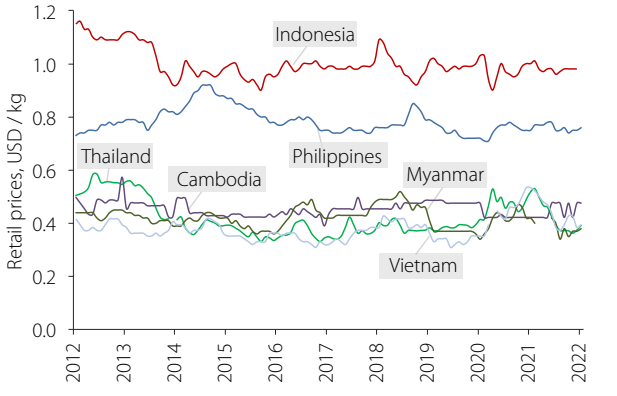
Low productivity and high distribution costs hampered domestic agricultural production.[161] Low agricultural productivity is due to fragmented and labor-intensive production. Even though fertilizer use in Indonesia increased over the past two decades, growth in yields remained low, especially compared to regional peers. Underfunded and institutionally fragmented R&D struggles to inform effective extension services. Poorly maintained rural infrastructure affects input prices as well as drives a wedge between farm gate and market prices. More generally, restrictions on commercial activities related to food and agriculture (for example, food retail investments) and high logistics costs due to regulatory barriers to entry exacerbate market prices. Low resilience to climate shocks contributes to price volatility.

FIGURE 3.27: Annual inflation by product category



Note: Includes Processed food, beverages and tobacco (Proc. Food, Bev., Tob.); and Transportation, Communication and Finance (Transp., Comm., Fin.)

FIGURE 3.28: Retail price for rice in US$ per kg, across countries



Source: FAO GIEWS

156 Cali et al. 2021.

157 World Bank 2020 – IEP.

158 Townsend et al, 2016.

159 Prevalence of Undernourishment is calculated based on the Minimum Dietary Energy Requirement (MDER) according to the FAO guideline.

160 ali et al. 2021.

161 World Bank 2020b.

Government producer subsidies to support food prices showed limited benefits. The GOI introduced price controls to dampen inflation and protect households from losses in purchasing power. However, price controls are expensive and distort consumer and producer choices.[162] In Indonesia, the majority of central government spending on agriculture, which fluctuated around 2 to 3 percent of GDP, subsidized irrigation and fertilizers (50 to 70 percent between 2005 and 2020). Despite massive spending, benefits on agricultural prices were limited for multiple reasons. Rent seeking limited benefits,[163] while fertilizer subsidies, which accounted for 25-30 percent of the annual agricultural budget, were not only expensive but also poorly targeted, regressive, subject to leakage, and not cost-effective.[164] In addition, the subsidies might have worsened productivity, diversification, and competitiveness by "crowding out" public spending for research, innovation, extension, diversification, processing, and marketing. [165]

Taxes and public spending

Fiscal policies contributed to poverty reduction, but could be better targeted to the poor.

Fiscal policy affects household consumption through direct and indirect taxes as well as transfers. All households pay some combination of taxes and benefit from some combination of direct transfers—often through social assistance—and other spending, such as subsidies or public health and education. The net balance of contributions (taxes) and benefits (spending) for each household determines whether they are a net fiscal contributor or beneficiary. The Commitment to Equity (CEQ) framework generates counterfactual income distributions at various levels of taxes and public spending to compute poverty and inequality indices (Box 3.2). This allows disentangling the different components and programs to understand their specific effects on poverty and inequality.[166][167][168]

Box 3.2: Commitment to Equity (CEQ) framework

The Commitment to Equity (CEQ) framework helps assess how government fiscal programs affect poverty and inequality in Indonesia. Originally developed by researchers affiliated with the CEQ Institute at Tulane University, this methodology has become a standard and has now been applied to several countries across the world.[166] In Indonesia, it has previously been applied in 2012 and 2017 while this report adds the analysis for 2019.[167] While the framework provides general comparability across years, the available data in each year determines how indicators are estimated, which needs to be considered when comparing results across years.

CEQ entails generating theoretical (counterfactual) effects on household income distributions and poverty and inequality based on application of different taxes and public spending options. The analysis starts with "market income"; that is, income earned either in the form of wages and salaries or profits from self-employment or as returns on capital. "Net market income" is what would be left after all relevant taxes, deductions, and withholdings paid. Any direct household government cash transfer is added to net market income to arrive at "disposable income". At this stage, depending on the consumption basket of the household, various indirect taxes (VAT and excise) are added or subtracted to yield "consumable income" or "post-fiscal income". Finally, accounting for any in-kind government benefits received for things like education and health, discounting associated co-payments and user fees, yields "final income".

Since Indonesian household surveys do not measure income but household consumption, the CEQ is slightly different in practice. The analysis proceeds by equating household consumption to disposable income and working backward and forward to determine the other income concepts. Once these income concepts have been calculated, the "impact" on poverty and inequality is essentially the difference between the relevant measures. For example, the impact of fiscal policy on "inequality" is the difference between the Gini of "market income" (arguably untainted by fiscal policy) and the Gini of "final income" when all relevant fiscal instruments have been applied.[168]

Source: Adopted from World Bank 2020f

[162] World Bank 2022e; World Bank 2022f.

[163] Krisnamurthi, Bayu and Utami, Anisa Dwi 2022.

[164] World Bank 2017.

[165] World Bank 2020g.

[166] Lustig 2018.

[167] Jellema, Wai-Poi, and Afkar 2017; World Bank 2020f.

[168] It is important to understand that the CEQ methodology is essentially a partial equilibrium analysis and the use of the word "impact" is more an accounting term than a true causal one. The correct interpretation of the difference in Gini between market income and final income after evaluating a tax or spending option would be the amount by which inequality would have been higher or lower without all existing fiscal policy instruments being applied to market income. This is different from an interpretation that might suggest that that package of fiscal policies reduces inequality by the given amount.

Fiscal policy continued to contribute to poverty reduction, but less so than in 2012. In 2019, fiscal policy contributed to poverty reduction by 1.1 percentage points, compared to 4.3 percentage points in 2012 (without considering health and education effects).[169] While lower poverty levels of 23 percent in 2019 compared to 40 percent in 2012 can make it harder to reach the poor, several factors contributed to the decline in effectiveness.

Indonesia's fiscal expenditures did not increase commiserate with GDP, and generally remained constrained given limited revenue collection. Indonesia's expenditure-to-GDP ratio dropped from 19 percent of GDP in 2012 to 16 percent in 2019, the lowest among all middle-income and emerging market economies, which on average spent 30 percent (Figure 3.29). The main reason for the low expenditure ratio was low revenue collection, which dropped from 17 percent of GDP in 2012 to only 14 percent in 2019 (Figure 3.30). Only Pakistan and Sri Lanka collected less in 2019. Several reasons contributed to low revenue collection in Indonesia: (i) the cyclical nature of revenues due to their linkage to commodity prices; (ii) the economic structure with a reliance on resource-extraction and a large informal economy; (iii) tax administration capacity, limiting tax revenues to below half of potential; and (iv) sub-optimal tax policies, such as VAT exemptions.[170]

FIGURE 3.29: Government expenditure relative to GDP per capita

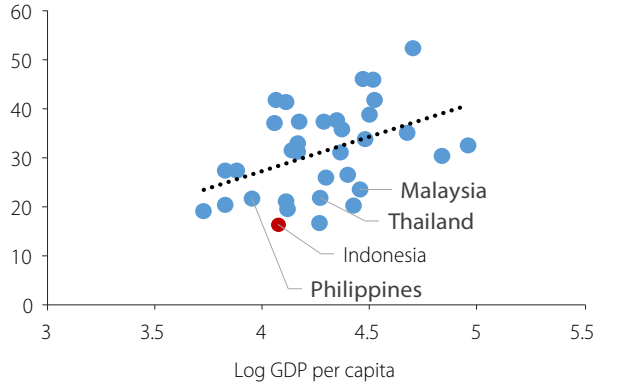
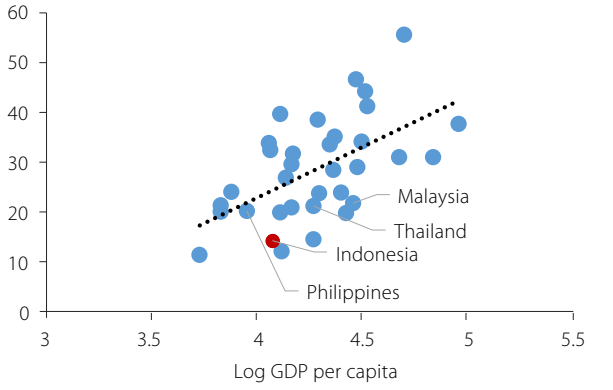
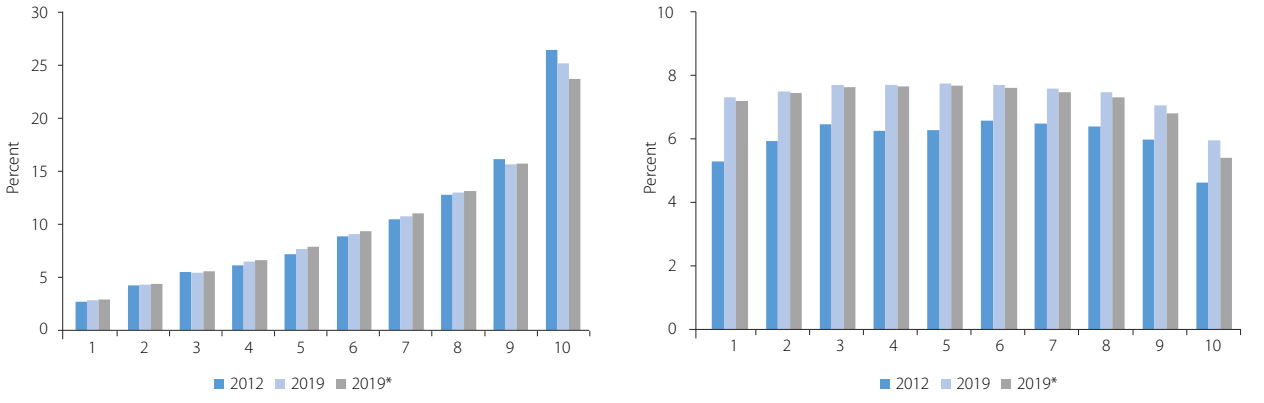


FIGURE 3.30: Government revenues relative to GDP per capit



Source: IMF Fiscal Monitor showing data for all middle-income and emerging market economies for 2019

FIGURE 3.31: Absolute (left) and relative (right) incidence of indirect tax by income decile



Source: Authors' calculations using SUSENAS (2002-2022)

[169] The Commitment to Equity (CEQ) framework, developed by the Commitment to Equity Institute (CEQ Institute) at Tulane University, as well as implementation guidelines, applications, and software can be found in Lustig 2018. For a full set and discussion of 2012 Indonesia results, see World Bank 2015b; for 2017 results, World Bank 2020f. Note that the 2012 results presented for comparison in alongside the 2017 results differ from the original report due to revisions made to help ensure comparability of numbers over time.

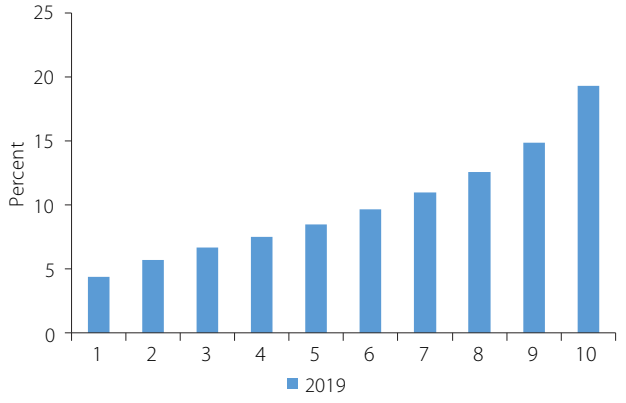
[170] World Bank 2020d.

Nevertheless, indirect taxes worsened poverty, while VAT exemptions were ineffective in limiting poverty. Revenue collection includes direct taxes, such as a personal income tax, as well as indirect taxes, including VAT and excise. Revenue collection from personal income taxes remained low at 0.9 percent of GDP in 2012 and 1.0 percent in 2019. They hardly affected poverty given high thresholds to pay personal income tax, as well as the large informal sector.[171] The largest share of revenue was collected through indirect taxes, increasing poverty by 4.2 percentage points in 2012 and 4.1 percentage points in 2019. VAT has a statutory rate of 10 percent for most goods and services, but with many exemptions worth about two-thirds of a percent of GDP. While VAT exemptions are granted mostly on equity grounds to help the poor, about half the value accrued to the top 30 percent households (Figure 3.32).[172] Removing exemptions and mitigating adverse impacts on the poor through targeted direct transfers can enhance fiscal space, given the higher efficiency of direct transfers.

Direct transfers and energy subsidies reduced overall poverty, with a shift towards more efficient transfers. Direct transfers and subsidies reduced poverty by 4.5 percentage points in 2019, significantly less than the 7.8 percentage points in 2012 (Figure 3.33). In this period, fiscal expenditures on transfers and subsidies dropped from 4.2 percent of GDP in 2012 to 2.1 percent in 2019. A drop in subsidies from 3.9 percent in 2012 to 1.7 percent of GDP in 2019 drove expenditure reduction (reversed in 2021/20), while spending on transfers increased from 0.3 to 0.7 percent of GDP. Although overall efficiency increased with the shift towards transfers (from 1.9 to 2.4 percentage points of poverty reduction for each 1 percent of GDP in spending), the efficiency increase was insufficient to compensate the drop in budget.

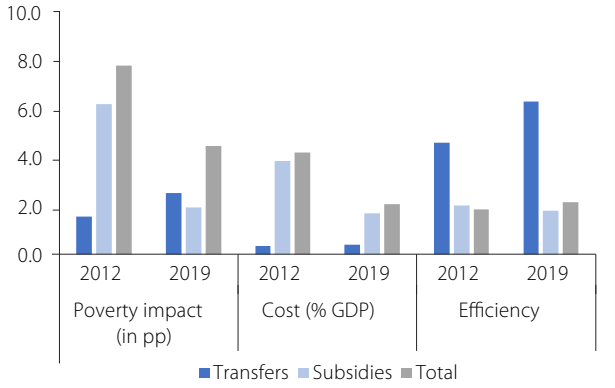
Governments often prefer price subsidies despite their negative implications. Price subsidies distort consumers' and producers' choices and are expensive, yet they are often used to dampen the negative effects of rising prices on household purchasing power. This may be because price subsidies do not require complicated targeting mechanisms and are easy and quick to implement.

FIGURE 3.32: Total consumption of exempted goods and services by consumption decile (2019)



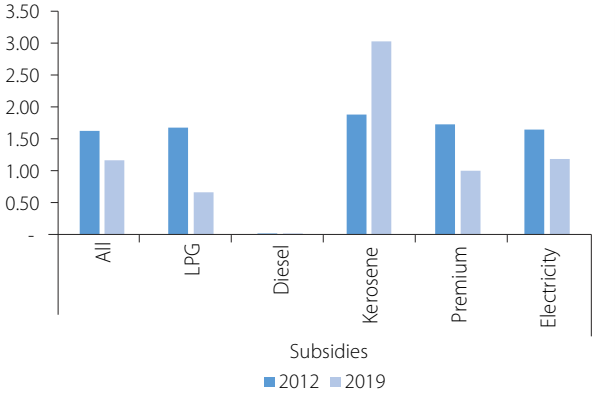
Source: Authors' calculations.

FIGURE 3.33: Poverty impact, cost and efficiency of modeled direct transfers and subsidies



Source: Authors' calculations based on SUSENAS and administrative as well as budget data. Note: Marginal poverty impacts can differ from combined impacts. Cost only covers programs included in the modeling, and can differ from the overall spending mentioned in the text. Efficiency calculated as poverty impact per cost of one percent of GDP.

FIGURE 3.34: Efficiency of individual transfer and subsidy programs



[171] Impact cannot be estimated for 2012 and 2019 due to unavailability of tax data. In 2017, the poverty impact was not significantly different from zero.

[172] World Bank 2020f.

Without specific targeting, they often benefit a large part of the population and, thus, attract broad support, which also complicates removal of subsidies. The population may even resist a promise to shift subsidies towards a targeted social transfer, due to doubts about the commitment of government to follow through on the promise and concerns about corruption.[173]

Indonesia's subsidized energy prices are inefficient. The Government subsidizes cooking gas (LPG and Kerosene), electricity, and fuel (Diesel and Premium). LPG has low and decreasing efficiency as wealthier households benefit disproportionately from the subsidy, given a lack of targeting (Figure 3.34). While reform plans included a closed distribution system, implementation of the reform has been continuously delayed. Only Kerosene became more efficient in reducing poverty, but inadvertently as wealthier households stopped using kerosene to take advantage of the LPG subsidy. The subsidy for diesel did not play a big role given lack of consumption by households and limited indirect effects. The subsidy for premium fuel and electricity had similar efficiencies. Even though they implicitly targeted—for example, to low-volume retail consumers of electricity—many wealthier households used them, thus increasing the cost for the poor. Overall subsidy efficiency dropped from 2.0 in 2012 to 1.8 percentage points in 2019 for each 1 percent of GDP in expenditure. The reduced efficiency emphasizes the difficulty of targeting subsidies. While planned online registration to receive some fuel subsidies might improve targeting, it will remain sub-optimal, hard to maintain, and potentially trigger work-arounds to game the system.

In contrast, the efficiency of transfers through social assistance programs improved significantly, reducing poverty at less than one-third the cost of government subsidies (Figure 3.34). Indonesia's social assistance programs evolved from providing temporary support during the Asian Financial Crisis to core permanent programs with occasional temporary support during periods of subsidy reform (for a comprehensive overview, see Annex Table A4). Social programs thus evolved and expanded rapidly even before COVID-19.[174] The standing programs include the conditional cash transfer Program Keluarga Harapan (PKH), a cash transfer for poor and vulnerable students Indonesia *Pintar* (PIP), a food assistance program (BPNT/Sembako), and a subsidized health insurance premium waiver (JKN-PBI).[175]

Further improvements in targeting can increase the cost effectiveness of social assistance. Indonesia's designed its social registry *Data Terpadu Kesejahteraan Sosial* (DTKS) to include socioeconomic characteristics of the poorest 40 percent of households.[176] However, the list was neither updated regularly nor comprehensively, despite the mandated obligation to update twice per year. Constraints at both the national and local levels have left much of the database still with 2015 information. Hence, errors of exclusion and inclusion are worsening as time passes.[177] As of late 2021, DTKS covered the poorest 51.8 percent of Indonesia's population due to a policy shift to expand coverage of the registry, including open online registration for individuals living in Jakarta.[178] However, this recent expansion no longer included a set of socioeconomic variables.[179] PKH is a case in point. Nationally, coverage of the program for the target group of the bottom 10 increased from 9 to 27 percent between 2014 and 2019 and ranged from a minimum of 9 percent in rural Maluku-Papua to 47 percent in rural Nusa Tenggara. Similarly, PIP covered only 18 percent of its targeted bottom 20 percent of households nationally in 2019. In addition to low coverage of target groups, convergence of social assistance programs was very low, despite theoretically targeted by the same DTKS registry. This reflects in part the need to improve institutional coordination with subnational governments and between agencies responsible for key programs. While efforts are ongoing to prepare a socio-economic registry (Regsosek) intended to improve targeting, having multiple targeting databases without inter-operability will create challenges.

173 World Bank 2022f; World Bank 2022e.

174 Holmemo et al. 2020.

175 JKN-PBI is not included.

176 The following programs use DTKS for targeting: BPNT-Sembako (Food Assistance Program - Bantuan Pangan Non-Tunai); PKH Family Hope Program conditional cash transfer (Program Keluarga Harapan); PBI-JKN Subsidized Health Insurance (Penerima Bantuan Iuran - Jaminan Kesehatan Nasional); the PIP cash transfer for poor and vulnerable students (Program Indonesia Pintar), and BST Cash Transfer (Bantuan Sosial Tunai).

177 Holmemo et al. 2020.

178 Based on the Decree of the Social Minister of the Republic of Indonesia Number 145 / HUK / 2021 issued on 26 November 2021 and the total population of 271,584,774 people from Susenas 2021. The number of families and individuals recorded in DTKS was updated twice a year since 2017 through the Decree.

179 Hadiwidjaja, Williams, and Giannozzi 2022.

Social assistance also had positive effect on health, education, and the environment. The conditional cash transfer program PKH has substantially increase utilization of health and education services, helping to reduce childhood stunting and improve nutritional intake, with positive behaviors sustained among those who graduated from the program.[180] The program also reduced deforestation in villages where households participated in the program.[181] Cash transfers also helped reduce yearly suicide rates by 18 percent (or 0.36 per 100,000 people) in Indonesia, possibly due to the avoidance of depression.[182] In contrast, energy subsidies exacerbate negative externalities, contributing to GHG emissions and air pollution.

However, direct expenditures on education and health remain low, contributing to unsatisfactory human capital outcomes. Indonesia's education expenditure ratio of 2.8 percent of GDP in 2019 was among the five lowest ratios of middle-income and emerging market economies (Figure 3.35). Similarly, its health expenditure ratio stood at 1.4 percent of GDP, with only Angola and India spending less (Figure 3.36). The lack of funding, as well as its execution, explain the challenges around improving human capital outcomes, including maternal mortality, stunting rates, and learning outcomes.

Inequality

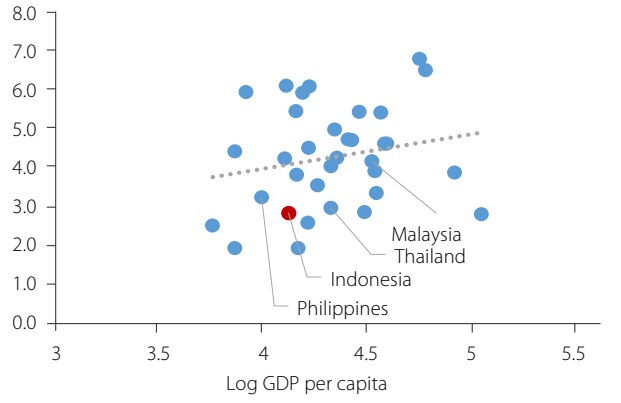
Long-term trend

Inequality reached its peak in Indonesia in 2010 and declined after 2014 due to more inclusive growth.

Inequality increased from 2002 to 2010 since economic growth did not trickle down equally to the bottom 40. Even though all household benefitted from the commodity boom during this period, consumption of the bottom 40 percent grew by only 1.8 percent per year compared to 4.1 percent for the top 60 percent (Figure 3.37). In this period, large investments in capital took place, increasing income from capital. The unemployment rate dropped from a peak of 11 percent to 7 percent, while labor force participation stayed constant. The large pool of available workers limited pressures on wages, which grew by 1 percent annually. Instead, growth translated more rapidly into capital gains accruing to wealthier households with financial assets, exacerbating inequality.[183]

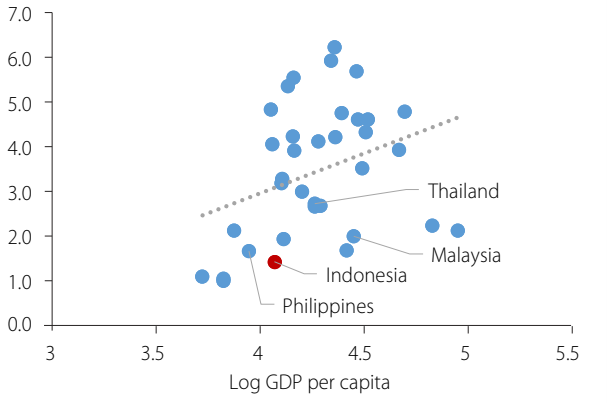
From 2011 to 2014, the rise in inequality stopped with welfare gains becoming more equally distributed across the population. Consumption of the bottom 40 percent increased annually by 4.2 percent, similar to gains of the top 60 percent. The deteriorating terms of

FIGURE 3.35: Government education expenditure relative to GDP per capita



Source: IMF Fiscal Monitor showing data for all middle-income and emerging market economies for 2019

FIGURE 3.36: Government health expenditure relative to GDP per capita



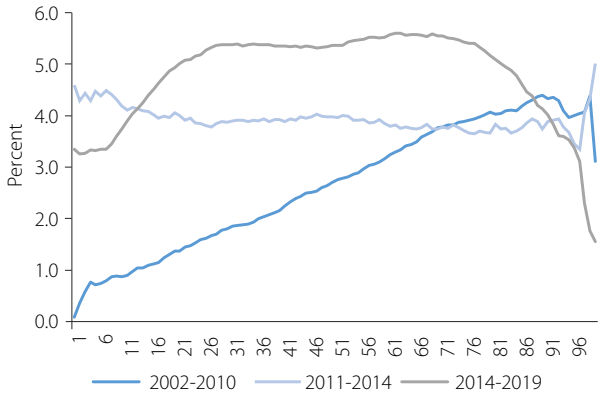
[180] Syamsulhakim and Khadijah 2021.

[181] Ferraro and Simorangkir 2020.

[182] Christian, Hensel, and Roth 2019.

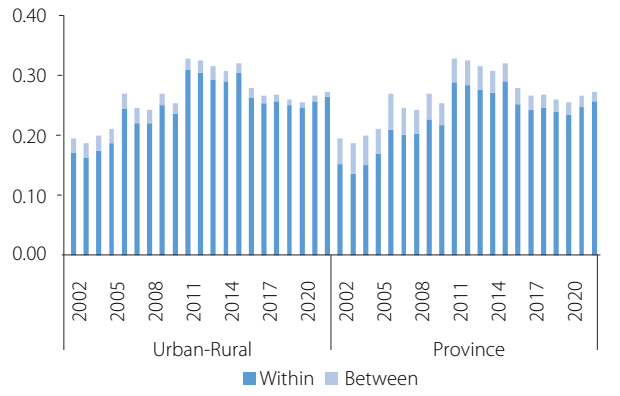
[183] World Bank 2016.

FIGURE 3.37: Consumption growth across periods, annualized



Note: Due to changes in the sampling methodology of the underlying survey from 2010 to 2011, periods are chosen to minimize its impact.

FIGURE 3.38: Theil inequality decomposition between urban/rural and provinces



Note: Consumption aggregates are spatially deflated.

trade in this period lowered capital investments. At the same time, the unemployment rate reached its lowest at 6 percent and remained at this level. With domestic consumption increasingly contributing to economic growth and less workers available, real wages increased annually by more than 3 percent. The increase in labor incomes relative to capital gains helped stop the growth of inequality. Thus, households, especially poorer ones, were able to claim a larger share of the albeit slowing economic growth.

Box 3.3: Top incomes and measurement issues

Missing incomes for the richest households in surveys is a common phenomenon in most countries.[184] Household surveys are designed to be broadly nationally representative and are usually not stratified to capture the very top end of the income distribution. This problem does not significantly affect many survey-based estimates. For example, correcting for top incomes has relatively little effect on global poverty rates.[185] However, it can have potentially large effects on inequality measures because income and wealth concentrate in the upper tail of the distribution.

Indonesia exhibits a large gap of private consumption between survey-based and national accounts data, hinting at the problem of missing top incomes. One indication of missing top incomes is the gap between total consumption in household surveys and private consumption in national accounts.[186] In Indonesia, total consumption in its household surveys (Susenas) accounts for only around 40 percent of private consumption in the national accounts. This gap of 60 percent is much larger than in many other countries; the developing country gap in 1998 was 23 percent and in East Asia 19 percent. The gap in Malaysia was 51 percent in 2019. Globally, per capita consumption is about 22 percent lower in surveys compared with national accounts.[188]

The effect of missing top-income data on inequality measures such as the Gini coefficient is significant, and might increase Gini coefficients by 20 percent in an average country. The bias from missing top-income data can be evaluated and somewhat corrected by merging survey data with administrative data from tax returns.[189] For example, the share of national income going to the richest 1 percent of households in Chile increases from 14 percent in survey data to 17 percent once administrative tax data are included. This increases the Gini index by 8 percent from .64 to .69. In Brazil, the top 1 percent share increases from 10 percent to 24 percent, and the Gini index by 21 percent from .51 to .62.[190] In Malaysia the top 1 percent income share increases from 8 percent in the survey data to 13 percent after including administrative tax data, and again to 15 percent after estimating undistributed corporate profits from national accounts.[191] On average, observed Gini coefficients are 20 percent when adjusting the income distribution for missing top-incomes.[192]

184 Lustig 2019; Ravallion 2021.
185 Prydz, Jolliffe, and Serajuddin 2021.
186 See Prydz, Jolliffe, and Serajuddin 2021 for a discussion of other indications.
187 Bhalla 2002.
188 Prydz, Jolliffe, and Serajuddin 2021 based on comparisons involving 166 countries.
189 Piketty 2003; Piketty and Saez 2003 are the key reference works, while Atkinson and Piketty 2007 represent the main cross-country studies.
190 Blanchet, Flores, and Morgan 2022.
191 Khalid and Yang 2019.
192 Prydz, Jolliffe, and Serajuddin 2021.

Inequality started to drop from 2014 to 2019 but without significant relative gains for the bottom 40. Annualized consumption growth of the bottom 40 percent stood at 4.6 percent, while the top 60 percent had slightly larger gains of 4.8 percent. However, consumption of the top 20 increased by only 3.7 percent. The stark drop in gains for the wealthiest households might partially be attributed to measurement problems for top income quintiles (Box 3.3). Proper measurement would likely further exacerbate the relatively lower gains for the bottom 40 percent.

Drivers since 2014

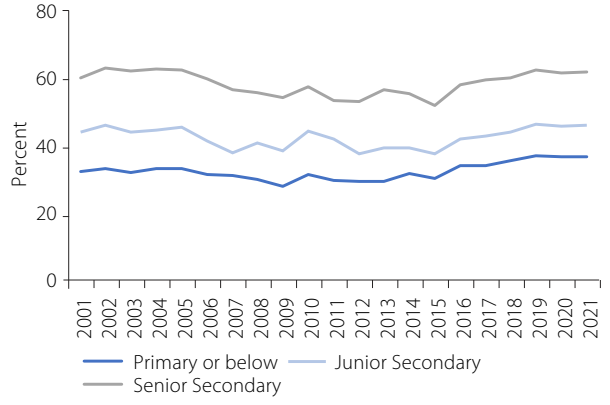
Lower fertility did not translate into lower inequality, while relative labor incomes benefitted the poor, but at the cost of diminishing returns to education for top 60 workers.

Most inequality is within areas rather than differences between areas. In 2002, only about 1.2 percent of inequality was explained between urban and rural areas, and 12.4 percent between provinces (Figure 3.38). In 2019, the already small contribution of between-area inequality dropped even further to 0.8 percent for urban and rural, and 3.3 percent for provinces. Thus, inequality was not as much a spatial phenomenon at the level of urban, rural, or provinces but found within. In addition, the convergence of lagging regions contributed to an even smaller fraction of inequality explained between areas. However, many remote areas within provinces were still lagging, contributing to inequality within the province.

Declines in fertility benefited the wealthy more than the poor, helping to keep inequality high. Lower fertility rates led to smaller households, contributing to poverty reduction. However, wealthier households were becoming smaller more quickly. This contributed to inequality as it increased relative consumption of wealthier households. In fact, the Gini would have been 1.3 points lower in 2019 at .364 instead of .371 if household sizes would not have changed since 2014,[193] the same result as in 2014.[194] Thus, fertility in poorer households has not reduced to the point of wealthier households. Female education and family planning can reduce fertility, especially among the poorest.[195] This can create a virtuous cycle where women in smaller households are better able to join the labor force while investing more in human capital, in turn further reducing fertility. With Indonesia's fertility rate still relatively high at 2.3 in 2020, progress among poor households holds potential to reduce poverty and inequality.

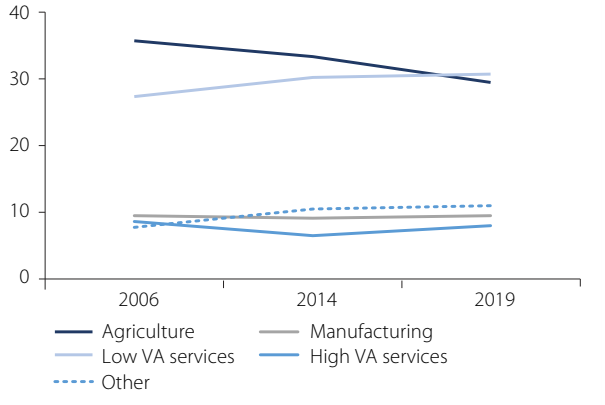
Despite the lack of relative gains in consumption for the bottom 40 percent, their relative labor incomes have improved due to increasing real wages. Employment trends were relatively similar across income groups in terms of labor force participation, employment, and under-employment. However, real wages for lower educated workers increased relative to workers with tertiary education (Figure 3.39). A worker with no more than primary education in 2014 earned only 30 percent of a worker with tertiary education,

FIGURE 3.39: Relative real wages by education, compared to tertiary education



Source: SAKERNAS

FIGURE 3.40: Share of sector of employment of household heads



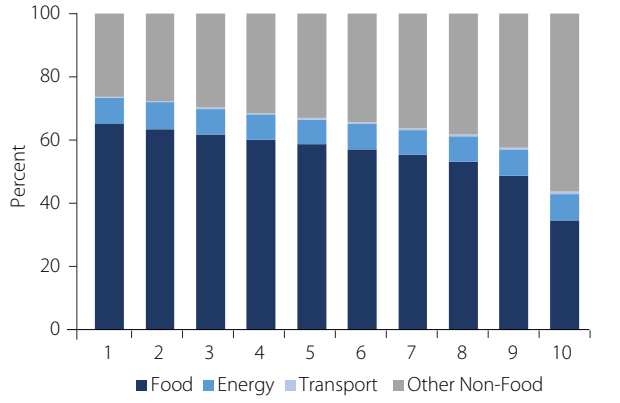
Source: SUSENAS

[193] Based on a counter-factual simulation holding household sizes constant since 2014 at the decile. Estimated based on Susenas 2019.

[194] World Bank 2016.

[195] David E. Bloom et al. 2012.

FIGURE 3.41: Share of household consumption by category and decile, for 2019



Source: SUSENAS.

but 37 percent (a relative increase of 24 percent) in 2019. With poorer households having lower levels of education, these relative gains reduced inequality.

Real wages for lower-educated workers have increased because of sectoral shifts and lack of jobs for better educated workers. Workers, especially those with lower education, continued moving from agriculture to services (Figure 3.40), which paid higher wages helping them to begin catching up with more educated workers. In part, this is because relatively fewer educated workers were able to take advantage of their higher education. With premature deindustrialization ongoing, the economy was not able to offer a good number of skilled jobs while more educated workers enter the labor market, but not always with the right skills. Due to a lack of opportunities and skills mismatch, they often ended up in low-VA, low-productivity service jobs. The increasing share of these jobs further undermined returns to education, which in turn hurt real wages of better educated workers who cannot find more productive jobs. While this reduced inequality, it shows that the economy was not taking advantage of higher skills, limiting productivity gains and, hence, pathways to economically secure jobs.

Food prices increases above inflation exacerbated inequality. Higher food prices limited the purchasing power of the poor, weighing more heavily on poor households given their larger shares of food consumption. The bottom 40 spent 63 percent of their consumption on food, while the top 60 only spent 53 percent (Figure 3.41). The relatively higher prices of food, thus, more strongly affected consumption of the bottom 40 relative to the top 60, increasing inequality. Solving the structural constraints of high food prices would likely reduce poverty and inequality.

Education inequality has dropped significantly, but wealthier households receive better education. Unequal access to education deprives the poor of future economic opportunities, exacerbating inequality.[196] Access to education, especially for the poor, has significantly improved over the last years, with equal enrollment rates for primary and junior secondary education between poor and non-poor students, and enrollment rates between the two groups have converged significantly for senior secondary education. This has the potential to help improve inter-generational economic mobility. However, wealthier households were often able to send children to better schools by paying fees, unaffordable for poorer households. In fact, the average gap in learning outcomes between students attending high versus low-performing schools within a district was equivalent to six years of education.[197] The Government reacted in 2021 to address some quality concerns. Civil service teachers are now required to achieve a minimum score in a selection exam,[198] helping curb teacher appointments based on social connections instead of merit.[199] Nevertheless, improving education quality remains an important issue, including across districts.

An increasing digital divide can threaten inequality progress.[200] Digitalization provides many opportunities, for consumers, workers, and beneficiaries of public services. However, accessing these opportunities and services requires good, affordable internet connection and digital skills. In 2019, about two-thirds of urban households had an internet connection, compared to about one-third of rural households. In Java Bali, more than half of all households were connected, compared to only one-third in Papua. Households in the top 10 had five times higher access to internet

196 Wihardja and Cunningham 2021.
197 Dharmawan and Suryadarma 2021.
198 Peraturan Menteri Pendayagunaan Aparatur Negara dan Reformasi Birokrasi Republik Indonesia No. 28/2021 (MoSAUBR Regulation No. 28/2021).
199 Rosser and Fahmi 2016.
200 World Bank 2021a.

compared to the bottom 10 (71 versus 14 percent). Gaps in infrastructure and regulatory concerns reduced availability, affordability, and quality of internet access. Hence, a large segment of the population remained excluded from taking advantage of digital opportunities. This segment—rural, remote, and lower-educated households—were already more likely to be poor, such that an increasing divide bears the risk of leaving them further behind, exacerbating inequality.

Fiscal policies

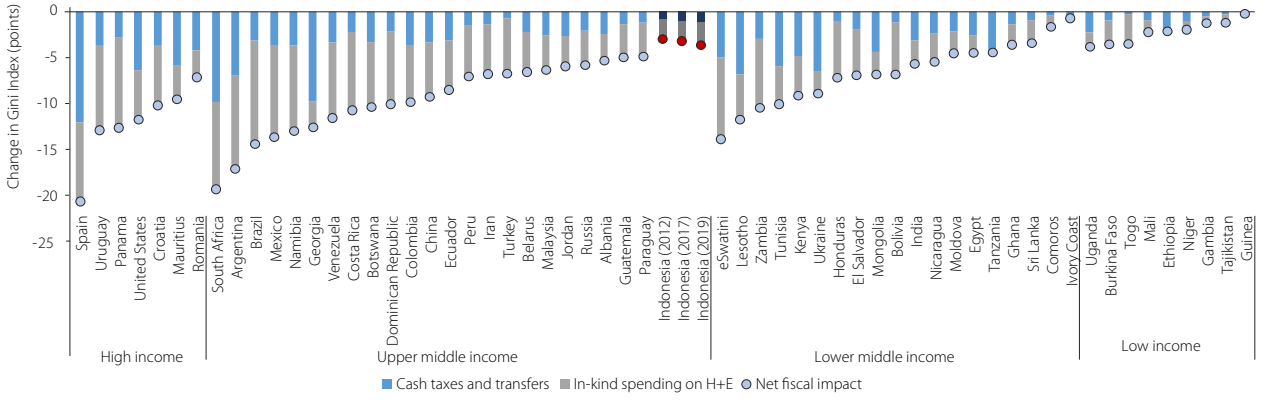
Fiscal policies attenuated inequality but were expensive given large, inefficient, subsidies, such as the ones for energy.

Fiscal policy helped reduce inequality, although by far less than in most other middle-income countries. In 2017 and 2019, the combination of taxes, transfers, subsidies, and spending on health and education reduced the Gini Index by around 3 points. However, while Indonesia's fiscal policy reduced inequality, it did so by much less than most other middle-income and all high-income countries, which reduced inequality by 5 to 15 points of Gini (Figure 3.42).[201] In fact, Indonesia's 2017 result was the lowest ranked among upper-middle income countries with data and better than just two lower-middle income countries. One-third of the small number of lower-middle income countries with data performed better.

Energy subsidies benefitted all households, making them ineffective in reducing inequality. Energy subsidies had almost no effect on reducing inequality, contributing only 0.1 points of the Gini index in 2012 as well as in 2019.[202] Only 25 percent of spending on energy subsidies goes to the bottom 40 (Figure 3.43). The large drop in budget since 2012 reduced their impact on market income across the income distribution (Figure 3.44). They also became slightly more progressive in 2019, but still benefitted households across the distribution, making them inefficient in reducing poverty and inequality.

In contrast, direct transfers reduced inequality, albeit in small magnitude given their relatively limited coverage and benefits. Direct transfers from social assistance programs reduced the Gini Index by 1.0 point in 2019, an increase of 0.3 points since 2012.[203] About 60 percent of social assistance benefits reached the bottom 40 (Figure 3.44). Transfers substantially increased market income especially for the poorest 10 percent households, in the same magnitude as subsidies did in 2012. They were also progressive with richer households benefitting only marginally. However, they were low relative to market income, even though many poor households received benefits through multiple programs. Even for the poorest decile of people with the lowest income, transfers were equivalent to only 9 percent of their pre-

FIGURE 3.42: Impact of fiscal policy on Gini index, across countries



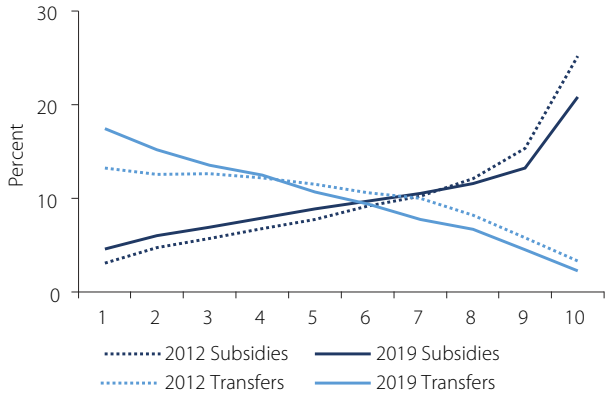
Source: Authors' calculations for Indonesia 2019; Indonesia 2017 from World Bank 2020f, other country results from the CEQ Data Center and World Bank databases, reported in World Bank 2022

201 See World Bank 2022 for additional results with OECD countries.

202 Subsidies do not affect official measures of inequality in Indonesia which are based on consumption from Susenas. This measure of consumption is equivalent in the CEQ framework to Disposable Income, which is Market Income less direct taxes plus direct transfers, but before indirect taxes and subsidies. Nonetheless, the impact on household welfare is real, as is the opportunity cost of subsidy spending (for example, in terms of forgone social assistance or investments in health and education).

203 World Bank 2020e.

FIGURE 3.43: Concentration of direct transfers and subsidies, across consumption deciles, in 2017



Source: Authors' calculations, based on SUSENAS

FIGURE 3.44: Share of benefits (direct transfers and subsidies) relative to consumption, by consumption deciles

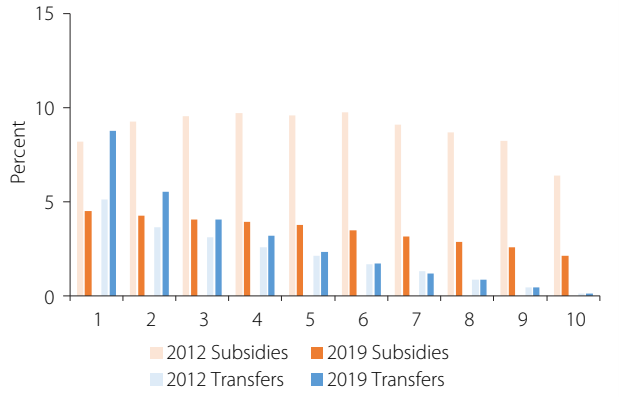


FIGURE 3.45: GIn-kind education benefit as share of market income

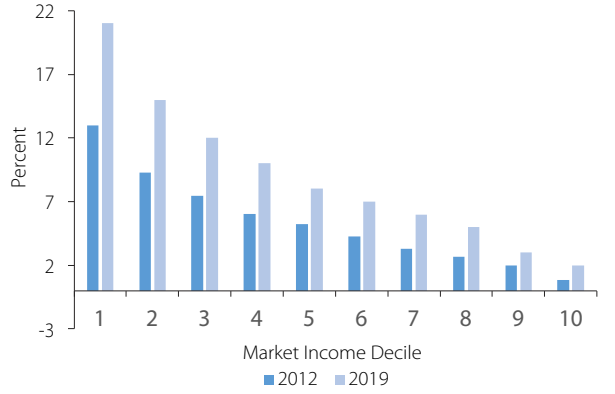
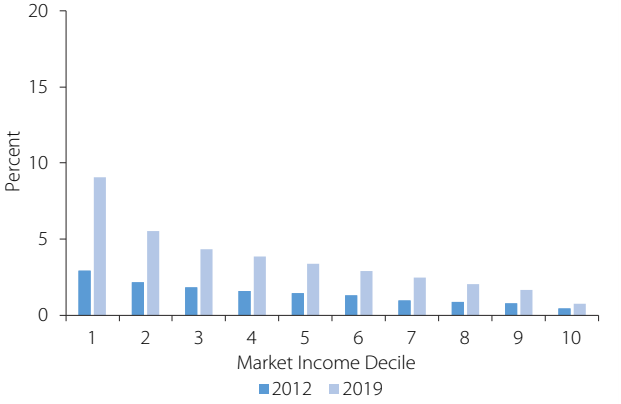


FIGURE 3.46: In-kind health benefit as share of market income



Source: Authors' calculations, based on SUSENAS.

fiscal income. The low level of overall benefits limited the benefits on lowering inequality, but had a larger impact on poverty because many poor households lived just below the poverty line and could be lifted above the line with even small assistance. They need more help, however, to bridge the gap to become economically secure households.

Health and education spending remained progressive, reducing current and future inequality. In-kind education and health benefits[204] were progressive both in 2012 and 2019, increasing relative consumable incomes more for poorer than richer households (Figure 3.45 and Figure 3.46). While education benefits had a relatively larger impact of more than 15 percent for the bottom 10 compared to health benefits at 8 percent, health benefits have more than doubled since 2012, possibly due to the roll-out of universal health insurance increasing utilization rates.

However, decentralized service delivery exacerbated geographic disparities, countering the decrease in inequality. Indonesia started to decentralize about two decades ago. Sub-national Governments (SNG) gained responsibilities for service delivery, including education and health care (Box 3.4), managing 40 percent of total government expenditure in these sectors. The quality of subnational spending depends on allocative and technical efficiency. Allocative efficiency ensures that allocations of SNG resources are aligned with needs, including equity considerations. This mainly affected more populous districts, which received less budget than needed. Technical efficiency is the effectiveness of SNG resources in producing service delivery results.

[204] We monetize in-kind education and health in CEQ by applying government cost approach. We treated the benefit as the average cost government incurred per utilization per beneficiaries.

Sparsely populated districts struggled with technical efficiency given a lack of capacity, leading to low quality of spending even though they received sufficient funding. Both kinds of districts had worse outcomes, while also having higher poverty rates, thus exacerbating inequality.

Box 3.4: Education and health services in the context of decentralization

Services delivered by subnational governments (SNGs) are vital to reducing poverty and nurturing human capital. As a result of "Big Bang" decentralization reform two decades ago, SNGs are currently responsible for delivering most key services—including education and health care—while the central government plays a stewardship and quality assurance role.[205] SNGs manage more than 40 percent of total government expenditure in Indonesia, including over 60 percent of health and education spending. Despite high reliance on transfers contributing two-thirds of their budget, SNGs also have wide-ranging autonomy in making spending decisions, with districts having discretion over the final use of about 85 percent of their total revenues.

Despite major improvements, large gaps in access to, and quality of, services SNGs deliver still persist. Even though most districts improved access to services between 2010 and 2020, large disparities remain, such as in the share of households with access to safe sanitation or attended births. Relatedly, economic disparities also persist, and GDP per capita gaps between island groups are narrowing only gradually. To address human capital gaps, SNGs need to enhance the quality and efficiency of primary health care as well as the quality of primary and secondary education.

The low quality of SNG spending creates gaps in service access and quality, and persistent geographic disparities. Indonesia's transfer system does not adequately target fiscal resources to the SNGs that need them the most (allocative inefficiency). It especially underfinances the pressing service needs of populous urbanizing areas, which are key economic engines and home to many of the poor. In 2020, the most populous 20 percent of districts received less than one-fourth of revenues per citizen than the least populous 20 percent. This undermines the ability of more populous districts to provide high-quality services. At the same time, Indonesia's main capital grant, the DAK Fisik, does not specifically target districts with the greatest infrastructure catch-up needs, perpetuating regional disparities in service infrastructure.

SNG spending also inefficiently translates into service delivery results (technical inefficiency). Access to basic services, while much improved since decentralization, has not kept pace with growth in SNG spending. Whereas district real per capita spending, on average, increased by a factor of 2.4 between 2001 and 2020, access to basic services increased only by a factor of 1.7. Higher SNG spending, on average, translates into improved access to services, but by a smaller amount than perhaps possible; a 1 percent increase in transfer financed spending leads to only a 0.2 percentage point increase in an access to education and health (per a service index). Many districts—often the more remote and poorer ones—have insufficient capacity to spend the budget effectively or at all. Revenue outturn can vary between 5 to 80 percent, reflecting large differences in SNG public financial management (PFM) capacity on revenue forecast across districts. Only the DAU is significantly associated with improved service access.

Low quality and inefficiency of SNG spending is particularly visible in the education sector, contributing to poor education outcomes. Along with the increasing trend of the national budget, the education budget has also increased, with a constitutionally mandated 20 percent earmark for education expenditures. The budget increase has financed significant expansion in student enrollment, but education outcomes measured by student learning still lags. SNGs, responsible for providing education service delivery, account for the bulk of education spending and differ in fiscal and administrative capacity to manage education performance. Indonesia should reassess the financial and technical capacity of SNGs. Various education programs implemented at subnational levels should be prioritized and consolidated to a smaller number proven to be effective in raising education outcomes.

Three major cross-sectoral institutional gaps cause the low quality of SNG spending: an equity gap, an accountability gap, and a public financial management (PFM) capacity gap. First, the transfer system does not yet allocate transfers to those SNGs that need them the most. Second, SNGs are insufficiently accountable for achieving results to both citizens and central government. Third, subnational PFM policies, systems, and skills do not yet enable SNGs to spend effectively. Major SNG PFM challenges that constrain the quality of spending comprise: (i) a disconnect between SNGs' policies and budgets, and low budget reliability; (ii) ineffective planning and execution of capital projects; and (iii) the low quality and transparency of spending information. PFM capacity also varies largely across districts. The central government has recently sought to reform SNG PFM policies to make support strategic SNG decision-making and effective and transparent spending.[206] To be effective, however, these reforms need to be further defined and SNGs' capacity to implement them strengthened.

[205] Bank forthcoming.

[206] PP 12/2019 and Permendagri 77/2020.

CHAPTER 4

SHOCKS

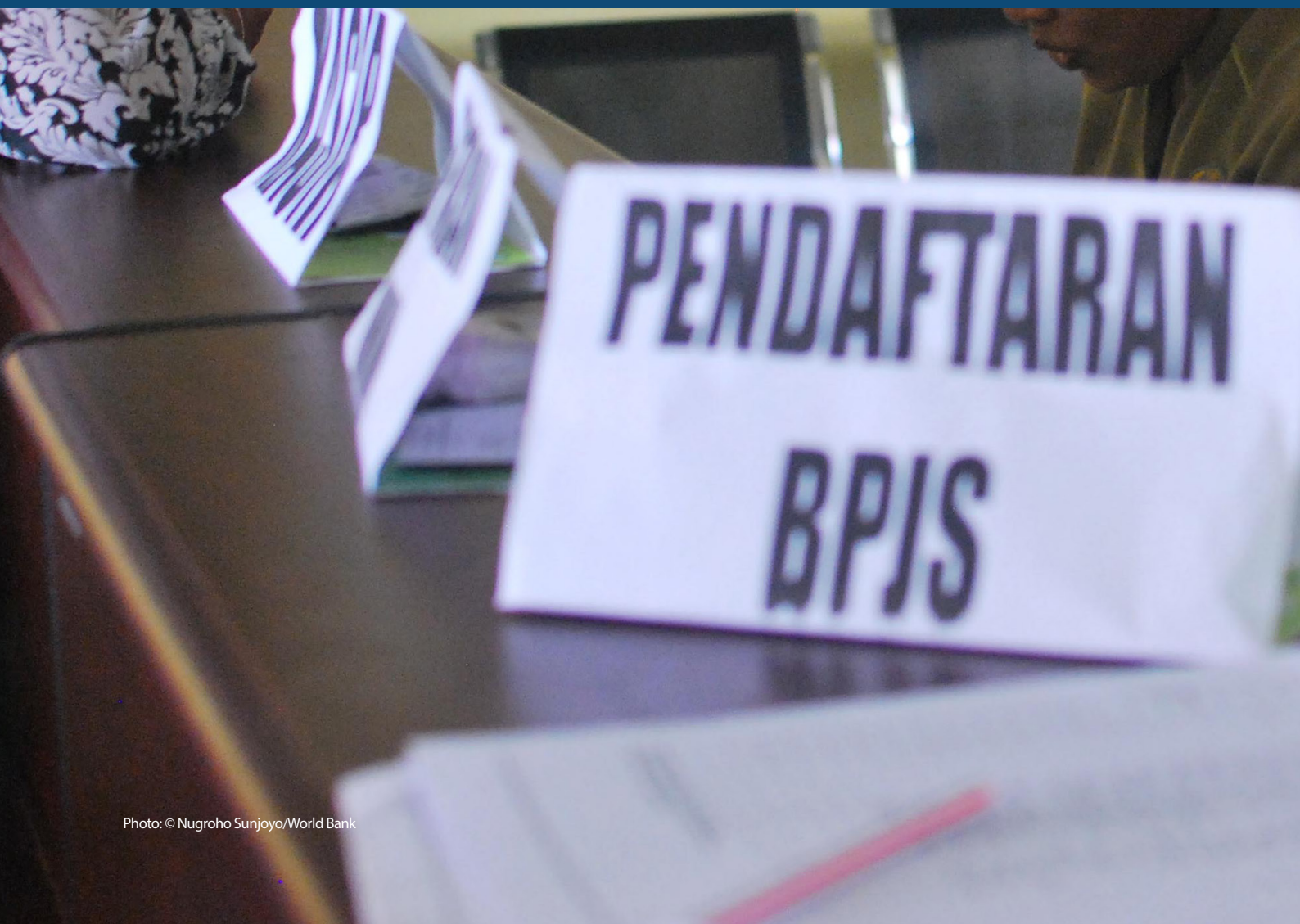


Photo: © Nugroho Sunjoyo/World Bank

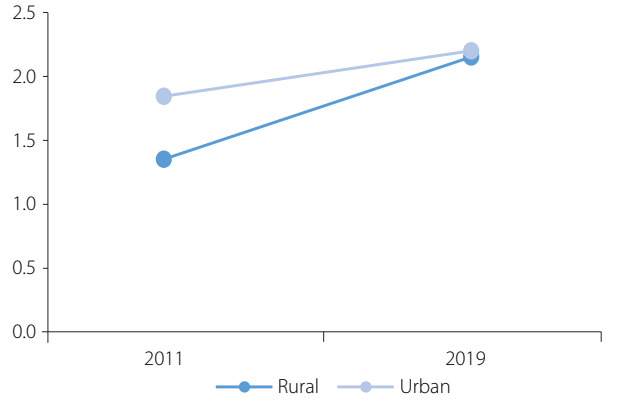
4. SHOCKS

Shocks threaten progress in poverty reduction, but social protection and financial inclusion— more flexible as well as cost-effective than price subsidies—can help mitigate damaging effects from shocks.

From the Asian Financial Crisis to a sick working household member, shocks affect livelihoods can push people into poverty. During the 1997-1998 financial crisis, Indonesia's extreme poverty rate (measured at US$ 1.90 2011 PPP) jumped steeply from 44 percent in 1996 to 63 percent in 1998. Households were hurt by unemployment and rising food prices. Even in the absence of a systemic shock, individual shocks can threaten household livelihoods. For example, a sick household member can decrease income, especially if the person is employed in the informal sector without sick-pay, while also triggering large health expenditures. COVID-19 combined a large systemic shock with individual health shocks.

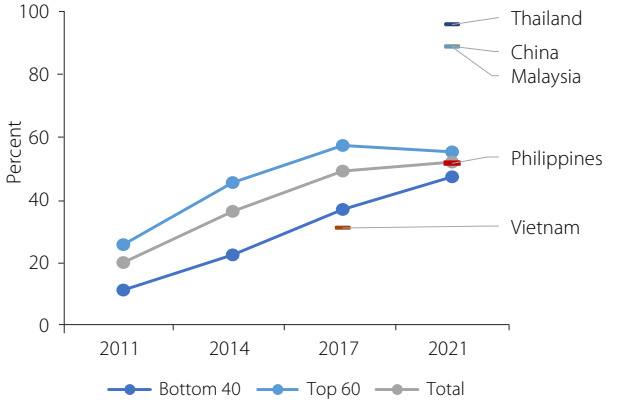
In the absence of a systemic crisis, household-level (idiosyncratic) rather than community-level (covariate) shocks drive economic insecurity. *Idiosyncratic shocks* are those a household experiences independent of other households in the community. Events such as having an accident, being a victim of a crime, or suffering from a noncommunicable disease are usually household specific. In contrast, *covariate shocks,* affect many households in a region or community at the same time. Examples include droughts, floods, earthquakes, and other natural disasters, as well as spikes in food prices and epidemics. These are experienced simultaneously by most if not all households in a community. Both type of shocks can render households economically insecure.

FIGURE 4.1: Ratio of idiosyncratic to covariate susceptibility to fall into poverty, for 2011 and 2019, by urban and rural



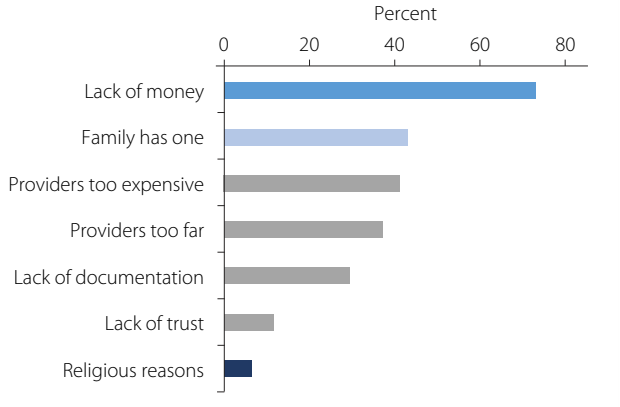
Source: Authors' calculations using SUSENAS

FIGURE 4.2: Account ownership among adults 15+



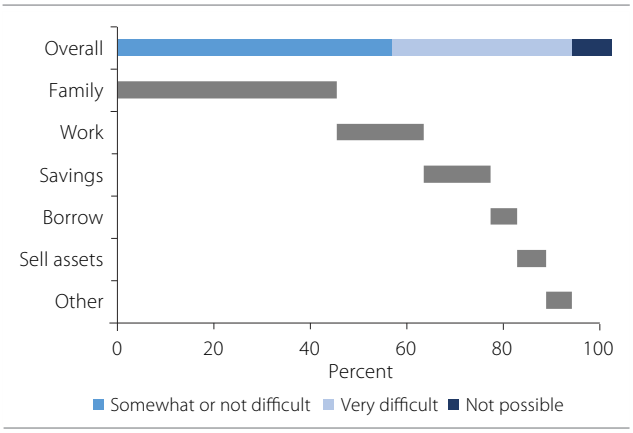
Source: Global Findex Database, 2021

FIGURE 4.3: Barriers to open accounts, 2021



Source: Global Findex Database, 2021

FIGURE 4.4: Access to emergency funds and their sources, 2021



Source: Global Findex Database, 2021

In the absence of a shock, the household remains out of poverty but the shock may push it into poverty. Idiosyncratic shocks were more than twice as important in creating susceptibility to falling into poverty than covariate shocks in Indonesia in 2019 (Figure 4.1). The importance of idiosyncratic shocks increased, with rural catching up with urban areas.

Savings, insurance, and social assistance can buffer the negative effects of shocks and reduce their long-term harm on households. Depending on the duration and severity of a shock, a combination of tools can help households cope. Savings can smooth consumption over the duration of a shock and replace lost assets, insurance can cover lost income or additional health expenditures, and social assistance can complement livelihoods. In the absence of savings, insurance, and/or social assistance, households can be forced to engage in adverse coping strategies. These can include selling productive assets, but also reducing food consumption or removing children from school, adverse coming strategies that cause long-term harm to human capital formation. In addition to the immediate impact of the shock, such coping strategies can further undermine future livelihoods, making longer spells of poverty more likely.

Progress in access to financial services has helped build resilience to shocks, but access is still not available to all. Financial inclusion can facilitate savings, insurance, and social assistance through making saving devices and access to payment systems available.[207] In particular, financial inclusion can allow governments to use digital payment systems for direct, faster, and cheaper payments to beneficiaries. Financial inclusion has improved, with account ownership significantly increasing, especially for the bottom 40, from 11 percent in 2011 to 47 percent in 2021. Among all adults, it reached comparable levels with the Philippines but lagged Malaysia, China, and Thailand (Figure 4.2). In addition to a lack of money and family accounts, the main reasons for not owning an account were distance to, and costs of, financial institutions, as well as necessary documentation (Figure 4.3). The lack of an account decreased the ability to gather emergency funds; only 56 percent of adults reported to be able to obtain emergency funds within 30 days, while 36 percent found it very difficult and 8 percent impossible (Figure 4.4). However, the main source for emergency funds – family – can quickly be depleted or unavailable in the case of large community-wide shocks, emphasizing the importance of complementary sources, such as individual savings, insurance, and social assistance.

Health and employment

Health and employment shocks represent the main idiosyncratic household shocks. Employment shocks reduce household income. Similarly, health shocks can reduce household income due to the inability to work or diminished productivity, but also because of required care for another household member. In addition, they can incur cost for health care.[208] Thus, health shocks for working adults are usually a larger burden for households than employment shocks without illness.

Indonesia is in the process of rolling out unemployment insurance. Unemployment spells can create lasting periods of poverty for households. They can be mitigated if households have access to insurance. The existing severance pay system in Indonesia provided only very limited protection to workers. Contributory insurance schemes are less costly for governments and can avoid higher spending on social assistance. In the past, no adequate unemployment insurance existed in Indonesia, leading to a large number of early withdrawals from the broader old-age savings system, JHT, mis-using it as de-facto unemployment insurance, thus undermining it as a pension system.[209] In early 2021, the Government issued regulations for new unemployment insurance, *Jaminan Kehilangan Pekerjaan* (JKP).[210] It holds the promise of protection against income and employment shocks, such as those experienced during the COVID-19 pandemic. It includes cash benefits, access to jobs, and market information, as well as job training (for a comprehensive overview, see Annex Table A5). However, it is currently only available to salaried, usually formal, workers.

[207] World Bank 2022g.

[208] Khelfaoui et al. 2022.

[209] Holmemo et al. 2020.

[210] The JKP was stipulated under the Omnibus Law on Job Creation. The implementing regulations are Government Regulation No. 37/2021 on JKP and Ministry of Manpower Regulation no 7/2021 on Contribution Recomposition for JKP.

FIGURE 4.5: Share of working age adults reporting sickness in bottom 40 and top 60

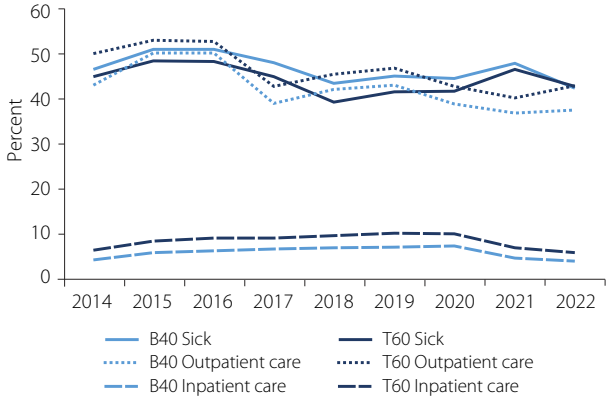


FIGURE 4.6: Facilities visited for outpatient and inpatient care, for bottom 40 and top 60

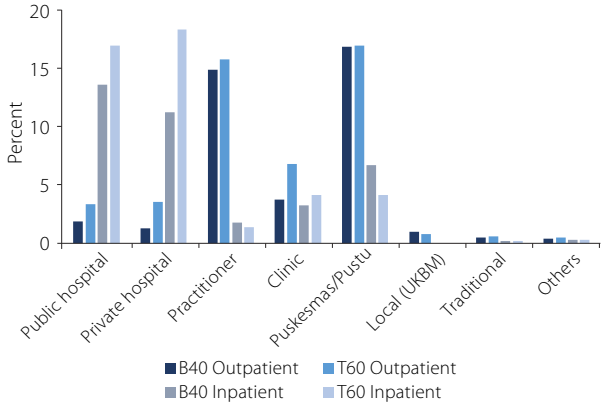


FIGURE 4.7: Share of household members with insurance coverage for bottom 40 and top 60

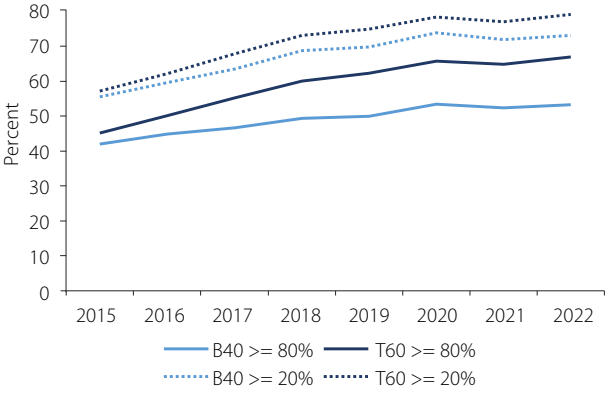
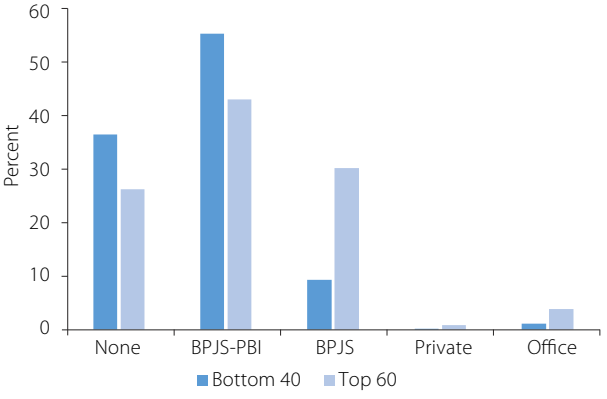


FIGURE 4.8: Type of health insurance for bottom 40 and top 60



Source: Authors' calculations based on SUSENAS 2014 to 2022

Smaller health shocks were relatively frequent and mostly dealt with by outpatient care, but less so for bottom 40 households. Sickness of working age adults that disturbed daily activities in the last month fluctuated between 40 and 50 percent of households from 2014 to 2021 (Figure 4.5). Households in the bottom 40 suffered slightly more frequently (2.7 percentage points) than households in the top 60. Households used outpatient care to deal with these shocks, except in 2017 and 2020/2021 when outpatient care dropped below the frequency of sickness, possibly because of mobility restrictions, risk of infection, and healthcare capacity limitations. Notably, bottom 40 households used outpatient care less often (3.8 percentage points) than top 60 households, despite their higher frequency of sickness. More serious health shocks occurred in about 10 to 15 percent of households, and are dealt with by inpatient care. As for less serious health shocks, bottom 40 households were more often subject to serious health shocks, but sought inpatient care less often.[211] Bottom 40 households were also more likely to attend local health centers (Pusekesmas), while top 60 households more often frequented private hospitals, especially for inpatient care (Figure 4.6), pointing to potential differences in quality of care.

Health insurance has been becoming more common, covering now more than 65 percent of all Indonesians. Reforms in 2014 rationalized the legal framework and institutional arrangements of Indonesia's single national health insurance scheme *Jaminan Kesehatan Nasional* (JKN). The insurance is open to all Indonesians and covers health service fees.[212] The insurance BPJS costs 5 percent of monthly income or IDR 42k for non-salaried

[211] Based on SUSENAS 2015 to 2017 only, because of limitations around questionnaire comparability.

[212] Health Insurance, managed by BPJS Health for all Indonesians, includes workers and non-workers, civil service and military. Employment, managed by BP Jamsostek (BPJS Ketenagakerjaan) is for all workers except military and civil service. JKK/JKM, JP, JHT, and JKP schemes are offered to salaried workers (those whose contributions are deducted and paid for by an employer). To date, non-salaried workers, however, can choose to participate in JKK/JKM and JHT. Employment insurance is managed by ASABRI for military and by PT TASPENT for the civil service.

and IDR 160k for non-workers. Since 2015, the number of people covered by health insurance increased from 130 million 48 percent) to 175 million (65 percent) in 2021.[213] However, many households continued to not have all household members insured, particularly among bottom 40 households. Only 52 percent of them had coverage for at least 80 percent of household members in 2021, compared to 65 percent of top 60 households, with the gap failing to close (Figure 4.7). For poorer households, BPJS-PBI covers the insurance costs (Figure 4.8). Additional work-accident (JKK) and death (JKM) insurances are also available, but covered only 15 and 12 percent of the working age population.

Despite health insurance, health shocks still force households to employ "scarring" coping strategies. While health insurances protect again catastrophic health expenditures in case of illness, they do not compensate for lost labor income. Illness significantly reduced earning of self-employed households, while the number of working hours remains unchanged. However, working hours of casual households in agriculture significantly increase when a family member is sick, but without increasing earnings.[214] Accordingly, even households with health insurance decreased consumption by 1.2 percent.[215] They often coped with the shock by reducing their food, non-food, and education expenditures, as well as selling assets and relying on increased remittances. Particularly, having disabilities affected food consumption of the poorest.[216]

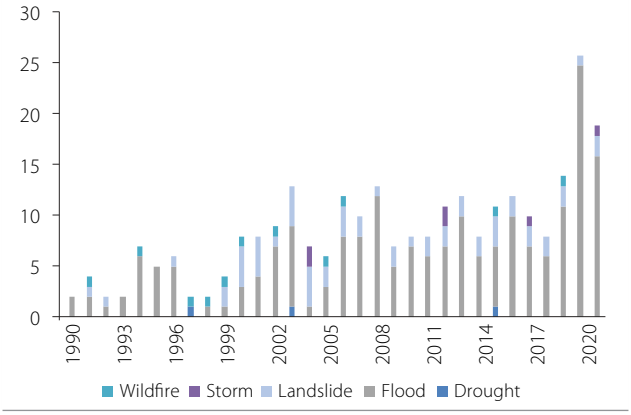
Long-term parental health shocks lowered girls' educational attainment. Parental health shocks affect children's schooling through four channels: (i) the income shock affects the household's ability to afford education for children; (ii) it can push children to join the labor force early, or to cover unpaid work, including care for household members; (iii) it reduces time parents have to raise their children; (iv) illnesses can have psychological implications for any household member. Chronic illness of fathers has led to significantly lower educational levels of girls, but not boys, in Indonesia, driven by the first two channels.[217]

Climate change and natural disasters

Adaptation

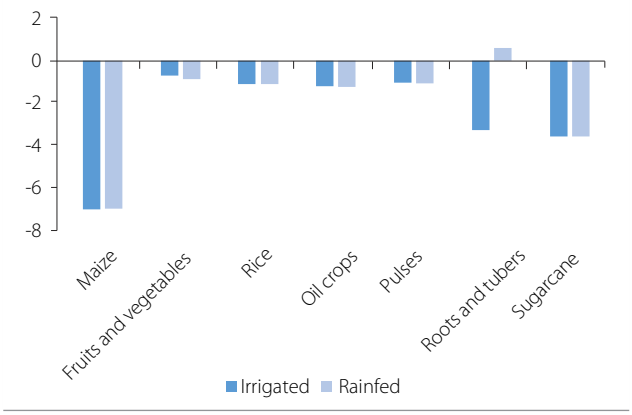
Indonesia is highly exposed to natural disasters, with climate change increasing their frequency. The country's location on the "ring of fire" creates high risks of earthquakes, volcanic eruptions, tsunamis, and landslides. Between 1990-2021, Indonesia experienced more than 300 natural disasters (Figure 4.9), including 200 flooding events affecting more than 11 million people.[218] Not surprisingly, Indonesia ranks third globally in terms of natural hazard risk.[219] With climate change, temperatures and precipitation are both expected to rise by 2050, and will vary by geographic location. This will lead to more frequent and more extreme natural disasters. Climate-related disasters already accounted for around 70 percent of total disasters from 1990 to 2021. With more than 17,500 islands, Indonesia is also prone

FIGURE 4.9: Number of natural disasters



Source: Authors' compilation based on EM-DAT data

FIGURE 4.10: Estimated agricultural yields in 2030



Source: Authors' compilation based on IFPRI data

[213] Only includes BPJS Kesehatan, BPJS-PBI Kesehatan and Jamkesda; excludes Asabri, as it is not covered in the SUSENAS questionnaires.

[214] Santoso and Sriyana 2021.

[215] Kolukuluri 2022.

[216] Simeu and Mitra 2019.

[217] S. S. Lim 2017.

[218] World Bank 2022h.

[219] World Bank 2019b.

Box 4.1: Voices, formal and informal community mechanisms to mitigate shock impacts

Formal and informal community mechanisms can support individual households affected by shocks. A women's union, PEKKA, had established a loan and savings system based on small, tightly-knit affinity groups, which took responsibility for repayment of loans to individual members. When members suffered idiosyncratic shocks, the group usually provided small, unsecured loans to prevent the individual from resorting to the forced sale of clothing or basic household items. They also offered larger loans, secured by woven cloth, to enable the member to engage in weaving, trade, or other economic activities. When people suffered health shocks, they received adequate medical care at no or low cost in the acute treatment stage, although only limited support for long-term rehabilitation. In addition, people affected by idiosyncratic disasters often relied on gifts from extended family and community networks, including food or even cash, particularly for children's education. Requests for "loans" (often gifts) to meet educational costs were considered most justified. With only a limited commercial market for agricultural produce, members commonly sharing food surpluses, with almost all households either receiving or providing free food, with a strong social obligation on richer individuals to support poorer relatives. These mechanisms were deemed necessary given the very limited provision of government safety nets.

With the pandemic and natural disasters affecting the whole community, these mechanisms became dysfunctional. Natural disasters devastated agricultural production for a significant period, making it difficult to maintain formal and informal community mechanisms. With the wholesale destruction of assets belonging to PEKKA and its members, cash loans shrank almost to zero. In addition, informal mechanisms, such as food gifts, declined significantly as food production and distribution systems were disrupted. Households without gardens and weak family and social networks were most harmed.

Kandida Abon

"I became interested in weaving after I got involved with the PEKKA union [around 2012]. The facilitators convinced us that people from all around the world would buy the cloth at good prices. Outsiders often came to visit the center, and they almost always bought some cloth, at good prices. And PEKKA had good contacts to sell the cloth in Jakarta, too. The most important thing was that if a woman really needed some money, if a child was sick or needed money for school, she could use a piece of cloth that was finished or nearly finished to borrow money from the union. You paid it back when somebody bought the cloth."

"In 2012, PEKKA set up an informal, open-air school to teach young people how to weave, produce dyes, and make cloth. I'm proud to have been a teacher at the school. I don't do it for the money, I do it because I want to do something useful. I feel proud to be able to contribute. If you help other people, then they also want to help you. Sometimes my students and the old people bring me corn and vegetables or a few eggs. If I need transport, people give me a lift on their motorbike."

"Since the disaster, I've been living in this shack on the land belonging to my husband's family. There is no electricity, no telephone signal, and we have to either collect rain water or buy it from a truck for Rp 6000 per barrel. Rats are a terrible problem; they eat everything that isn't stored in jars or boxes. My husband and I both work to grow corn and other crops for our own consumption. He hasn't had any work that generates cash, our only source of income is my weaving. It's hard to borrow money from the union now, because everyone is in the same position, everyone needs money. The members help each other as much as they can. If you grow more food than you can eat, you share it."

Source: Based on qualitative interviews conducted for the Poverty Assessment.

to damage from sea-level rise. Without adaptation, the total Indonesian population exposed to climate-related dangers in 50 years could reach over 4.2 million people.[220]

The poor are disproportionally affected by climate change risks. Although climate change affects the whole population, the poor and economically insecure are likely to carry a disproportionate burden for two reasons. First, higher variation in precipiation and temperature will particularly affect agriculture, which remained a key livelihood for many rural, and often poor, households.[221] Without resilience measures, current agricultural yields are projected to drop significantly (Figure 4.10), while higher risk of crop failure will increase food price volatility. Second, poor households often live in areas prone to risks. Those in remote and fragile areas are reliant on natural resources. In urban areas, the poor are more likely to live in densely built-up areas with limited capability to withstand natural hazards, along riverbanks where flooding may happen or in areas particularly exposed to air pollution. At the same time, poor and

[220] World Bank 2019b.

[221] World Bank 2020b.

Box 4.2: Voices, impact of a health shock followed by a mudslide

Olympius Reting

"We've been living in this shelter for almost a year now, since the flash floods hit the village. It's on our own family land, where we grow corn and vegetables. There's no electricity, no regular water supplies, and only very patchy telephone signal. For water supplies, we collect rain water or carry the barrel to the main road. For lighting, we use some battery-charged lamps, if we need them. We cook over an open fire, using fire wood we collect in the garden."

"I'm almost seventy years old. I'm still strong and healthy, except for my legs. I fell out of a tree collecting lontar palm leaves some years ago, and I've had bad pain and trouble doing hard work ever since. Before that, I often worked as a builder, doing construction work in the village, or in the district capital. For a few years, I worked in Makassar, doing construction work there. When I came back to the village with savings, I bought a few goats, to raise them and breed them. I bought the first two more than 30 years ago, and I'd grown the flock to forty by the time the mudslides hit."

"The mudslides hit on Easter Sunday. It wasn't until the next morning that I heard the news, that the rains had caused landslides and flash floods that had killed hundreds of people and destroyed almost the entire village. Our house had been completely destroyed, nothing left at all. Apart from our house, my wife lost all her cloth and her weaving equipment, and I lost forty goats that had been locked in a pen behind the house. Apart from the motorbike, my phone, and a few goats that were grazing elsewhere, all we had left was the clothes on our backs."

"In the first few weeks, we received a lot of assistance, some from the government, but most from NGOs and community groups. The government set up emergency medical posts near the fields around here, where many people were seeking refuge. They made it easy to replace identity cards and other documents. Later, the cooperatives agency provided my wife with thread and dyes and help to buy weaving equipment, so she could start weaving again. They also provided help for us to build a toilet here. But all the assistance has dried up now. We're completely dependent on the food we grow, my wife's weaving, and gifts and assistance from family members."

Source: Based on qualitative interviews conducted for the Poverty Assessment.

economically insecure households have less resources to protect assets against shocks and less savings to recovery.[222]

Beyond disruption to livelihoods, destruction of physical and non-physical assets that can accompany natural disasters also disproportionately harm the poor and economically insecure. Natural disasters lead to direct loss of physical assets, including productive assets and business capital. In areas affected by the September 2018 earthquake in central Sulawesi, while nearly all affected households lost assets directly as a result of the earthquake,[223] over one in five households from the bottom 40 percent were still in temporary housing seven months later, compared to 13 percent of the top 20 percent.[224] Covariate shocks threaten intangile assets as well, such as human capital, which poor and economically insecure have less of even before crises hit. In Sulawesi, for example, the share of children attending school dropped from 90 to 2 percent in the immediate aftermath of the disaster.[225]

Many poor and economically insecure households in Indonesia cope with covariate shocks by reducing food and non-food consumption, threatening to worsen childhood malnutrition. Shocks can reduce long-term productivity if households respond by reducing human capital investments; for instance, by reducing nutrition, taking children out of school to work, postponing or neglecting health needs, or liquidating savings and assets.[226] This lowers the chances of securely escaping poverty in the long run. In the wake of the Sulawesi earthquake, poor and economically insecure households in disaster-affected areas were much more like to cope by adopting adverse coping strategies (Figure 4.11).

222 Winsemius et al. 2018.

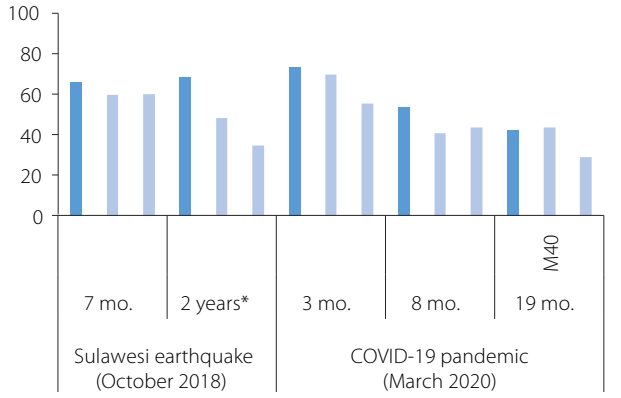
223 Assets included land, houses, livestock, vehicles, electronics, cash, savings, and gold/jewelry.

224 Authors' calculations using World Bank Welfare Tracking in the Aftermath of Disaster (WelTrAC) Survey, Wave 1. Temporary housing included tents and temporary shelters.

225 World Bank 2021c.

226 See for example Alderman, Hoddinott, and Kinsey 2006; Klasen and Waibel 2013; Gubert and Robilliard 2007; Rosenzweig and Binswanger 1993.

FIGURE 4.11: Share of households adopting adverse strategies to cope with crises



Source: Authors' calculations using World Bank Welfare Tracking in the Aftermath of Disaster (WelTrAC) Survey, Waves 1 and X, and World Bank Indonesia High-Frequency (HiFy) Phone Survey of Monitoring COVID-19 Impacts Rounds 1,3 and 5
Note: B40 = bottom 40 percent of households; M40 = middle 40 percent; T20 = top 20 percent. Mo = months.

Although covariate shocks were not the main driver of economic insecurity, resilience and social protection measures remain essential to mitigate harm from natural disasters. Idiosyncratic shocks dominating economic insecurity. With the increase in frequency and severity of natural disasters, however, economic insecurity due to covariate shocks is likely to increase if mitigation measures are not implemented. Currently, Indonesia's risk remains high, ranking 100 of 191 countries in climate change resilience, compared to Thailand (67th) and China (62nd).[227]

Mitigation

Alongside Indonesia's development over the last decades, greenhouse gas emissions rose sharply, making Indonesia the seventh biggest emitter in the world.[228] In the past quarter century, Indonesia has experienced an important development transition in making important infrastructure, such as access to electricity, almost universally available. However, this transition contributed to Greenhouse Gas (GHG) emissions. Between 1990 and 2018, Indonesia's coal-powered capacity almost doubled while emissions increased by 140 percent. The high supply of, and domestic and international demand for, carbon-intensive resources contributed to the country's emissions intensity. Their often low price, especially domestically, leads to inefficient use, contributing to inefficient transport systems and urbanization patterns that further increase high energy demand.

In 2021, the GOI committed to a substantial reduction of GHG emissions. As part of the United Nations Climate Change Conference (COP26) in 2021, the Government introduced new commitments to lower carbon and its energy transition, updating its Nationally Determined Contribution (NDC), including a substantial reduction of GHG emissions. Indonesia's Enhanced NDC, released in September 2022, sets out an unconditional 31.9 percent reduction in emissions against business-as-usual (BAU) projections by 2030, and up to a 43.2 percent reduction conditional on international support. It also committed to reach net-zero emission by 2060. Three important contributors to these goals are: (i) implementation of the Forestry and Other Land Use (FOLU) Net Sink 2030 policy to make forests a net carbon sink by 2030 through forests and peatlands restoration and deforestation avoidance; (ii) reducing the pipeline of new coal plants to 3.9 GW; and (iii) introducing a carbon tax of US$ 2.10 per ton combined with an emissions trading scheme for coal power plants.

Phasing out coal will particularly affect coal-producing communities. Indonesia is the world's largest coal exporter, with coal exports representing 2 percent of GDP, or 13 percent of total goods exports. Coal mining workers represented 0.2 percent of total formal employees in 2018. However, a larger number of people work informally in coal. With coal mining generally concentrated in specific areas and communities, phasing-out coal will decrease some employment directly, but also indirectly threaten firms depending on the coal mining business and their workers. More detailed analysis will be needed to better understand potential effects on reducing coal mining for communities and to design mitigation measures.

Two scenarios are used to estimate the long-term distributional impacts of climate mitigation policies, a "low-ambition" model and a "medium-ambition" model (Box 4.1). The two scenarios model gradual levels of ambition to assess costs and benefits of decarbonization

[227] The ND-GAIN country index score provides a summary of a country's vulnerability to climate change and other global challenges combined with its readiness to improve resilience.

[228] OECD.Stat GHG excluding LULUCF for latest available year.

FIGURE 4.12: Contributions to consumption growth for low-ambition scenario, by income decile

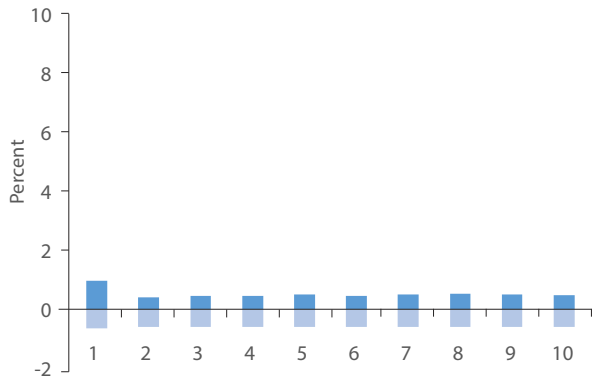
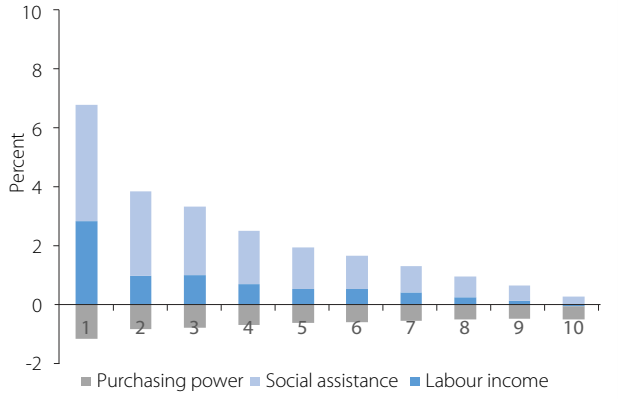


FIGURE 4.13: Contributions to consumption growth for medium-ambition scenario, by income decile



Source:

Box 4.3: Modeling parameters for distributional climate impact simulations

The specific parameters for the two climate mitigation scenarios are:

(i) *Low-ambition*: Removal of electricity and fuel subsidies with savings used for investment. No land or energy policies are assumed.

(ii) *Medium-ambition*: Nationally Determined Contribution (NDC) adds land and energy policies and a carbon tax to the low-ambition scenario. Land policies includes an NDC-consistent energy sector plan for 2021–2030, coal phaseout (plants retiring about 8-12 years earlier), and decarbonization through a cap on emissions to drive a 70 percent power sector reduction. Energy policies include peatland restoration, extended forest and peatland moratoria, and a land-based emissions tax with redistribution (US$ 5/tCO2eq). The carbon tax will reach US$40/tCO2 by 2040 applied to all sectors and GHG emissions except for agriculture. Revenues from the carbon tax are proportionally allocated across public expenditures, including for social protection spending and investment in low-carbon equipment. It is assumed that replacing stranded fossil fuel assets accounts for 25 percent of the new investment.

The model outlines economic and social impacts of climate mitigation in three stages:

- *Stage one:* two separate land and energy models are used to assess the effects of sector-specific policies on sector emissions and other outcomes.
- *Stage two:* land and energy policies are brought together and complemented with a range of fiscal policies—such as elimination of fossil fuel subsidies and carbon taxes—to estimate economy-wide effects using a Computable General Equilibrium (CGE) model.
- *Stage three:* uses the outputs of the macro-CGE model as inputs for a micro-economic simulation model to assess household level effects from climate mitigation. The reference is a Business-As-Usual (BAU) case in which only currently enacted climate policies are included without any new policies.

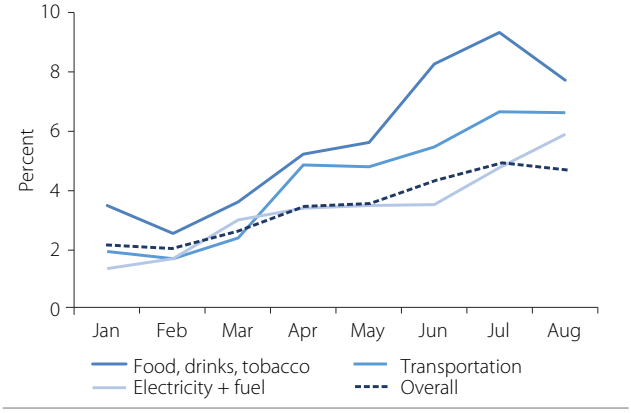
Over the time horizon of the CGE, certain parameters are adjusted. The population parameters are adjusted based on UN population growth projections, with education levels adjusted based on the aging of the youngest cohorts. The CGE models wages separately for low-skilled and high-skilled workers across sectors. The micro-economic simulations use an occupational choice model to re-allocate workers based on the outputs of the CGE model. Income is transformed into consumption based on the marginal propensity to consume. Consumption shares are kept constant assuming that households do not adapt their behavior in response to changes in prices.

until 2040, based on a general-equilibrium model linked with micro-economic simulations.[229] The low-ambition scenario removes fuel subsidies, while the medium-ambition scenario adds land and energy policies (consistent with an 80 percent reduction of energy sector emissions by 2040) as well as a moderate carbon tax reaching 40 US$/t, but excluding the agricultural sector.

[229] Pape et al. 2023.

Poor households will gain in absolute and relative terms if agriculture is excluded from the carbon tax and government uses the tax revenue to boost social assistance. The agricultural sector will expand, given its relatively lower cost stemming from the carbon tax exclusion. Accordingly, agricultural labor incomes will increase, which should benefit the poor more as they are more often engaged in agriculture (Figure 4.14 and Figure 4.15). This will reduce relative prices of food (ranging from 1 to 4 percent across scenarios) but countered by an increase in energy prices (ranging from 16 to 165 percent). Overall purchasing power will decline but will remain relatively constant for all deciles. In the low-ambition scenario, increased labor incomes and reduced purchasing power cancel out, muting overall consumption and poverty impacts. For the medium-ambition scenario, however, labor incomes significantly exceed the decrease of purchasing power. In addition, social assistance will increase substantially due to higher government revenues, assuming they are spent proportionally across public expenditures. Even without increased labor incomes (for example, if agriculture were not excluded from the carbon tax), social assistance in the medium-ambition scenarios would be sufficient to compensate for consumption losses for the bottom 40. Accordingly, the low-ambition scenario is largely neutral, while the medium-ambition scenario will slightly reduce poverty.[230]

FIGURE 4.14: Year-on-year inflation for 2022, by item group



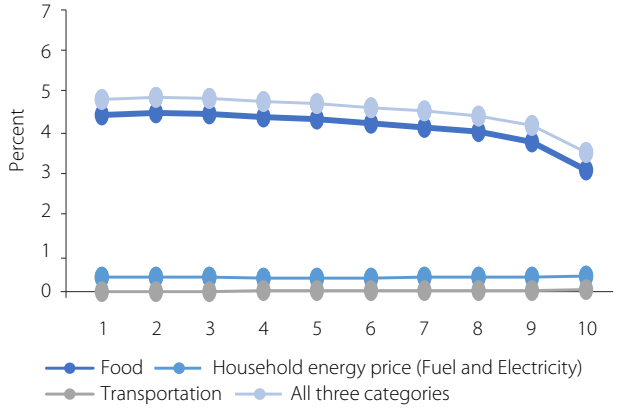
Source: BPS

Prices

Russia's invasion of Ukraine has triggered an evolving price shock that is decreasing households' purchasing power and exacerbating poverty. Russia's invasion of Ukraine contributed to supply shortages, generating significant price pressures. Indonesia fared relatively well given its own exports, being able to take advantage of improved terms of trade.[231] However, consumers were still suffered price increases. Food, for example, increased by 9.3 percent year-on-year in July 2022, almost double general inflation (Figure 4.14). In ceteris paribus, consumers in the bottom 40 lost 4.7 percent in purchasing power, while the top 20 lost only 3.7 percent (Figure 4.15). The combined price shock for food, fuel, and electricity, as well as transportation can, if not mitigated, push an additional 6.6 million Indonesians (or 2.4 percent of the population) into poverty (Figure 4.16).[232]

Price subsidies can mitigate poverty but are expensive; targeted social assistance is vastly more efficient and progressive. A theoretical food subsidy to fully compensate for the increase in food prices would have cost 2.2 percent of GDP. While this would eliminate all negative poverty effects, it is unrealistically expensive. However, targeted social assistance would cost only 0.5 percent of GDP and be able to fully compensate the bottom 40. At the same time, it would also be strongly progressive, reducing the Gini by a significant 1.4

FIGURE 4.15: Loss of purchasing power due to shock in prices, as in Scenario A



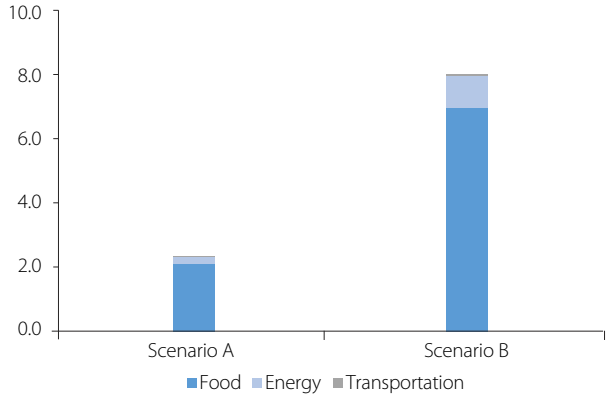
Source: SUSENAS 2021

[230] At US$ 5.50 PPP 2011, poverty will drop by 0.5 percentage points in 2040. Poverty at US$ 1.90 and US$ 3.20 will already be indistinguishable from zero in 2040.

[231] World Bank 2022e.

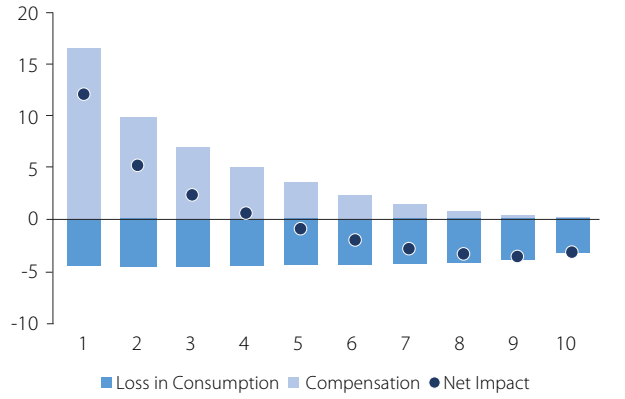
[232] Results are based on partial equilibrium simulations, which do not incorporate transmission into wages. However, indirect effects as well as behavioral effects are considered.

FIGURE 4.16: Unmitigated poverty impact (in pp) of price shocks



Note: Scenario A assumes price increases as observed in July 2022 for food (9.3 percent), energy (4.9 percent) and transportation (6.6 percent). Scenario B assumes a 30 percent increase for the same groups. Based on SUSENAS 2021.

FIGURE 4.17: Change of consumption after compensating for price shocks, by decile, for Scenario A



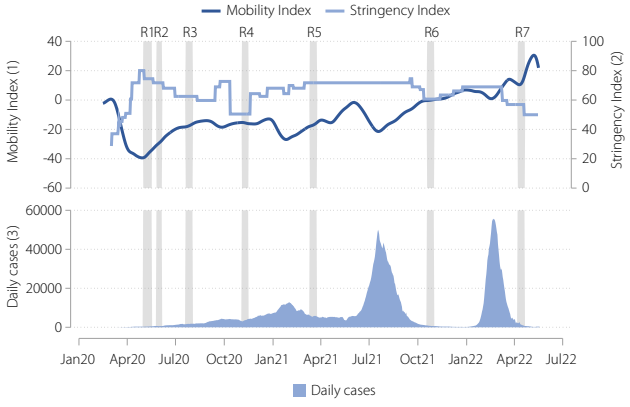
Source: SUSENAS 2021

points (while the food subsidy would have no impact on the Gini).[233] However, removing price subsidies is complicated by political economy issues.

COVID-19

The COVID-19 pandemic, another large covariate shock, pushed the Indonesian economy into recession for the first time since the Asian Financial Crisis, before rebounding in 2021. The COVID-19 pandemic forced governments around the world to restrict mobility. Indonesia introduced restrictions in March 2020, followed by several periods of gradual relaxations and reversals, especially with the arrival of the COVID-19 delta wave (Figure 4.18). Since early 2022, the number of new cases remained low while mobility restrictions continuously eased. The economy suffered through both domestic and external channels. Domestically, mobility restrictions and social distancing depressed economic activity. Externally, trade for goods and services such as tourism decreased as did investment flows.[234] Accordingly, Indonesia experienced its deepest contraction in two decades during the second quarter of 2020. In 2021, the economy rebounded, albeit more slowly than expected because of the delta wave. Relaxed mobility restrictions, as well as stronger external demand and higher commodity prices, buoyed exports and manufacturing activity.[235]

FIGURE 4.18: Google mobility and Oxford stringency index as well as number of new COVID-19 cases



Source: Google Mobility Data; Oxford COVID-19 Government Response Tracker; COVID-19 Data Repository by Johns Hopkins University
Note: Baseline value for Google Mobility Data is the 5-week period from January 3rd to February 6th 2020. The mobility index represents the average change in time spent outside home. Trendline is using the Lowess function. Daily cases smoothed by 7-day average. R1 to R7 indicate the rounds of the HiFy survey.

Labor incomes

With the pandemic onset, workers—especially in urban areas—lost their jobs in the first year of the pandemic, while others had to work less hours and earned less. In the first six months of the pandemic, more than 5 million Indonesians (2.5 percent of the working age population) lost their jobs, and 24 million workers (11.8 percent of the working age population) had to work reduced hours, with urban areas being most affected. The unemployment rate rose by 1.8 percentage points to 7.1 percent in the third quarter of 2020 (compared to the previous year), mainly driven by urban unemployment increasing from 6.3 to 9 percent, while rural unemployment only increased from 4 to 4.7 percent.

[233] The simulation assumes PMT targeting.
[234] World Bank 2020g.
[235] World Bank 2021d.

Underemployment increased by 7.3 percentage points to 28.9 percent. COVID-19 exacerbated the intensity of under-employment, reducing average working hours by 0.5 hours and earnings by about 5 percent.

For 3.4 million new labor market entrants, the economy added only 1.9 million jobs in 2020, while jobs became less secure. To compensate for losses in household livelihoods and the loss of jobs for men, women entering the labor force increased by 2.8 million in 2020—substantially more than the previous five-year average of 1.1 million women. At the same time, 330,000 men left the labor force, in stark contrast to a usual 1.3 million men per year entering the labor force. Jobs became less secure, with 4.5 million formal jobs vanishing, while 6.4 million informal jobs were created (Figure 4.19). Some of them were in the digital economy as gig workers.[236] However, 4 million of the new jobs were unpaid family work (Figure 4.20) and often in agriculture, mostly filled by women (4.21). Net job losses among

Box 4.4: Voices, residents in Kediri on COVID-19 effects

Zooming into the lives of residents in the town Kediri reveals the devastating effects of COVID-19. Prior to the pandemic, many residents in Kediri were involved in commerce, often through traditional markets. The two main challenges were regulations closing the markets or limiting their operations and reduced demand for their goods and services. Often, they continued to operate until they had depleted their accumulated capital, forcing them to abandon their livelihood. Providers of face-to-face services were particularly affected, such as fitness club operators and laundries. Food vendors lost their businesses when restrictions curtailed activities of their customers; for instance, vendors catering to students or travelers. Workers in transport services faced almost complete collapse in demand. Some domestic workers lost their jobs due to employers' fears of becoming infected.

Coping became a challenge, affecting incomes, food consumption, and education. Most residents responded by engaging in alternative but lower-paying activities, including agricultural labor, subsistence farming, petty trade, or foraging in the peri-urban area. In many cases, their lack of experience in these activities lowered wages and yields, in already generally unrewarding areas. While some residents received government assistance, it was often very limited, delivered only for short periods, and with opaque eligibility requirements. Many reduced expenditures on food, often consuming only rice and vegetables and sometimes skipping meals. Effective, large-scale community initiatives did not exist to help, but individual acts of charity or cooperation were evident. Children's participation in online education was fitful and patchy, with a lack of motivation and limited feedback and interaction with teachers, and parents' limited ability to help. Expenditure on internet access became a severe constraint, sometimes consuming up to one-quarter of a family's income.

Umi Kalsum Saban

"When I was around twenty, I went to Malaysia as a domestic worker, to care for my boss's children. I sent all my earnings back to support my family. When I got back, I didn't have any savings. My parents used most of the money to rebuild our house. A year after I got back, I got married to my husband. After we'd had two children, he left to find work outside the island. He has never sent any money and I never heard any news from him."

"To support myself and my children and parents, I set up a kiosk selling basic goods (sembako), cigarettes and sweets. I took out a small loan from BRI. My parents have a clear ownership title (hak milik)[237] to the land around our house, so I could use that as collateral for the loan. The kiosk was well located, on a main inter-village road, in a busy hamlet, so I could make enough to pay off the loan and support my family."

Throughout the pandemic, the only form of assistance that I received from the government was through Bantuan Langsung Tunai. For more than a year, we received Rp 300 thousand a month (from Village Funds). There were often delays, so maybe we only got it after a three-month wait (with accumulated back pay). The government also provided some building materials and other assistance to people living in emergency housing after the floods and the eruption, but most of the aid was from NGOs and big organizations, not the government."

"Life is still very difficult. I still keep the kiosk running, but my sales are about a quarter of what they used to be, and I still owe money for the loans I took. About three-quarters of the people in this area haven't rebuilt their homes or returned to their village. They are either still living in emergency shelters in the fields, or with family members elsewhere."

[236] World Bank forthcoming.

[237] Holding a hak milik title to land is somewhat unusual. Most farm land is classed as tanah ulayat, or land to which families have customary rights. This land can't usually be bought or sold, or used as collateral.

men were particularly prevalent in manufacturing, while service jobs became informal.[238] Overall, COVID-19 increased women's employment in 2020, compensating for employment losses by men.

COVID-19 also affected youth by leading to school drop-outs and part-time work, while diminishing work opportunities for older youth.[239] Younger youth (aged 15 to 18) were more likely due to COVID-19 to work while being in school, more often above 20 hours per week. In addition, the pandemic increased the number of younger youth neither in school nor employed (NEET). For the older cohort of youth aged 19 to 24, the pandemic similarly led to school drop-outs, but led to less work opportunities with a larger share being NEET. Early drop-outs and long hours in partial employment while in school can diminish learning, with life-long consequences. Less work opportunities for youth once out of school delays crucial work experience, and can trap workers in low-productivity, often informal, jobs.[240]

In 2021, the labor market rebounded, with better jobs returning. With relaxed mobility restrictions and COVID-19 better controlled, economies around the world rebounded, as did Indonesia. In the labor market, some of the less secure jobs in agriculture disappeared, with additional, mostly formal, jobs returning in manufacturing as well as low-VA services (Figure 4.19). However, many unpaid jobs remained in the economy (Figure 4.20). The unemployment rate reversed from 7.1 percent in 2020 to 6.5 percent in 2021. Nevertheless, frictions remain in the labor market. Spells

FIGURE 4.19: Number of added/lost workers since previous year, by sector and informal/formal

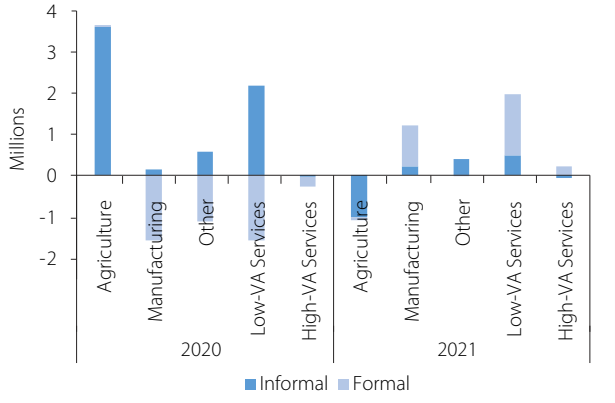


FIGURE 4.20: Number of added/lost workers since previous year, by type of employment

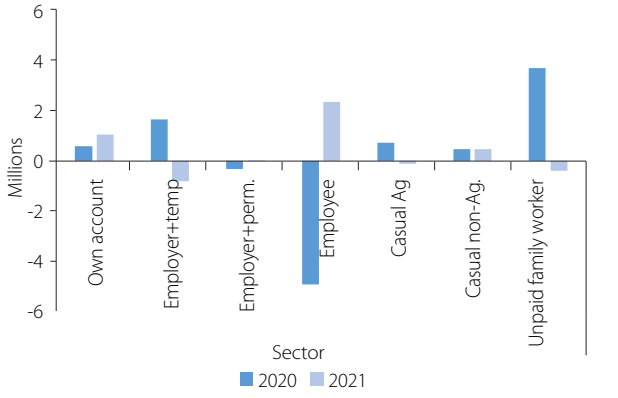


FIGURE 4.21: Number of added/lost workers since previous year, by gender and informal/formal

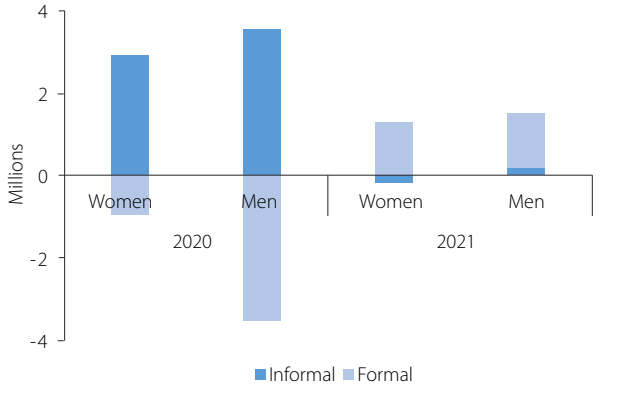
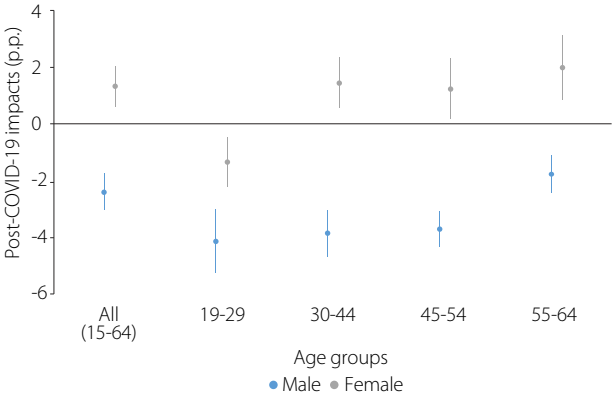


FIGURE 4.22: Likelihood of employment in August 2020, after controlling for individual characteristics



Source: Authors' calculations based on SAKERNAS; except for Figure 4.22: Halim, Hambali, and Purnamasari 2022

Note: Each dot represents the coefficient of the COVID-19 dummy variable, which is 1 for August 2020. Vertical lines indicate 90% confidence intervals. Regressions control for individual characteristics.

238 Putra, Ovsiannikov, and Kotani 2022.

239 Halim, Hambali, and Purnamasari 2022.

240 Duryea, Lam, and Levison 2007; Naidoo, Packard, and Auwalin 2015.

of unemployment last longer, while fresh labor market entrants face difficulties finding jobs.[241]

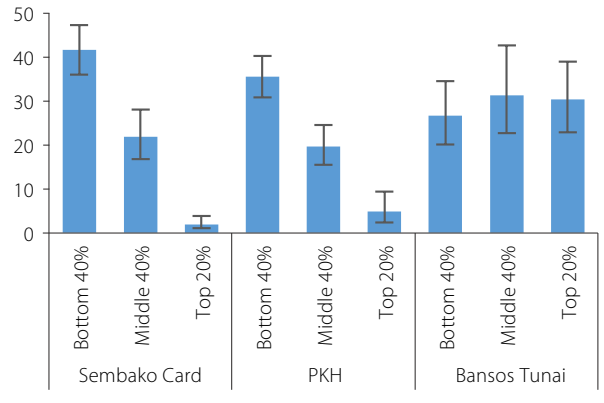
Despite the rebound, poorer and urban households suffer lingering negative employment and income effects from COVID-19. While negative employment and income effects were widespread, those already economically insecure prior to the pandemic were hit harder. Among primary breadwinners, household heads with lower education were initially more likely to experience work stoppages.[242] Those and households with young children more often reported an income shock. Two years into the pandemic, these and households in the bottom 40 percent were recovering more slowly than other households. The lack of resilience of bottom 40 households exacerbated pandemic negative effects and pre-existing inequalities.

Mitigation measures

The Government quickly scaled-up social assistance in response to the COVID-19 pandemic. To help households cope with employment and income shocks during COVID-19, the GOI quickly launched in 2020 an impressive array of social assistance, jobs/skills, and social insurance measures, as well as support for firms, for example, through the *Pemulihan Ekonomi Nasional* (PEN) Program. Expenditure on social assistance expanded to 1.6 percent of GDP in 2020 and 1.5 percent in 2021, essentially doubling spending on core social assistance programs. Most notable among the measures introduced was a substantial short-term increase in the target number of beneficiaries as well as the benefit level offered under PKH and Program Sembako. A new unconditional cash transfer program was also introduced to cover approximately nine million additional households not previously eligible for PKH or *Sembako*. Rollout of some of these measures (for example, BLT Dana Desa), however, required manual enrollment at the local level to reach affected households for which information was not available in DTKS. This reflects the somewhat static nature of Indonesia's social protection delivery systems, a challenge many countries faced in responding to the pandemic crisis, which often delayed delivery of assistance.[243]

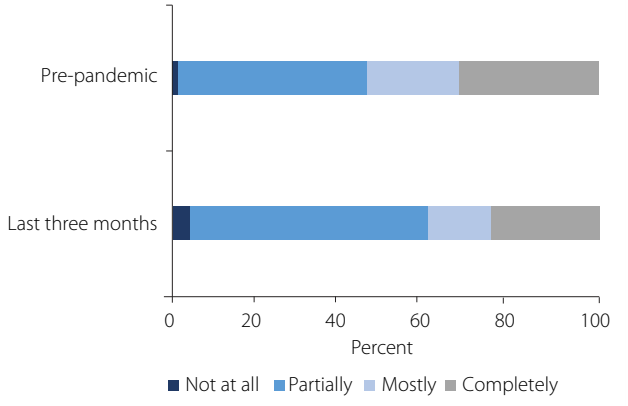
COVID-19 response scale-up managed to meet the announced numerical targets by 2021, and helped reduce food insecurity. The Government spent almost all funds allocated for the social assistance components of the pandemic response both in 2020 and 2021, with budget realization rates for most programs exceeding 90 percent. By 2021, most assistance programs, including *Sembako* and PKH, had met announced numerical targets. Receiving PKH and *Sembako* reduced the probability of households assessing themselves as experiencing food shortages or eating less due to insufficient resources. The differential effect was stronger earlier on in the pandemic but declined in magnitude as the crisis eased in 2021.[244]

FIGURE 4.23: Share of social protection beneficiaries in March 2021



Note: Sembako is targeted at the bottom 30, PKH at the bottom 20 and Bansos Tunai at the 4th decile. Share of households that ever received any benefit since the onset of the pandemic until March 2021.

FIGURE 4.24: Share of program beneficiaries assessing benefits as adequate



241 Halim, Hambali, and Purnamasari 2022.

242 Sari, Purnamasari, and Febriady 2022.

243 World Bank 2020g.

244 Sjahrir and Wibisono 2022.

Box 4.5: Voices, receiving COVID social assistance

Most formal assistance was received in urban areas. Around half of the informants in around Kediri received some form of financial government assistance, usually PKH if the household had school-aged children. Many also received food handouts. However, none of the informants in remote rural areas had received these forms of assistance. The only exception was immediate post-disaster relief programs in some areas when food assistance was provided to people in emergency housing.

However, selection criteria remained unclear. No household was able to explain the factors determining their selection or rejection. Government officials usually provided them with a list of conditions that were necessary conditions but not sufficient. If people met the criteria, they might be selected. All possibly eligible households felt that it was natural and normal for decisions to be arbitrary and based on opaque considerations. Many believed that if one had been selected for a program in the past, it was unlikely that they would be selected again soon, regardless of individual program eligibility conditions. The explanation was that this would be "unfair," and that someone who had never received assistance should benefit instead.

Single women, even though among the poorest community members, hardly received assistance. Single women are particularly poor. Nevertheless, women rarely received assistance unless they were married to, or the daughter of, an eligible man, who received it on their behalf. Women heads of households often do not have their own Family Card (Kartu Keluarga), a document representing a vital requirement to receive almost all forms of government assistance. Instead, they are listed as "dependents" of a male relative, either a father or a brother, or perhaps a long-absent husband—even when these relatives do not provide any support. While various government initiatives have been conducted to address this, officials still find it difficult to accept that a woman household head can be eligible, with women themselves often thus reluctant even to try to apply.

Titien

"Our family receives assistance from the PKH program. It's about Rp 400,000 per month, paid once every three months. But it's often late, and there are sometimes problems. If the names on the forms aren't exactly the same as on the birth certificates and other documents, the payment is delayed. But sometimes the names are spelled differently on different documents, which makes it confusing. I get Rp 250,000 for my boy, and Rp 150,000 for his sister. We use all the money for our girl's school and education costs. As part of the PKH program, we also receive a food package once a month, usually with rice, oil, sometimes some eggs. This month, there were some bananas. It varies."

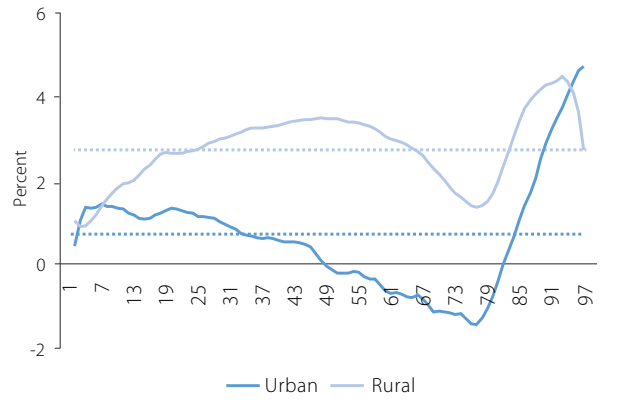
However, Indonesia's targeting system could have been more effective in response to the shock. Even among the bottom 40, less than 40 percent received benefits for each of the expanded programs (Figure 4.23). Also, wealthier households received benefits despite not being targeting, a result of inclusion errors and infrequent DTKS updating. The DTKS registry is not designed to allow targeting in response to a disaster and excludes most economically insecure households, which could become eligible in response to a shock such as COVID-19.

Also, adequacy of benefits was low relative to beneficiaries' needs during the pandemic. While self-reported benefit levels of social protection programs matched the official amounts announced, less than half of program beneficiaries self-assessed the benefits of current programs as adequate (Figure 4.24). Consistent with this, many Indonesians relied on non-government sources of support to meet daily needs during the pandemic. Among the bottom 40 percent of households, for example, nearly half coped by either taking loans or receiving assistance from friends, family, or relatives.

Poverty

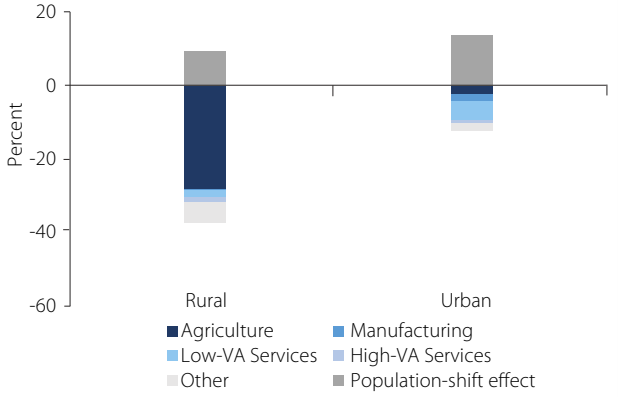
COVID-19 decreased consumption of the better-off—but not the richest—households most severely, especially in urban areas. Consumption growth less for the urban population at 0.7 percent, given the larger COVID-19 effects, compared to the rural population at 2.6 percent (Figure 4.25). In urban areas, the median up to the top 20 percent households lost income, given their higher reliance on formal jobs, most affected by COVID-19. The poorer and wealthiest households were better insulated against the shock, with the poor more often engaged in agriculture and the wealthiest being able to smooth consumption. In rural areas, a similar pattern emerged but with consumption losses

FIGURE 4.25: Consumption growth Incidence curve for 2020 to 2021, by urban/rural



Source: SUSENAS March 2020 and 2021
Note: 5-point moving average. Dotted lines show overall averages.

FIGURE 4.26: Ravallion-Huppi decomposition for 2020 to 2021



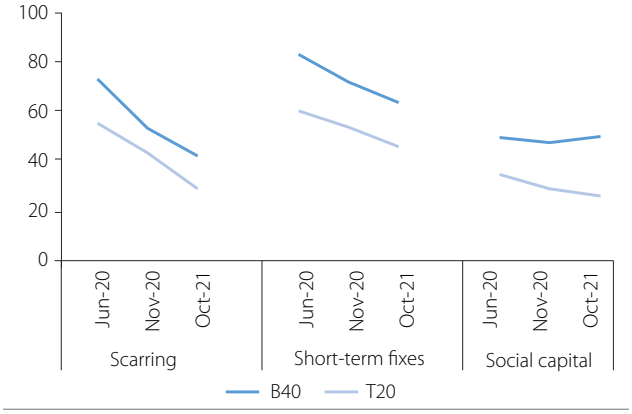
Source: SUSENAS March 2020 and 2021
Note: Annualized coefficients, omitting households not working. Given the timing of the survey, the 2020 March round captures the pre-COVID situation.

concentrated at better-off, though still not the richest, households, given the large share of the population engaged in agriculture.

Poverty reduction was a almost completely a result of a poverty decrease in rural agricultural households. Poverty reduction continued to drop from 20 percent in 2019 to 18 percent 2021, albeit at a smaller pace. Poverty reduction was completely a result of rural areas dropping from 22 percent in 2019 to 19 percent in 2021, while urban poverty slightly increased from 18 percent to 19 percent, reflecting the stronger negative COVID-19 effects on urban areas. Agricultural households in rural areas contributed the most to poverty reduction, while households shifting between sectors contributed to poverty in both urban and rural areas (Figure 4.26).

The bottom 40 used more adverse coping strategies to cope with COVID-19. Households had to cope with large, short-term income shocks. While some of the wealthiest households used savings, this strategy remained unavailable to most households. While almost all households avoided sale of productive assets, 73 percent of households in the bottom 40 used scarring coping strategies at the onset of the shock, compared to 55 percent of households in the top 20 (Figure 4.27). Among the scarring coping strategies, reduced food consumption was most used (above 95 percent). Food insecurity is particularly problematic if it affects children. Depending on the within-household distribution of the burden, children can be affected. Even before COVID-19, 24 percent of children under age 5 were stunted in 2021, with long-term impacts on health and education.

FIGURE 4.27: Coping strategies of households in the bottom 40 and top 20



Source: HiFy Rounds 2, 4 and 6
Note: Scarring strategies including reducing food consumptions, selling assets, withdraw children from school, and stop medication; Short-term fixes includes taking loans, delayed payments, and credited purchases; Social capital includes taking loans or receiving assistance from friends, family or relatives.

Learning losses [245]

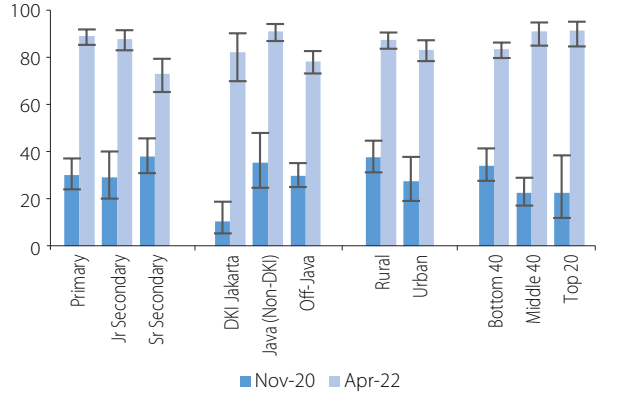
Between 2020 and 2021, at the height of the COVID-19 pandemic, schools nationwide closed for face-to-face learning. The Government closed all schools in March 2020, but soon after changed to a more decentralized approach allowing green zones to reopen schools. In November 2020, less than one-third of students attended face-to-face learning. Given the decentralized approach, and a larger number of COVID-19 infections in urban areas, students in DKI Jakrta were most affected by school closures, with only 10 percent attending face-

[245] This section draws from R.S. Purnamasari et al. 2022.

to-face larning (Figure 4.28). The situation rebounded significantly only by April 2022 when over 90 percent of students attended face-to-face learning.

Digital technology mitigated learning deficits from school closures, but only when teachers were involved and only for households with internet access and digital skills, exacerbating inequities. A large share of schooling transitioned to distance learning, creating challenges for teachers to adapt new pedogogical concepts and using digital technology.[246] Also students and parents had to use their own resources, limited the reach of distance learning. In November 2020, only 38 percent of students in the bottom 40 were able to use mobile learning apps or online schooling, compared to 66 percent of the top 20 (Figure 4.29). Rural students did not suffer significantly less access to online learning compared to urban areas. Even among students managing to access distance learning, three in four expressed challenges, including internet access and problems with focusing and concentrating. To improve resilience for future shocks, schools, teachers, and students all need to be better digitally equipped. A digitalization strategy can include a national real-time platform to monitor school conditions, but also track student learning to facilitate a student-centered, interdisciplinary, project-based, and collaborative focus.

FIGURE 4.28: Share of students attending face-to-face learning



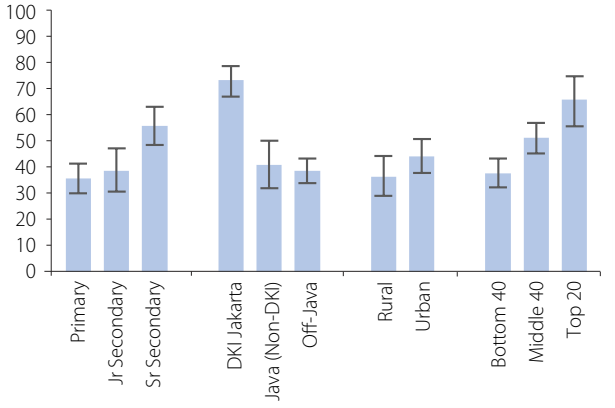
Source: HiFy Round 6 and 7.

[246] D. Lim et al. 2022

The Government enacted emergency measures to mitigate potential learning losses, including the provision of free internet credit.[247] The Government introduced an emergency curriculum and supported different modes of distance learning. Most notably, it has provided free internet credit to students since August 2020. In November 2020, 51 percent of students received the credit. However, access to the internet credit was not equal, with students outside Java and in the bottom 40less likely to receive them.

Nevertheless, substantial learning losses accrued and exacerbated learning inequalities. COVID-19 is estimated to have lowered educational attainment by 0.9 to 1.2 learning adjusted years, even after taking into account Government's mitigation measures. Reading scores are estimated to drop from 371 in 2018 to about 340.[248] These learning losses translate to an estiamed 7 to 10 percent of losses in annual earnings per individual. Furthermore, the pre-existing gap of 57 PISA points between the bottom 20 and the top 20 is estimated to have increased to 64 points.[249] Simulations using global data suggest even longer-term negative effects due to reduced inter-gnerational educational mobility.[250] Targeted actions are needed to recover learning losses. An assessment of children's learning level can inform teacher instructions, while teachers might require support to develop personalized catch-up strategies and more individualized learning to help students overcome learning gaps.

FIGURE 4.29: Share of students using mobile learning apps or online schooling in November 2020



Source: HiFy Round 6.

[247] R.S. Purnamasari et al. 2022.
[248] Afkar and Yarrow 2021.
[249] Yarrow, Masood, and Afkar 2020.
[250] Azevedo et al. 2022.

Box 4.6: Voices, challenges of online learning

Titien

"My girl is in the first class of senior high school. For two years, she's mostly been doing online classes. She's back at school a few days each week now. I'm glad. I wasn't happy about her doing her school online, at home all the time. I don't think she can learn anything. There is no feedback, the teacher doesn't check if she really understands. The teacher just gives her assignments, then gives her a grade. I'm worried that she's falling behind.

"She has her own mobile phone for school. We bought a cheap smartphone for her when the restrictions came in. It cost less than a million rupiah. She knows that the family doesn't have much money, so she only uses it for school work, she doesn't spend time on Facebook or playing games. Every time I buy internet credits, it costs Rp 68,000. That's enough for about two weeks, maybe a bit more. I can't really help her with her school work, it's too advanced for me. When I was young, I really wanted to finish school, but my parents couldn't afford it."

"For me, education for my children is the most important thing. It's the only way that they'll be able to get a good job. But I worry that these days, just graduating from high school isn't enough. When I was younger, you could get a good job with a high school certificate. These days, most jobs require a tertiary diploma. That makes it hard for children from poor families. I don't think we'll be able to send our girl to university. The government should do more to make it possible for young people without diplomas to get good, steady jobs."

CHAPTER 5

POLICY RECOMMENDATIONS

Photo: © Josh Estey/World Bank

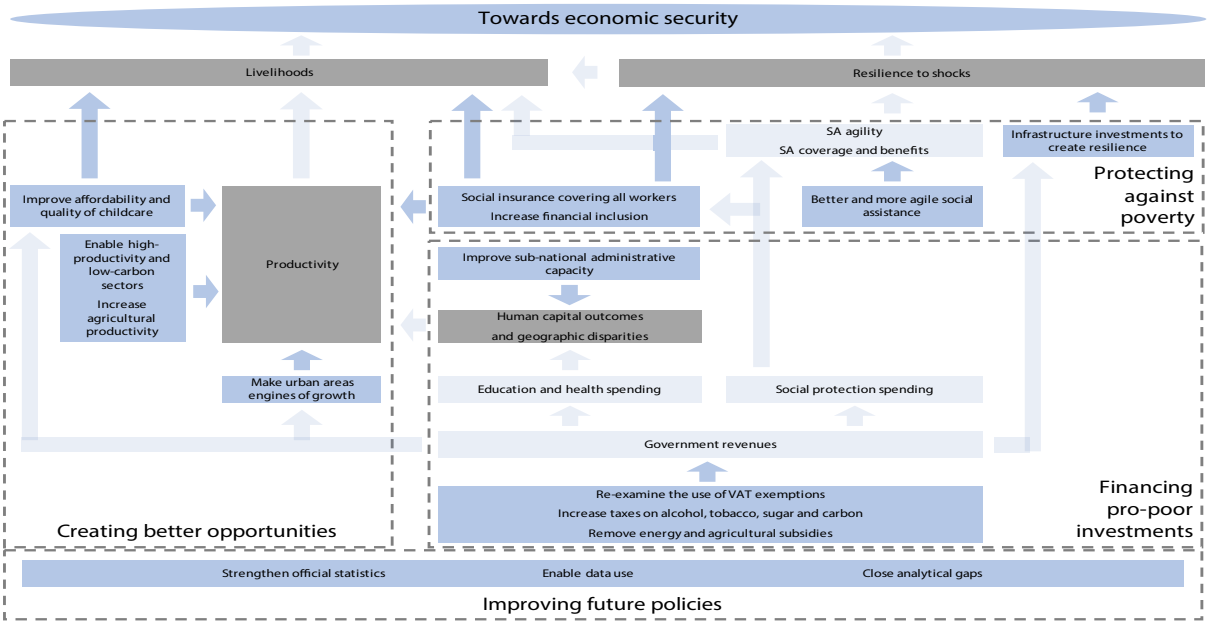
5. POLICY RECOMMENDATIONS

In the aftermath of COVID-19 and in the context of climate change and growing global uncertainties, Indonesia's inclusive growth policies can be adapted to help more households escape poverty and reach economic security.

Indonesia's inclusive growth needs to plan for a low-emission future. Indonesia still relies on export of carbon-intensive commodities. Despite currently higher prices also for carbon-intensive commodities triggered by Russia's invasion of Ukraine, the long-term future will penalize countries relying on their production and exports.[251] This is a formidable challenge for Indonesia and will require structural transition of its economy.[252] This transition will need to be inclusive and allow workers to put their skills to higher productive use for growth to eradicate poverty and foster economic security.

Policies need to create better opportunities, protect households against poverty, and focus fiscal resources on pro-poor investments, while promoting better information and evidence for decision making. Indonesia made impressive poverty reduction and shared prosperity gains. The country nearly eradicated extreme poverty, with a small amount of frictional poverty likely to persist. Given Indonesia's development, a broader definition of poverty, for example around the US$ 3.20 2011 PPP poverty line, would be more adequate to allow formulation of meaningful anti-poverty programs reaching a significant fraction of the population. These programs can be improved to include economically insecure households and sustain poverty reduction gains. Better opportunities are needed in low-carbon sectors with high productivity growth to boost incomes and reduce poverty, while taking advantage of digital opportunities. However, shocks are inevitable and will become more frequent with climate change, but resilience can be fostered to minimize their harm. With about one-half of the non-poor population susceptible to falling back into poverty, better resilience and protection are needed. These measures will require public investments in a fiscally tight space. Policies need to ensure cost-effective design while raising revenues and lift constraints to improve human capital equitably across the country. Finally, policy makers need to close remaining data and knowledge gaps to inform more effective policies (Figure 5.1).

FIGURE 5.1: GDP growth (LHS) and GDP -per-capita (RHS) from 1990 to 2021



Source: Authors' calculations using SUSENAS (2002-2022)

[251] World Bank 2022h.

[252] World Bank 2021d

Creating better opportunities

Indonesia's economy can increase agricultural productivity, make urban areas engines of growth, enable high-productivity and low-carbon sectors while improving affordable and high-quality childcare.

Continuing poverty reduction requires creation of better work opportunities. Strong economic growth is reducing poverty in Indonesia at a similar pace compared to other countries. Poverty in urban and rural areas have converged, with most poor Indonesians living in urban areas now. Work, however, is often insufficient to escape poverty and reach economic security. Low labor productivity keeps wages low, while low agricultural productivity limits incomes especially for rural households. Low female labor force participation limits available labor and hinders gender equity and women's empowerment. Better opportunities in urban and rural areas, especially for women, can help sustainable poverty reduction.

Increasing agricultural productivity will remain important for rural households to escape poverty. Most rural households – especially in remote areas – are still primarily engaged in agriculture. While diversification of income with non-agriculture income helps, including to mitigate negative shock effects, it is not an option for everyone, and is often limited to low-VA jobs. Improved agricultural extension services promoting climate-smart approaches and better market access can boost agriculture productivity. Reduction of often badly targeted producer subsidies can improve competition in the agricultural sector, as can the removal of import barriers such as non-tariff measures (NTMs). This has the added advantage of reducing food prices.[253] Reducing subsidies for rice production can shift production from rice to high-value cash crops, for which the soil is often better suited. These policies can help to increase rural incomes and provide pathways out of poverty.

Investments in urban infrastructure and affordable housing are needed to make urban areas engines of growth and attract more workers to higher-productivity jobs, which can drive poverty reduction. Indonesia's cities do not fully exploit the advantage of connectedness because of congestion. In addition, it is costly to live in cities, while air pollution diminishes life quality. As a result, while urban areas provide a wage premium, in Indonesia they do not provide a poverty-reduction premium. Attracting more workers to urban places can steer them toward higher-productivity work, especially in a context of job growth in high productivity and low-carbon sectors. Public investments in better urban infrastructure and fostering affordable housing will lower costs of living in cities, helping transform them into centers of connectedness rather than just high density. Infrastructure planning will need to take account for climate adaptation into and making cities safer.[254]

Policies to improve structural competitiveness and inclusion in global value chains can foster job growth in high-productivity, low-carbon sectors. While the labor market contributes to poverty reduction, it does not provide opportunities commensurate with high-income ambitions. The low-VA sector is sufficient for some to escape poverty but does not increase workers' skills, depressing productivity. Unlocking the entry and growth of new firms can be fostered by less restrictive trade and foreign direct investment policies as well as more effective anti-competitive policies. This – together with boosting the digital economy – can spur competition, innovation, and productivity contributing to job growth.[255] Integration into global value chains can enhance productivity, including attracting foreign direct investment for exporting industries and promoting investment in specific areas to encourage workers toward higher-productivity sectors. With a view to the future, these policies should be focused on high productivity and low-carbon sectors, and promote eco industrial parks and circular economy solutions. Improvements in skills and better matching them to labor market requirements can complement such policies; for example, by improving educational quality, improving TVET, and integrating labor market information systems.

Offering affordable childcare can create jobs, foster female labor force participation, and improve productivity. Women often remain excluded from the

253 Cali et al. 2021.

254 World Bank 2022h.

255 Wihardja and Cunningham 2021.

labor force, especially when anticipating child-bearing and during child-bearing age. This "dependency penalty" contributes to women being poorer than men. When affordable childcare is available, women have the option of shifting from unpaid to higher-productivity work,[256] improving labor market skills and firm productivity.[257] It helps to close the gender wage gap, which is still substantial in Indonesia. In addition, it creates jobs. Among the many benefits of subsidizing childcare, it fosters early childhood learning, with long-term positive effects on economic productivity.[258] Finally, it is relatively inexpensive and even raises government personal income tax (PIT) and VAT revenues. Despite improvements in the availability of childcare and PHK cash transfers conditioned on enrolling children in preschool (PAUD), Indonesian families do not widely use it, especially for younger children; only 17 percent of bottom 40 children and 22 percent of top 60 children were in preschool in 2019. Ideally, incentivizing use of supply of childcare would include education, information, and communication strategies to tackle cultural norms and promote their use.

Protecting against poverty

Social assistance needs to be better targeted and become more agile, social insurance should be expanded to cover all workers, financial inclusion should be improved, while infrastructure investments can increase disaster preparedness.

Protecting households safeguards poverty reduction progress. Despite poverty reduction progress, almost one-fifth of the population remains in poverty. Most of the poor are now in urban areas. In addition, about half of the non-poor (one-third of the population) is susceptible to falling into poverty. The susceptibility is largely due to shocks rather than structural causes. Idiosyncratic shocks, which affect individual households—for example, a spell of unemployment—are the largest source of risk. Co-variate shocks, affecting multiple households at the same time—for instance, natural disasters—are increasing, a trend likely to continue given increased climate change. The poor especially need protection, as they most at risk and have limited coping strategies. Thus, creating resilience also mitigates inequality.

Social assistance can be better targeted and be made more agile. A shock can quickly trap a household in poverty if not mitigated. Social assistance plays a very important role, as COVID-19 proved. However, the pandemic also showed that fast expansion of social assistance comes with beneficiary targeting challenges. For example, expanding PKH coverage during COVID-19 has been accompanied by reduced beneficiary incidence among the poorest 20 percent, reaching only 39 percent of eligible recipients in 2019. Indonesia's social assistance can be improved in several dimensions, including investing in coverage and data quality. Accuracy of targeting can also be improved; for example, through regular updating of the targeting database and calibrating eligibility criteria to reflect updated poverty definitions. A broader, and more frequently updated, social registry can facilitate faster shock responses to affected households.[259] This can be achieved by adopting a modular delivery system that is interoperable and supports open data standards, underpinned by a clear data protection and consent framework.

Expanding coverage of contributory social insurance can be more systematic. While it is too early to expand coverage of Indonesia's new unemployment insurance to informal workers, more can be done to increase informal workers' participation in schemes that protect against employment-related income shocks. This includes subsidization of premiums for poor and economically insecure workers, or adjustments of existing schemes to better accommodate informal work characteristics, including flexibility in payment contributions and in accessing benefits. Expanding contributory social insurance coverage to all workers can help households buffer shocks and avoid poverty spells, while helping mitigate inequality,[260] and even contributing to increased labor productivity.[261]

256 Halim, Johnson, and Perova forthcoming.
257 Cali et al. 2022.
258 Heckman and Masterov 2007; García et al. 2020.
259 Holmemo et al. 2020.
260 Holmemo et al. 2020.
261 Rujiwattanapong 2022.

Financial services play a critical role in creating resilience to shocks and reducing poverty. Financial services are not yet available to all Indonesians, limiting the ability to save and borrow, as well as receive digital payments from government programs, for example. Without being able to smooth consumption, households can be forced to resort to adverse coping strategies, such as selling assets or restricting consumption for children and adults. Digital financial services can enable more households to enter the financial system and can be expanded by establishing a well-functioning, fully interoperable payment system, creating digital IDs, and promoting open banking policies.

Infrastructure investments are needed to improve resilience against natural disasters. Large areas of Indonesia are prone to disaster risks. Once a disaster strikes, people can be killed or injured and families can lose their homes and assets. In addition, costs to cover large-scale damages can be exorbitant. Creating resilience also requires investments, but at a fraction of the cost of post-disaster recovery. Thus, investing early into resilient infrastructure, including housing and transportation, will be crucial to avoid setbacks on the path to being a high-income country.[262] Also, investments in climate-smart agricultural are key to protect farmers from harvest losses.

Financing pro-poor investments

Government can increase tax revenues through indirect taxation strategies, such as reducing VAT exemptions or ineffective energy subsidies or by increasing taxes on tobacco, alcohol, sugar-sweetened beverages, and carbon. At the same time, improving sub-national administrative capacity can help improve human capital outcomes more equitably across the country.

Pro-poor public investments are needed, but must be designed carefully in the context of limited fiscal space. Creating better opportunities, protecting against poverty, and achieving higher and more equitable human capital outcomes requires public investment and sub-national administrative capacity. However, fiscal space and administrative capacity are limited, especially for poorer sub-national governments. Policy design must aim to leverage expenditures to have the largest poverty reduction and human capital benefits, while ensuring equity. At the same time, creation of fiscal space cannot endanger economic growth nor unduly burden the poor, while maintaining a fiscal buffer to draw from in the case of future shocks.

In the short-term, the Government can increase revenues from indirect taxes, including reexamination of VAT exemptions. Direct taxes such as personal income tax (PIT) and corporate income tax (CIT) are more progressive than indirect taxes but require greater tax administrative capacity and a high degree of formalization in the economy. Only developed countries rely upon direct taxes for most tax revenue. In the near-term, increases in revenues in Indonesia are more feasible through indirect taxes. A practical way to quickly increase revenues is to eliminate VAT exemptions and preferred rates for various goods and services. While these items often represent a greater share of poorer household consumption, they are also consumed by richer households in greater amounts, meaning that—like traditional energy or food subsidies—most spending (or revenue forgone) does not go to the poor. Approximately one-third of potential VAT revenues in Indonesia are lost through the current exemptions structure, or IDR 91 trillion (0.67 percent of GDP), about the same amount as the entire expanded social assistance budget in 2019.

Indirect taxes can be further increased through higher taxes on tobacco, alcohol, sugar-sweetened beverages, and carbon. Tobacco, alcohol, and sugar-sweetened beverages have adverse health effects, with large cost implications for public health systems. Increasing tax on these goods will reduce their consumption, saving public health system funds while generating government revenue. While these taxes often are regressive, changes in behavior often mitigate implications for poverty. Individuals choose to consume less, unleashing health benefits, while producers change ingredients, such as sugar levels, to avoid taxes and price increases. While decreasing gains in direct government revenue, it still creates savings through health benefits. Similarly, a carbon tax can incentive transition towards

[262] World Bank 2022h.

a low-carbon economy while reducing air pollution and generating tax revenues. The price for emissions, however, is a key parameter for the success of the tax, and needs to make crucial trade-offs between revenues and socio-economic effects.

Expensive and often ineffective and poorly targeted subsidies for energy and agriculture can be removed. Energy subsidies can reduce poverty but suffer from targeting errors, including non-poor households while excluding poor ones. At the same time, these subsidies distort the market and increase consumption of subsidized products. Especially in the case of fuel and electricity, this is problematic given their negative climate implications. Agricultural subsidies are expensive, distort the market, and are not helping poor farmers. The Government spends 2 to 3 percent of GDP on agriculture, most of it on subsidies for agricultural producers. Revisiting agricultural expenditures towards enhancing competitiveness and productivity can lead to large fiscal savings. Coupling the elimination of subsidies with measures to raise productivity, such as enhancing agricultural extension services and opening the agricultural market to more competition and imports, can mitigate any food price increases. In addition, social assistance can substitute for subsidies to mitigate negative effects on the poor. Scaling-up social assistance is more cost-effective, better targeted than direct or indirect subsidies, and is more sustainable.

Improving administrative capacity for sub-national governments will be critical to achieve better and more equitable human capital outcomes, spurring future productivity and reducing long-term inequality. Subnational public financial management policies, systems, and skills do not yet enable subnational governments to spend effectively. Recent subnational public financial management reforms[263] support strategic decision-making. Effective and transparent spending need to be further defined, in addition to strengthening the implementation capacity of subnational governments in general, but particularly the ones with especially low capacity. Specifically, the disconnect between subnational government policies and budgets and low budget reliability will need to be addressed. Ineffective planning and execution of capital projects can be improved. The low quality and transparency of spending information can be enhanced, also to create better accountability, with a feedback mechanism to improve service delivery quality.

Improving future policies

The GOI can strengthen official statistics, better encourage data use, and close knowledge gaps, specifically around structural transformation and informality.

The knowledge base to inform policies needs to be expanded, as not all challenges are yet fully understood. Indonesia has an impressive evidence base, thanks to a large number of high-quality surveys conducted with higher frequency than in many countries. However, the country can still strengthen official statistics, some of which only require small modifications in methodologies, while others demand new data collection efforts and improved capacity. In addition, data use can enable more research and analysis to address new challenges as Indonesia requires more careful study to inform policies. Hard to compare poverty measures need to be replaced by an absolute measure of poverty that includes spatial price inflation. The "weakly relative" nature of Indonesia's poverty line, updated yearly at the province-level, undermines comparability of trends across provinces. Indonesia needs a new absolute measure of poverty—similar to international poverty lines—to fill this gap. Such a poverty line can define poverty more broadly to ensure that anti-poverty programs improve livelihoods for a meaningful fraction of the population. Given large price differences across Indonesia, spatial price deflation is important but requires a reliable rural CPI to complement the current urban-only CPI. This will also help measure poverty reduction progress using the international poverty lines. In addition, revisiting data needs would help record key data, either through existing or new surveys. For example, missing farmers' incomes severely limit the evidence needed to understand rural livelihoods; and time-use data, especially for women, is not available. Also, data quality can be improved, for example, by closing the large gap between national accounts and household survey private consumption data.

[263] PP 12/2019 and Permendagri 77/2020.

Shifting policies to a more "enabling" perspective, while addressing data and quality gaps, would increase the use of Indonesia's data. Two surveys, *Susenas* for household consumption and *Sakernas* for the labor force, providing a wealth of data. However, some analysis remains constrained due to limitation in making data available. Currently, geographic identifiers are not shared beyond the province-level, diminishing its use in conjunction with big data. Also, household information is currently not available in *Sakernas*, undermining the ability to link it statistically with *Susenas*—for instance, to impute welfare. With a more enabling approach, more researchers can engage with Indonesian data to inform future policies.

New challenges will need new policies based on new evidence, including for key issues such as structural transformation and informality. Low work productivity has far-ranging consequences, limiting livelihoods and economic growth. Better understanding of the current structural transformation can improve recommendations in the context of climate change and global uncertainties. Also, the high rate of work informality of Indonesia's economy is closely linked to the large low-VA service sector, which offers employment and an escape from poverty but limits productivity, thus trapping workers in economic insecurity. More detailed studies are needed to shed light on the informal sector—including the level of informality, its different aspects, costs, and benefits—and why firms and household enterprises decide for or against formalization.

REFERENCES

Afkar, Rythia, and Noah Yarrow. 2021. "Rewrite the Future: How Indonesia's Education System Can Overcome the Losses from the Covid-19 Pandemic and Raise Learning Outcomes for All." Washington, D.C.: World Bank.

Alderman, Harold, John Hoddinott, and Bill Kinsey. 2006. "Long Term Consequences of Early Childhood Malnutrition." Oxford Economic Papers 58, no. 3: 450–74.

Ali, R., and I. Setiawan. 2022. "Looking Beyond Aggregate Poverty and Vulnerability Rates in Indonesia: Aligning Social Protection with Sources of Vulnerability to Poverty." Washington, DC: World Bank.

Asian Development Bank. 2007. "Asian Development Outlook 2007 Update." Philippines: Asian Development Bank. At https://wedocs.unep.org/handle/20.500.11822/8908.

———. 2019. "Policies to Support Investment Requirements of Indonesia's Food and Agriculture Development during 2020-2045." Asian Development Bank. Indonesia. At https://www.adb.org/publications/indonesia-food-agriculture-development-2020-2045.

———. 2020a. "2017 International Comparison Program for Asia and the Pacific: Purchasing Power Parities and Real Expenditures Results and Methodology." Manila: Asian Development Bank.

———. 2020b. "Quality Jobs and the Future of Work: Technical Assistance Report." Technical Assistance Report 54100–001 Asian Development Bank.

———. 2022. "Building Resilience of the Urban Poor in Indonesia." Philippines: Asian Development Bank. Indonesia. At https://www.adb.org/publications/building-resilience-urban-poor-indonesia.

Atkinson, A. B., and Thomas Piketty, eds. 2007. Top Incomes over the Twentieth Century: A Contrast between European and English-Speaking Countries. 1 edition Oxford ; New York: Oxford University Press.

Azevedo, João Pedro, Alexandru Cojocaru, Veronica Montalva Talledo, and Ambar Narayan. 2022. "COVID-19 School Closures, Learning Losses and Inter-Generational Mobility." The World Bank: 31.

Badan Pusat Statistik, National Population and Family Planning Board, and Ministry of Health. 2008. "Indonesia Demographic and Health Survey 2007." At https://dhsprogram.com/publications/publication-fr218-dhs-final-reports.cfm.

———. 2018. "Indonesia Demographic and Health Survey 2017." At https://dhsprogram.com/publications/publication-fr342-dhs-final-reports.cfm, accessed September 13, 2022.

Bank Indonesia. 2022. "Monetary Policy Report - Quarter II 2022." Monetary Policy Report Economic and Monetary Policy Department, Bank Indoensia. At https://www.bi.go.id/en/publikasi/laporan/Pages/Laporan-Kebijakan-Moneter-Triwulan-II-2022.aspx.

Bhalla, Surjit. 2002. "Imagine There's No Country: Poverty, Inequality, and Growth in the Era of Globalization." Peterson Institute Press: All Books Peterson Institute for International Economics. At https://econpapers.repec.org/bookchap/iieppress/348.htm.

Blanchet, Thomas, Ignacio Flores, and Marc Morgan. 2022. "The Weight of the Rich: Improving Surveys Using Tax Data." The Journal of Economic Inequality 20, no. 1: 119–50.

Bulman, D., M. Eden, and H. Nguyen. 2016. "Transitioning from Low-Income Growth to High-Income Growth: Is There a Middle-Income Trap?" 646 ADBI Working Paper Tokyo: Asian Development Bank Institute.

Cali, Massimiliano, Hillary C. Johnson, Elizaveta Perova, and Nabil R. Ryandiansyah. 2022. "Caring for Children and Firms? The Impact of Preschool Expansion on Firm Productivity." 10193 Policy Research Working Paper Washington, D.C.: World Bank.

Cali, Massimiliano, Mochamad Pasha, Francis Addeah Darko, Sudarno Sumarto, Taufik Hidayat, and Sailesh Tiwari. 2021. "Nutritional Impacts of Trade Policies: Evidence from Indonesia." Washington, DC: World Bank.

Cameron, Lisa, Diana Contreras Suarez, and William Rowell. 2018. "Female Labour Force Participation in Indonesia: Why Has It Stalled?" Bulletin of Indonesian Economic Studies 55, no. 2: 157–92.

Chaudhuri, Shubham, Jyotsna Jalan, and Asep Suryahadi. 2002. "Assessing Household Vulnerability to Poverty from Cross-Sectional Data: A Methodology and Estimates from Indonesia." At https://doi.org/10.7916/D85149GF.

Christian, Cornelius, Lukas Hensel, and Christopher Roth. 2019. "Income Shocks and Suicides: Causal Evidence From Indonesia." The Review of Economics and Statistics 101, no. 5: 905–20.

Credit Suisse. 2019. "Global Wealth Report 2019." Credit Suisse. At https://www.credit-suisse.com/about-us/en/reports-research/global-wealth-report.html.

Cuaresma, Jesus Crespo, Stephan Klasen, and Konstantin M. Wacker. 2016. "There Is Poverty Convergence." SSRN Scholarly Paper Rochester, NY. At https://papers.ssrn.com/abstract=2718720, accessed September 12, 2022.

Datt, Gaurav, and Martin Ravallion. 1992. "Growth and Redistribution Components of Changes in Poverty Measures." Journal of Development Economics 38, no. 2: 275–95.

David E. Bloom, David Canning, Günther Fink, and Jocelyn E. Finlay. 2012. "Microeconomic Foundations of the Demographic Dividend." Program on the Global Demography of Aging. At https://ideas.repec.org/p/gdm/wpaper/9312.html.

Dharmawan, G., and D. Suryadarma. 2021. "Education Quality Across Indonesia's Districts: Estimations from a Policy Experiment." Journal of Southeast Asian Economies 38, no. 3: 401–25.

Dizioli, Allan, and Roberto Pinheiro. 2016. "Health Insurance as a Productive Factor." Labour Economics 40: 1–24.

Duryea, S., D. Lam, and D. Levison. 2007. "Effects of Economic Shocks on Children's Employment and Schooling in Brazil." Journal of Development Economics 84, no. 1: 188–214.

Elbers, Chris, Jan Willem Gunning, and Bill Kinsey. 2007. "Growth and Risk: Methodology and Micro Evidence." World Bank Economic Review 21, no. 1: 1–19.

Feriyanto, Nur, Dityawarman El Aiyubbi, and Achmad Nurdany. 2020. "The Impact of Unemployment, Minimum Wage, and Real Gross Regional Domestic Product on Poverty Reduction in Provinces of Indonesia." Asian Economic and Financial Review 10, no. 10: 1088–99.

Ferraro, Paul J., and Rhita Simorangkir. 2020. "Conditional Cash Transfers to Alleviate Poverty Also Reduced Deforestation in Indonesia." Science Advances 6, no. 24. At https://www.science.org/doi/10.1126/sciadv.aaz1298.

Ferreira, Francisco H. G., Sergio P. Firpo, and Julian Messina. 2017. "Ageing Poorly?: Accounting for the Decline in Earnings Inequality in Brazil, 1995-2012." At http://hdl.handle.net/10986/26359.

Gao, Jia, Katja Vinha, and Emmanuel Skoufias. 2020. "Vulnerability Tool A User's Manual." Washington, DC: World Bank.

García, Jorge Luis, James J. Heckman, Duncan Ermini Leaf, and María José Prados. 2020. "Quantifying the Life-Cycle Benefits of an Influential Early-Childhood Program." Journal of Political Economy 128, no. 7 The University of Chicago Press: 2502–41.

Giles, Gordon Muir, Dorothy Farrar Edwards, M. Tracy Morrison, Carolyn Baum, and Timothy J. Wolf. 2017. "Screening for Functional Cognition in Postacute Care and the Improving Medicare Post-Acute Care Transformation (IMPACT) Act of 2014." The American Journal of Occupational Therapy 71, no. 5: 7105090010p1–6.

Goldstein, Harvey. 2010. Multilevel Statistical Models (4th Edition). 1st ed John Wiley & Sons, Ltd Wiley. At https://onlinelibrary.wiley.com/doi/book/10.1002/9780470973394, accessed September 15, 2022.

Greenstone, M., and Q. Fan. 2019. "Air Quality Life Index: Indonesia's Worsening Air Quality and Its Impact on Life Expectancy." Chicago, IL: University of Chicago.

Gubert, Flore, and Anne-Sophie Robilliard. 2007. "Risk and Schooling Decisions in Rural Madagascar: A Panel Data-Analysis." Journal of African Economies Rochester, NY. At https://papers.ssrn.com/abstract=1153288.

Günther, Isabel, and Kenneth Harttgen. 2009. "Estimating Households Vulnerability to Idiosyncratic and Covariate Shocks: A Novel Method Applied in Madagascar." World Development 37, no. 7: 1222–34.

Hadiwidjaja, Gracia, Asha Williams, and Sara Giannozzi. 2022. "Improving Data Quality for an Effective Social Registry in Indonesia." Washington, D.C.: World Bank.

Haerpfer, C., R. Inglehard, A. Moreno, C. Welzel, K. Kizilova, J. Diez-Medrano, M. Lagos, P. Norris, P. Ponarin, and P. Puranen. 2020. "World Values Survey: Round Seven – Country-Pooled Datafile." Madrid, Spain & Vienna, Austria: JD Systems Institute & WVSA Secretariat.

Halim, Daniel, Sean Hambali, and Ririn Salwa Purnamasari. 2022. "The Initial Gendered Impacts of the COVID-19 Pandemic on Indonesia's Labor Market: How Does It Shape the Future of Women's Work?" World Bank.

Halim, Daniel, Hillary C. Johnson, and Elizaveta Perova. 2022. "Preschool Availability and Women's Employment: Evidence from Indonesia." Economic Development and Cultural Change 71, no. 1: 39–61.

———. forthcoming. "Preschool Availability and Women's Employment: Evidence from Indonesia." Economic Development and Cultural Change.

Heckman, James J. 2007. "The Economics, Technology, and Neuroscience of Human Capability Formation." Proceedings of the National Academy of Sciences 104, no. 33: 13250–55.

Heckman, James J., and Dimitriy V. Masterov. 2007. "The Productivity Argument for Investing in Young Children." NBER Working Paper no. 13016.

Hill, Hal. 2021. "What's Happened to Poverty and Inequality in Indonesia over Half a Century?" Asian Development Review 38, no. 1: 68–97.

Holmemo, Camilla, Pablo Acosta, Tina George, Robert J. Palacios, Juul Pinxten, Shonali Sen, and Sailesh Tiwari. 2020. "Investing in People: Social Protection for Indonesia's 2045 Vision." Washington, DC: World Bank. At https://openknowledge.worldbank.org/handle/10986/33767.

Human Capital Project. 2020. "Indonesia Human Capital Index 2020." Washington, D.C.: World Bank.

International Monetary Fund. 2022. "IMF Country Report: Indonesia." IMF Country Report No. 22/84 International Monetary Fund.

Jellema, Jon, Matthew Wai-Poi, and Rythia Afkar. 2017. "The Distributional Impact of Fiscal Policy in Indonesia." Directions in Development - Poverty and Inequality Washington, D.C.: World Bank.

Kementerian Kesehatan Republik Indonesia. 2022. Hasil Survei Status Gizi Indonesia (SSGI) 2022. Indonesia: Kementerian Kesehatan Republik Indonesia.

Kementerian PPN (Bappenas). 2021. "Sustainable and Resilient Recovery from the COVID-19 Pandemic for the Achievement of the 2030 Agenda." Indonesia: Ministry of National Development Planning of the Republic of Indonesia. At https://sdgs.bappenas.go.id/laporan-voluntary-national-review-vnr-indonesia-2021/.

Khalid, Muhammed Abdul, and Li Yang. 2019. "Income Inequality and Ethnic Cleavages in Malaysia: Evidence from Distributional National Accounts (1984–2014)." Journal of Asian Economics 72: 101252.

Khelfaoui, Issam, Yuantao Xie, Muhammad Hafeez, Danish Ahmed, Houssem Eddine Degha, and Hicham Meskher. 2022. "Effects of Health Shocks, Insurance, and Education on Income: Fresh Analysis Using CHNS Panel Data." International Journal of Environmental Research and Public Health 19, no. 14: 8298.

Klasen, Stephan, and Hermann Waibel. 2013. Vulnerability to Poverty: Theory, Measurement and Determinants, with Case Studies from Thailand and Vietnam. Basingstoke, England: Palgrave Macmillan.

Kolukuluri, Kalyan. 2022. "Adverse Health Shocks, Social Insurance and Household Consumption: Evidence from Indonesia's Askeskin Program." International Journal of Health Economics and Management. At https://doi.org/10.1007/s10754-022-09329-6.

Krisnamurthi, Bayu and Utami, Anisa Dwi. 2022. "The Effect of Price Policy on Price Dynamics: Empirical Evidence in Indonesian Rice Market at Wholesale Level." Journal of Agribusiness and Rural Development Research 8, no. 1: 34–45.

Liddell, Christine, and Gordon Rae. 2001. "Predicting Early Grade Retention: A Longitudinal Investigation of Primary School Progress in a Sample of Rural South African Children." British Journal of Educational Psychology 71, no. 3: 413–28.

Lim, D., N. Rarasati, F. Tresnatri, and A.R. Barasa. 2022. "Learning Loss or Learning Gain? A Potential Silver Lining to School Closures in Indonesia." RISE Insight Series RISE.

Lim, Sung Soo. 2017. "In Times of Sickness: Intra-Household Labour Substitution in Rural Indonesian Households." The Journal of Development Studies 53, no. 6: 788–804.

López-Calva, Luis F., and Eduardo Ortiz-Juarez. 2014. "A Vulnerability Approach to the Definition of the Middle Class." The Journal of Economic Inequality 12, no. 1: 23–47.

Lustig, Nora. 2018. Commitment to Equity Handbook: Estimating The Impact of Fiscal Policy on Inequality and Poverty. Brookings Institution Press.

———. 2019. "The 'Missing Rich' in Household Surveys: Causes and Correction Approaches." Preprint SocArXiv. At https://osf.io/j23pn.

Majlesi, Kaveh. 2016. "Labor Market Opportunities and Women's Decision Making Power within Households." Journal of Development Economics 119: 34–47.

Munoz Boudet, Ana Maria, Paola Buitrago, Benedicte Leroy De La Briere, David Newhouse, Eliana Rubiano Matulevich, Kinnon Scott, and Pablo Suarez-Becerra. 2018. "Gender Differences in Poverty and Household Composition through the Life-Cycle: A Global Perspective." Working Paper Washington, DC: World Bank. At https://openknowledge.worldbank.org/handle/10986/29426.

Naidoo, Darian, Truman Packard, and Ilmiawan Auwalin. 2015. "Mobility, Scarring and Job Quality in Indonesia's Labor Market." World Bank. At http://elibrary.worldbank.org/doi/book/10.1596/1813-9450-7484.

Nayyar, Gaurav, Mary Hallward-Driemeier, and Elwyn Davies. 2021. "At Your Service? The Promise of Services-Led Development." Washington, D.C.: World Bank.

OECD. 2015. "Universal Basic Skills: What Countries Stand to Gain." OECD Publishing.

———. 2021. "OECD Economic Surveys Indonesia." East Asia and Pacific Region: OECD.

Pape, Utz, England Can, Citra Kumala, Anissa Rahmawati, Virgi Sari, and Imam Setiawan. 2023. "Distributional Impacts of Climate Change Mitigation in Indonesia: A Background Note for the CCDR in Indonesia."

Pardede, Elda Luciana, Philip McCann, and Viktor A. Venhorst. 2020. "Internal Migration in Indonesia: New Insights from Longitudinal Data." Asian Population Studies 16, no. 3 Routledge: 287–309.

Perkins, Jessica M., S.V. Subramanian, George Davey Smith, and Emre Özaltin. 2016. "Adult Height, Nutrition, and Population Health." Nutrition Reviews 74, no. 3: 149–65.

Piketty, Thomas. 2003. "Income Inequality in France, 1901-1998." SSRN Scholarly Paper Rochester, NY. At https://papers.ssrn.com/abstract=441962.

Piketty, Thomas, and Emmanuel Saez. 2003. "Income Inequality in the United States, 1913–1998." The Quarterly Journal of Economics 118, no. 1: 1–41.

Pratomo, Devanto Shasta, Wildan Syafitri, and Clarissa Sekar Anindya. 2020. "Expanding Middle Class in Indonesia." The Journal of Indonesia Sustainable Development Planning; Kementerian PPN/Bappenas 1, no. 3: 307–12.

Prydz, Espen Beer, Dean Jolliffe, and Umar Serajuddin. 2021. "Mind the Gap: Disparities in Assessments of Living Standards Using National Accounts and Household Surveys." Working Paper Washington, DC: World Bank. At https://openknowledge.worldbank.org/handle/10986/36306, accessed September 13, 2022.

Purnamasari, R., S. Hambali, and D. Halim. Forthcoming. "Narrowing of Gender Gaps in Employment during the Onset of COVID-19 in Indonesia." Asian Development Review.

Purnamasari, Ririn Salwa, Nina Weimann-Sandig, Resmi Setia Milawati, and Sheila Town. 2020. "What's Holding Women Back?" Washington, DC: The World Bank.

Purnamasari, R.S., P.H. Satyaka, Suharti, Matthew Wai-Poi, and Rythia Afkar. 2022. "COVID-19 and Education in Indonesia: When School Reopening Is Not Enough to Avert Losing a Generation." In S.M. Indrawati, S. Nazara, T. Anas, C.F. Ananda, and K. Verico, eds. Keeping Indonesia Safe from COVID-19 Pandemic: Lessons Learnt from the National Economic Recovery Programme Singapore: ISEAS.

Putra, Rendra A., Kostiantyn Ovsiannikov, and Koji Kotani. 2022. "COVID-19-Associated Income Loss and Job Loss: Evidence from Indonesia." SDES-2022-4 Working Papers Kochi University of Technology, School of Economics and Management. At https://ideas.repec.org/p/kch/wpaper/sdes-2022-4.html.

Ravallion, Martin. 2021. "Missing Top Income Recipients." Working Paper Working Paper Series National Bureau of Economic Research. At https://www.nber.org/papers/w28890.

Roberts, Mark, Frederico Gil Sander, and Sailesh Tiwari. 2019. Time to ACT: Realizing Indonesia's Urban Potential. Washington, DC: World Bank. At https://openknowledge.worldbank.org/handle/10986/31304.

Rodrik, Daniel. 2015. "Premature Deindustrialization." Journal of Economic Growth 21: 1–33.

Rosenzweig, Mark R., and Hans P. Binswanger. 1993. "Wealth, Weather Risk and the Composition and Profitability of Agricultural Investments." The Economic Journal 103, no. 416: 56.

Rosser, Andrew J., and Mohamad Fahmi. 2016. "The Political Economy of Teacher Management in Decentralized Indonesia." 7918 World Bank Policy Research Working Paper Washington, D.C.: World Bank.

Rujiwattanapong, W. Similan. 2022. "Unemployment Insurance and Labour Productivity over the Business Cycle." Review of Economic Dynamics 46: 196–223.

Santoso, Rokhedi Priyo, and Jaka Sriyana. 2021. "The Effect of Idiosyncratic Shocks on Labor Market Outcomes of Informal Households in Indonesia." Jurnal Ekonomi Malaysia no. Jurnal Ekonomi Malaysia: 15.

Sari, Virgi Agita, Ririn Salwa Purnamasari, and Ade Febriady. 2022. "Households' Exposure to, and Recovery from, COVID-19 Socio-Economic Shocks in Indonesia: Insights from a Year of High-Frequency Monitoring.": 38.

Schaner, Simone, and Smita Das. 2016. "Female Labor Force Participation in Asia: Indonesia Country Study." 474 Economics Working Paper Series Manila: Asian Development Bank.

Simeu, Natalie, and Sophie Mitra. 2019. "Disability and Household Economic Wellbeing: Evidence from Indonesian Longitudinal Data." Oxford Development Studies 47, no. 3: 275–88.

Sjahrir, B. S., and I. D. Wibisono. 2022. "Food Insecurity in Indonesia During COVID-19 Pandemic: What Do We Learn from High-Frequency Monitoring of Households?" Washington, DC: World Bank.

Skoufias, Emmanuel, Katja Vinha, and Berhe Mekonnen Beyene. 2021. "Quantifying Vulnerability to Poverty in the Drought-Prone Lowlands of Ethiopia." Working Paper Washington, DC: World Bank. At https://openknowledge.worldbank.org/handle/10986/35107.

Stith, Adrienne Y., Kathleen S. Gorman, and Naseem Choudhury. 2003. "The Effects of Psychosocial Risk and Gender on School Attainment in Guatemala." Applied Psychology 52, no. 4: 614–29.

Syamsulhakim, Ekki, and Nurzanty Khadijah. 2021. "Graduating from a Conditional Cash Transfer Program in Indonesia: Results of a Household Survey of Prosperous-Independent Graduates of the Family Hope Program in 2020." Washington, DC: World Bank. At https://openknowledge.worldbank.org/handle/10986/36784.

Tesliuc, Emil D., and Kathy Lindert. 2004. "Risk and Vulnerability in Guatemala: A Quantitative and Qualitative Assessment." 30154 Social Protection Discussion Papers and Notes The World Bank. At https://ideas.repec.org/p/wbk/hdnspu/30154.html.

Wajdi, Nashrul, Clara H. Mulder, and Sri M. Adioetomo. 2017. "Inter-Regional Migration in Indonesia: A Micro Approach." Journal of Population Research 34, no. 3: 253–77.

Walker, Susan P, Susan M Chang, Christine A Powell, and Sally M Grantham-McGregor. 2005. "Effects of Early Childhood Psychosocial Stimulation and Nutritional Supplementation on Cognition and Education in Growth-Stunted Jamaican Children: Prospective Cohort Study." The Lancet 366, no. 9499: 1804–7.

Widianto, Bambang, and Widjajanti Isdijoso. 2020. "The Situation of the Elderly in Indonesia and Access to Social Protection Programs: Secondary Data Analysis." SMERU Research Report Indonesia: The National Team for the Acceleration of Poverty Reduction, The SMERU Research Institute.

Wihardja, Maria Monica, and Wendy Cunningham. 2021. "Pathways to Middle-Class Jobs in Indonesia." Technical Report Washington DC: The World Bank.

Winsemius, Hessel C., Brenden Jongman, Ted I. E. Veldkamp, Stephane Hallegatte, Mook Bangalore, and Philip J. Ward. 2018. "Disaster Risk, Climate Change, and Poverty: Assessing the Global Exposure of Poor People to Floods and Droughts." Environment and Development Economics 23, no. 3: 328–48.

World Bank. 1993. "The East Asia Miracle." Washington, D.C.: World Bank.

———. 2006. "Making the New Indonesia Work for the Poor." Washington, DC: World Bank. At https://openknowledge.worldbank.org/handle/10986/8172.

———. 2015a. "Live Long and Prosper: Aging in East Asia and the Pacific." Washington, D.C.: World Bank.

———. 2015b. "Taxes and Public Spending in Indonesia : Who Pays and Who Benefits." Washington, D.C.: World Bank.

———. 2015c. "Indonesia Systematic Country Diagnostic: Connecting the Bottom 40 Percent to the Prosperity Generation." Washington, DC: World Bank. At https://openknowledge.worldbank.org/handle/10986/23117.

———. 2016. "Indonesia's Rising Divide." Working Paper Washington, DC: World Bank. At https://openknowledge.worldbank.org/handle/10986/24765.

———. 2017. "The Fertiliser Sector and Subsidy Policy in Indonesia - Key Takeaways." Washington, D.C.: World Bank.

———. 2018a. "Riding the Wave: An East Asian Miracle for the 21st Century." Washington, D.C.: World Bank.

———. 2018b. "Economic and Social Mobility in Urbanizing Indonesia." Indonesia: World Bank.

———. 2019a. "Aspiring Indonesia—Expanding the Middle Class." Washington, DC: World Bank. At https://openknowledge.worldbank.org/handle/10986/33237.

———. 2019b. "Strengthening the Disaster Resilience of Indonesian Cities: A Policy Note." Working Paper Washington, DC: World Bank. At https://openknowledge.worldbank.org/handle/10986/32459.

———. 2019c. "Bangladesh Poverty Assessment: Facing Old and New Frontiers in Poverty Reduction." Washington, DC: World Bank.

———. 2020a. "Indonesia Country Gender Assessment: Investing in Opportunities for Women." Washington, DC: World Bank. At https://openknowledge.worldbank.org/handle/10986/35310.

———. 2020b. "No One Left Behind: Rural Poverty in Indonesia." Washington, DC: World Bank. At https://openknowledge.worldbank.org/handle/10986/34163.

———. 2020c. "Indonesia Systematic Country Diagnostic." East Asia and Pacific Region.

———. 2020d. "Indonesia Public Expenditure Review 2020: Spending for Better Results." Washington, DC: World Bank. At https://openknowledge.worldbank.org/handle/10986/33954.

———. 2020e. "Indonesia Economic Prospects, July 2020: The Long Road to Recovery." Washington, DC: World Bank. At https://openknowledge.worldbank.org/handle/10986/34123.

———. 2020f. "Revisiting the Impact of Government Spending & Taxes on Poverty & Inequality in Indonesia." East Asia and Pacific Region: World Bank.

———. 2020g. "Indonesia Economic Prospects, December 2020: Towards a Secure and Fast Recovery." Washington, DC: World Bank. At https://openknowledge.worldbank.org/handle/10986/34930.

———. 2021a. "Beyond Unicorns : Harnessing Digital Technologies for Inclusion in Indonesia." Washington, D.C.: World Bank.

———. 2021b. "Indonesia Learning Poverty Brief." Washington, D.C.: World Bank.

———. 2021c. "Welfare Tracking in the Aftermath of Crisis: The Central Sulawesi Disaster Response." World Bank.

———. 2021d. "Indonesia Economic Prospects, December 2021: A Green Horizon - Toward a High Growth and Low Carbon Economy." Washington, DC: World Bank. At https://openknowledge.worldbank.org/handle/10986/36732.

———. 2022a. "Commodity Markets Outlook: The Impact of the War in Ukraine on Commodity Markets." Washington, D.C.: World Bank.

———. 2022b. Poverty and Shared Prosperity 2022: Correcting Course. Washington, D.C.: World Bank.

———. 2022c. "The Geography of Human Capital: Insights from the Sub-National Human Capital Index in Indonesia." World Bank.

———. 2022d. "Indonesia Economic Prospects, December 2022: Trade for Growth and Economic Transformation." Washington, DC: World Bank.

———. 2022e. "Reforms for Recovery." October 2022 East Asia and Pacific Economic Update Washington, D.C.: World Bank.

———. 2022f. "Braving the Storms." April 2022 East Asia and Pacific Economic Update Washington, D.C.: World Bank.

———. 2022g. "Finance for an Equitable Recovery." World Development Report Washington, D.C.: World Bank.

———. 2022h. "Indonesia: Country Climate and Development Report." World Bank.

———. 2022i. "Indonesia Economic Prospects, June 2022: Financial Deepening for Stronger Growth and Sustainable Recovery." Washington, DC: World Bank. At https://openknowledge.worldbank.org/handle/10986/37584.

———. 2023. "Jobs Flagship Report: Jobs After Covid-19." Washington, D.C.: World Bank.

———. forthcoming. "Expanding Social Insurance Coverage to the Informal Sector in Indonesia." Washington, D.C.: World Bank.

———. forthcoming. "Public Expenditure Review for Indonesia." Washington, D.C.: World Bank.

Yarrow, Noah, Eema Masood, and Rythia Afkar. 2020. "Estimates of Covid-19 Impacts on Learning and Earning in Indonesia: How to Turn Tide." Washington, D.C.: World Bank.

ANNEXES

Estimating economic insecurity

This Poverty Assessment (PA) follows seminal work conducted in the past to break down households' vulnerability into two components: (i)"poverty-induced" vulnerability, when the average expected welfare of a household falls below the poverty line in the absence of shocks; and (ii) "risk-induced" vulnerability, when the average expected welfare level is above the poverty line, but during shocks consumption is expected to fall below the line. The model takes into account the "hierarchical" or "multilevel" structure of the data as variables are collected at two different levels: lower-level households nested within higher-level communities. Each level is formally represented by its own sub-model, which expresses not only the relationships among variables within the given level but also across different levels. For example, multilevel models assume that community characteristics and covariate shocks not only have a direct impact on households' consumption, but might also have an indirect impact through returns to household-specific characteristics. This allows for differentiation between unexplained variance at the household level (the impact of idiosyncratic household-specific shocks) and unexplained variance at the community level (the impact of covariate community-specific shocks).

To illustrate the model, suppose that household i (i = 1,…, n) is nested within a higher-level community j (j = 1,…, J). The per capita consumption C_{ij} of household i in community j can be explained by a set of household characteristics Xij . Assuming a log-normal distribution, the following regression equation is set up, where e_{ij} reflects the unexplained variance in the household's consumption:

$$\ln(C_{ij}) = \beta_{0j} + \beta_{1j}X_{ij} + e_{ij} \quad \ldots\ldots(1)$$

Next, it is assumed that both the average consumption (the intercept β_{0j}) and the return to the household's endowments (i.e. the coefficient β_{1j}) vary between communities and depend on community characteristics (Z_j) and community-level shocks ($u_{0j} + u_{1j}$):

$$\beta_{0j} = \gamma_{00} + \gamma_{01}Z_j + u_{oj} \quad \ldots\ldots(2)$$
$$\beta_{1j} = \gamma_{10} + \gamma_{11}Z_j + u_{1j} \quad \ldots\ldots(3)$$

Substituting equation (2) and (3) into (1), the complete specification is obtained as follows, which then can be estimated via maximum likelihood:

$$\ln(C_{ij}) = \gamma_{00} + \gamma_{01}Z_j + (\gamma_{10} + \gamma_{11}Z_j)X_{ij} + u_{oj} + u_{1j}X_{ij} + e_{ij} \quad \ldots\ldots(4)$$

In contrast to standard ordinary least square estimation, the error term in (4) contains not only an individual or household component e_{ij} but also a group or community component $u_{oj} + u_{1j}X_{ij}$. The error term u_{0j} represents the unexplained variance across communities of the intercept β_{0j}. The error term $u_{1j}X_{ij}$ reflects the unexplained variance across communities of the slope β_{1j}. The error term e_{ij} captures the remaining unexplained variance in households' consumption within communities.
In the first step, using a basic multilevel model, per capita household (log) consumption of household i in community j is regressed on a set of household X_{ij} and community covariates Z_j (equation 5). To allow for heterogeneity in sources of livelihood, living standards and various shocks that affect consumption in different regions of Indonesia, equation 5 is estimated separately for each of the country's six island-regions i.e., Sumatera, Java-Bali, Nusa-Tenggara, Kalimantan, Sulawesi, and Maluku-Papua.

$$\ln(\widehat{C_{ij}}) = \gamma_{00} + \gamma_{01}Z_j + (\gamma_{10} + \gamma_{11}Z_j)X_{ij} + (u_{oj} + u_{1j}X_{ij}) + e_{ij} \quad \ldots\ldots(5)$$

It is assumed that the error term e_{ij} at the household level captures the impact of idiosyncratic shocks. The error terms u_{oj} and $u_{1j}X_{ij}$ at the community level capture the impact of covariate shocks on households' consumption. Note that the error term $u_{1j}X_{ij}$ at the community level includes an idiosyncratic part X_{ij}. The model specified in equation 5 can therefore also capture indirect effects of covariate shocks, which have an impact on the returns to household characteristics. In the final specification we do, however, not analyze u_{oj} and u_{1j} separately, focusing instead on distinguishing between covariate and idiosyncratic variance.

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264 Günther and Harttgen 2009; Chaudhuri, Jalan, and Suryahadi 2002; Goldstein 2010

265 The model also allows for heteroscedasticity (unequal variance of error terms across households) and efficient estimators given the hierarchical data structure (household & community variables used simultaneously). There is no need for lengthy panel data or information on specific shocks. See Gunther & Harttgen (2008) for details. Ideally, this estimation would entail a repeated observation of the same household's consumption at different periods over time. While Indonesia is fortunate to have the Indonesia Family Life Survey panel data (IFLS) that enumerated each seven years since 1993, and Panel Indonesia Socio-Economic Survey that tracked a shorter period consumption variation from the same households. Unfortunately, the last wave of these data is only available for 2010 and 2014 which creates additional challenges in measuring vulnerability to poverty for a more recent time. The IFLS is an on-going longitudinal survey, conducted once every seven years in Indonesia starting from 1993. The survey has sample that is representative of about 83% of the Indonesian population (except Maluku and Papua) and has track over 30,000 individuals living in half of the provinces in the country for over 21 years (1993-2014).

265 Panel SUSENAS is specialized years of Indonesia socio-economic survey data where instead of surveying different households in different wave of the survey, the SUSENAS track the information of the same household for several years of time. The last time this nationally representative survey capture panel information was between the period of 2008-2010.

The variance of consumption at the household and at the community level, that is, the impact of idiosyncratic and covariate shocks, is assumed to depend on a set of household and community characteristics. In the second step, therefore, the squared residuals of equation 5 is regressed on a set of household X_{ij} and community Z_j characteristics:

$$e_{ij}^2 = \theta_0 + \theta_1 X_{ij} + \theta_2 Z_j + \theta_3 X_{ij} Z_j \quad \ldots (6)$$

$$u_{0j}^2 = \tau_0 + \tau_1 Z_j \quad \ldots (7)$$

$$\left(e_{ij} + u_{0j}\right)^2 = \theta_0 + \theta_1 X_{ij} + \theta_2 Z_j + \theta_3 X_{ij} Z_j \quad \ldots (8)$$

The final step estimates the expected mean as well as the expected idiosyncratic $\sigma_{e_{ij}}^2$, covariate $\sigma_{u_{0j}}^2$, and total $\sigma_{e_{ij}+u_{0j}}^2$ variance of households' consumption with the estimated coefficients of equations 6 – 8. Finally, assuming that consumption is log-normally distributed, the probability of a household i in community j to fall below the poverty line is estimated using the estimated expected mean and variance of consumption:

$$\widehat{v_{ij}} = \hat{P}\left(\ln c_{ij} < \ln z \middle| X, Z\right) = \emptyset\left(\frac{\ln z - \ln \hat{c}_{ij}}{\sqrt{\hat{\sigma}_{ij}^2}}\right) \quad \ldots (9)$$

where $\emptyset(.)$ denotes the cumulative density of the standard normal distribution function; z, the poverty line; $\ln \hat{c}_{ij}$ the expected mean of per capita (log) consumption, and $\hat{\sigma}_{ij}^2$ the estimated variance of per capita (log) consumption. v_{ij} is the estimated vulnerability or probability to fall below the poverty line. The estimation is conducted separately for the estimated idiosyncratic variance $\hat{\sigma}_{e_{ij}}^2$ and covariate variance $\hat{\sigma}_{u_j}^2$ in consumption as well as jointly $\hat{\sigma}_{e_{ij}+u_j}^2$ for the overall variance in consumption. If the (estimated) expected mean consumption $\ln \hat{c}_{ij}$ of a household already lies below the poverty line $\ln z$, then the household is referred to as structural or poverty-induced vulnerable (Figure 1). If the (estimated) expected consumption $\ln \hat{c}_{ij}$ lies above the poverty line $\ln z$, but a high estimated variance in consumption $\hat{\sigma}_{ij}^2$ leads to an estimated vulnerability that is greater than the set vulnerability threshold, then the household is said to face risk-induced vulnerability (Figure A1). It should be noted that unlike the vulnerability prevalence estimate that is decomposable into a poverty- vs. risk-induced component, the prevalence of risk-induced vulnerability cannot be decomposed into a component due to idiosyncratic shocks and a component due to covariate shocks. The relative contribution of idiosyncratic and covariate shocks to vulnerability is examined by comparing across geographic areas within the country.

Vulnerability threshold

A vulnerability threshold is defined above which households are considered as vulnerable to poverty, as well as a time horizon considered to be the "near" future.[267] In the empirical literature, a common vulnerability threshold is 50% and a time horizon of t + 2 years.[268] This means households are considered as vulnerable if they have a 50% or higher probability to fall below the poverty line (at least once) in the next two years, equivalent to a 29% or higher probability to fall below the poverty line in any given year.[269]

The PA however departs from this tradition and follows previous research in Indonesia to set the threshold at a 10 percent or higher probability of falling into poverty in the next year. Past research in Indonesia used the 2008-10 SUSENAS panel household data to estimate a probabilistic function that depicted the chance of a household falling below the poverty line in the next period based on its per capita consumption in the current period.[270] The first period consumption level which corresponded to a 10 percent chance of being poor next year was taken as the vulnerability line (IDR 530,000 in 2016 and equivalent to 1.5 times the poverty line). Ultimately, the choice of threshold has an impact on who is considered vulnerable. As the threshold increases (decreases), and the required probability of falling under the poverty line increases (decreases), fewer (more) households will be identified as vulnerable.

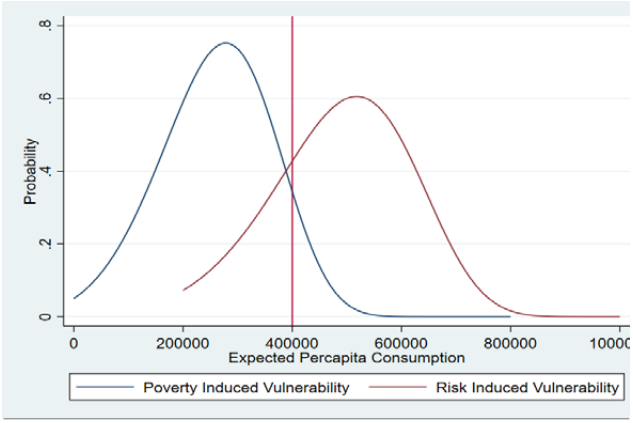
267 Following Günther and Harttgen 2009.

268 See, e.g., Chaudhuri, Jalan, and Suryahadi 2002; Tesliuc and Lindert 2004

269 For empirical applications using the 29% threshold, see for Madagascar Günther and Harttgen 2009; Skoufias, Vinha, and Beyene 2021; Gao, Vinha, and Skoufias 2020.

270 Notably, World Bank 2019a, implemented this following López-Calva and Ortiz-Juarez 2014 and

FIGURE A1: Permanent low consumption prospects vs. high consumption volatility



Definitions

Extending the above analysis, the Assessment defines the concepts of structural poverty, economic insecurity and economic security in the following manner:

- The structurally poor are those who are poor in the current period and identified as vulnerable to falling into poverty, based on the methods described above;
- Economically insecure consist of two groups: (i) those currently poor but not identified as vulnerable to poverty in the next period; and (ii) those not currently poor but identified as vulnerable above; and
- Economically secure: neither poor in the current period, nor vulnerable in the next.

The analyses of idiosyncratic and covariate susceptibility (vulnerability) is carried out as described above, and reported for the economically insecure households.

Voices: Background Information

Lembata

Lembata is a district in the province of Nusa Tenggara Timor, in Eastern Indonesia. It consists of a small island off the east coast of much larger Flores and has a population of around 135,000, most of whom are engaged in rain-fed, largely subsistence agriculture, growing vegetables and corn, or in fishing. With poor transport infrastructure, farmers and fishers have limited access to commercial markets for their produce, the majority of which is consumed within the island. Small-holder farmers in particular are heavily dependent on the sale of fine hand-woven cloth for cash income, with this cloth produced almost exclusively by women. In addition, both men and women frequently seek work on neighboring islands or further afield, often sending cash back to their families. In recent years, PEKKA, a women's union, has been active on the island, organizing savings and loans groups, informal educational activities, and other types of support, enabling poor women to borrow money, using their woven cloth as a form of security. In 2017, an earthquake caused major damage in several sub-districts, including Ile Api, where most of the informants lived. This was followed by droughts, and then, with the pandemic raging across Indonesia, a cyclone (2020) and mudslides (2021) that resulted in hundreds of deaths and in the loss of thousands of homes, livestock, woven cloth, and other productive assets. While informants stated that government agencies played a very active role in the initial post-disaster periods, providing food assistance and temporary housing and rebuilding access roads and other public facilities, this support dried up quite quickly, with NGOs and community organizations playing a greater role. There appears to have been almost no agricultural extension services available, even prior to the disasters, and little or no support in the post-disaster period for agricultural activities. One fisherman stated that over the years, his livelihood had improved as a result of improved road and transport infrastructure, with the price of fish now roughly the same across the island. Some women stated that district agencies had provided grants and other support to enable them to buy looms and weaving materials, and thus to generate cash incomes.

Kediri

Kediri is a small city (population around 288,000) in the province of East Java. It has large cigarette and sugar production industries, with both tobacco and sugar widely cultivated in surrounding rural areas. Most of the urban poor seek their livelihoods as waged laborers, domestic workers, small time traders, and providers of transport and other services. Many maintain some connections with surrounding villages, where some continue to own agricultural land, although this is often insufficient to sustain them. With good road and rail connections to Surabaya and Malang, both large, industrial cities, many also travelled or migrated to these centers to seek work or business opportunities, at least prior to the pandemic. The city government has introduced programs to ensure that low-income residents have adequate access to medical care, at least for the treatment of emergencies and acute conditions, with informants generally stating that they were satisfied with these services. Prior to the pandemic, many – but not all – informants stated that they had received some form of food and non-food assistance from government agencies, including through the PKH program for families with school-aged children. Informants were often confused regarding their eligibility for these programs, generally waiting for sub-district officials to contact them to invite them to participate. A government urban revitalization project, KOTAKU, is active in the city and conducts activities to improve physical living conditions in the slum areas through the construction of community bathing and toilet facilities and other infrastructure.

Additional Graphs and Tables

FIGURE A2: Depth and severity of extreme poverty declined continuously, with rural rates converging to urban ones since 2014

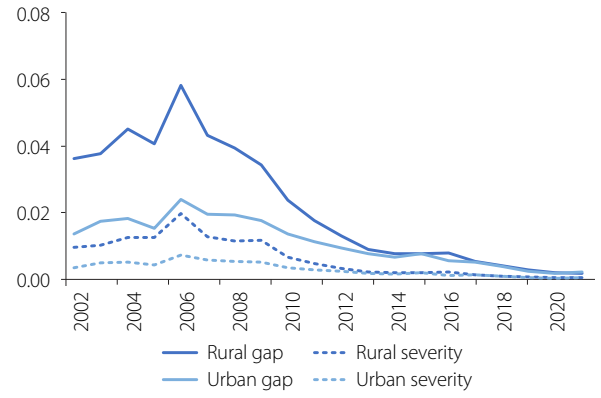


FIGURE A3: Depth and severity of poverty declined continuously, and rural areas have largely caught up with urban ones

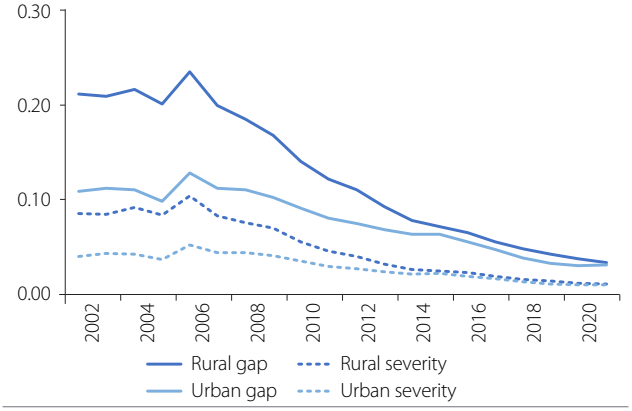


FIGURE A4: The vast majority of the poor, insecure and secure reside in the most populous island-regions of Java-Bali and Sumatera

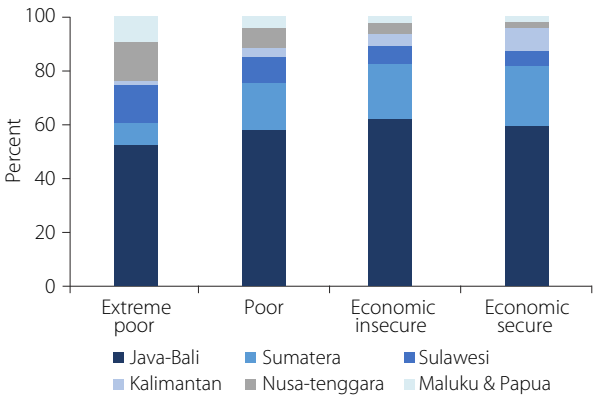


FIGURE A5: Except in Java-Bali, the extreme poor are concentrated in rural areas while the economically secure are mainly in urban areas

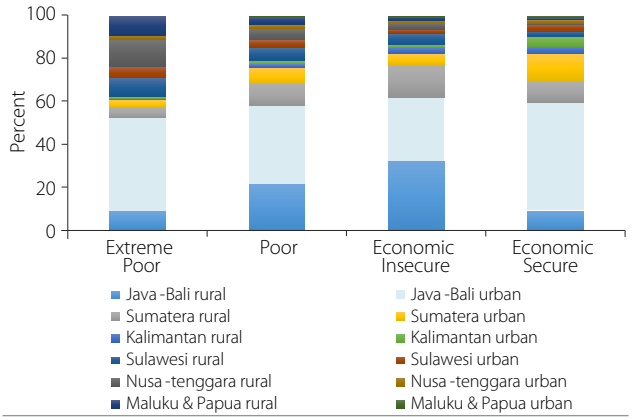


FIGURE A6: Access to quality maternal health care among pregnant women, by wealth quintile

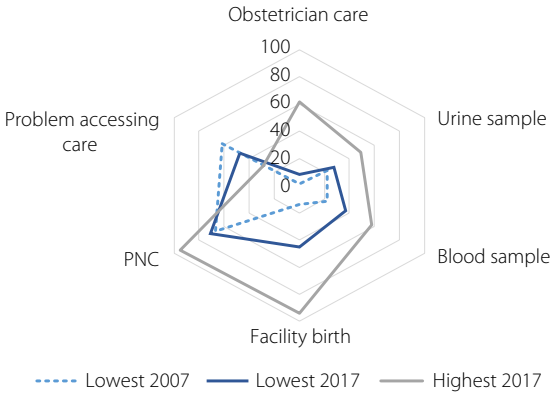


FIGURE A7: Share of households with access to services, by poverty status

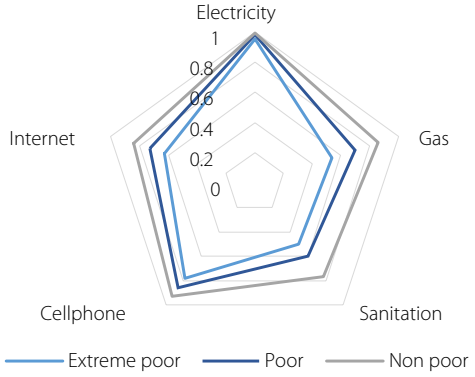


FIGURE A8: Employment rates by education, from 2001 to 2021

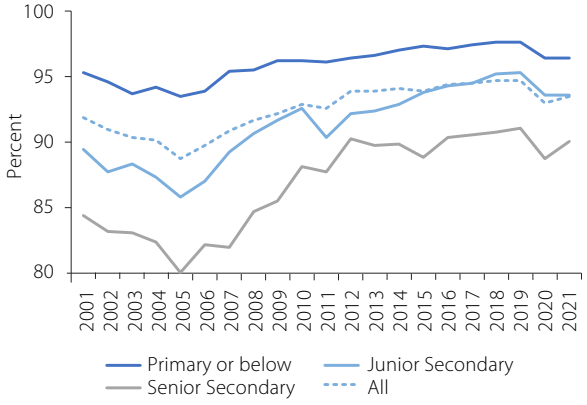


FIGURE A9: Maternal mortality rate and total fertility rates in 2020, by region

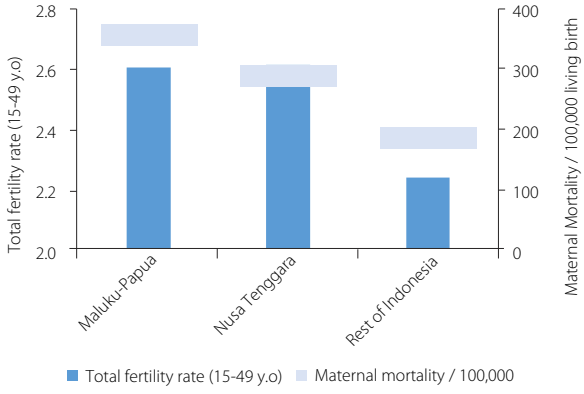


FIGURE A10: Share of sectoral RGDP, by region

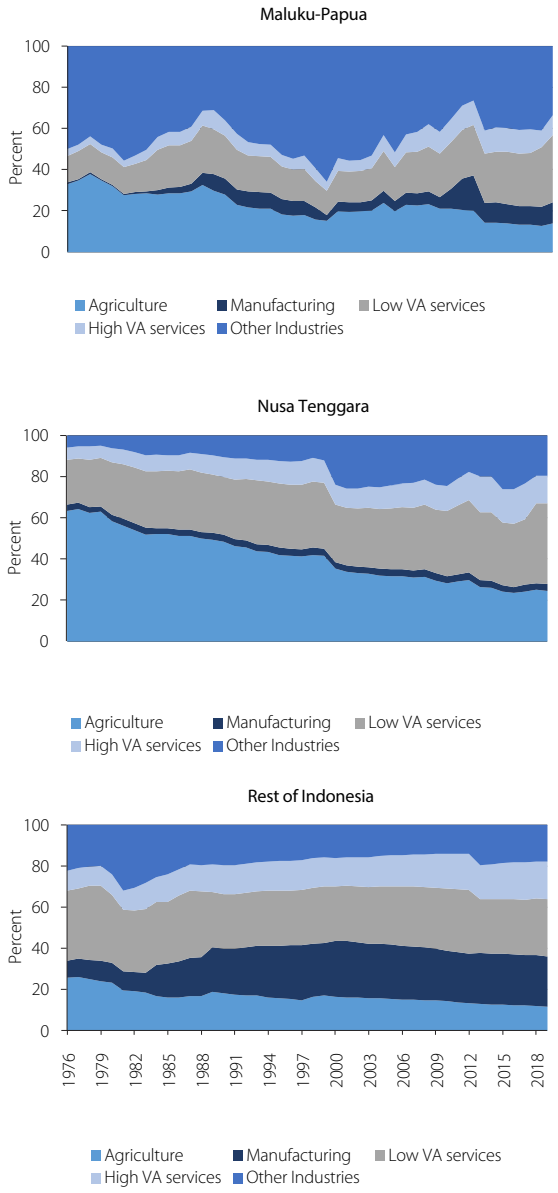


FIGURE A11: Share of employment by sector and by region

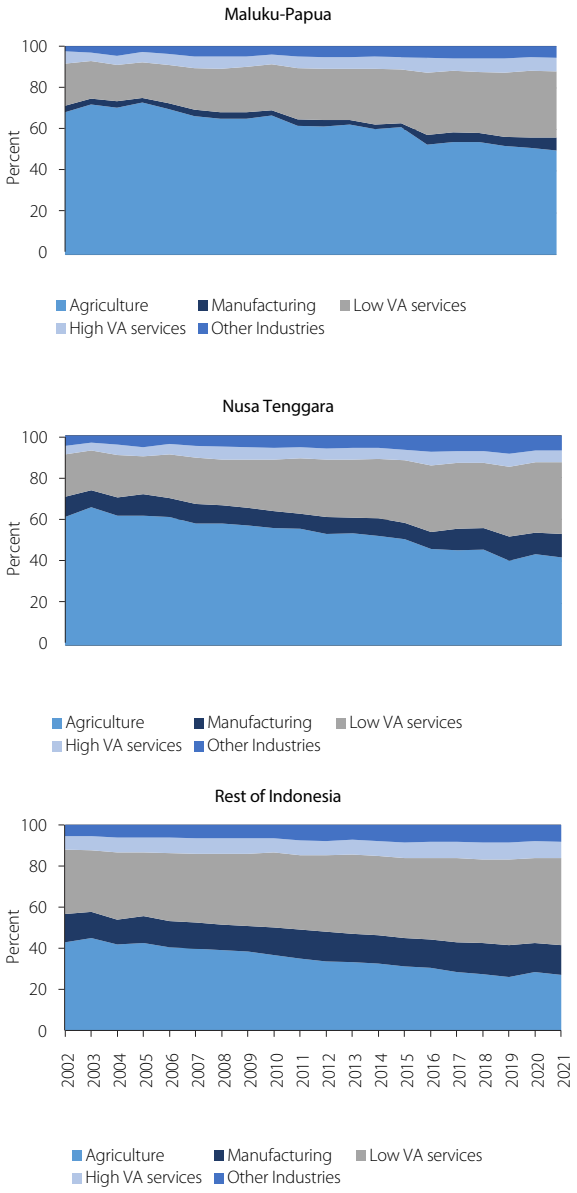


Table A1: Characteristics of the extreme poor, poor and the economically insecure and secure, 2019

			Extreme poor	Poor	Economically insecure	Economically secure
Number			7,202,731	53,307,242	104,419,620	120,770,301
Demographic characteristics	Household head	Age (years)	49	49	50	47
		…was male	86%	88%	86%	84%
	Household	Size	6.0	5.3	4.1	3.2
		Dependency ratio	0.98	0.81	0.58	0.44
		Ratio of children to total members	0.38	0.34	0.24	0.19
		Ratio of female to total members	0.51	0.51	0.50	0.50
		Ratio of elderly to total members	0.06	0.05	0.10	0.08
		Educational attainment of head (years)	5.9	6.6	6.4	10.1
		No. of working members	2.1	2.1	1.8	1.7
Education & labor market	Ratio of…	Working to total working age members	0.67	0.68	0.70	0.74
		Employed female to total working age female members	0.47	0.47	0.46	0.57
	HH head was…	Employed	87%	89%	88%	86%
		In agriculture	50%	44%	43%	17%
		In industry	15%	19%	19%	19%
		In services	22%	27%	27%	50%
		Self-employed or employer	54%	49%	49%	37%
		An employee	20%	26%	25%	44%
		A Casual worker or unpaid family worker	14%	15%	14%	5%
Access to Services	HH had access to…	Protected water source	79%	83%	86%	94%
		Electricity	92%	97%	98%	100%
		Proper sanitation	46%	56%	59%	84%
		Gas for cooking	51%	66%	74%	89%
		Internet	10%	16%	25%	55%

Note: Differences between groups for all estimates were statistically significant at the 95 percent level. Characteristics examined but not shown here included share of household heads that were migrants.

Table A2: Employment and other outcomes among women, by household demographic category

		Share of married…		Share of working married women by sector of employment					Share of working married women by type of employment				
		… men working	… women working	Agriculture	Manufacturing	Low VA services	High VA services	Others	Self-employed	Wage Employee	Wage Employee	Unpaid/Family Worker	Share FHHH
Households with >= one married couple													
No dependents	Poor	89%	56%	58%	12%	29%	0%	1%	28%	21%	15%	36%	2%
	NP	92%	56%	28%	13%	56%	3%	1%	34%	37%	5%	23%	3%
>=1 child but no seniors	Poor	97%	47%	44%	15%	39%	1%	1%	35%	24%	10%	31%	4%
	NP	98%	53%	21%	15%	60%	3%	1%	38%	39%	5%	18%	3%
>=1 senior but no children	Poor	97%	64%	53%	16%	31%	0%	0%	33%	23%	10%	34%	14%
	NP	95%	63%	25%	12%	59%	3%	1%	33%	42%	5%	20%	14%
Seniors & children	Poor	97%	56%	41%	18%	40%	1%	1%	34%	26%	8%	32%	12%
	NP	97%	63%	22%	15%	59%	4%	1%	35%	42%	4%	19%	13%

		Share of…		Share of working women by sector of employment					Share of working women by type of employment				
		… men working	… women working	Agriculture	Manufacturing	Low VA services	High VA services	Others	Self-employed	Wage Employee	Wage Employee	Unpaid/Family Worker	Share FHHH
Households with no or at most one married member													
No dependents	Poor	66%	60%	48%	16%	34%	1%	1%	49%	25%	19%	7%	73%
	NP	79%	65%	23%	15%	55%	5%	1%	43%	48%	7%	3%	54%
>=1 child but no seniors	Poor	58%	61%	40%	13%	45%	1%	1%	48%	31%	14%	7%	81%
	NP	65%	60%	23%	14%	58%	4%	1%	47%	42%	8%	4%	71%
>=1 senior but no children	Poor	69%	55%	52%	15%	33%	0%	0%	36%	25%	13%	26%	35%
	NP	80%	55%	29%	12%	53%	5%	1%	34%	39%	6%	21%	36%
>=1 senior but no children	Poor	56%	51%	36%	16%	45%	2%	1%	36%	37%	11%	17%	38%
	NP	59%	51%	22%	15%	58%	3%	1%	35%	43%	5%	17%	34%

Note: Estimates reported for working aged men and women in 2019. Self-employment includes the self-employed as well as employers of temporary and permanent workers. NP = non-poor. FHHH = female headed households.

Table A3: Employment and other outcomes among men and women in male- and female-headed households

		Share	Poverty rate	Share of…		Share of working women by sector of employment				Share of working women by type of employment				
				…men working	…women working	Agriculture	Manufacturing	Low VA services	High VA services	Other	Self-employed	Wage Employee	Casual Worker	Unpaid/Family Worker
Rural	MHHH	84%	22%	86%	48%	48%	12%	39%	1%	1%	33%	26%	7%	34%
	FHHH	16%	25%	74%	63%	49%	11%	39%	1%	1%	55%	26%	11%	8%
Urban	MHHH	85%	18%	80%	46%	6%	18%	70%	5%	1%	33%	54%	4%	10%
	FHHH	15%	18%	72%	60%	6%	17%	69%	7%	1%	37%	56%	5%	3%
National	MHHH	85%		83%	47%	25%	15%	56%	3%	1%	33%	41%	5%	21%
	FHHH	15%		73%	61%	25%	14%	56%	4%	1%	45%	43%	8%	5%

Note: Estimates reported for working aged men and women in 2019. Self-employment includes the self-employed as well as employers of temporary and permanent workers. FHHH = female headed households. MHHH =male headed households.

Table A4: Main social assistance programs in 2019 and 2021, using US$ 3.20 2011 PPP as poverty measure

Program	Purpose	Targeted Coverage (in million benef.)		Budget (IDR Trillion)		Average Benefit (per month and beneficiary)		Incident as share of consumption from poorest 10%		Coverage of the poorest 10%		Beneficiaries incidence to the poorest eligible 10%		Poverty Reduction Impact (in pp)		Inequality Reduction Impact		Budget as Share of GDP (%)		Poverty Effectiveness Index		Inequality Effectiveness Index	
		'19	'21	'19	'21	'19	'21	'19	'21	'19	'21	'19	'21	'19	'21	'19	'21	'19	'21	'19	'21	'19	'21
PKH	Poverty reduction, strengthened human capital	10	10	34.3	28.3	285,833	235,833	4.3%	2.5%	47%	36%	24%	17%	1.0	1.5	0.004	0.006	0.2	0.2	4.60	8.87	0.02	0.03
PIP	Lower cost of attending school	18	20	9.6	10.9	44,000	45,416	1.1%	2.8%	33%	59%	19%	19%	0.4	0.2	0.001	-7E-05	0.1	0.1	6.59	2.49	0.02	0.00
Sembako	Boost food security	16	19	20.8	49.9	111,000	221,144	0.6%	3.6%	47%	53%	17%	15%	1.0	2.3	0.004	0.009	0.1	0.3	7.86	7.69	0.03	0.03
PBI-JKN	Preventing health shocks	92	97	26.7	48.8	24,080	42,000		4.0%		64%	15%	15%		0.2		-7E-05	0.2	0.3		0.56		0.00
Unconditional cash transfer from MoSA	Supplementary Income buffer during pandemic		10		17.5		145,500		1.4%		31%		18%		0.8		0.003		0.1		7.97		0.02
Pre-Employment Program (Kartu Pra Kerja)	Training and cash for those unemployed or entering the labor force		6		20.0		212,500		0.2%		2%		2%		0.4		5E-04		0.1		3.82		0.00
UCT Village Fund	Supplementary Income buffer during pandemic		8		28.8		300,000		1.0%		9%		6%		0.9		0.003		0.2		5.42		0.02
Electricity subsidy	Electricity bill waivers for the poor		33		9.5		877/ KwH for 450 VA and 456/ Kwh for 900 V		0.9%		50%		7%		0.9		0.002		0.1		15.56		0.04
Wage Subsidy	Wage subsidy for the poor		9		8.8		83,333		0.2%		9%		6%		0.4		6E-04		0.1		7.53		0.01
Bulog Rice support (Rice PKH in 2020)	Rice assistance during pandemic		29		3.6		10,225		0.3%		86%		17%		0.3		5E-04		0.0		14.22		0.02

Table A4: Main social assistance programs in 2019 and 2021, using US$ 3.20 2011 PPP as poverty measure

Program	Purpose	Targeted Coverage (in million benef.)	Budget (IDR Trillion)	Average Benefit (per month and beneficiary)	Incident as share of consumption from poorest 10%	Coverage of the poorest 10%	Beneficiaries incidence to the poorest eligible 10%	Poverty Reduction Impact (in pp)	Inequality Reduction Impact	Budget as Share of GDP (%)	Poverty Effectiveness Index	Inequality Effectiveness Index
PPKM Staple Food Card (Sembako Jabodetabek in 2020)	Staple food assistance during pandemic for the poor living in Jabodetabek	6	7.1	100,000	0.1%	2%	2%	0.2	-5E-06	0.0	5.51	0.00
Assistance for Micro-Enterprises (Banpres Produktif)	Cash Transfer for micro enterprise during the pandemic	13	15.4	100,000	0.0%	53%	8%	1.4	0.004	0.1	15.69	0.05
Internet Subsidy	Internet subsidy for students during the pandemic	38	8.5	22,936	0.2%	33%	6%	0.3	4E-04	0.1	6.96	0.01

Table A5: Main social insurance programs in 2019 and 2021

Program	Broad purpose	Targeted coverage (million individual)		Coverage of the eligible (million individual)		Amount of contribution		Benefit description
		2019	2021	2019	2021	2019	2021	
JKN (social health insurance)	Preventing health shock	268	273	233	236	5% of monthly income (salaried) or IDR 42,000 (non salaried and non worker)	Class 1: IDR 150,000, Class 2: IDR 100,000, Class 3: 35,000	Health service fee waiver
JKK (works accident benefit)	Health service ad cash benefit for work related injury and/or fatality	126	131	29.9	30.6	0.24-1.75% of monthly income depending on works risk	0.24-1.75% of monthly income depending on works risk	Medical treatment, home care services, and cash benefit
JKM (death benefit)	Cash benefit to beneficiary in event of death of participant			29.9	30.6	0.24-1.75% of monthly income depending on works risk	0.3% of monthly income (salaried) or IDR 6800 (non salaried)	Death grant and funeral grant of IDR 42 million and children schol-arship up to 174 million
JHT (old age saving)	Ensuring participant has saving when entering retirement or in even permanent disability			36.5	16.6	5.7% of monthly income (salaried) or around 2% (non salaried)	5.7% of monthly income (salaried) or around 2% (non salaried)	Lump sum cash payment on retirement
JP (pension)	Ensuring decent living condition for participant after retirement or during permanent disability	45	42	16.4	13.3	3% of monthly income	3% of monthly income	Monthly cash payment

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