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WELFARE IN MALAYSIA ACROSS THREE DECADES

THE STATE OF HOUSEHOLDS 2020 PART I

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CONTENTS

ABBREVIATIONS

AAGR	:	Average annual growth rate
AFC	:	Asian financial crisis
b	:	Billion
B40	:	Bottom 40%
BR1M	:	*Bantuan Rakyat 1 Malaysia*
CAGR	:	Compounded annual growth rate
CE	:	Compensation of employees
CPI	:	Consumer Price Index
DOS	:	Department of Statistics Malaysia
E&E	:	Electrical and electronics
EPU	:	Economic Planning Unit
GDP	:	Gross domestic product
GFC	:	Global financial crisis
HIS	:	Household Income Survey
k	:	Thousands
LID	:	Labour income dispersion
LIS	:	Labour income share
m	:	Million
MPI	:	Multidimensional Poverty Index
OECD	:	Organisation for Economic Cooperation and Development
PLI	:	Poverty Line Income
ppt	:	Percentage points
RDM	:	Relative Distributive Measure
RM	:	Ringgit Malaysia
SAM	:	Social Accounting Matrix
SPV	:	Shared Prosperity Vision
SWF	:	Social welfare function
T20	:	Top 20%
UBP	:	Unincorporated business profit

GLOSSARY

Absolute poverty	:	A condition characterized by severe deprivation of basic human needs, including food, safe drinking water, sanitation, health, shelter and education. *Source: UN (1995)*
Consumer price index (CPI)	:	A measure that tracks the changes in the weighted average of prices of a representative basket of goods and services purchased by consumers in an economy. *Source: World Bank (2019)*
Current transfer	:	Current transfers consist of all transfers that are not transfers of capital; they directly affect the level of disposable income and should influence the consumption of goods or services. *Source: OECD (2008)*
Deindustrialisation	:	A trend of declining share of employment in manufacturing and the share of manufacturing value added in GDP. *Source: International Monetary Fund (1997)*
Disposable income	:	Refers to the amount of income after deducting current transfer payments including compulsory payments such as taxes, *zakat* and contributions to social security schemes. *Source: DOS (2020b)*
Gini coefficient	:	A measure of inequality in the extent to which the distribution of income (or, in some cases, consumption expenditure) among individuals or households within an economy deviates from a perfectly equal distribution. Values range between 0 and 1, where 0 denotes complete equality while 1 denotes complete inequality. *Source: DOS (2020b)*
Growth elasticity of poverty	:	A measure in assessing the impact of growth on poverty, i.e. how much poverty reduction occurs at a given rate of income growth. *Source: Iradian (2005)*
Imputed rent	:	Rental equivalents—that is, the estimated rent that a tenant would pay for an identical accommodation, taking into consideration factors such as the type of dwelling, its size, its facilities, its location and neighbourhood amenities. *Source: OECD and Statistical Office of the European Communities (2007)*
Inflation	:	A general increase in prices, usually expressed as an annual percentage rate of change as measured by the CPI. *Source: UNDESA (2007)*
Labour income dispersion	:	Refers to how labour income is distributed among all workers. *Source: ILO Data Production Analysis Unit (2019)*

GLOSSARY

Labour income share	:	Measures how much of total national income is accrued to labour, including compensation of employees and the incomes of the self-employed. *Source: ILO Data Production Analysis Unit (2019)*
Multidimensional Poverty Index (MPI)	:	A measure that identifies multiple deprivations at the household and individual level in health, education and standard of living. The MPI reflects both the incidence of multidimensional deprivation (a headcount of those in multidimensional poverty) and its intensity (the average deprivation score experienced by poor people). *Source: UNDP (2019)*
Palma ratio	:	A measure of inequality between those in the top and bottom income brackets, that is the income of the top 10% divided by the income share of the bottom 40%. *Source: OECD (2020)*
Poverty Line Income (PLI)	:	A measure of income set as the minimum amount needed by a household to meet the basic needs of food and non-food for each of its members. The Food PLI is defined as the amount of income necessary to meet a household's daily nutritional requirements as determined by the Ministry of Health (MOH). The non-food PLI is defined as the amount of income necessary to meet the minimum requirements for items such as clothing, housing, transport and other non-food needs by sex and age of a person, and is based on the expenditure patterns of low-income households. *Source: DOS (2020b)*
Relative poverty	:	A measure of deprivation based on a comparison with a certain standard of living. The threshold can be defined as a certain percentage under the median income. Individuals or households below that threshold are then categorised as being in relative poverty. *Source: DOS (2020b)*
Social Accounting Matrix (SAM)	:	A summary table for a given period that represents the production process, income distribution and redistribution, which occurs between sectors, factors of production and actors within an economic system as well as the rest of the world. *Source: Bellù (2012)*

EXECUTIVE SUMMARY

The positive story over three decades

The narrative of progress for Malaysian households on the whole is a positive one. Over the three decades, the improvement in households' welfare has been linked very closely to the economic development and transformation of the nation. With a combination of economic growth and distribution policies, social welfare improvements have been significant.

Household income, as a share of gross domestic product (GDP), constituted 45.7% in 2019, a meaningful rise from 35.9% in 1989. Behind this number, the **average household income more than tripled** in real terms from RM2,580 in 1989 to RM7,901 in 2019. Meanwhile, the median income also rose substantially from RM1,801 to RM5,873.

As expected, these income gains **increased household consumption spending**, contributing to a better standard of living for households. Consumption patterns have also changed, with greater spending on items traditionally described as discretionary, such as in communications, and recreational and cultural activities.

Absolute poverty declined from 16.5% in 1989 to 5.6% in 2019, while **income inequality moderated**, as measured by the Gini coefficient. Growth across income groups show that economic growth has generally been pro-poor, with households in lower deciles recording higher income growth rates compared to those in higher deciles.

On the Bumiputera affirmative action front, the scale and scope of the government's effort have broadened, from the focus on financing, training and equity participation during the 1990s, to a more concerted effort in strengthening investment capabilities and increasing property ownership as well. In the last decade, Bumiputera household income grew faster than other ethnic groups, leading to **smaller ethnic gaps**.

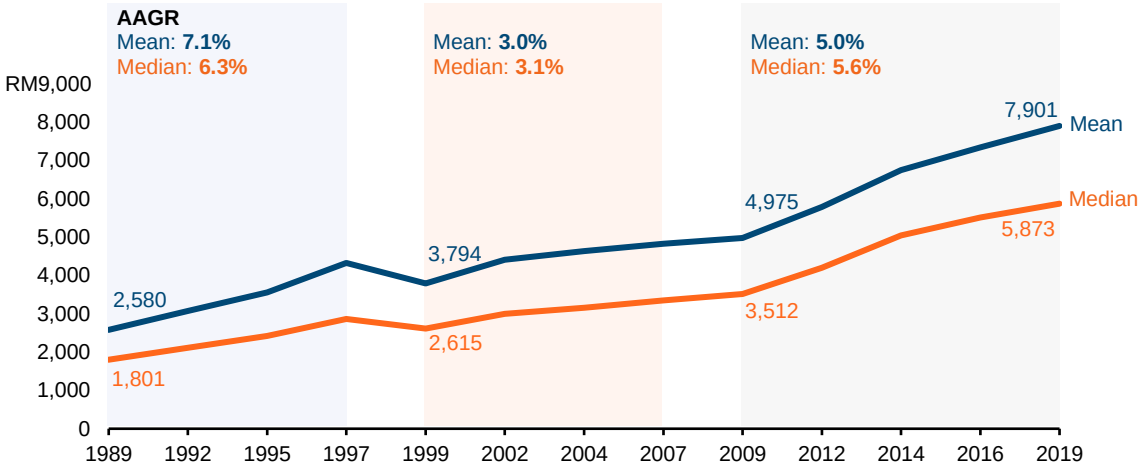
Meanwhile, **average and median incomes increased in all states** and federal territories during the last three decades. This **broad progress** was achieved **despite many challenges** and setbacks, including various external developments beyond Malaysia's control, including the Asian Financial Crisis (AFC) and Global Financial Crisis (GFC), which adversely affected both national and household income growth.

However, moving forward, **challenges remain**. While it is important to acknowledge the successes we have achieved, we must be aware of the daunting challenges ahead of us, as outlined in the following key takeaways.

Moderating household income growth, slowing economy

In the three decades **from 1989 to 2019, the rate of growth in household income moderated.** Mean and median household incomes grew fastest during 1989–1997, but the pace fell by about half during 1999–2007. While growth recovered slightly during 2009–2019, the rates was lower than before the AFC, reduced by slower growth after 2014.

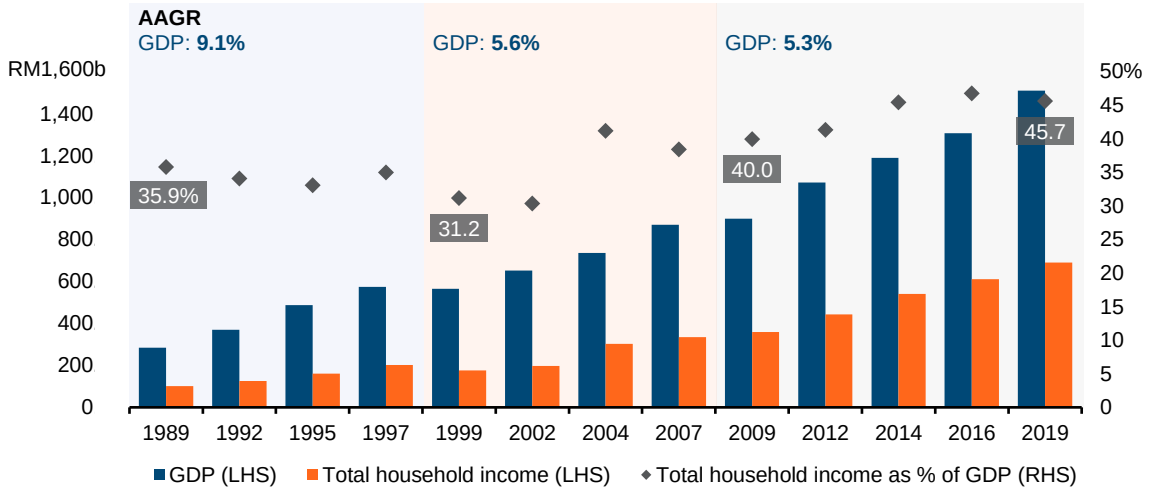
Real mean and median household income, 1989–2019



Note: AAGR stands for average annual growth rate. Data expressed in 2019 prices.
Source: DOS (2020b), EPU (n.d.c) and KRI calculations

GDP growth moderated, remaining closer to rates prior to the GFC in 2008 – 2009**.** In 2019, total household income was 45.7% of GDP, rising from 35.9% in 1989. Much of this increase took place after 2004, as household income growth outpaced GDP considerably.

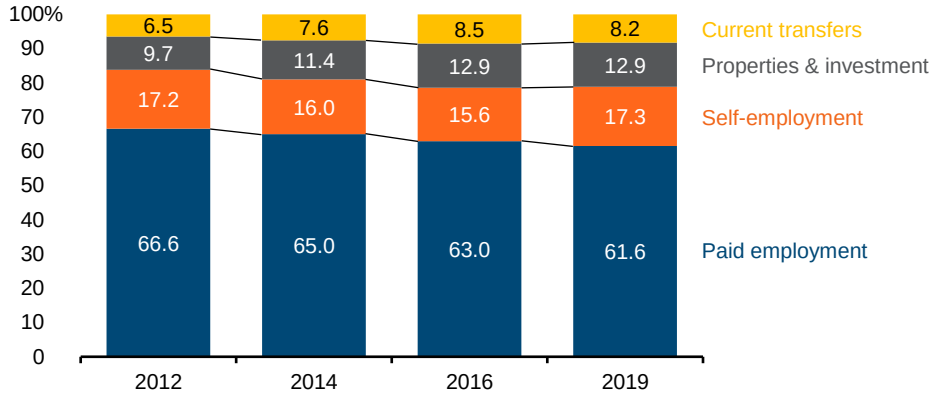
Real total annual household income and GDP, 1989–2019



Note: AAGR stands for average annual growth rate. Data expressed in 2019 prices.
Source: DOS (2020b), DOS (2020c) and KRI calculations

This moderating trend in household income growth needs to be seen in relation economic activities. A recent trend in household income is the decreasing importance of paid employment earnings, down to 61.6% of average household income in 2019, compared to 66.6% in 2012. This suggests slower growth in wages relative to other sources of income.

Share of mean household income, by source for household head, 2012–2019

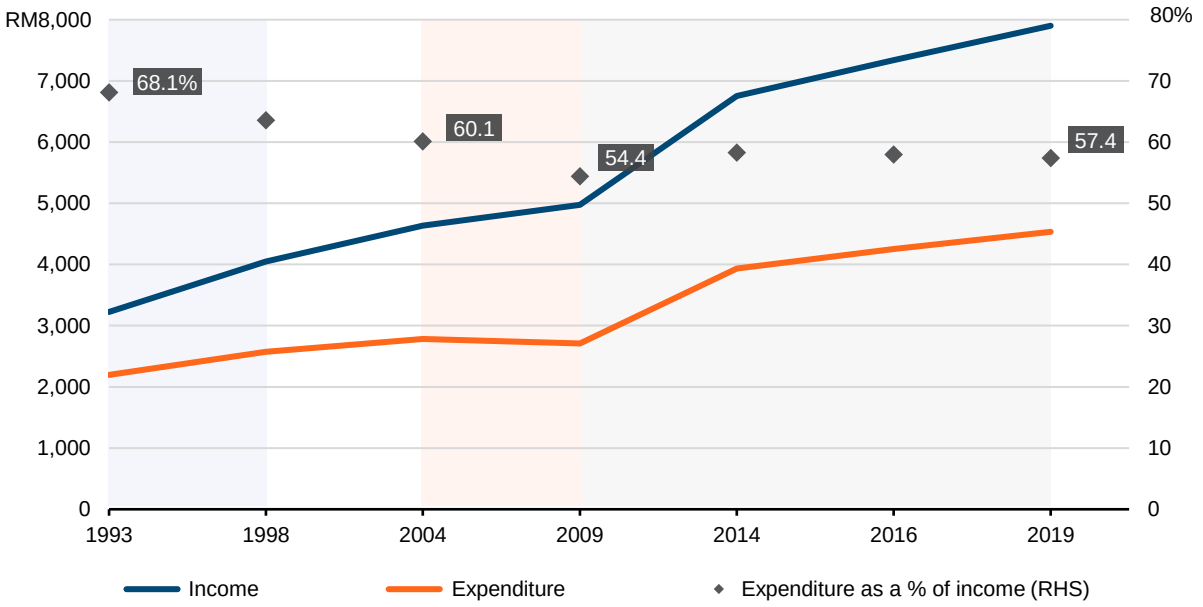


Sources: DOS (2017), DOS (2020b)

Higher expenditure, changing consumption patterns

The increase in household income was accompanied by higher expenditure. Between 1993 and 2009, mean and median household expenditure, as shares of household income, declined. This trend was then reversed from 2009 to 2014, as expenditure growth exceeded income growth, fuelling concerns for cost of living pressures.

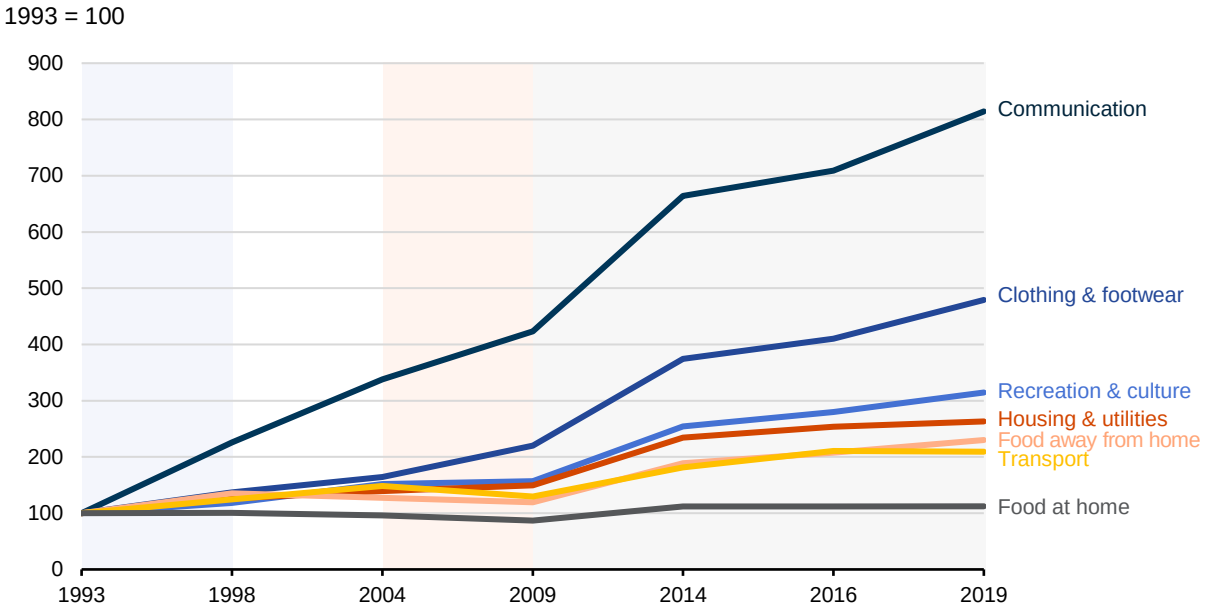
Real mean household income and consumption expenditure, 1993–2019



Note: The years featured are those with published data for household expenditure, which differs for earlier years with data for household income. Data is expressed in 2019 prices.
Source: DOS (2020d), DOS (2020b) and KRI calculations

Increased household expenditure involved changing consumption patterns. Despite rising prices over time, consumption increased for communications, recreation, culture and food away from home. While such spending has long been seen as discretionary, some of this may have become necessary. Meanwhile, consumption of basic necessities, such as food at home, remained constant, while spending on housing and transport increased.

Index of real mean household consumption expenditure, by selected category, 1993–2019



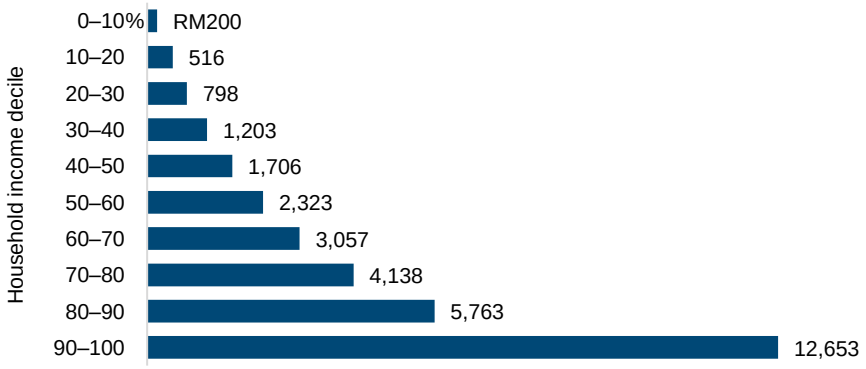
Note: Data is expressed in 2019 prices.
Source: DOS (2020d) and KRI calculations

Limited residual income, inadequate savings for the worst off

Residual household income, the excess of household income over consumption expenditure, **varies widely between income groups.** Households in the bottom 30% had residual incomes in gross terms below RM800 on average in 2019. It was even lower for the bottom 10%, who only an excess of RM200 on average. In contrast, the top 10% had RM12,653, which is interestingly considerably more than the second top 10% who had RM5,763. This shows significant gaps in incomes even among the top earners.

However, it should be noted that the above is calculated on a gross basis. On a net basis, particularly for the bottom 10%, **the net residual household income could even be negative**. This is after deducting payments such as social security contributions, taxes, inter-household transfers and *zakat.*

Mean residual household income in gross terms, by income decile, 2019

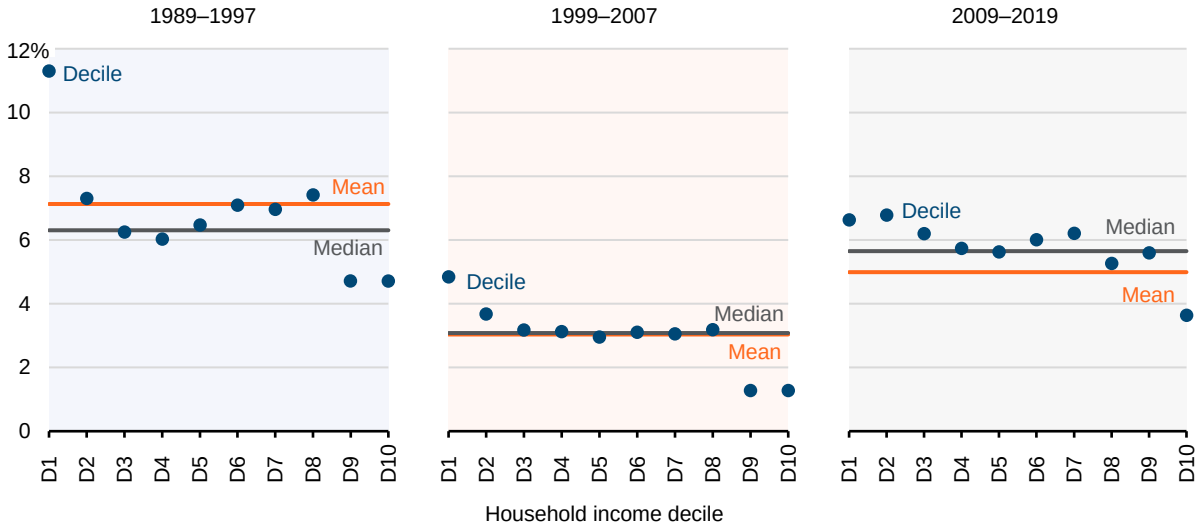


Note: Calculated as the difference between gross income and consumption expenditure.
Source: DOS (2020b), DOS (2020d) and KRI calculations

Slower income growth for all, persistent disparities between rich and poor

There was broad convergence towards slower income growth over time. During 1989–1997, there was higher income growth for households in the bottom income decile, suggesting "pro-poor" growth despite rising headline inequality during this period, by measure of the Gini coefficient. However, this did not continue during the next two decades as nearly all households saw slower growth.

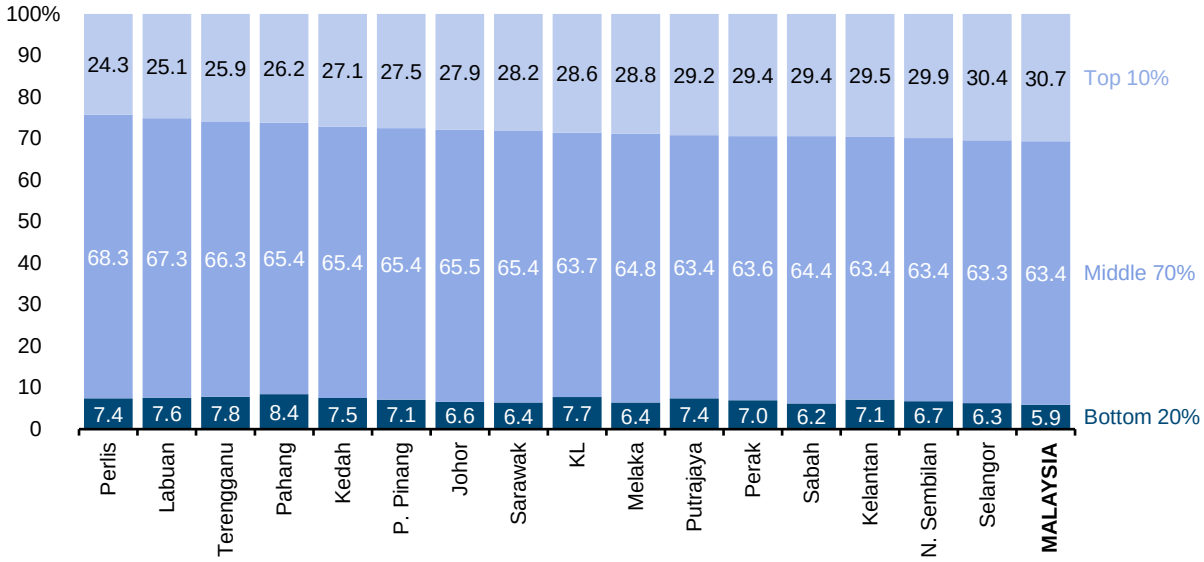
Average annual growth in household income, by income decile, 1989–2019



Note: Calculated based on income in 2019 prices.
Source: DOS (2017), DOS (2020b), EPU (n.d.a) and KRI calculations

Disparities between the top and bottom incomes persist despite declining headline inequality in the last two decades. Beyond summary measures such as the Gini coefficient, more attention should be given to both tails of the income distribution. Nationally, the bottom 20% of households commanded 5.9% of total household income in 2019, while the top 10% had 30.7% In each state, the bottom 20% had had at most 8.4%, while the top 10% had at least 24.3%.

Share of total household income, by income group and state, 2019

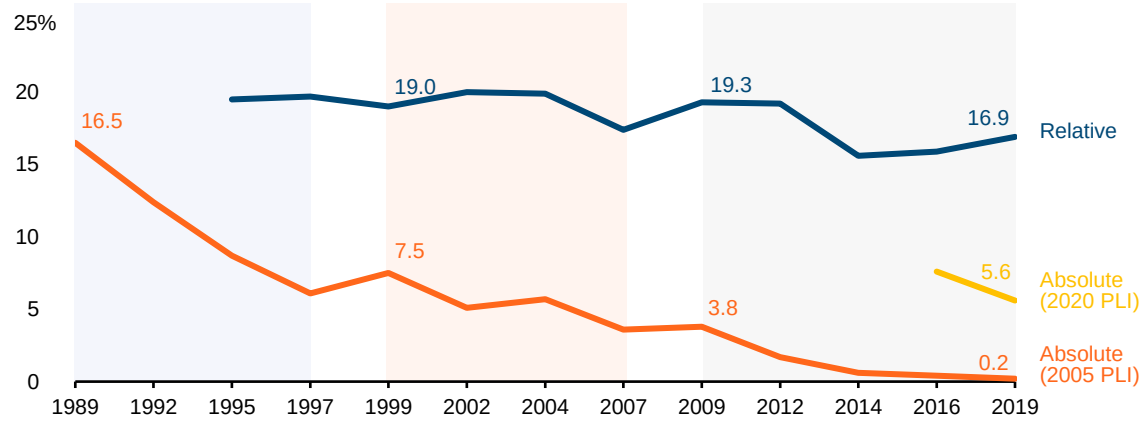


Source: DOS (2020b)

Few absolutely poor, but many are vulnerable

Fewer households are in absolute poverty, but relative poverty persists. Many households only had incomes slightly above the absolute poverty line, and are vulnerable to falling back into severe deprivation. This vulnerability extends to middle-income households. There is a need to extend social welfare and protection wider in Malaysia.

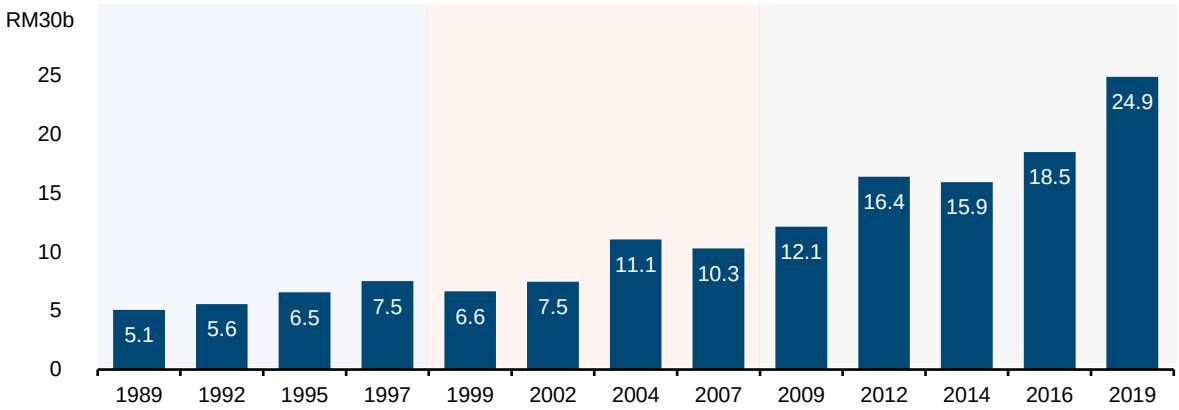
Rate of absolute and relative poverty, 1989–2019



Note: Relative poverty here is defined as households with incomes below 50% of the median.
Source: DOS (2017), DOS (2020b) and KRI calculations

For the poor and vulnerable to attain decent living standards, much more social spending is required. The need for increased social spending is reinforced by the recent upward revision of the absolute poverty line income and the economic crisis due to the pandemic. Enhancing participation and capabilities, while safeguarding many livelihoods, ensures households share growth gains equitably.

Annual social assistance expenditure needed to close relative poverty gap, 1989–2019

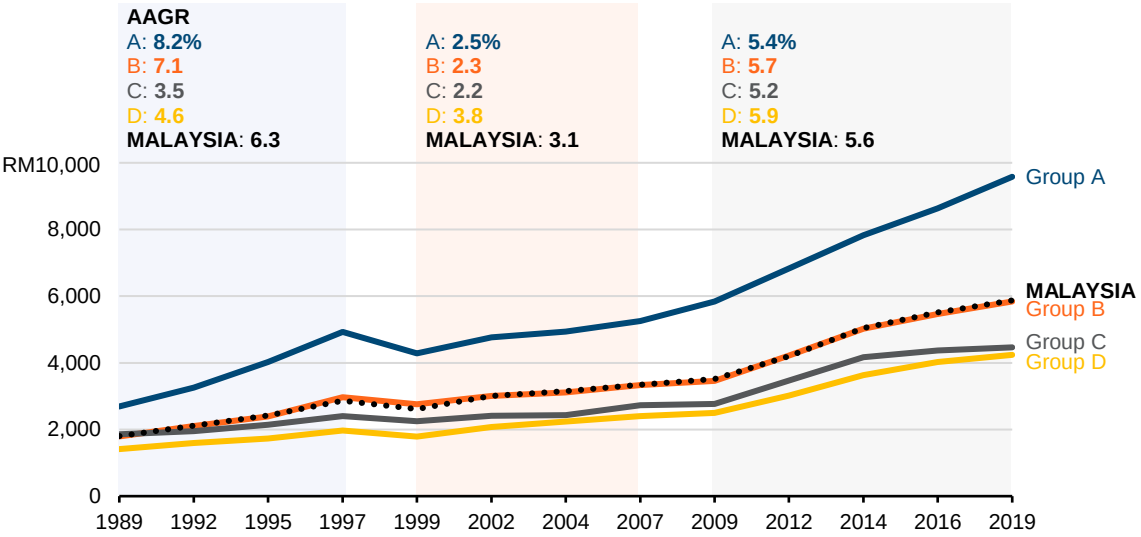


Note: This excludes administrative costs, leakages as well as behavioural effects due to taxes and transfers besides assuming perfect targeting. This is calculated based on a relative poverty line defined as below 60% of the median household income.
Source: DOS (2017) and KRI calculations

Slow inter-state convergence, sluggish earnings growth

Inter-state disparities persist as growth rates in lower income states were not fast enough to converge with higher income states. This trend was underpinned by lacklustre wages growth across states.

Real median household income, by state group, 1989–2019



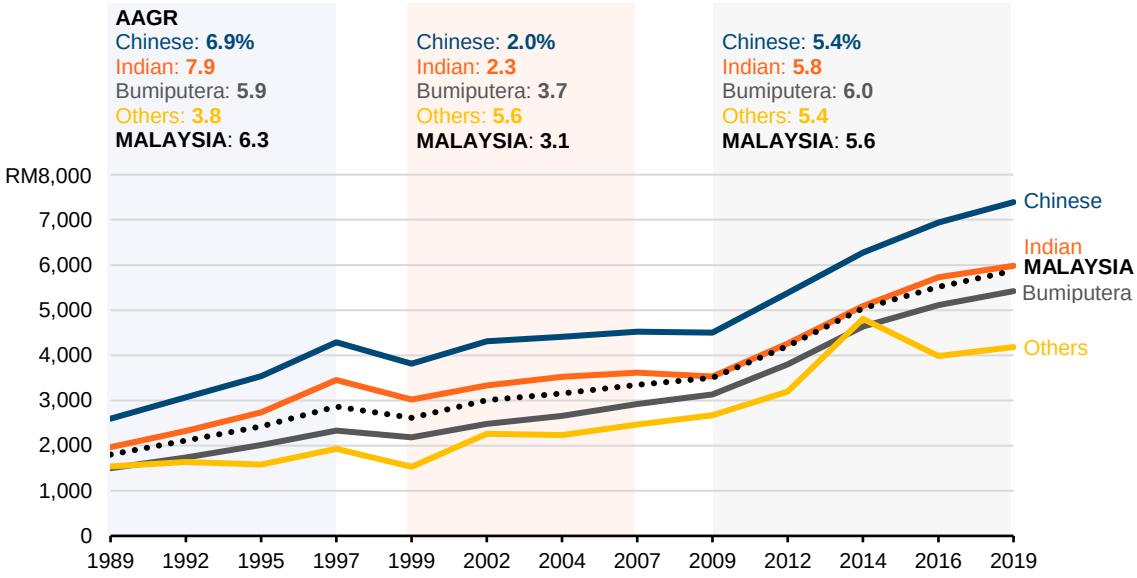
Note: Group A refers to KL, Putrajaya and Selangor; Group B to Johor, Melaka, N. Sembilan, P. Pinang and Terengganu; Group C to Labuan, Sabah and Sarawak; and Group D to Kedah, Kelantan, Pahang, Perak and Perlis. Data in 2019 prices.
Source: DOS (2020b), EPU (n.d.c) and KRI calculations

The little converge seen between states was driven by incomes from non-productive sources, as income shares from transfers grew most prominently in lower income states from 2014 to 2019. Income shares from self-employment also increased in nearly all states, in place of a reduction in income shares from paid employment. Although labour income as a share of total national income increased, the rise was due to more traditional services, rather than modern services and higher wages, underscoring the growth of more precarious forms of work and low adoption of modern technology throughout Malaysia.

Smaller inter-ethnic gaps, but Bumiputera economic activities still limited

There has been some convergence across ethnic groups. Despite a low income share compared to their population size, Bumiputera households registered the highest average income growth rate at 6.0% in 2009–2019, compared to 5.4% for Chinese, 5.8% for Indian and 5.4% for Others.

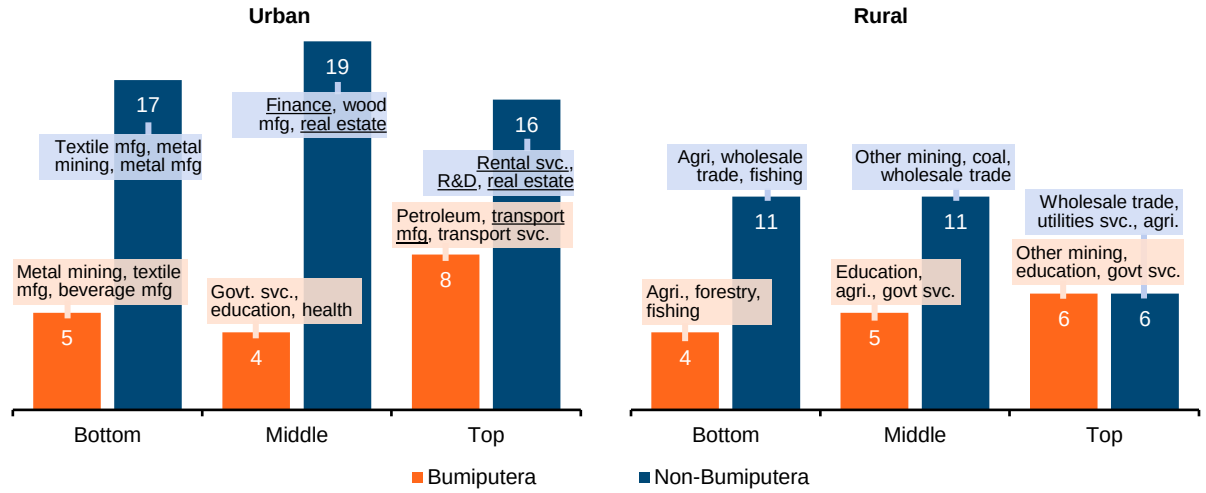
Real median household income, by ethnic group, 1989–2019



Note: Data expressed in 2019 prices.
Source: DOS (2017), DOS (2020b) and KRI calculations

However, the range of Bumiputera economic activities remained limited and less diversified than for non-Bumiputera. Bumiputera were under-represented overall and in modern activities that could increase their income shares. Top-income Bumiputera were in petroleum mining, education and government services. Middle income Bumiputera were in more public-sector related activities, e.g., government services, education and health. Low income urban Bumiputera were in traditional manufacturing and services, with their rural counterparts mainly in primary sector activities. Therefore, the policy focus in affirmative action programmes should go beyond reducing income inequality to broadening and diversifying Bumiputera economic activities.

Number of industries that raise income shares, by strata, income and ethnic group, 2014 and 2015



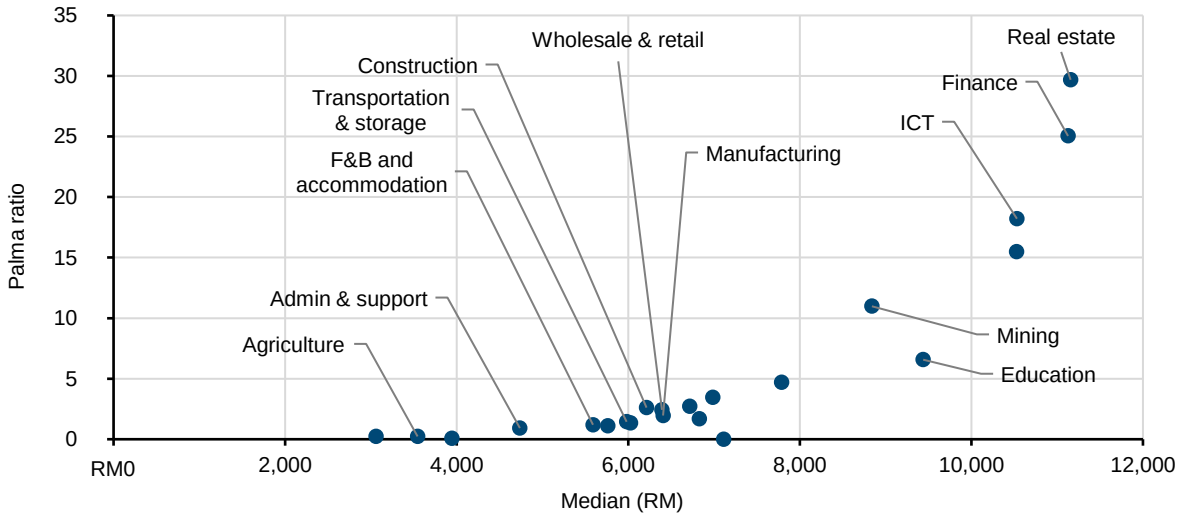
Note: Investments in counted industries would increase the income shares of the subgroups in both 2014 and 2015. The industries shown are the top three industries for a given subgroup, ranked by the relative increase in income shares. Those underlined are classified as modern. Mfg. stands for manufacturing, svc. for services, govt for government, agri. for agriculture, and R&D for research and development.
Sources: DOS (2019b), DOS (2019c) and KRI calculations

Negotiating trade-offs, achieving structural transformation

Improvement in household incomes should be driven by structural transformation, with more jobs in higher value-added activities, **but this involves managing trade-offs in inequality**. As sectors with greater median incomes have higher inequality, the inter-sectoral labour movement could increase overall inequality.

To achieve growth with distribution, **policies should shift employment to higher value-added activities while improving wage distribution within sectors.**

Palma ratio and median household income, by industry of household head, 2019



Note: Palma ratio refers to the ratio of income share of the top 10% to the bottom 40% of households.
Source: DOS (2020b), KRI calculations

INTRODUCTION

"The historical record is better interpreted in terms of episodes, rather than long-run trends, and we can learn from the periods during which inequality has been reduced"

Tony Atkinson

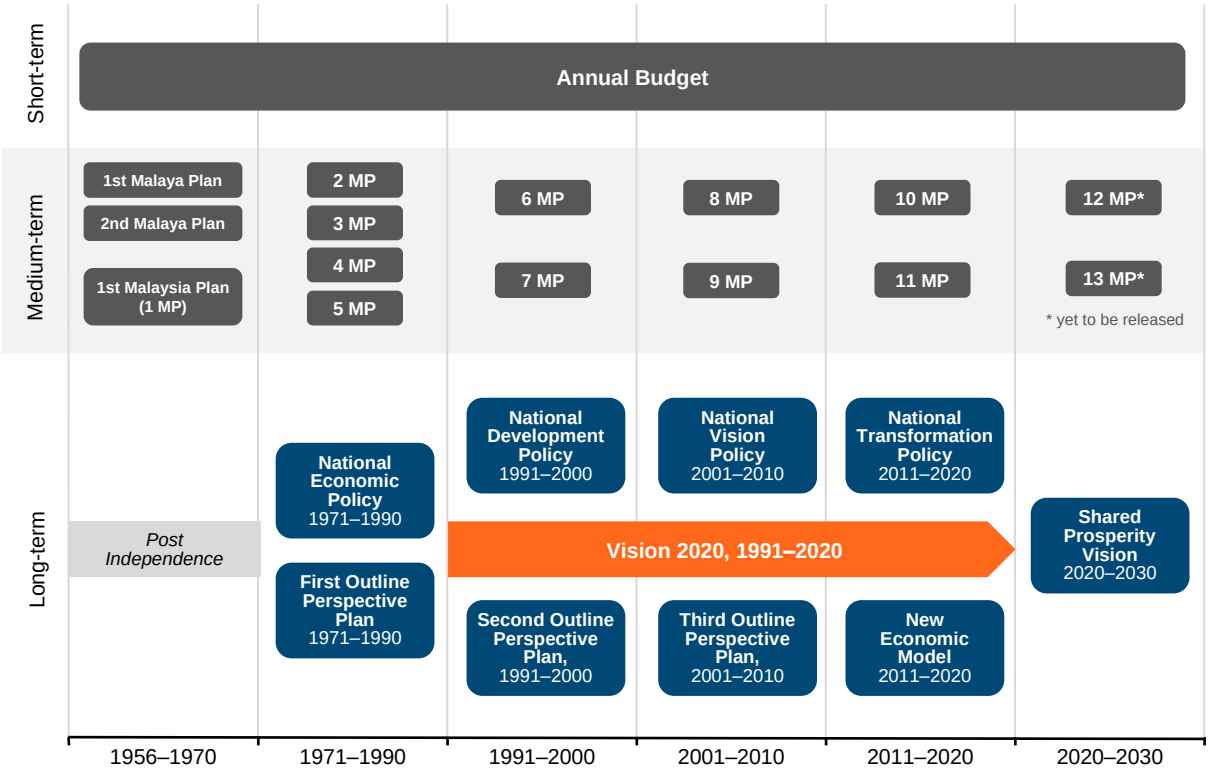
INTRODUCTION

When Vision 2020 was introduced into the psyche and parlance of Malaysian society, read out for the first time to the audience at the Malaysian Business Council back in 1991, no one would have predicted that the year 2020 would start off with a global pandemic, triggering economic recessions that have reverberated across the globe, including Malaysia. There is clearly a stark contrast between the aspirations in 1991 and the lived realities of Malaysian households in 2020.

To make sense of where we are, it is important to take a longer-term view of things, as our circumstances at any point in time are always the accumulation of many things over an extended period of time. It helps us to learn from our peaks and troughs as a society, including the present Covid-19 crisis, and how we can bounce back stronger and more resilient in the face of adversity. Therefore, in The State of Households 2020 series, we look at how Malaysian households have fared over three decades from 1989 to 2019, two years before the launch of Vision 2020 and one year before 2020 itself.

The three decades cover a period of three long-term plans i.e. the second and third Outline Perspective Plan and the New Economic Model; three key national development policies i.e. the National Development Policy, National Vision Policy and National Transformation Policy; and a total of six five-year Malaysia Plans, from the sixth to the eleventh. It is a period sandwiched between the end of the New Economic Policy and the announcement of the Shared Prosperity Vision 2030.

Development planning in Malaysia



Source: Adapted from EPU (2016)

There are two challenges in Vision 2020 that are particularly pertinent to our report i.e. the eighth challenge of "ensuring an economically just society, in which there is a fair and equitable distribution of the wealth of the nation, and full partnership in economic progress"; and the ninth challenge of "establishing a prosperous society, with an economy that is fully competitive, dynamic, robust and resilient"[1]. This is fundamentally an articulation of an inclusive growth paradigm, or growth with distribution, embedded within other dimensions of socio-cultural progress, scientific advancement, national unity and political maturity.

These two challenges serve as our normative guide throughout this report, but they should not be understood as taking precedence over other dimensions of development. In Vision 2020, the economic and non-economic ideals were not conceived in order of priorities, but as inter-locking goals where "the priorities of any moment in time must meet the specific circumstances of that moment in time"[2]. It is in this same spirit that we locate our assessment of the state of households.

We divide our analysis of the three decades into three periods i.e. the first period from 1989 to 1997, the second period from 1999 to 2007 and the third period from 2009 to 2019. Interestingly, there was a similar, but brief, mention of the three decades prior to Vision 2020 i.e. the 1960s, 1970s and 1980s, in the landmark speech delivered by Tun Dr Mahathir Mohamed to the Malaysian Business Council in 1991. Our approach is also consistent with the view of Tony Atkinson, a prominent British economist who pioneered poverty and inequality research, who said, "The historical record is better interpreted in terms of episodes, rather than long-run trends, and we can learn from the periods during which inequality has been reduced"[3].

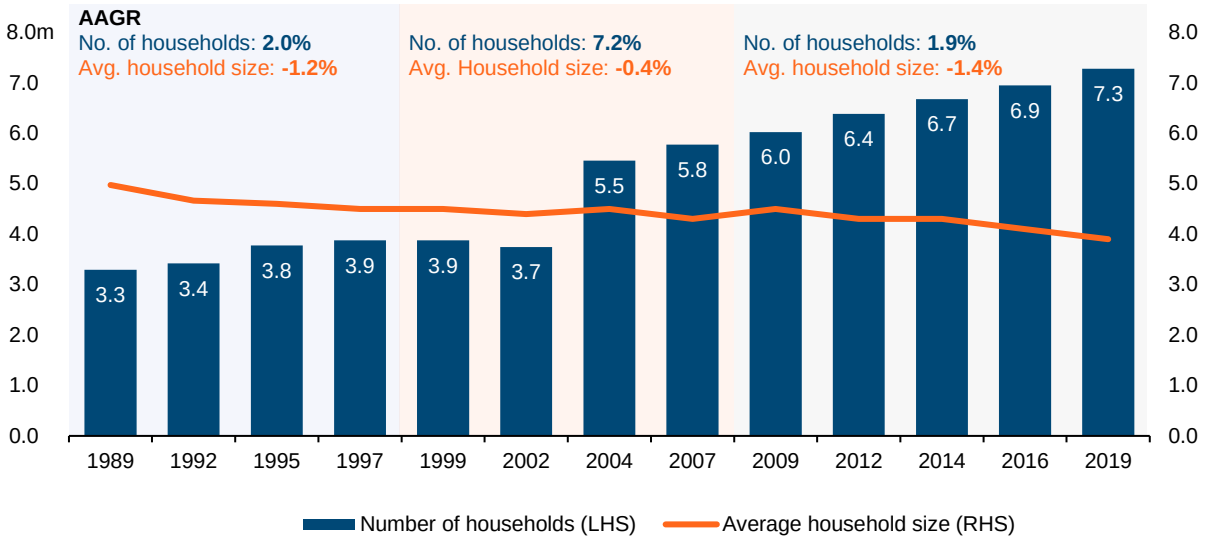
Our three periods are demarcated in such a way where they start at the tail-end of an economic crisis and end at the onset of another to encapsulate the post-crisis structural shifts in the economy. However, due to data limitations, our first period starts in 1989 instead of 1987 as non-citizens were first excluded from household income surveys in 1989. The three periods also loosely overlap with the administration of three different prime ministers.

However, we should not interpret the three periods as demarcated by hard boundaries, as there are certainly continuities and breaks across the periods. Nonetheless, in our view, these three periods give a reasonable approximation of how households have fared under three different economic and policy regimes.

Over the three decades, the number of Malaysian households increased from 3.29 million in 1989 to 7.28 million in 2019. The average annual growth rate (AAGR) increased from 2.0% in the first period to 7.2% in the second period, before moderating to 1.9% in the third period. While the number of households had more than doubled, household sizes have gotten smaller, with the average number of household members falling from five in 1989 to 3.9 in 2019.

[1] PMO (2008)
[2] Ibid.
[3] Atkinson (2015)

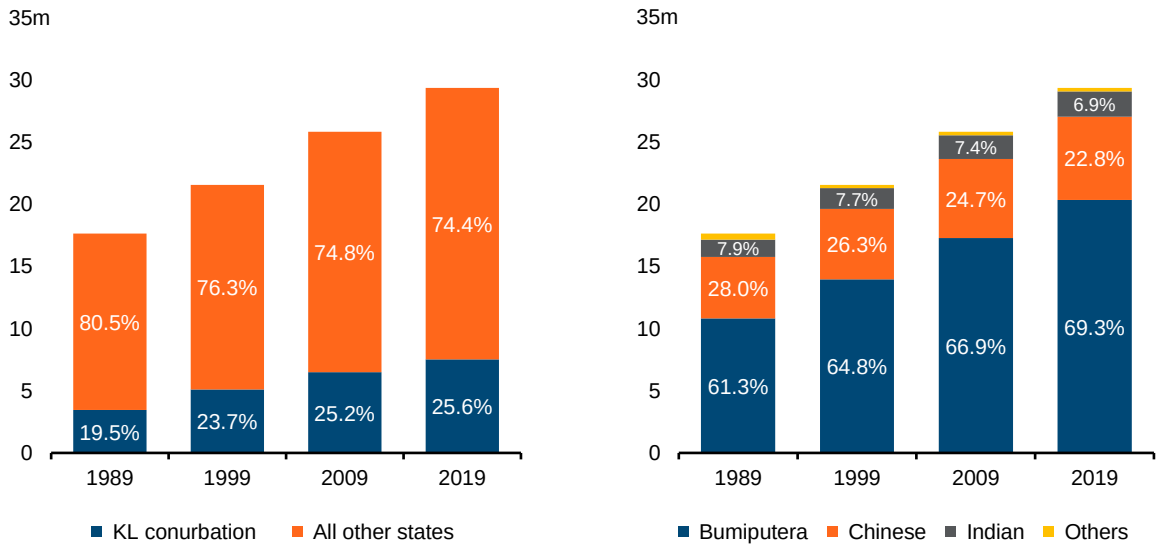
Number of households and average household size, 1989–2019



Note: AAGR stands for average annual growth rate.
Source: DOS (2017), DOS (2020b), CEIC (n.d.) and KRI calculations

Meanwhile, the population growth in Kuala Lumpur and the surrounding areas in Selangor and Putrajaya, which make up the Kuala Lumpur conurbation, had outpaced all other states, with relatively higher growth in Selangor compared to the metropolitan core of Kuala Lumpur. The Bumiputera population had also grown faster than all the other ethnic groups, again with a large part of that growth coming from the Kuala Lumpur conurbation. These dynamics are important to bear in mind when we analyse households by state and ethnicity later.

Population, by state and ethnic group, 1989–2019



Note: The KL conurbation here is defined as Kuala Lumpur, Selangor and Putrajaya. Putrajaya is only reflected in 2019 as it is included in the Census only from 2011. This data only includes citizens to be consistent with household numbers which exclude non-citizens.
Source: DOS (2010), DOS (2020a), DOS (n.d.) and KRI calculations

The State of Households 2020 will be published sequentially in three parts:

- Part I: *Welfare in Malaysia Across Three Decades*
- Part II: *Work in an Evolving Malaysia*
- Part III: *Social Inequalities and Health in Malaysia*

Part I looks at household income and expenditure, as well as poverty and inequality dynamics, to assess the collective welfare of Malaysian households. We further asses welfare by locating it within the distribution and production structures of the economy. Our core argument is that the welfare of households cannot be divorced from how the economy is organised and structured.

Consequentially, Part II of the report takes a regional perspective and looks at the different realities in the world of work over the last three decades. The labour market is important for household economic welfare as employment earnings constitute the largest share of household income, while the quality and condition of work, i.e. "decent work", correspond to overall well-being of many individuals. The discussion on labour is also embedded within the context of capital, technology and Covid-19 to further understand the opportunities and challenges in the future of work.

We then move to Part III of the report with a timely focus on health. Covid-19 has revealed how health is intertwined with so many aspects of livelihoods. While staying focus on households, our analysis expands on the health discourse beyond the usual focus on life expectancy and access to health. We draw attention to the important relationship between income inequality and health as well as consider the links between work, productivity and health.

Against the backdrop of these three parts, we now look deeper on the welfare of households in Part I, which is divided into the following three sections:

Section 1: Household Well-being: Trends and Patterns

This section looks at the state of Malaysian households through an analysis of household income and expenditure. We assess how the three periods of Vision 2020 differ in terms of income and expenditure, further disaggregating our analysis by state and ethnicity. This is then complemented with a more detailed analysis of consumption, where we gauge how Malaysian households are doing based on the goods and services they consume.

Section 2: Social Welfare: Income, Inequality and Poverty

In this section, we integrate poverty and inequality analyses into household income in conceptualising and assessing social welfare. We undertake the same analysis of the three periods and disaggregate by state and ethnicity to look at the relationships between income and inequality, as well as income and poverty. In addition, we draw together income, inequality and poverty with an analysis of the growth elasticity of poverty. The section is interspersed with a critical discussion on these measures and the limitations of using household surveys.

Section 3: Households and National Accounts

Building on the above sections, we analyse the relationship between factor income derived from national accounts and household income derived from household surveys. We tap into the social accounting matrix (SAM) to give a richer understanding of household income and expenditure compositions. Finally, we look at how structural change in the economy affects relative distribution of household income, particularly in how they affect distributions across strata, income groups, and ethnicity. This also serves as a prelude to Part II of the report, which discusses the relationship between Malaysia's economic structure and work.

SECTION

01

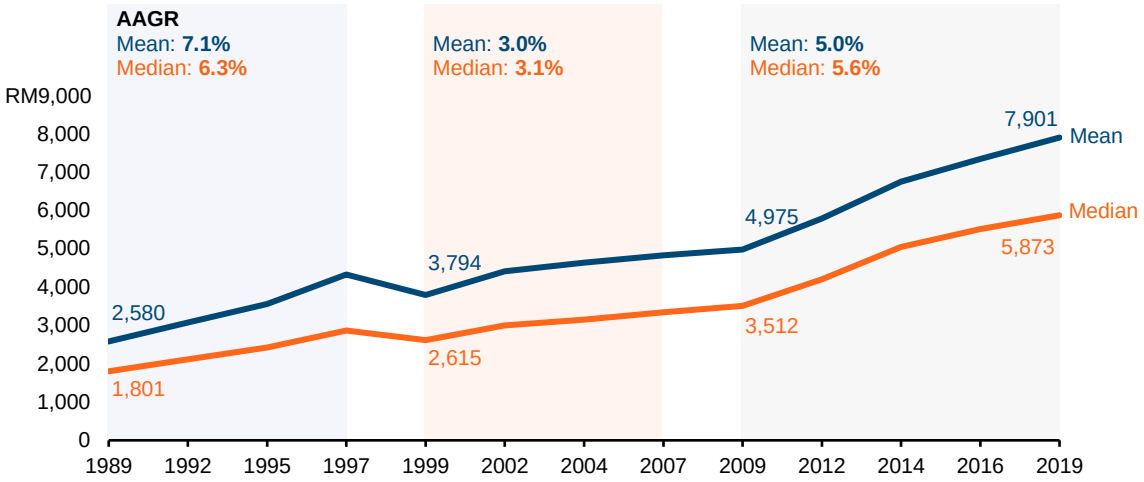
SECTION 1

HOUSEHOLD WELL-BEING: TRENDS AND PATTERNS

1.1 A Long-term View of Household Income

Over the three decades, household incomes had grown (Figure 1.1). In 1989, the average monthly gross household income was RM1,169. Adjusted for inflation, this was approximately RM2,580 in 2019 prices. The median household income stood lower at RM1,801. In 2019, the most recent report of household income, the median stood at RM5,873 while the mean was RM7,901. Where possible, we refer to the median because the average figure could be skewed by the incomes of the very well-off.

Figure 1.1: Real mean and median household income, 1989–2019



Note: Data expressed in 2019 prices.
Source: DOS (2020b), EPU (n.d.c) and KRI calculations

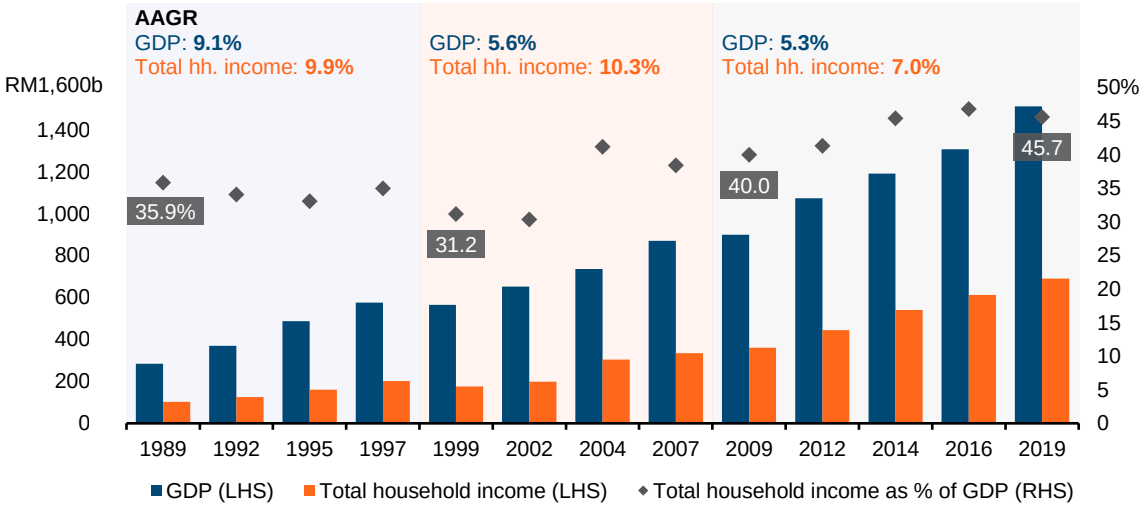
Undoubtedly, at different points from 1989 to 2019, Malaysia faced various economic headwinds and policy developments, resulting in varying economic performance and growth in household income. The first period, between 1989 and 1997, with Malaysia's accelerated industrialisation, registered a respectable average annual growth rate (AAGR) in the mean household income of 7.1%, while the median grew slightly lower at 6.3%. The second period of 1999 to 2007, as deindustrialisation set in after the Asian financial crisis (AFC), saw slower growth, as mean and median incomes grew at 3.0% and 3.1%, respectively. The third period, between 2009 to 2019, saw a recovery as incomes grew at a higher pace, with the average growth of the mean at 5.0% while the median grew faster at 5.6%. However, this was driven largely by growth in incomes between 2009 and 2014, with growth rates that matched the strong rise seen in the first period. Between 2016 and 2019, slower growth dragged down average growth during the third period, as mean household income moderated to 2.5% between these two years, while growth of the median was even lower at 2.1%.

Nonetheless, the different rates at which the mean and median income grew hint at an important trend regarding income growth across the income distribution. The faster rate of mean income compared to the median in the first period suggests that income disparities were increasing. Meanwhile, the third period's higher average growth in the median household income hints at a broader trend of income convergence. This is further unpacked in the following sub-sections as we look into the geographical and ethnic dimensions of income, and in Section 2 where we look specifically into income distribution.

How does the growth in household income compare to growth in total national income? Total household income as a share of gross domestic product (GDP) stood at 35.9% in 1989 compared to 42.1% in 2019 (Figure 1.2). The bulk of this increase took place from 2004 onwards. However, the jump seen in total household income in 2004 was due to an unexplained large increase in the total number of households, rather than higher growth in the mean household income. Nevertheless, during Period 3, the growth of total household income steadily outpaced that of GDP, as GDP growth hardly recovered from the prior period. Overall, between 2009 and 2019, total household income had an AAGR of 7.0% against GDP's lower rate of 5.3%. However, more recently, 2016 to 2019 saw slower growth in household income relative to GDP, leading to a slight drop of total household income as a share of GDP from 46.8% to 45.7%.

In comparison, during the first period, the overall changes in the share of total household income over GDP were smaller, as the differences in average growth rates between total household income and GDP were small. Total household income grew at an average of 9.9% while GDP grew at a lower but still high rate of 9.1%. However, the higher growth in total household income was driven entirely by the jump in 1997, as the years prior actually saw lower growth that resulted in the share of total household income over GDP to gradually decrease. Meanwhile, in the second period, when Malaysia began to deindustrialise, growth slowed as GDP grew at an average of 5.6%. While the growth of the mean household income moderated, total household income grew at an average of 10.3%—though this was driven by the unexplained jump in the total number of households as mentioned above.

Figure 1.2: Real total annual household income and GDP, 1989–2019



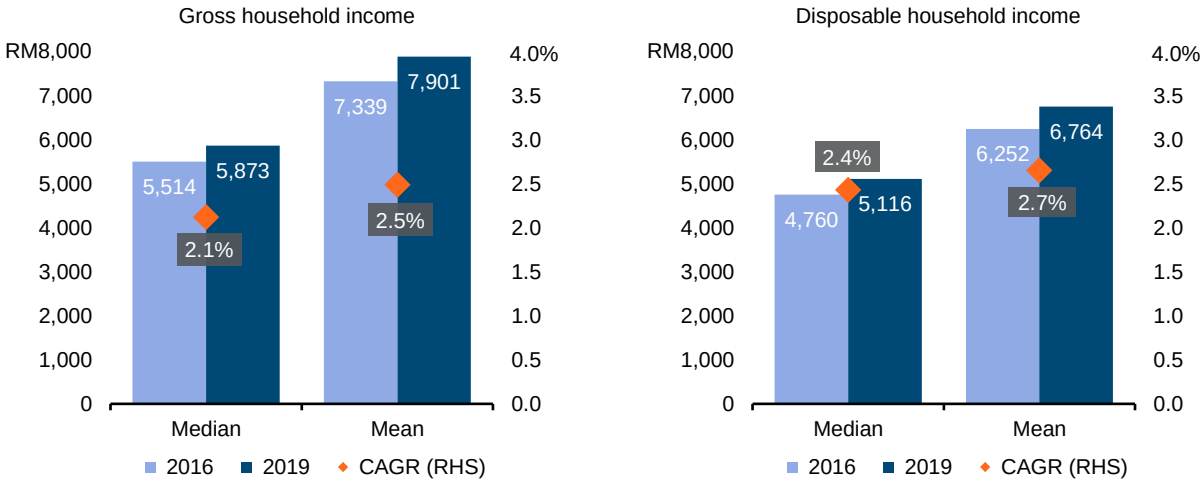
Note: Data expressed in 2019 prices.
Source: DOS (2020b), DOS (2020c) and KRI calculations

The recent development in household income between 2016 and 2019 warrants further attention. As shown previously, income at the gross level—which is before accounting for current transfers paid and compulsory payments such as taxes and contributions to social security schemes—displayed relatively low growth after accounting for inflation. This has implications for the ability of households to support their consumption needs as well as grow their savings.

In the latest report of household income for 2019 by the Department of Statistics Malaysia (DOS), disposable household income was reported for the first time. This refers to the amount of income after deducting the above-mentioned compulsory payments along with other transfers such as contributions to other households. This gives a better depiction of the level of resources available to households that can be used to support their needs.

In 2019, the median disposable household income was RM5,116 while the mean was RM6,764 (Figure 1.3). In terms of the changes from 2016 to 2019, both the median and mean disposable income grew at a slightly higher rate than gross income, although the total value still increased only by a small amount.

Figure 1.3: Real gross and disposable household income, 2016 and 2019



Note: Data expressed in 2019 prices.
Source: DOS (2020b) and KRI calculations

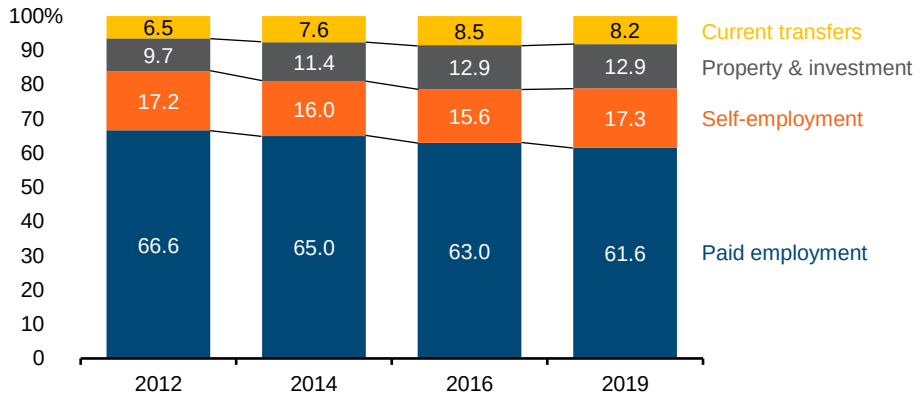
Behind these trends in income growth are changing prominence in the different sources of income of Malaysian households. Official statistics from the Household Income Survey conducted by DOS breaks down income into four main sources for heads of household. These are income from paid employment, self-employment, property and investment, and current transfers. However, as these figures pertain only to heads of household, there may be an underestimation of the contribution of paid-employment given that higher-income households tend to have a greater number of income recipients[4] as well as the likely under-representation of female income earners. Nevertheless, they provide a useful indicator on the sources of household income given that a head of household is typically the main breadwinner.

[4] DOS (2020b)

Figure 1.4 illustrates this breakdown in income from 2012 to 2019. Notably, income from paid employment continued to be the largest source of income but it had steadily fallen from 66.6% of income in 2012 to 61.6% in 2019. Meanwhile, the share of income from current transfers, including cash transfers from government, other households and charities, had increased. Likewise, the share of property and investment income had also increased. This gradual change in the prominence of wage earnings to other forms of income sources such as transfers raises questions on whether recent welfare improvements seen in recent years, corresponding to the third period, were driven by occupational skills enhancement and productivity gains within the economy.

Furthermore, while there was a decrease in the share of income from self-employment from 2012 to 2016, this was followed by a reversal from 2016 to 2019, as the share increased from 15.6% to 17.3%. The rise may be a concern as self-employment is typically associated with less stability and lower social protection as opposed to working in paid employment.

Figure 1.4: Share of mean household income by source for household head, 2012–2019



Source: DOS (2015b), DOS (2017) and DOS (2020b)

1.1.1. Geographical trends

Geographically, there had been a wide variation in income growth across states in Malaysia. We group the different states into four groups, ranked by their median household income and some considerations based on geography, as described in Table 1.1.

Table 1.1: State groupings and description

Group	States	Description
A	Kuala Lumpur, Putrajaya, Selangor	• Mean and median household income higher than 30% of national level in 2019
B	Johor, Melaka, Negeri Sembilan, Pulau Pinang, Terengganu	• Mean and median household income around national level (±20%) in 2019
C	Labuan, Sabah, Sarawak,	• East Malaysia States
D	Kedah, Kelantan, Pahang, Perak, Perlis	• Mean and median household income below national level in 2019 and other states not in A, B or C

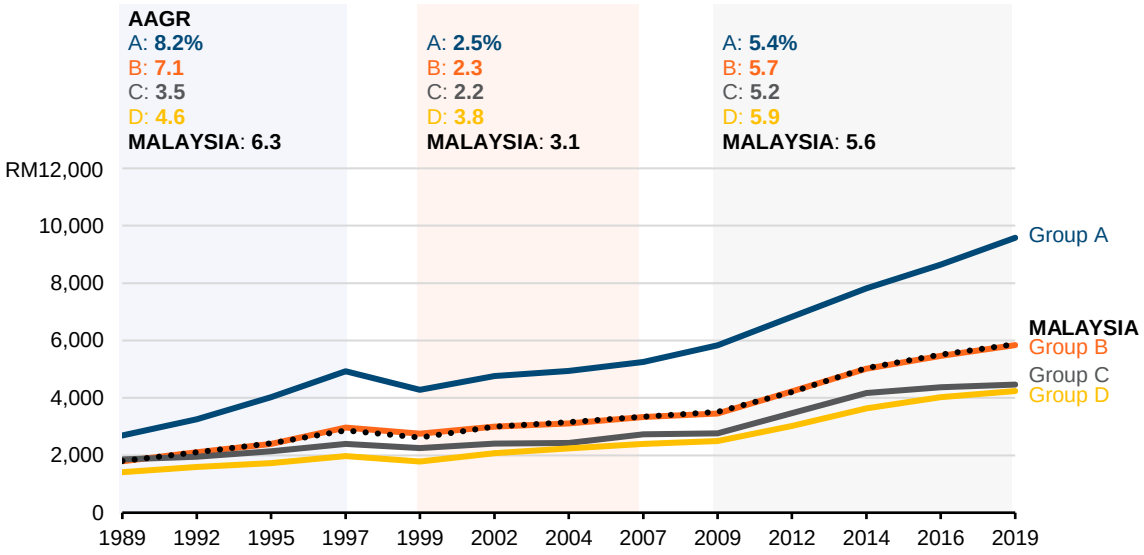
Source: KRI classification and calculation based on DOS (2020b)

Figure 1.5 charts the median household income of these state groups[5] against Malaysia and their corresponding average growth rates. The divergence of state income was most prominent in the first period of 1989 to 1997, when Group A recorded an average growth in median income of 8.2%, its highest relative to the other periods and relative to the rest of Malaysia. In this period, other groups trailed, especially Group C and Group D, having registered an average growth of 3.5% and 4.6% respectively. From these two groups, Kelantan and Pahang had the lowest average growth rate with both at 2.7%, while Sabah followed with an average growth rate of 3.0%.

In Period 2, which was the lowest growth period for all the groups on average, Group D registered the highest growth relative to the other groups at 3.8%, while the rest grew between 2.2% and 2.5%. From Group D, Pahang in particular saw a large increase in median household income between 2002 and 2004, with a compounded annual growth rate (CAGR) of 10.4%. However, during this same period, Perlis, Sabah, Terengganu and Kuala Lumpur saw a contraction in median household income.

In Period 3, growth in household incomes recovered across all state groups, as Group C and Group D registered their ever-highest average growth rate. The earlier years of Period 3 saw especially high growth, particularly between 2012 and 2014 when all but Group A saw average growth rates between 9.1% to 9.7%. However, the years that followed saw moderate growth for Group C and Group D states, while Group A growth remained strong to further diverge away from other states. For example, real median household income for Sabah contracted by -0.8%, while median incomes in Perak and Melaka grew only by 0.4% and 0.9%, respectively.

Figure 1.5: Real median household income, by state group, 1989–2019

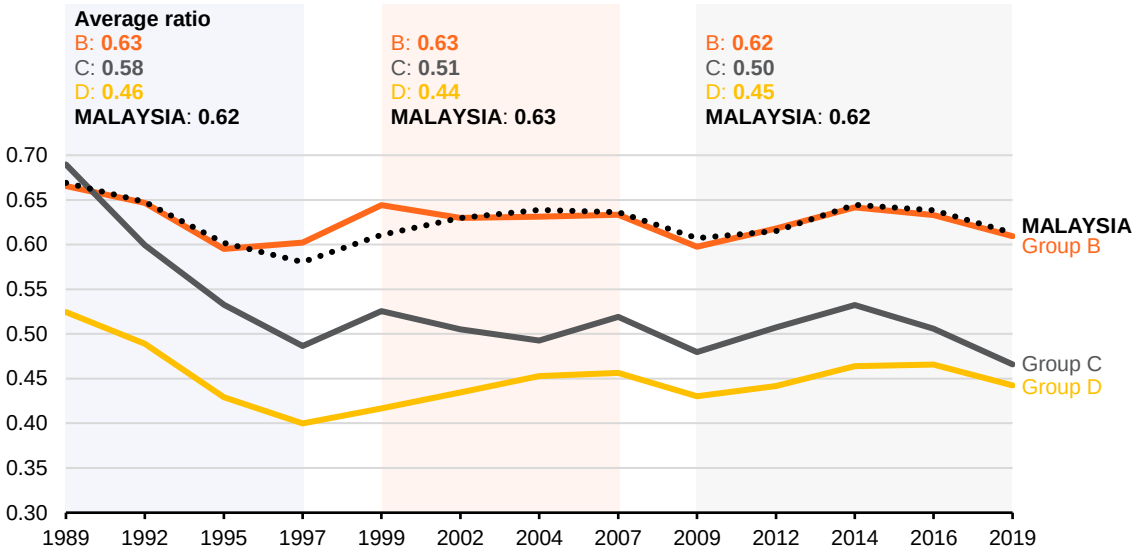


Note: Data expressed in 2019 prices.
Source: DOS (2020b), EPU (n.d.c) and KRI calculations

[5] The median household income for each state group is derived by averaging state medians within each group, with each state equally weighted. Sabah and Labuan median income is combined as per EPU (n.d.c), which features data up to 2016. For 2019, the median is obtained by averaging the individual figures for both states as reported in DOS (2020b), and further discounted by 20% based on the trends observed from 2007 to 2016.

Thus, despite the accelerated growth of Groups B, C and D during 2012 to 2014, there was a lack of convergence towards Group A's median income (Figure 1.6). Over the three periods, the median household income for Malaysia as a whole averaged between 62% and 63% of Group A's median income. Likewise, Group B's median income as a share of Group A's median income averaged between 62% and 63%. Meanwhile, Group C and Group most significantly diverged from Group A, particularly during Period 1, and from then on remained well behind Group A.

Figure 1.6: Ratio of median household income of state group to Group A, 1989–2019

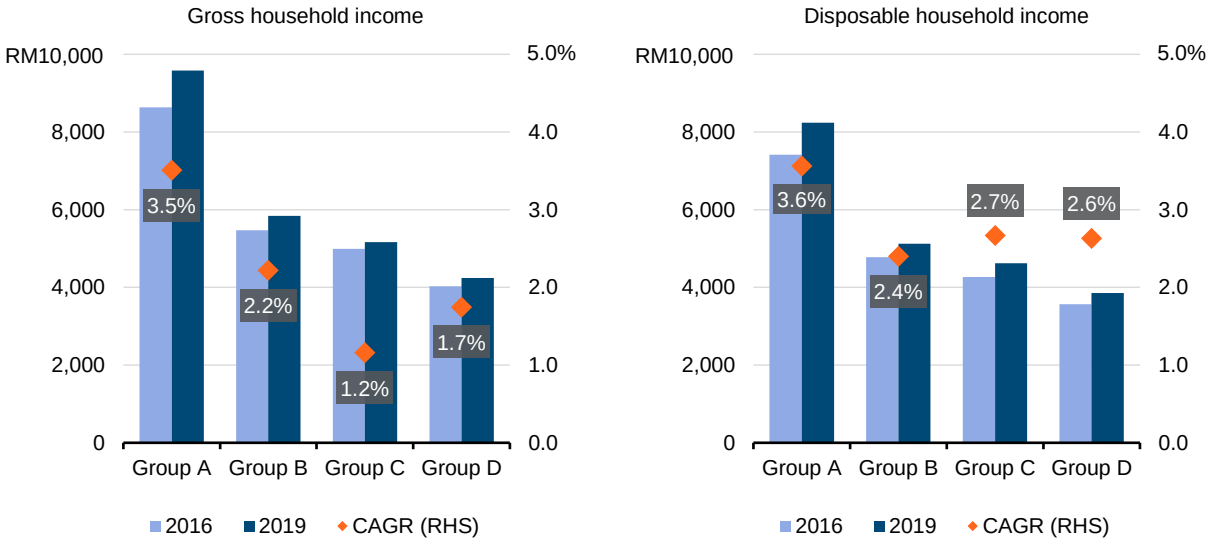


Source: DOS (2020b), EPU (n.d.c) and KRI calculations

Nevertheless, the median household incomes across most states outpaced the average growth of the mean in the third period from 2009 to 2019, again suggesting that growth was more equitable within these states. The exceptions were Negeri Sembilan, Labuan and Putrajaya—although the difference between the average growth rate of mean and median household incomes were arguably small. However, between 2016 and 2019 specifically, ten of the 15 states and federal territories had growth in mean incomes outpacing growth in median incomes. This contrasted with the national trend where the mean income stagnated at -0.3% while the median grew at 5.6%. Among states with low growth in mean household incomes were Labuan where it contracted by -1.2%, Sabah at 0.6% and Perlis at 1.3%.

As growth in household incomes slowed from 2016 to 2019, how did this translate into disposable income across the different state groups? Group A saw the fastest growth in median disposable income, at 3.6%, whilst the other groups saw lower rates between 2.4% and 2.7% (Figure 1.7). Nevertheless, for all the state groups, the growth rate for median disposable income outpaced the growth rate of gross income. The largest differences were for Group C and Group D, as the current transfers paid by households in these states decreased.

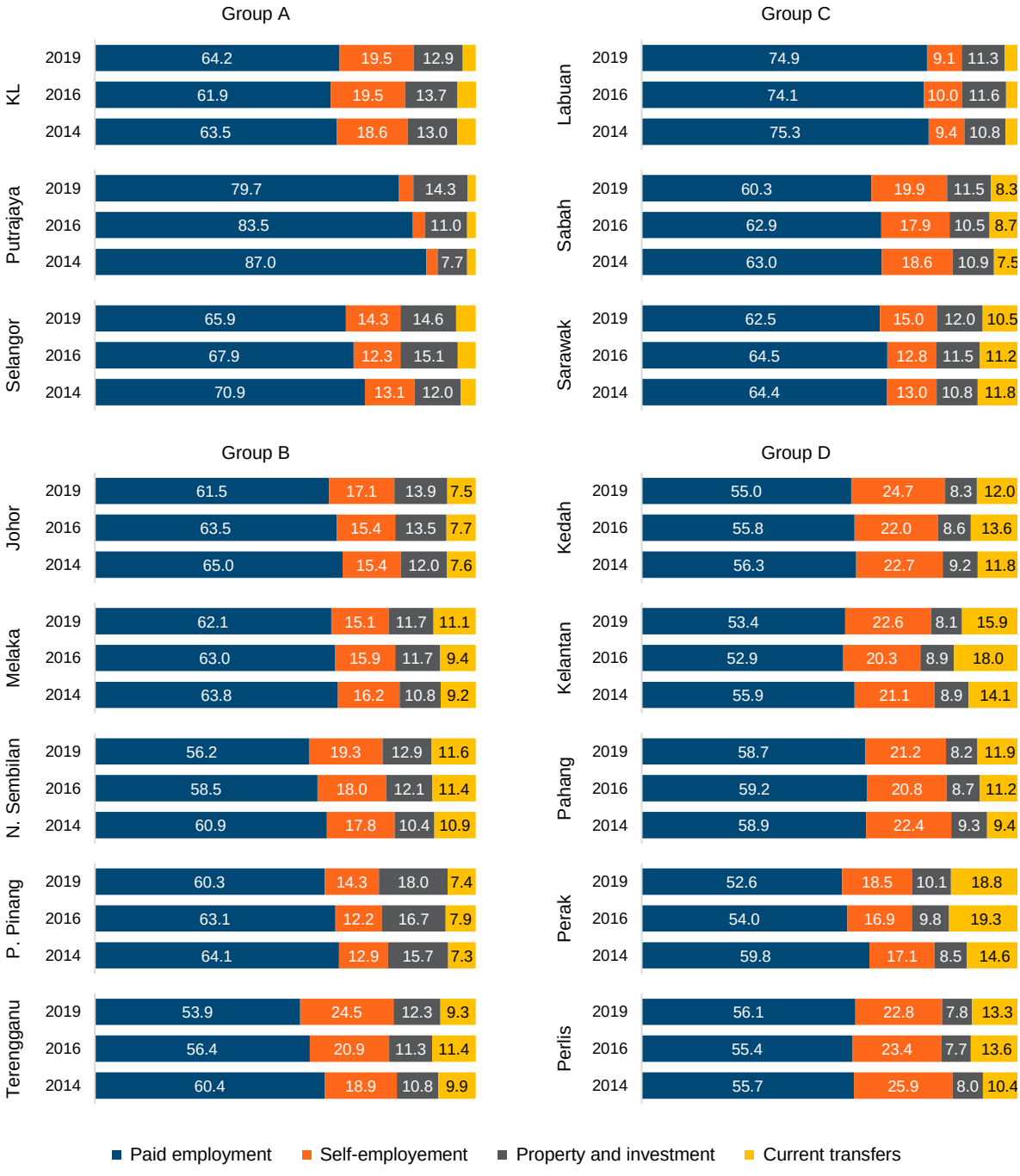
Figure 1.7: Real median gross and disposable household income, by state group, 2016 and 2019



Note: Data expressed in 2019 prices.
Source: DOS (2020b) and KRI calculations

Given these disparities in income growth across states, what about the sources of household income by state? Figure 1.8 illustrates the sources of head of household income for each state under the four state groups in 2014 and 2019. As with the national average, paid employment comprised the largest portion of household income over the years in all states. Self-employment income made up the second largest share for most states. Its prominence had been especially apparent for Group D states, as well as Terengganu (which is geographically close to Group D states). Similarly, in most Group D states, current transfers contributed relatively larger shares of household income while paid employment contributed less, especially compared with Group A states. Meanwhile, the share of income from property and investment was relatively larger in most Group A and Group B states, especially compared with Group D states.

Figure 1.8: Share of mean household income by source for household head, by state, 2014–2019



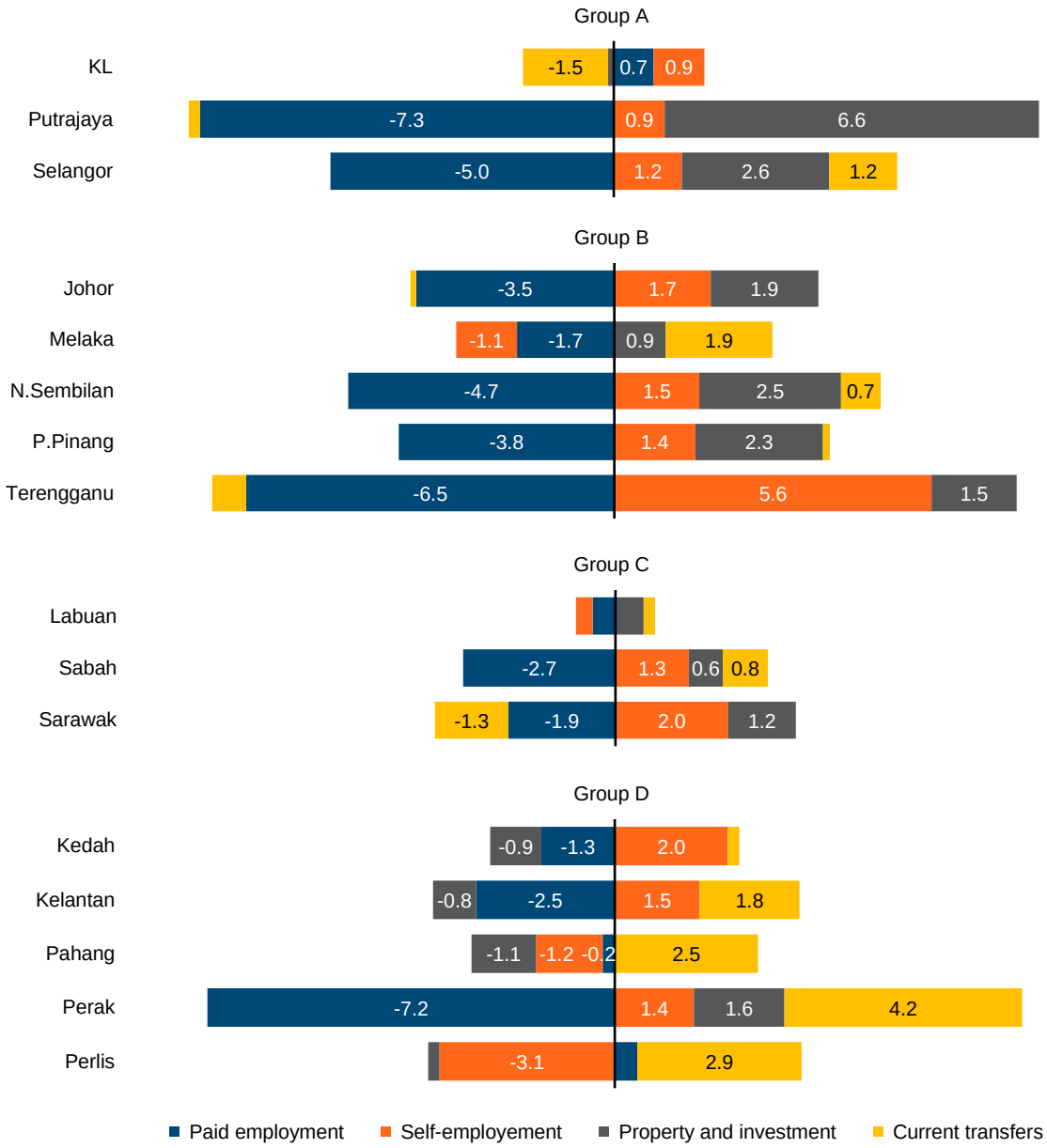
Source: DOS (2017) and DOS (2020b)

In terms of how the composition of income have evolved from 2014 to 2019, the share from paid employment had declined in almost all states, in line with the national average (Figure 1.9). Putrajaya, which recorded a share of income from paid employment that was far greater relative to the other states, had the highest drop in percentage points (-7.3), followed by Perak (-7.1). These trends suggest slower growth in paid employment earnings relative to the growth of income from other sources. Only two states had an increase in paid employment shares, although these were small in magnitude, at 0.4 and 0.7 percentage points for Perlis and Kuala Lumpur, respectively. Regarding self-employment income, its shares increased in 11 out of the 15 states, with Terengganu recording the largest increase by 5.6 percentage points. However, this increase in the self-employment income share was driven entirely by developments between 2016 and 2019 in most states, similar to the national trend.

Meanwhile, the rise in the share of income from property and investment was most notable in two Group A states, Selangor and Putrajaya, with increases of 2.6 and 6.6 percentage points, respectively. While Kuala Lumpur did not see a rise, all Group B states had increases but of a smaller magnitude relative to Selangor and Putrajaya. For current transfers, all Group D states had increases. Perak, Perlis and Pahang were among the states that had the largest increases, at 4.2, 2.9 and 2.5 percentage points, respectively. However, these increases were driven almost entirely between 2014 and 2016. Group B and Group C states also had an increase in the share of income from current transfers during these same years. Subsequently from 2016 to 2019, the share of income from current transfers decreased for most states.

Nonetheless, the dominant trend from 2014 to 2019 for nearly all Group C and Group D state was an increased share of income from transfers and self-employment income. This suggests that the spatial convergence across states seen in recent years, with lower-income states experiencing greater growth rates relative to higher-income states, was driven largely by these sources of income, rather than strong performance of economic drivers.

Figure 1.9: Percentage point change in share of mean household income by income source for household head, by state, 2014–2019

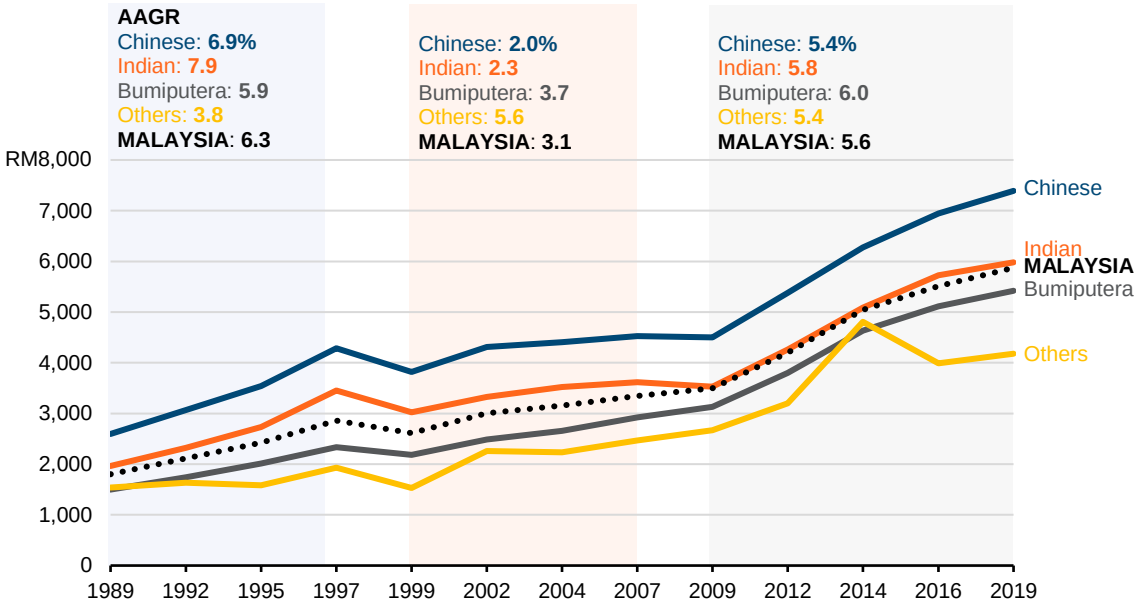


Note: A negative percentage point change implies a decrease in the share of an income source and not necessarily a decrease in absolute RM terms.
Source: DOS (2017), DOS (2020b) and KRI calculations

1.1.2. Ethnic differences

When it comes to experiences across ethnic groups, disparities in household income persisted but differences in absolute RM terms between groups had been relatively small (Figure 1.10), at least in comparison to the differences between states. Period 1 had the highest average growth among Indian households at 7.9%, followed by Chinese at 6.9%. Households classified as Others trailed far behind in Period 1, with an average growth of 3.8%. However, in Period 2, Others grew at an average of 5.6%, outperforming the other ethnic groups, all of whom had experienced slow growth in this period. Meanwhile, for Bumiputera, growth was commendable in Period 1 at an average of 5.9%, but it slowed to 3.7% in Period 2, which was still higher than income growth for Chinese and Indian, whose median incomes grew at an average of 2% and 2.3%, respectively. In Period 3, Bumiputera households, along with Indian, registered the highest average growth at 6.0% and 5.8%, respectively.

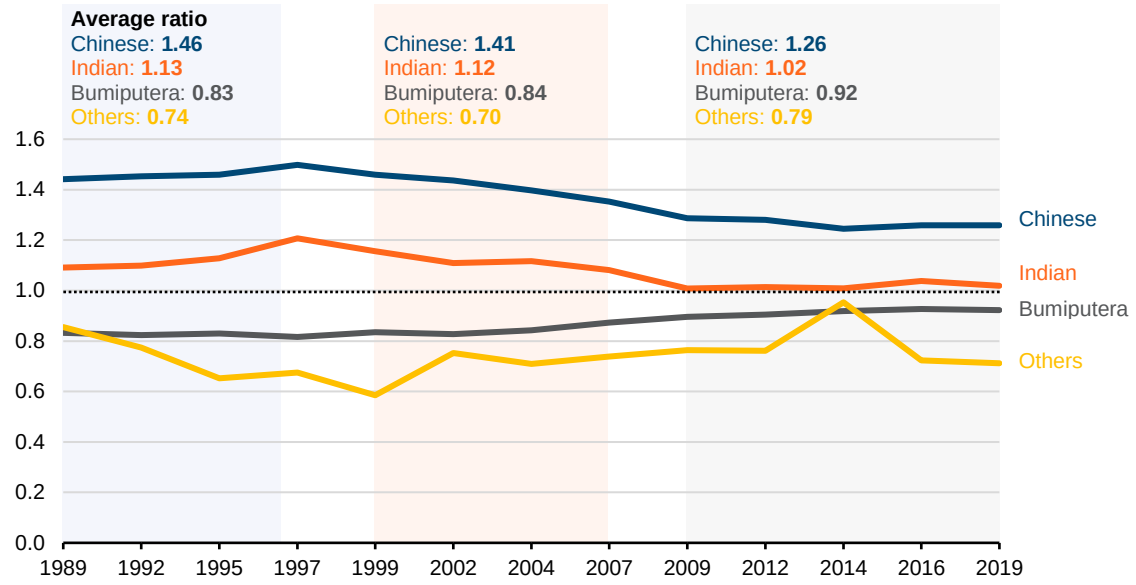
Figure 1.10: Real median household income, by ethnic group, 1989–2019



Note: Data expressed in 2019 prices.
Source: DOS (2020b), EPU (n.d.c) and KRI calculations

Overall, the median household income for Chinese remained the highest, but there had been some convergence to the national median (Figure 1.11). In Period 1, median household incomes diverged from the national median, for Chinese, Indian and Others. Period 2 showed considerable convergence as Bumiputera and Others had higher growth compared with Chinese and Indian. Period 3 showed that the ratio of median income between ethnic groups had remained stable.

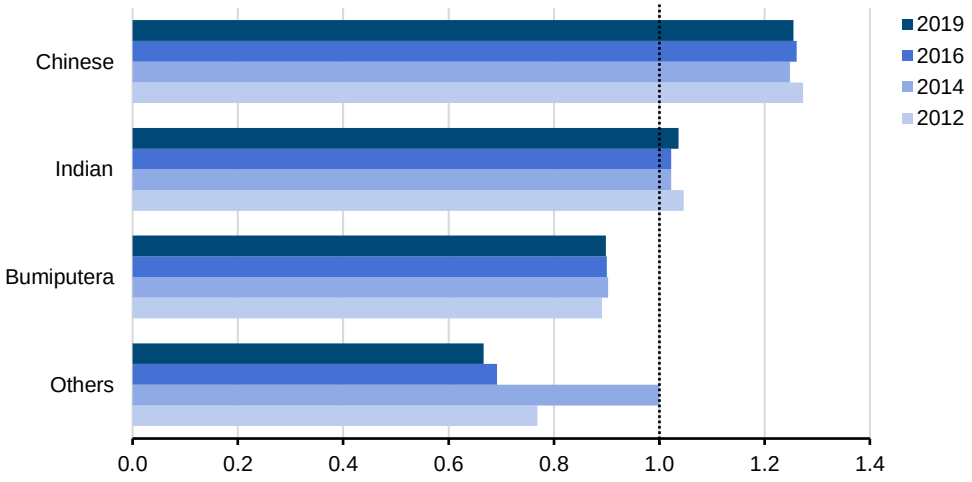
Figure 1.11: Ratio of ethnic group median household income to national median household income, 1989–2019



Source: DOS (2020b), EPU (n.d.c) and KRI calculations

How does the income share of each ethnic group compare to their population size? In 2019, Bumiputera households comprised 65% of Malaysian households, while Chinese households made up 25.9%, Indian households 8.2% and Others 0.9%. Given this distribution, the total income share of Indian households was roughly proportionate to their household share between 2012 and 2019 (Figure 1.12). Meanwhile, the income share of Chinese households was over-represented compared to their household share, but underrepresented for the Bumiputera and Others. For Others in particular, the share of income relative to their household share had decreased more notably compared with the other ethnic groups.

Figure 1.12: Ratio of the share of income to share of households, by ethnic group, 2012–2019



Source: DOS (2015a), DOS (2017), DOS (2020b) and KRI calculations

How do the incomes of the different ethnic groups differ from one another at the state level? For the national figure in 2019, the Bumiputera median household income was 73.3% of Chinese median household income and 90.6% of Indian median household income, while Chinese median household income was 123.6% of Indian median household income.

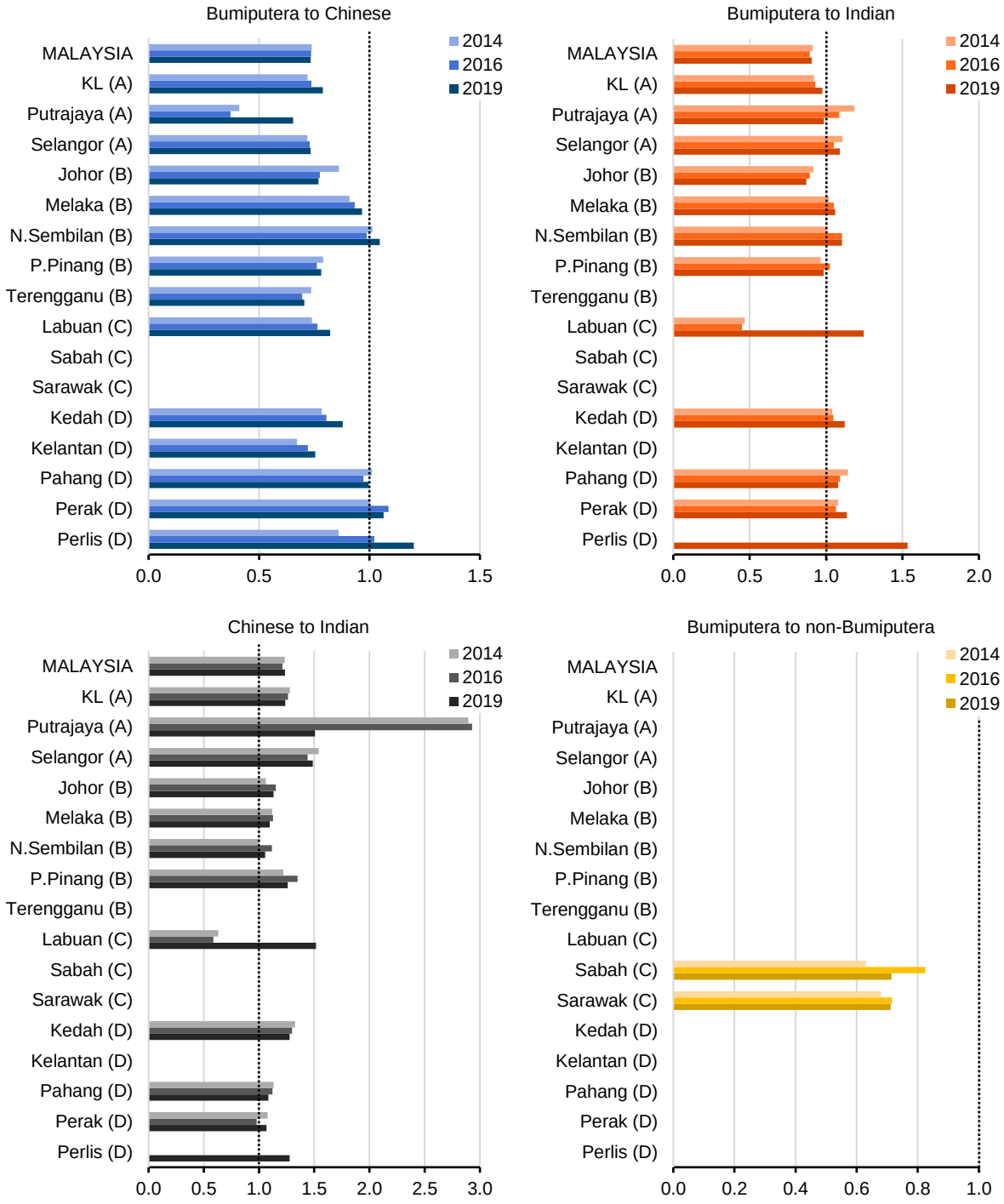
Compared to these national figures, Figure 1.13 illustrates that Bumiputera median incomes in many states were less than Chinese median incomes from 2014 to 2019, generally being around two thirds of Chinese median incomes in line with the national ratio. The states where Bumiputera and Chinese median incomes were about on par were several Group B and Group D states. Nevertheless, there had been some convergence in most states.

Meanwhile, the gaps between Bumiputera and Indian median household incomes had been relatively narrow like the national average—with the ratios in most states being close to one or within 10% of one another.

Like the national average, Chinese median income had been greater than Indian median income, albeit not by much in most states. In several Group B and Group D states, the differences in the Chinese and Indian median incomes were relatively smaller.

In Sabah and Sarawak, where household income data is only disaggregated between Bumiputera and non-Bumiputera households, median incomes for Bumiputera households were lower than for non-Bumiputera. There had been convergence from 2014 to 2016 in both states, especially in Sabah, but this trend was reversed in 2019.

Figure 1.13: Ratio of median household income between ethnic group, by state, 2014–2019

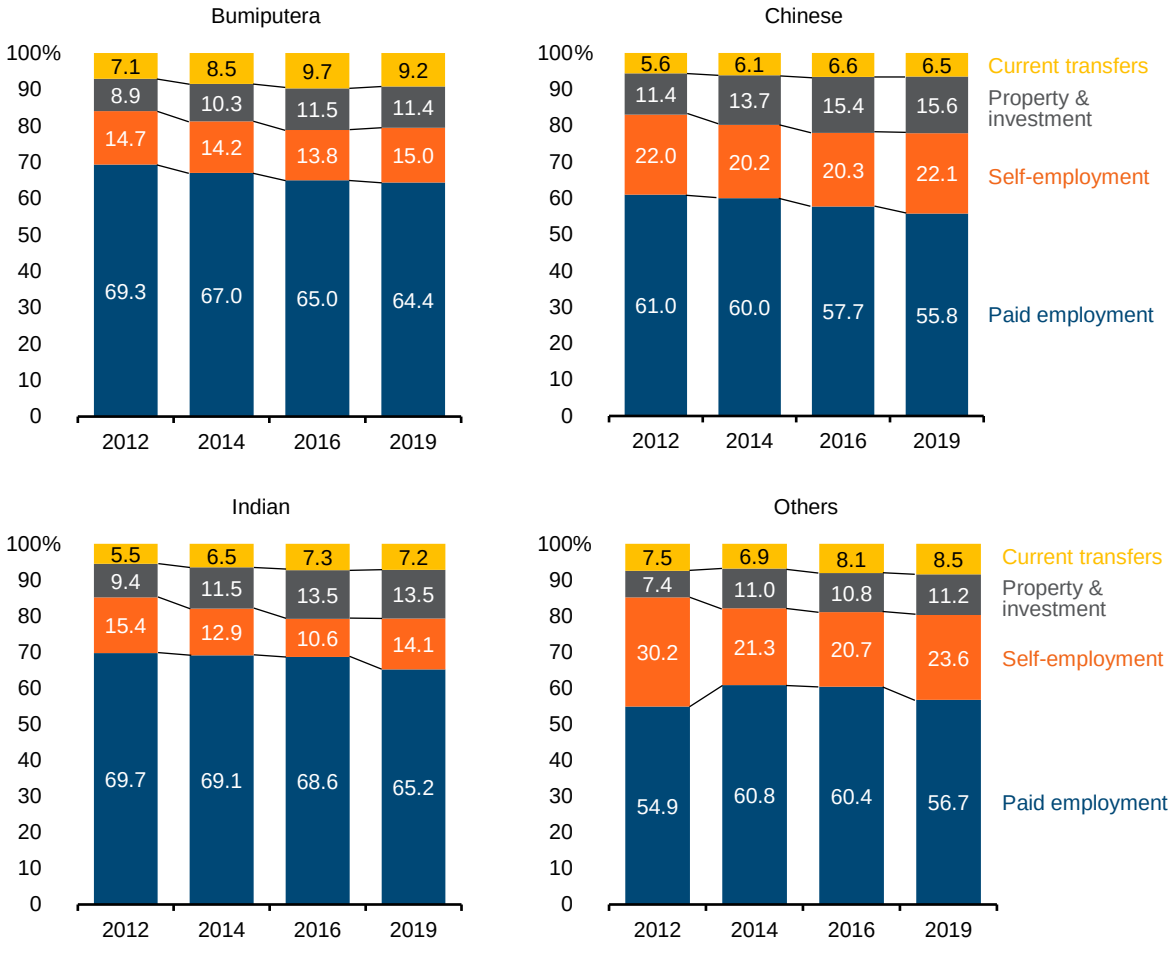


Note: State groups are reported in brackets. Null values are due to the lack of statistical significance for certain ethnic groups given the small sample sizes, particularly for Indian households in Kelantan, Perlis and Terengganu. Median income by ethnic group for Sabah and Sarawak are only broken down for Bumiputera and non-Bumiputera.
Source: DOS (2015b), DOS (2017), DOS (2020b) and KRI calculations

What accounts for the changes in household incomes across ethnic groups? Paid employment contributed the highest share of income for all ethnic groups, with Indian and Bumiputera having had a larger share than Chinese and Others since 2012 (Figure 1.14). As with the national average, the share of paid employment income steadily fell for all ethnic groups from 2012 to 2019, except for Others whose share of paid employment income in 2019 was still higher than it was in 2012.

The share of income from self-employment also declined across ethnic groups from 2012 to 2016 but increased in 2019. Its prominence as an income source had been most notable among Others followed by Chinese. Meanwhile, the share of income from property and investment as well as transfers increased for all the ethnic groups up until 2016, that was then followed by a moderation until 2019. Overall, Chinese households had a relatively larger share of income from property and investment, while Bumiputera had a larger share of transfers.

Figure 1.14: Share of mean household income by source for household head, by ethnic group, 2012–2019



Source: DOS (2015a), DOS (2017) and DOS (2020b)

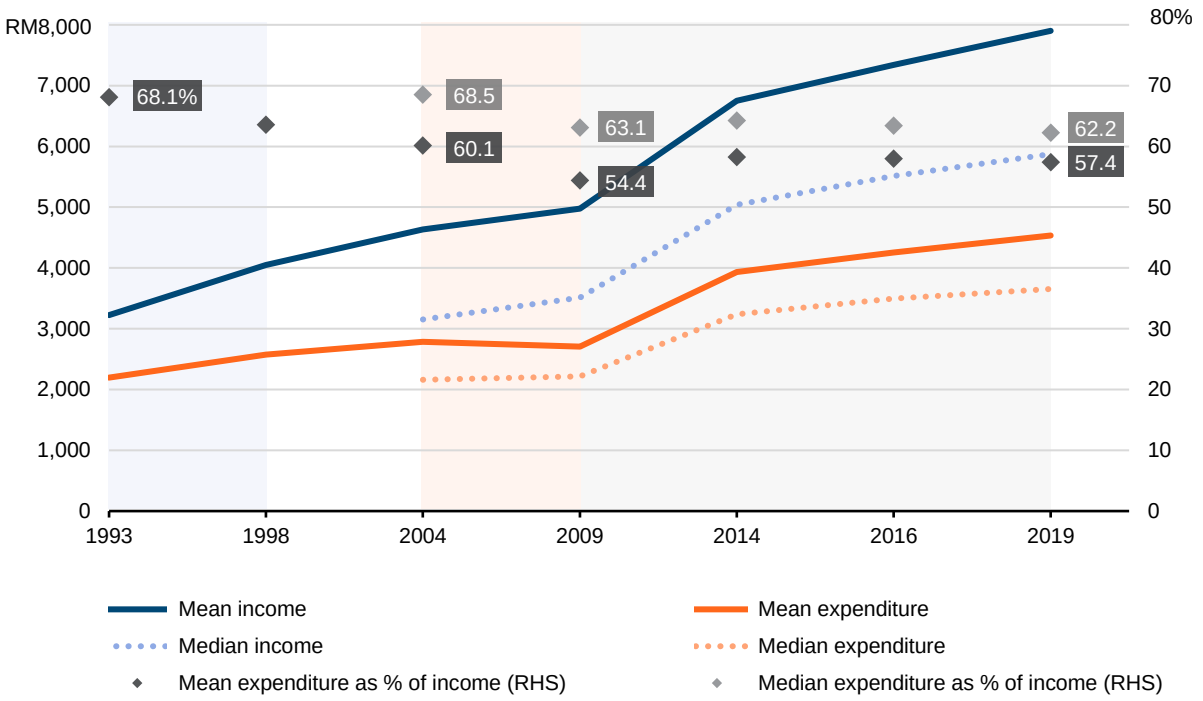
1.2 Household Expenses

The well-being of households is not determined by income alone, but also the degree and variety of consumption, proxied by household expenditure, given a certain level of income.

In this regard, household consumption expenditure had increased in line with income (Figure 1.15). In 1993, the mean expenditure was RM2,206 in 2019 prices and it rose to RM4,534 in 2019. In the earlier years, the growth rate of the mean household income had been greater than expenditure, resulting in a smaller portion of income being spent for consumption, from 68.1% of household income in 1993 to 54.4% in 2009. This translates into more residual income over time. However, between 2009 to 2014, the mean expenditure grew at a greater rate than income, leading to an increase in the share of expenditure over income. However, the share remained stable for the rest of the third period from 2014 to 2019.

The trend over time for median household expenditure was consistent with the mean, except that the share of median expenditure over median income had been consistently higher than the share of mean expenditure over mean income. From here onwards, we refer to the mean household expenditure given the lack of publicly available data for median expenditure for earlier periods.

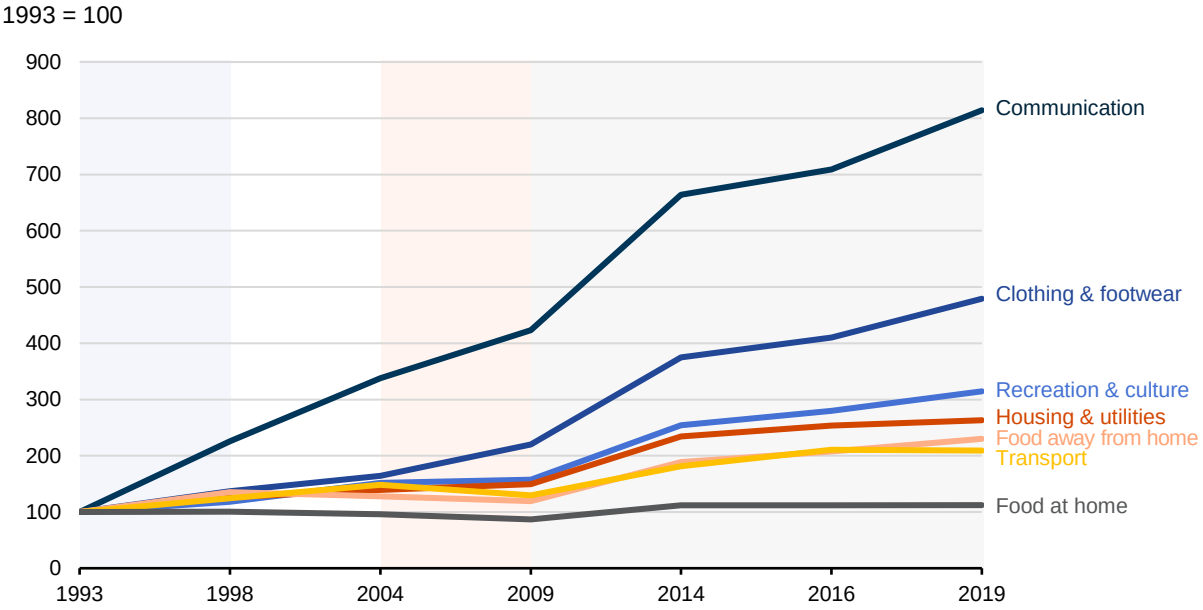
Figure 1.15: Real household income and consumption expenditure, 1993–2019



Note: The years featured in the chart are those with published data for household expenditure, which differs for earlier years with data for household income. Data is expressed in 2019 prices.
Source: DOS (2020d), DOS (2020b) and KRI calculations

What drove the changes in household expenditure? Since 1993, the fastest growing consumption category was communication, having increased by more than eight times (Figure 1.16). This includes items such as phone purchases and charges for internet and phone bills. In terms of more basic necessities, consumption on housing grew by 2.6 times. While this was not as high a growth in percentage terms, the increase translated into an additional spending of RM662, higher than any other consumption category. Another key expense was transport, which grew by 2.1 times, translating to an increase of RM319. Food away from home shows an increasing importance for households, increasing by 2.3 times or RM280 since 1993. This contrasts with the trend of food at home expenses, which only increased by 1.1 times or RM85. This illustrates the changing food consumption patterns of households in Malaysia.

Figure 1.16: Index of real mean household consumption expenditure, by selected category, 1993–2019

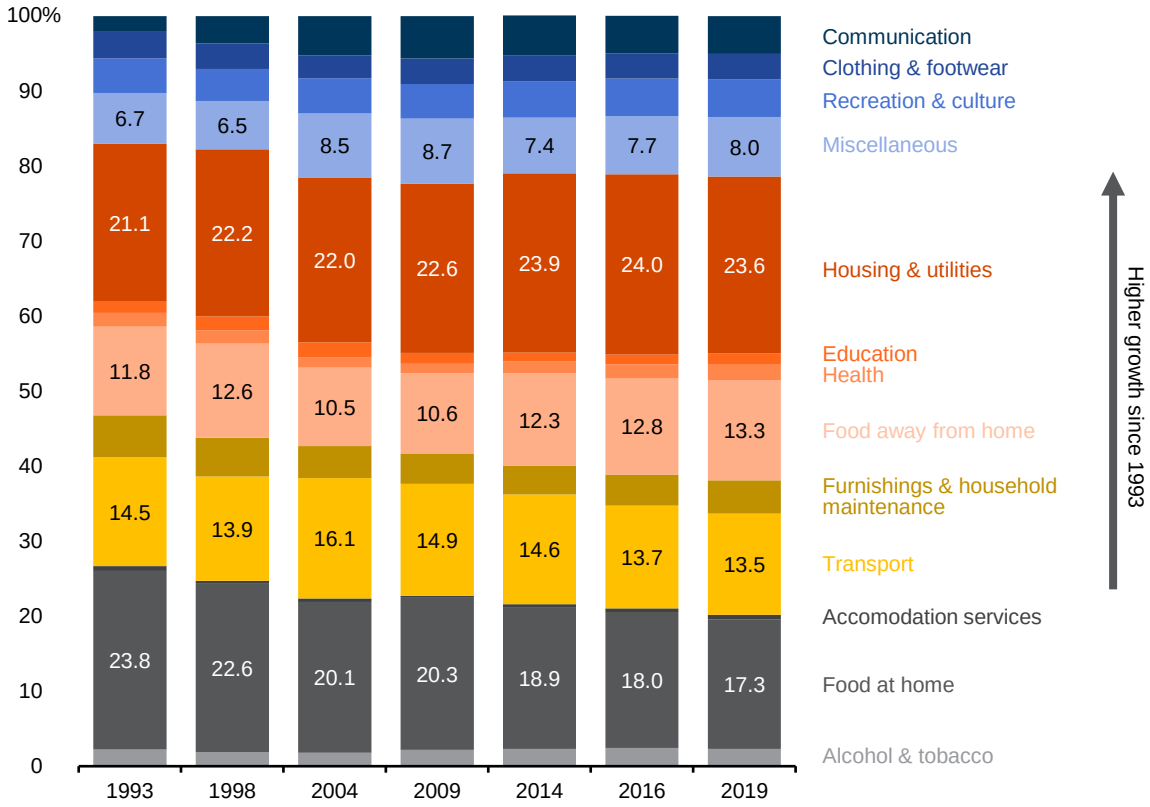


Note: Mean expenditure is in 2019 prices.
Source: DOS (2020d) and KRI calculations

Thus, while communication and other items grew at a higher rate relative to other more basic necessities such as housing, transport and food, the latter group of items had always constituted a large share of household budgets since 1993 (Figure 1.17). Thus, any percentage increase in expenses over time for basic necessities were felt by households at a greater magnitude.

However, the importance of other goods and services that have increasingly become necessities in society's changing lifestyles should not be underestimated. The shifts in spending between items within household budgets were quite notable. Between 1993 and 2019, the share of expenses on food away from home, housing and communication had increased, while the shares on transport and food at home had fallen. Therefore, while categories such as food away from home and communication can be traditionally described as discretionary, the increased spending allocated to them by households highlight their increasing importance.

Figure 1.17: Share of mean household consumption expenditure, by category, 1993–2019



Note: Expenditure categories are arranged, from top to bottom, according to the highest growth rate between 1993 and 2019.
Source: DOS (2020d) and KRI calculations

The increased importance of these new consumption categories is reinforced by changing lifestyles that drive households to partly source their nutritional needs from eating out, driven by longer working hours and increasing women's participation in the labour market[6]. Likewise, communication-related items and services such as phone purchases and internet charges are increasingly needed by many households to effectively realize their educational, developmental and job outcomes. Thus, in conceptualising welfare levels of today, it is important to account for these changing consumption patterns as they reflect changes in what constitutes basic needs.

[6] Goh and Choong (2020)

1.2.1. By income differences

The changes in consumption patterns is further evident by examining household budgets across the income distribution over time. In a span of a few years from 2014 to 2019, household budget shares on food away from home increased on average for all household income brackets (Figure 1.18). This includes those in the lowest income bracket with incomes under RM2,000, whose share of expenses on food away from home increased from 9.7% of total consumption expenditure in 2014 to 10.5% in 2019. In contrast, their average share of expenses on food at home decreased from 30.4% in 2014 to 28.9% in 2019. As these households are among the most vulnerable, with incomes close to the revised average poverty line income of RM2,208[7], the increase in spending on food away from home to households in Malaysia in recent years reinforces its importance in household consumption. In fact, the average budget share on food at home decreased for those earning up to RM3,000, constituting about 30% of Malaysian households in 2019.

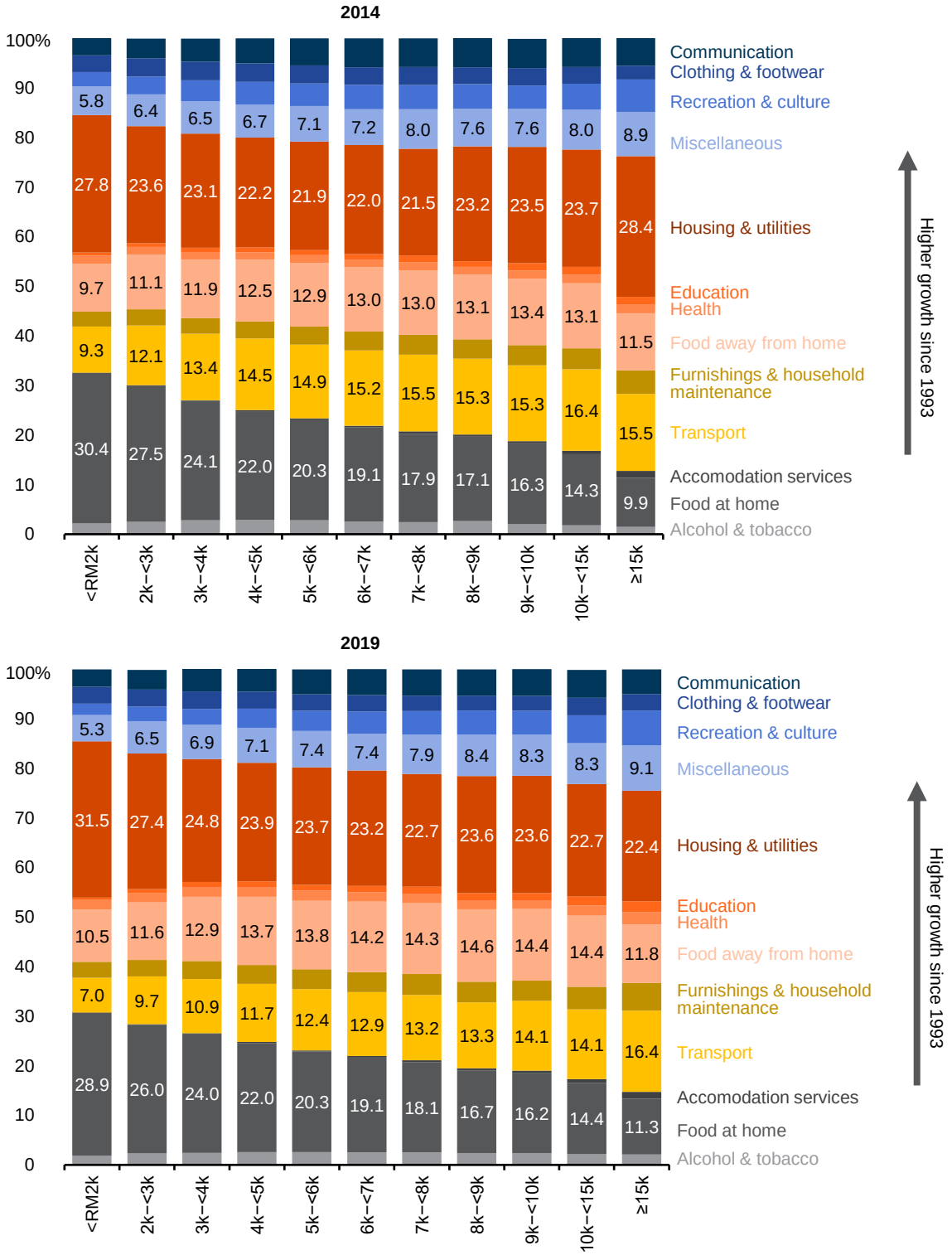
Nevertheless, as average household incomes have grown over time, it also factors in influencing the changing trends of household expenses. According to economic theory, expenses on a particular good or service, especially food, is said to decrease in its share when households earn a higher income as more is spent on discretionary items[8]. Similarly, an earlier KRI report argues that wellbeing is further enhanced by the increasing diversity of items that money can buy as households move up the income ladder[9]. On the contrary, spending diversity is low at lower income levels. Thus, while we have shown that households in Malaysia had acquired higher incomes across time, which in turn have some implications for the above trends in expenditure, we can assess how households with varying incomes allocate their household expenditure within a given time period.

Comparing households across the income distribution in 2019, households in the lowest income bracket dedicated the largest share of expenditure to food at home (28.9%). Further up the income ladder, the food share became progressively smaller, with the top allocating only 11.3% of the expenses on food at home. Housing demonstrated a similar trend in that higher-income households allocated a smaller share, but the decrease in share for higher income households was not as large as the decrease for food at home. Meanwhile, a greater share for food away from home was allocated by the higher income households, although the percentage point difference between households of different income brackets was even smaller in scale. In comparison, the share of expenses on transport was greater for higher income households, and the differences between income brackets were relatively larger.

Items that constituted a relatively smaller portion of household budgets also demonstrate an increasing share as we move up the income spectrum, albeit at a smaller scale. Expenses on miscellaneous goods and services, recreation services and culture, and hotels consistently showed a greater share for households with higher income. The same could be said for expenses on communication, although it tapered off at the very top.

[7] DOS (2020b)
[8] Based on Engel's Law (Deaton (1997))
[9] Hawati, Ho and Suraya (2019)

Figure 1.18: Share of mean household consumption expenditure, by category and income bracket, 2014 and 2019



Note: Expenditure categories are arranged, from top to bottom, according to the highest growth rate between 1993 and 2019.
Source: DOS (2020d) and KRI calculations

1.2.2. By price differences

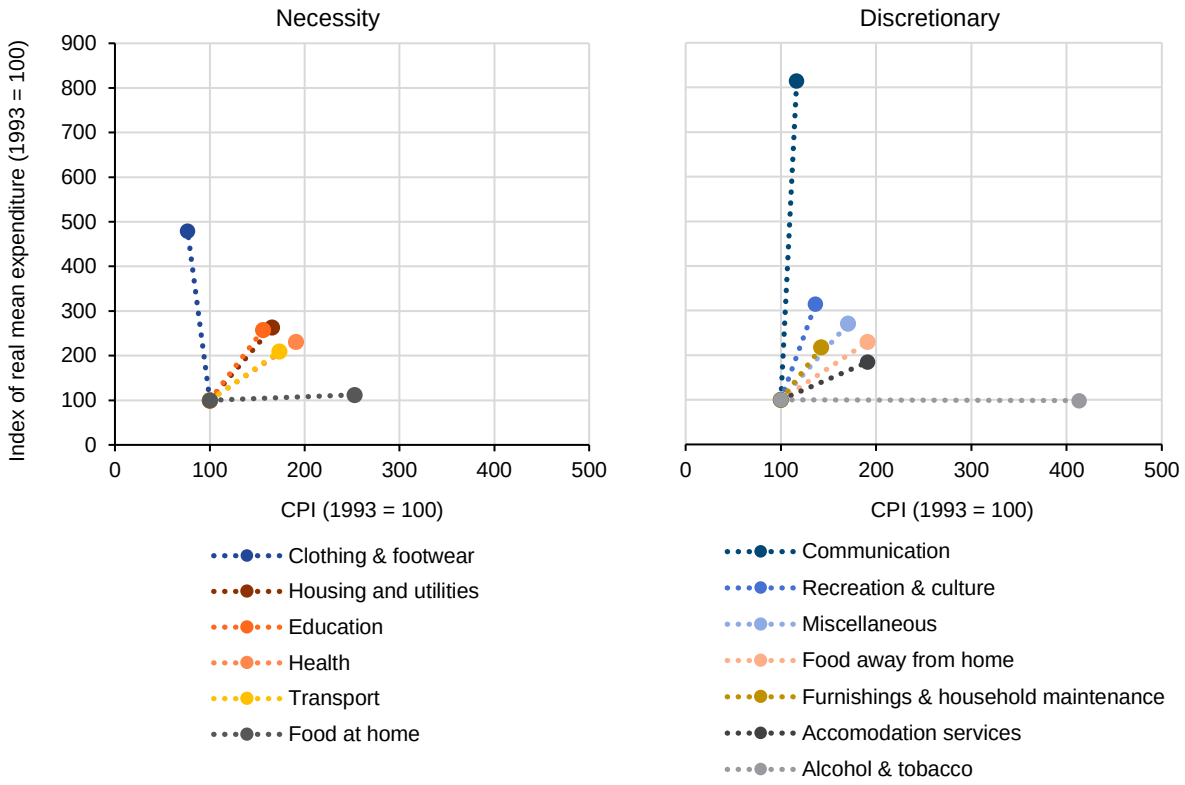
Further interpreting the changes in household expenses, another key factor was the changing prices of goods and services. How can the relationship be illustrated? A suitable proxy for price is the consumer price index (CPI), which tracks changes in the price level of a basket of consumer goods and services purchased by households. Sub-indices of the CPI are computed for different categories of goods and services. Each of these sub-indices are assigned its own weight that is then used to produce the overall index. As for measuring quantity consumed, this must be proxied as we do not know the exact number of units purchased. Thus, we use the same expenditure data illustrated earlier, expressed in real terms to control for the effects of inflation.

Figure 1.19 illustrates the changes in spending and price between two points in time. 1993 and 2019. Unlike what is stipulated by theory, spending on most items, both those that can traditionally be described as a necessity or discretionary in nature[10], actually increased as price rose. This is because other effects are not controlled for, including the effects of increasing household income, which allowed more to be spent on goods and services. Essentially, this suggests an income effect at play that dominates the substitution effects from price changes. The income effect is the change in consumption following changes in income, where households generally consume more as incomes increase. However, substitution effects were still likely strong, but given the broad aggregation of items, substitution effects likely occurred within the categories between specific items.

Nevertheless, with respect to particular expenditure categories, clothing and footwear was the only category that displayed a downward trend of mean expenditure over a higher price. Meanwhile, expenditure on communication displayed a notably high positive elasticity with regard to its change in spending relative to the change in price, reflecting its increased importance to society since 1993. This contrasts with the trend for food at home, which had among the lowest rate of change in expenditure despite its relatively higher change in price since 1993.

[10] Adapted from Gittins and Luke (2012) and KRI (2018)

Figure 1.19: Index of real mean household consumption expenditure, by CPI, 1993 and 2019



Note: The CPI plotted along the horizontal axis are the sub-indices of each expenditure category. Mean expenditure is in 2019 prices.
Source: DOS (2020d) and KRI calculations

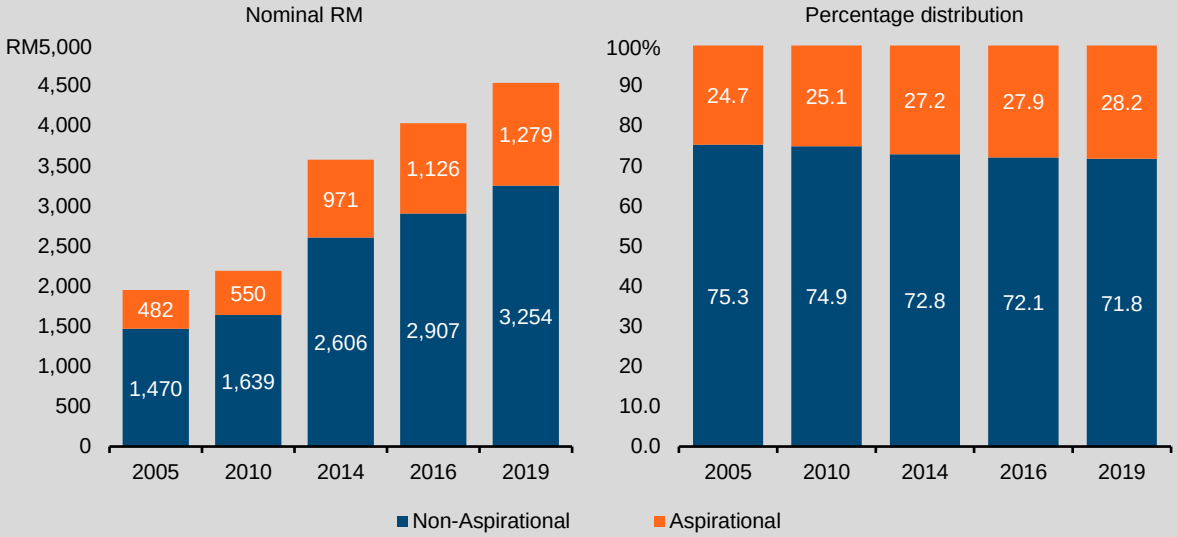
Box 1: Aspirational consumption—an alternative approach to studying wellbeing

An earlier KRI report[11] examined how specific goods and services were co-consumed by different households across the income distribution. The report found that the bottom 20% of households mostly consumed basic needs (e.g., food, shelter and clothing), while households in the next 50% (middle 50%) had more consumption choices (more eating out, greater variety of food, household furniture and private tutoring). Households in the top 30% exhibited 'aspirational' consumption (for example, paying "insurance premiums" reflecting some ability to insulate themselves from some economic shocks, hiring services reflecting the ability to get other people to perform 'menial' tasks, thus freeing time for themselves).

This box further examines household expenditure across time to give a sense of the expansion of aspirational consumption. Replicating the methodology with less-granular publicly available data, Figure 1.20 shows aspirational consumption increasing from 24.2% to 27.4% of household expenditure between 2005 and 2019. While the increase may seem marginal, it is partly because the classification of aspirational products is based on 2014 consumption patterns, which can still be considered fairly recent and similar to standards of today, as opposed to consumptions patterns year earlier, including 2005.

[11] Hawati, Ho and Suraya (2019)

Figure 1.20: Mean household consumption expenditure, by consumption type, 2005–2019



Source: CEIC (n.d.), DOS (2020d) and KRI calculations

Nonetheless, standards need to be adjusted over time in line with societal development, even if it then indicates a more modest progress in previous welfare improvements, as it has in this analysis of aspirational consumption. The revision of standards ensures that measures of "deprivation" or "aspirations" better reflect societal realities and expectations. For example, there is a case to be made that items such as broadband/fibre internet or computers should be made universally accessible under the "new normal"[12]. While these items are presently classified as aspirational in the analysis, many households today increasingly need to acquire and use them effectively to realize their educational, developmental and job outcomes.

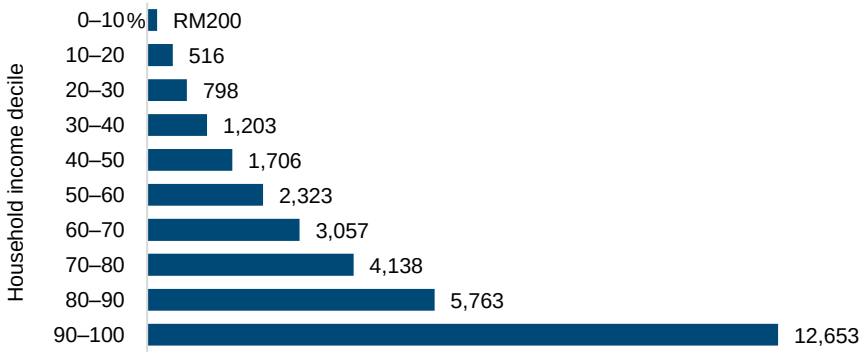
1.3 Residual Household Income

Between 1989 and 2019, while the pace of mean and median household income exceeded expenditure growth at the aggregate level, despite the reverse during 2009 to 2014, the adequacy of residual income varies widely between households across the income distribution (Figure 1.21). In 2019, the difference between mean consumption expenditure and gross income indicate that the bottom 10% of households had only RM200 left as residual income. In contrast, the top 10% had RM12,653, considerably more than the second top 10% who had RM5,763. This shows significant gaps in incomes even among top earners.

However, it is important to note that this is before deducting any obligatory payments, such as taxes, inter-household transfers, *zakat* and social security contributions. In excess of disposable income, the amount of net residual income would be even lower.

[12] See Gong (2020) and Hawati and Jarud (2020).

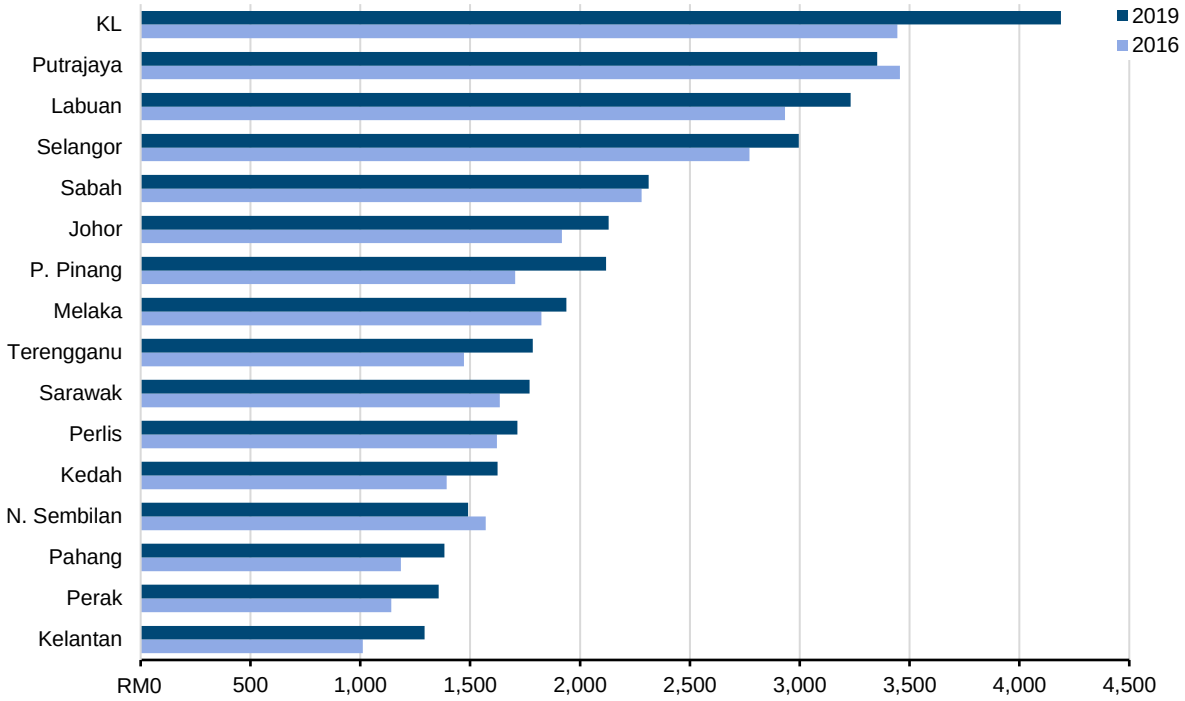
Figure 1.21: Mean residual household income in gross terms, by income decile, 2019



Note: Calculated as the difference between gross income and consumption expenditure.
Source: DOS (2020b), DOS (2020d) and KRI calculations

Adding in the geographical perspective, the disparities between states in residual income on a net basis were also apparent (Figure 1.22). Meanwhile, while Kuala Lumpur saw a significant rise in mean net residual income from 2016 to 2019, Putrajaya and Negeri Sembilan saw decreases. A more disaggregated analysis shows that mean net residual incomes went as low as RM96 for Lojing, Kelantan in 2019. Referring to the median illustrates a further worrying situation—two districts had negative net median residual incomes: Kuala Pilah in Negeri Sembilan had negative RM125 and Kanowit in Sarawak had negative RM77. Julau in Sarawak had a median residual income of zero, while several districts also had very low median residual incomes below RM200.

Figure 1.22: Real mean residual household income in excess of disposable income, by state, 2016 and 2019



Note: Calculated as the difference between disposable income and consumption expenditure. Data expressed in 2019 prices.
Source: DOS (2020b), DOS (2020d) and KRI calculations

SECTION

02

SECTION 2

SOCIAL WELFARE: INCOME, INEQUALITY AND POVERTY

In the previous section, we use income and expenditure data to give a sense of how Malaysian households have fared in terms of living standards in the course of three decades. However, assessing welfare only with income and expenditure, by proxy of central tendency measures like mean and median income, pays no attention to inter-household distribution. It assumes that welfare increases when mean or median income increases, without regard of whether the increase in income is coming from the bottom end or the top end of the income distribution.

However, in assessing social welfare that we denote as the collective living standards of Malaysian households, inter-household distribution matters. If the increase in income is coming from the bottom end of the distribution, without making anyone worse off, what is known as the Pareto condition, then this form of social welfare improvement should arguably be given more importance. It gives a better indication that development outcomes are equitably distributed and inclusive.

In this section, we discount household income with inter-household income distribution to derive a measure called "adjusted household income". Adjusted household income would be higher when we have less inequality, assuming all else is constant. This is based on the standard welfare economics approach, which assigns more weight to income improvements coming from the bottom end of the income distribution and less weight to those at the top. However, in practice, we do not have the micro data to calculate adjusted household income at the individual level. Hence, we use an abbreviated form that discounts mean income with the relevant inequality level[13]. Thus, while our adjusted household income still relies on a central tendency measure i.e. mean income, it has the property of decreasing when inequality increases.

Nonetheless, departing from the standard welfare economics approach, we do not equate adjusted household income with social welfare. We raise the question of whether social welfare had actually improved when the increase in adjusted household income had been underpinned by broad-based participation in low value-added activities, which had contributed to the reduction in inequality but also slower income growth.

In addition to inequality, we also incorporate poverty measure into how we assess social welfare. This is based on the Rawlsian principle that socio-economic arrangements should be assessed based on whether they have benefited the least advantaged members of society[14]. In more technical language, we fully assign the weight to the poor and none to the non-poor[15]. In other words, we are only concerned with improvements of the poor.

[13] Bellù and Liberati (2006). The social welfare function (SWF) has the following characteristics: individualistic, symmetric, increasing in individual income and has the option of being inequality averse or neutral. On the other hand, the abbreviated SWF is increasing in mean or median income, symmetric and decreasing in overall inequality.

[14] Rawls (1971)

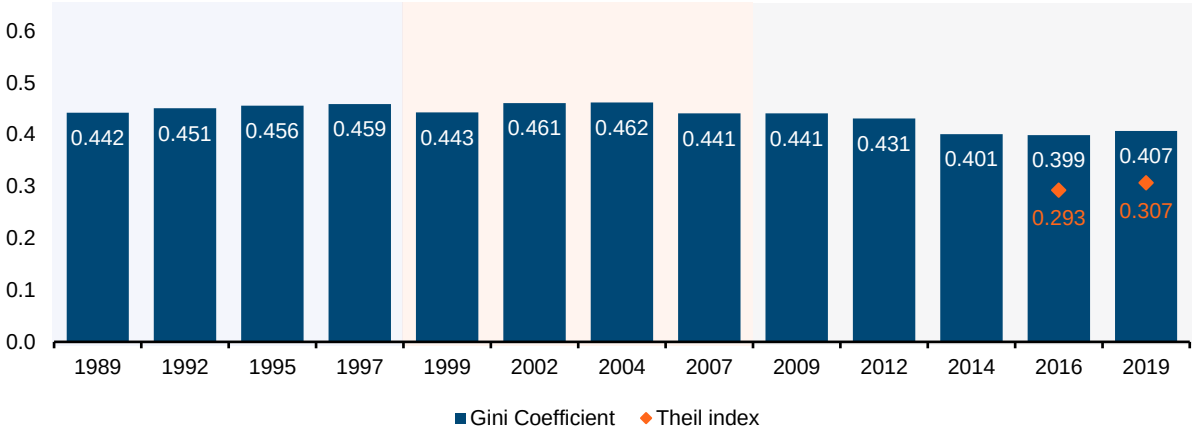
[15] Deaton (1997)

Assessing social welfare based on the incomes of the poor does not necessarily translate into better distributional outcomes. This is because it also depends on how other parts of the income distribution are moving. For example, if a large segment of the middle class has a decrease in income due to an economic shock, an increase in income for a small group of the poor is unlikely to improve distributional outcomes. Therefore, it is also important to analyse income, inequality and poverty together. In the last part of this section, we examine the growth elasticity of poverty to do so.

Where are we in terms of inequality and poverty based on official statistics?

Inter-household inequality, measured using the Gini coefficient, had increased marginally to 0.407 in 2019 (0.399 in 2016) (Figure 2.1). The Theil Index, published for the first time in the 2019 Household Income Survey, also shows an increase from 0.293 to 0.307. However, the slight uptick in inequality was on the back of a longer declining trend since 2004, when the Gini coefficient was at 0.462, highest in the three-decade period of our assessment. Inequality then declined for all subsequent years, except during the Global Financial Crisis (GFC) when it remained unchanged. The sharpest decline in inequality was between 2012 and 2014, falling from 0.431 to 0.401. Prior to 2004, the Gini coefficient hovered above 0.45, except in 1989 and during the AFC in 1999. Overall, the Gini coefficient had remained stable at a moderately high level throughout the three decades.

Figure 2.1: Gini coefficient and Theil index, 1989–2019



Source: DOS (2020b)

There are obvious limitations in using household surveys to estimate inequality levels. One of the known problems is the undercounting of top and bottom incomes[16]. It also excludes those residing in institutional living quarters e.g. hostels, welfare homes. In addition, Malaysia's Household Income Survey excludes non-citizens[17]. More recently, for the 2016 HIS, the Orang Asli settlement in Peninsular Malaysia was also excluded[18]. All these are likely to cause the true levels of inequality to be understated.

[16] Atkinson (2015)
[17] DOS (2017)
[18] Ibid.

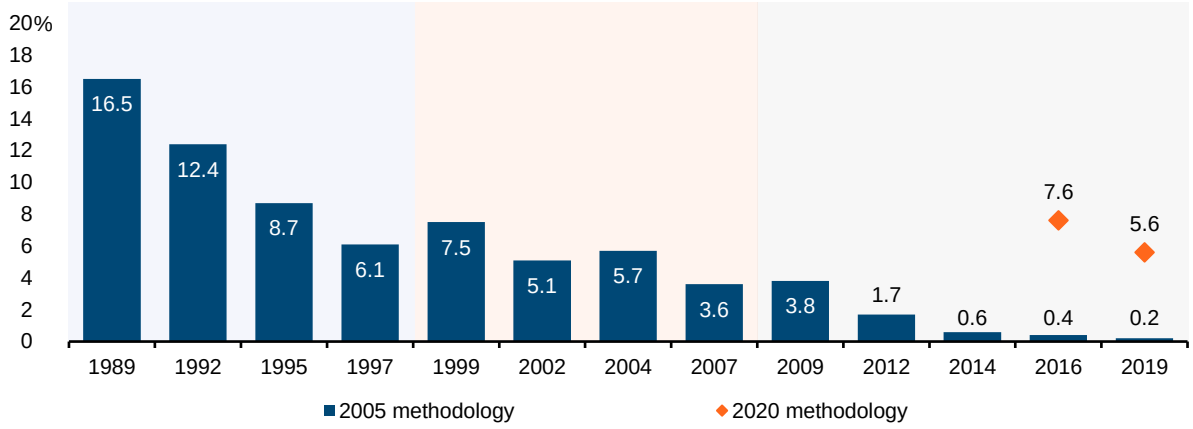
Nonetheless, household surveys are still widely used, given its accessibility and frequency, and can be a vital data source to measure inequality if the limitations are sufficiently recognised and treated with caution. For example, although adjusting the Gini coefficients for the lower and upper tails increased inequality levels in Malaysia, the trend did not change[19]. We continue to use household surveys as our primary data source for this section. However, in the next section, we use another data source i.e. the Social Accounting Matrix (SAM) to look at income and expenditure as well as distributional patterns. As for poverty, the official poverty line income (PLI) shows that absolute poverty had declined to an extremely low level of 0.2% in 2019 (0.4% in 2016) (Figure 2.2). This was on the back of a longer trajectory of decline for the entire three decades, except during the AFC in 1997–1999 and the GFC in 2008–2009.

However, there are debates surrounding Malaysia's PLI, a measure that should be premised on societal acceptance of what constitutes minimum standards. The PLI has been criticised for being too low and not reflecting realities on the ground[20]. Hence, it cannot be used meaningfully for policy planning and targeting purposes[21].

While the government announced that the PLI would be revised in the 11th Malaysia Plan Mid-Term Review, the issue was escalated by a statement from the United Nations Special Rapporteur on extreme poverty and human rights, echoing similar points about Malaysia's low and unrealistic poverty line[22]. On 10th July 2020, the government announced an updated methodology for the PLI, and as a result the absolute poverty rate increased to 5.6% in 2019 (7.6% in 2016). This is a 27-fold increase from 16.7k households using the 2005 methodology to 407k households using the new methodology.

Despite improvements made to the PLI, there are still limitations as the PLI is a money-metric poverty measure and does not measure deprivations that are non-income and relative in nature. Therefore, we also use alternative poverty measures in our analysis of poverty and social welfare, which in our view could provide a more multifaceted understanding of poverty.

Figure 2.2: Absolute poverty rate, 1989–2019



Source: DOS (2020b)

[19] KRI (2018)
[20] Jun (2018) and Vengadesan (2018)
[21] Choong and Tan (2019)
[22] Alston (2019)

2.1 Inequality and Social Welfare

We use adjusted household income to incorporate inter-household income distribution into our analysis of household income. The strength of doing so is that both income and inequality are jointly used in our assessment. This is more useful from a policy standpoint instead of looking at income and inequality in isolation. For example, an increase in mean income without factoring in inequality is likely to overstate welfare improvements, while a decrease in inequality that is accompanied by a decrease in mean income is unlikely to be sustainable and should be seen as welfare-reducing.

The adjusted household income takes the following form:

$$Adjusted\ HHI = \mu(1 - G)$$

where:

- Adjusted HHI is adjusted household income
- μ is mean household income[23]
- G is a measure of inequality i.e. the Gini coefficient

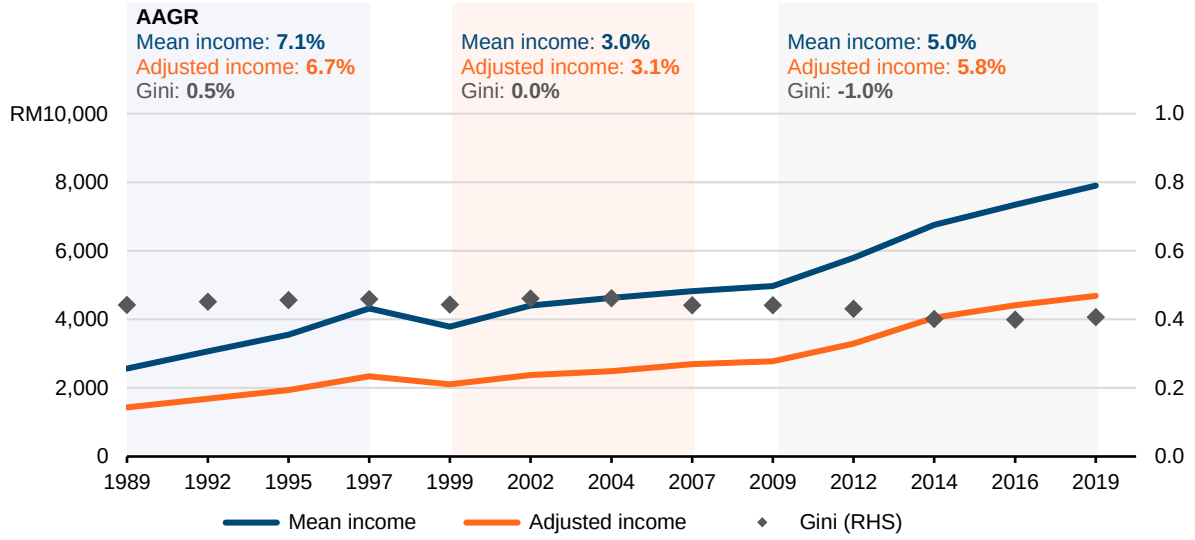
The functional form shows that adjusted household income increases when mean income increases, if there is no change in inequality. On the other hand, adjusted household income will decrease when inequality increases, if there is no change in mean income. Hence, whether adjusted household income increases or decreases depends on the net effect of how mean income and inequality change, in terms of magnitude and direction.

How does adjusted household income compare with using mean income alone? Figure 2.3 shows that adjusted household income was lower than mean income across the years. Albeit at lower levels, adjusted household income followed a similar trend as mean income. During the AFC, adjusted household income was reduced at a smaller magnitude because the decrease in mean income was offset by reduced inequality.

In general, inequality also declined at a slower rate than the increase in mean income, suggesting that improvements in average living standards had contributed more to social welfare improvements than better income distribution. Nonetheless, noticeable inequality reduction, especially between 2012 and 2014, had reduced the relative gaps between the mean and adjusted household income in recent years.

[23] Although median income is less prone to distortion caused by the incomes of the extremely rich, we use mean income to be consistent with the literature as this is an adjustment for income inequality.

Figure 2.3: Mean and adjusted household income and Gini coefficient, 1989–2019



Note: Data expressed in 2019 prices.
Source: DOS (2020b) and KRI calculations

While adjusted household income improved during each of the three periods, we are also interested to see the ranking i.e. which period had higher adjusted household income. We calculate the average annual growth rates of adjusted household income, where a positive growth indicates an increase while a negative growth indicates a decrease. However, a higher growth in adjusted household income should not be conflated with overall social welfare improvements, as the quality of inequality reduction and income growth matters. We discuss this at the end of the section.

Comparing growth in the three periods, the ranking of periods for adjusted household income is the same for mean income. Although the reduction in inequality contributed to higher growth in adjusted household income in the third period in 2009–2019, it was still lower than growth in adjusted household income in the first period between 1989–1997. Growth in the second period, between 1999–2007, was the lowest partly because of the AFC, which resulted in an absolute decline in mean income in 1999. However, even if we take out the effects of the AFC by removing 1997 as the base year, the second period was still the lowest because of lower growth rates in the post-AFC years leading to the GFC.

In the first period, growth of adjusted household income was lower than for mean income due to worsening inequality, which accompanied the relatively high growth period. For the third period, growth of adjusted household income was higher due to reductions in inequality. Growth of adjusted household income was the same as growth of mean income in the second period as there were little changes in inequality.

To further analyse this, we calculate the average annual growth rates of adjusted household income by state and ethnicity. We are interested to examine three aspects:

1. Ranking of the three periods for states and ethnic groups
2. Ranking of states and ethnic groups within each period;
3. The relative importance of mean income and inequality in driving change in adjusted household income.

All the aspects above give a sense of the effectiveness of policies during the three periods and their uneven impact on different states and ethnic groups.

2.1.1. By state

Looking at the ranking of the three periods by state, all the states in Group A and Group B had higher growth in the first period compared to the third period except Terengganu (Table 2.1). On the other hand, for the states in Group C and Group D, all of them had higher growth in the third period except for Sarawak and Perak, where the growth rates were similar. Growth in the second period was always the lowest compared to the first and third periods for all the states except Pahang, which registered its highest growth in the second period.

Table 2.1: Growth of adjusted household income, by state, 1989–2019[24]

Group	State	AAGR (%)		
		1989–1997	1999–2007	2009–2019
A	Kuala Lumpur	8.4%	0.3	7.6
	Putrajaya	-	-	4.1
	Selangor	8.0	3.0	4.8
B	Johor	7.1	1.8	6.6
	Melaka	5.8	3.7	5.2
	N. Sembilan	5.4	2.7	4.1
	P. Pinang	8.2	1.1	4.8
	Terengganu	3.8	4.0	8.4
C	Sabah & Labuan	2.5	2.7	5.4
	Sarawak	4.4	2.3	4.4
D	Kedah	4.4	3.8	6.5
	Kelantan	2.7	4.8	5.5
	Pahang	1.7	6.5	4.6
	Perak	6.1	2.5	6.1
	Perlis	3.5	3.7	8.2

Min Max

Note: Calculated based on income in 2019 prices.
Source: DOS (2020b), EPU (n.d.b) and KRI calculations

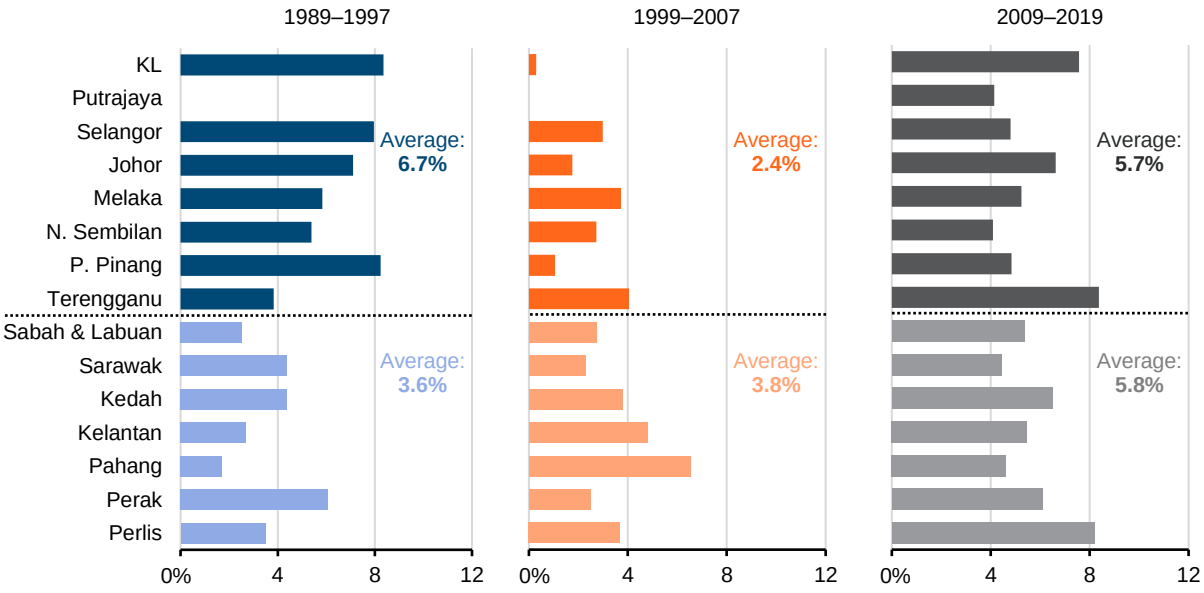
[24] For Sabah & Labuan in 2019, the mean and Gini coefficient are obtained by averaging the figures for both regions. The derived mean is discounted by 20% and Gini coefficient revised upwards by 4%. The adjustments made are based on the trends shown in the data from 2007 to 2016.

Comparing the states within each period, during the first period, the states with higher mean income had greater growth, with an average of 6.7% for Group A and Group B, than the states with lower mean income, with an average of 3.6% for Group C and Group D (Figure 2.4). The three states that had the highest growth in the first period were Selangor and Kuala Lumpur in Group A and Pulau Pinang in Group B.

However, this changed in the second period when the states in Group C and Group D had higher growth instead, with an average of 3.8%, compared with Group A and Group B that had an average of 2.4%. The three states that had the highest growth in the second period were Pahang and Kelantan in Group D, and Terengganu in Group B.

In the third period, growth between the states with lower mean income (Group C and Group D) and higher mean income (Group A and Group B) were similar, with the former being slightly higher at 5.8% than the latter at 5.7%. The three states that had the highest growth in the third period i.e. Perlis, Terengganu and Kuala Lumpur came from three different groups.

Figure 2.4: Growth of adjusted household income (AAGR), by state, 1989–2019



Source: DOS (2020b), EPU (n.d.b) and KRI calculations

In more than half of the states in the first period, growth in adjusted household income was generally driven by higher mean income growth, which compensated for the higher inequality in that period (Figure 2.5). Nonetheless, six states in the first period had a reduction in inequality on top of income growth i.e. Perak, Melaka, Selangor, Kuala Lumpur, Pulau Pinang and Sabah.

The second period had a balanced number of states with an increase in inequality and a decrease in inequality. Interestingly, five out of the seven states in Group C and Group D had an increase in inequality (except Kedah and Kelantan), suggesting that growth in adjusted household income in this period were driven more by income growth as well. All the states in Group A had an increase in inequality but all the states in Group B had a decrease in inequality on the back of relatively lower income growth. It highlights that inequality reduction may be underpinned by increasingly similar lower income growth rather than catching up with the top.

For the third period, growth in adjusted household income were generally driven by a combination of higher mean income growth and lower inequality. The exceptions were Putrajaya[25] and Negeri Sembilan, where inequality increased.

In sum, we see a general pattern of higher income states with higher growth in adjusted household income in the early parts of Vision 2020. However, it transitioned to lower income states with higher growth in adjusted household income in the later parts of Vision 2020. The transition to the second period happened with lower growth than the first period, for all the states except Kelantan and Pahang. Growth in adjusted household income bounced back in the third period for all the states, but with a similar pattern where lower income states had higher growth than higher income states.

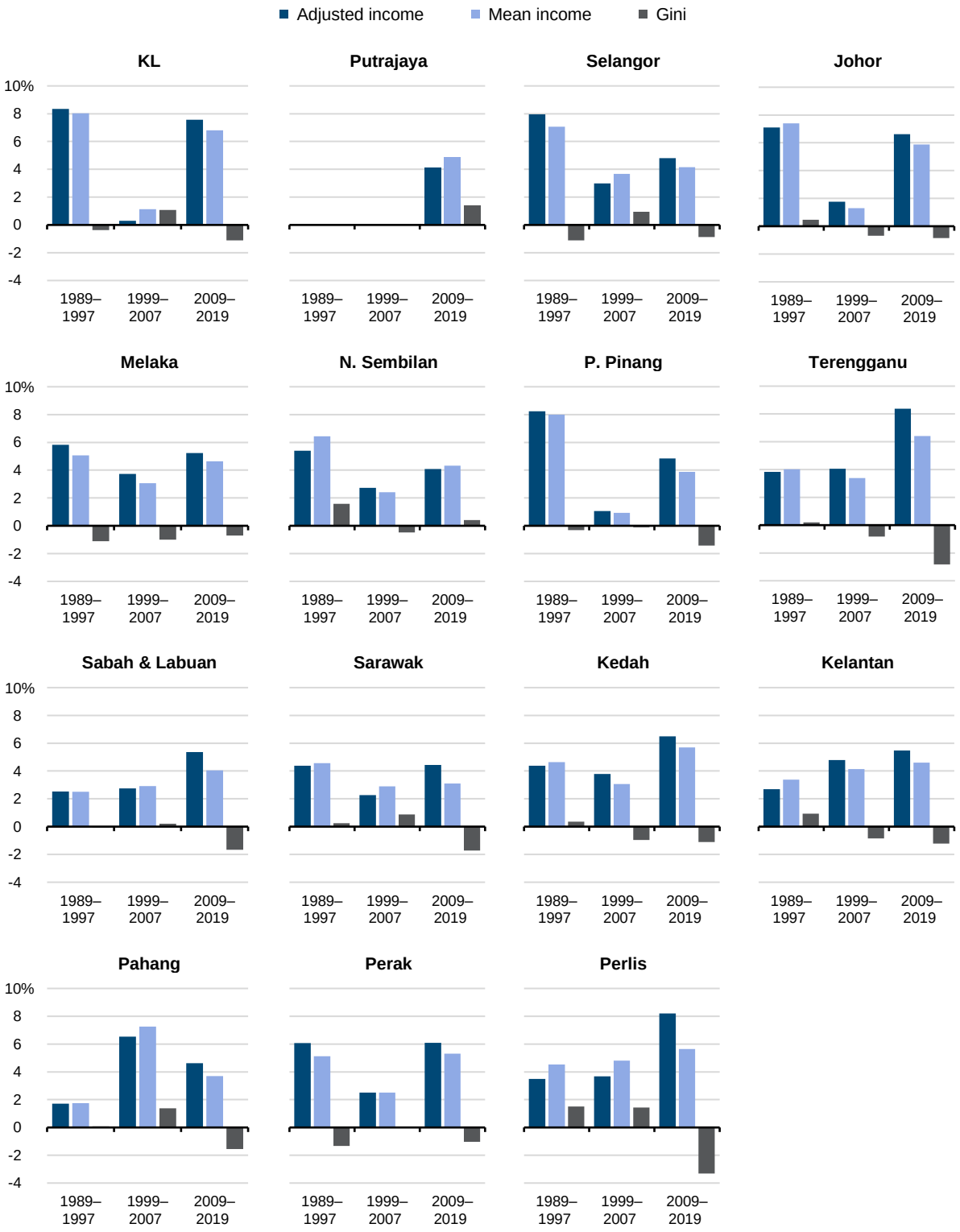
What could explain this?

The first period, distinguished by its high economic growth, saw major developments centred in the Kuala Lumpur conurbation. It was the period when the Kuala Lumpur International Airport and the Multimedia Super Corridor were launched. The Light Rail Transit was also completed in this period. In addition, the Commonwealth Games was hosted in Kuala Lumpur in 1998, accompanied by the inauguration of the National Sports Complex, the largest one for Malaysia.

As Malaysia entered the second period, two major turning points happened. First, there was a shift in focus to rural growth centres and the modernisation of agriculture. This was more systematically articulated in the 9th Malaysia Plan for 2006–2010. Second, the creation of five economic corridors happened in this period, inducing a more regionally balanced economic development in the country. Although there was a reversal to promoting cities as engines of growth in the third period, particularly in the 10th Malaysia Plan for 2011–2015, the economic corridors continued to exist alongside large infrastructure projects in Kuala Lumpur, where the effects are likely to be longer term and will only be clearer post-2020.

[25] Data for Putrajaya is only available for the third period.

Figure 2.5: Drivers of growth in adjusted household income (AAGR), by state, 1989–2019



Note: Calculated based on income in 2019 prices.
Source: DOS (2020b), EPU (n.d.b) and KRI calculations

2.1.2. By ethnicity

Looking at the ranking of the three periods by ethnicity, Chinese and Indian households had higher growth in the first period compared to the third period (Table 2.2). On the other hand, Bumiputera and Others had higher growth in the third period compared to the first period, where growth was negative for the latter. All the ethnic groups had the lowest growth in the second period except Others.

Table 2.2: Growth of adjusted household income, by ethnic group, 1989–2019

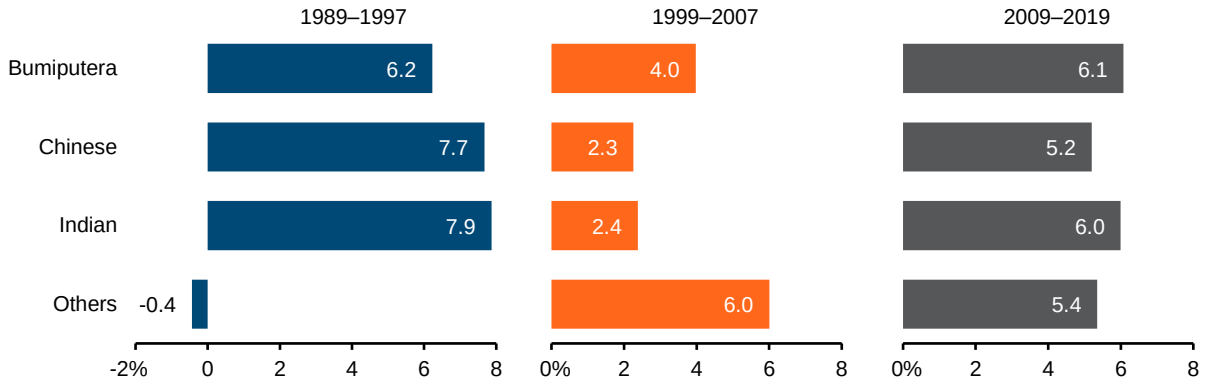
Ethnic group	AAGR (%)		
	1989–1997	1999–2007	2009–2019
Bumiputera	6.2%	4.0	6.1
Chinese	7.7	2.3	5.2
Indian	7.9	2.4	6.0
Others	-0.4	6.0	5.4

Min 0 Max

Note: Calculated based on income in 2019 prices.
Source: DOS (2020b) and KRI calculations

Comparing the ethnic groups within each period, the two ethnic groups with higher mean income i.e. Chinese and Indian, had higher growth in adjusted household income than Bumiputera and Others in the first period (Figure 2.6). However, like the state ranking, this changed in the second period when the ethnic groups with lower mean income i.e. Bumiputera and Others had higher growth instead. In the third period, Bumiputera and Indian households registered higher growth than Chinese and Others.

Figure 2.6: Growth of adjusted household income (AAGR), by ethnic group, 1989–2019

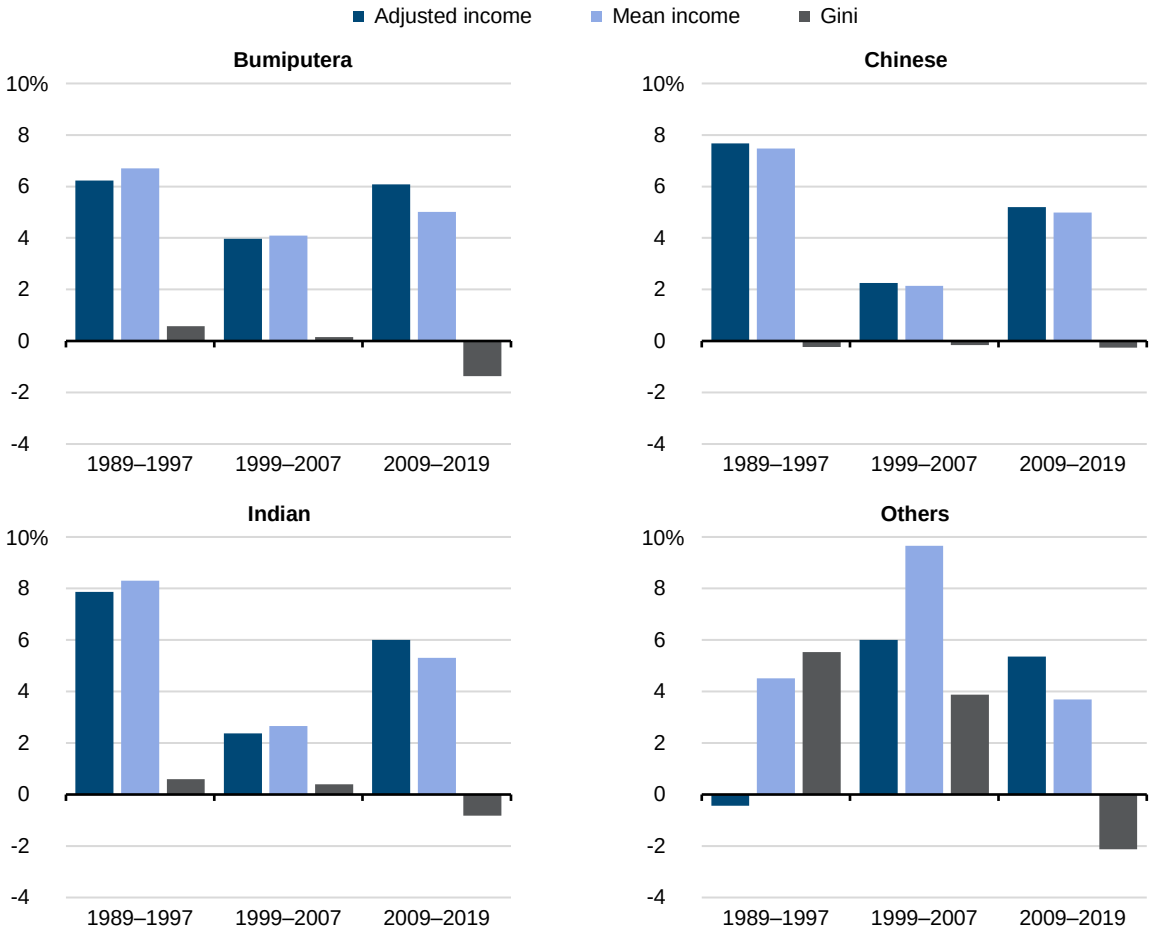


Note: Calculated based on income in 2019 prices.
Source: DOS (2020b) and KRI calculations

In the first period, growth in adjusted household income for Bumiputera and Indian households were mainly due to higher mean income growth compensating for the increase in inequality (Figure 2.7). The exception was Chinese households, whose inequality decreased marginally on top of mean income growth. For Others, increase in inequality was higher than mean income growth, hence there was a negative growth in adjusted household income.

In the second period, all the ethnic groups except Others maintained the same pattern as the first period. For Others, mean income growth was higher than the increase in inequality, hence there was a positive growth in adjusted household income. As for the third period, the general pattern of growth in adjusted household income was due to a combination of mean income growth and decreasing inequality.

Figure 2.7: Drivers of growth in adjusted household income (AAGR), by ethnic group, 1989–2019



Note: Calculated based on income in 2019 prices.
Source: DOS (2020b) and KRI calculations

Our analysis by ethnicity reveals a similar pattern as our analysis by state, where higher income ethnic groups had higher growth in adjusted household income in the early parts of Vision 2020. This transitioned to lower income ethnic groups with higher growth in the later parts of Vision 2020. The transition to the second period happened with lower growth for all the ethnic groups. Again, income growth bounced back in the third period with all the ethnic groups recording higher growth, but still lower than growth in the first period, except Others.

The similarity in ethnic patterns with the states could be due to the fact that there was a higher proportion of the Bumiputera population residing in lower income states. In addition, the scale and scope of the Bumiputera affirmative action programmes have broadened from the focus on loans, training and equity participation in the first period to a more concerted effort to strengthen investment capabilities, increase property ownership and further the role of government-linked companies since the second period, and continued in the third period. It should also be noted that loans and training continued to be important features of the Bumiputera affirmative action programmes, with the expansion of matriculation colleges in the late 1990s and the introduction of loan schemes such as Tekun, PUNB, etc[26].

2.1.3. By income groups

There are a few limitations in our analysis of adjusted household income. First, in terms of our choice of the inequality measure, the use of publicly available Gini coefficients by state and ethnicity only captures within-state and within-ethnic inequalities. However, in reality, income gaps exist between states and ethnic groups as well. We are unable to include between-state and between-ethnic inequalities using publicly available data.

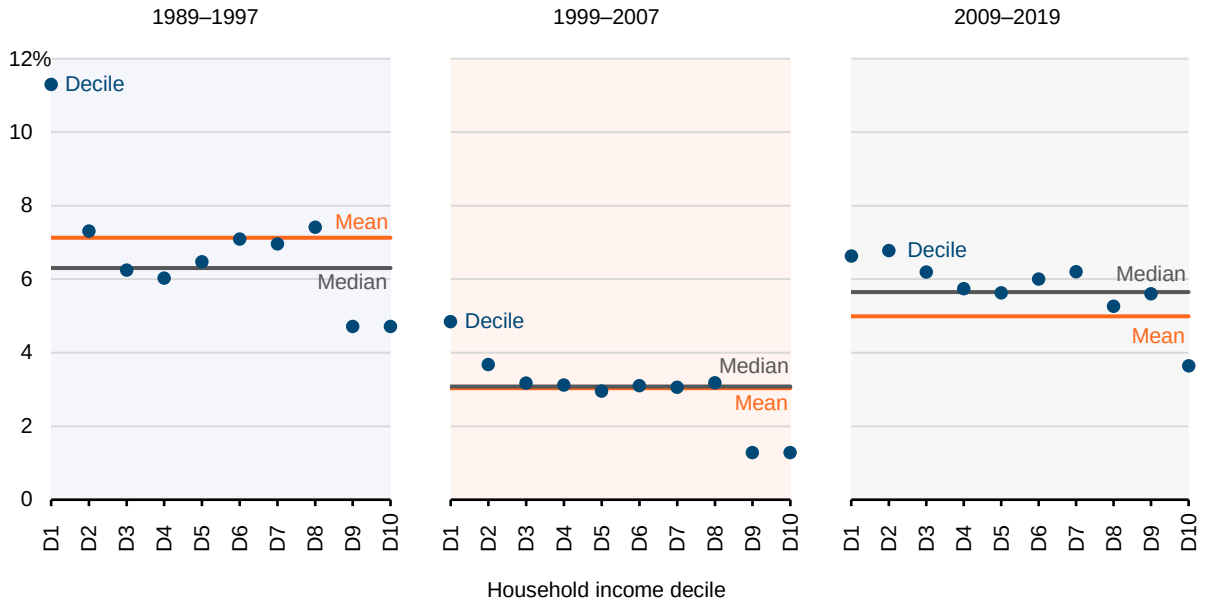
Second, as we use mean household income instead of individual household income, we are unable to ascertain whether the improvements in income were happening across the board and how they were distributed. For this, we turn to the growth incidence curve[27]. Our growth incidence curves for the three periods give the income growth rates for the tenth household in each of the income deciles (Figure 2.8)[28].

[26] Lee (2017)

[27] Ravallion and Chen (2003)

[28] To derive the incomes of the tenth household in each decile, we refer to the percentage distribution of households by income brackets from EPU (n.d.a). We assume that households are distributed equally across each one Ringgit increment within the income brackets. For incomes above RM5,000, which is the top cut-off in the data table, we use the median of top 20% of households (T20) and use 2.5x T20 median for 1989–2009 and 2x for 2012–2019 to derive the incomes of the top deciles.

Figure 2.8: Growth of household income (AAGR), by income decile, 1989–2019



Note: Calculated based on income in 2019 prices.
Source: DOS (2017), DOS (2020b), EPU (n.d.a) and KRI calculations

In the first period, growth in mean income was higher than growth in median income, consistent with the fact that inequality had increased in that period. However, it was "pro-poor" in the sense that the lowest decile i.e. the 1st decile had the highest average growth at 11.3%. Mean income growth was similar to growth of the 6th and 7th deciles.

In the second period, growth in mean income was almost the same as growth in median income, also consistent with the fact that inequality barely changed in that period. While it was still pro-poor, growth for all the deciles had fallen compared to the first period, especially for the 9th and 10th deciles. Mean income growth was similar to growth of a large segment in the middle i.e. from the 3rd to the 8th deciles.

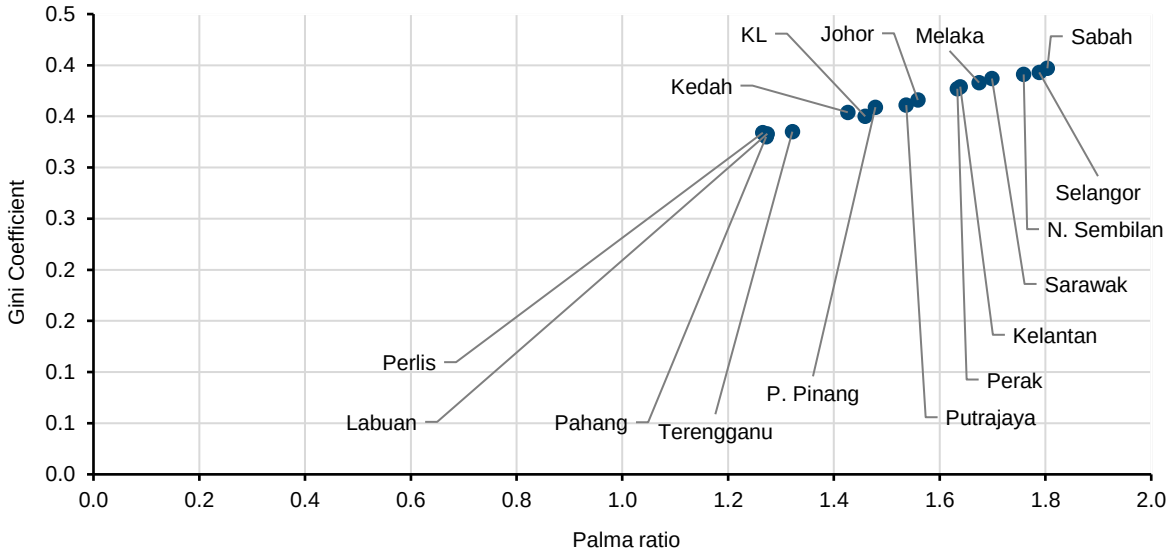
In the third period, growth in median income outpaced growth in mean income, reinforcing the larger decrease in inequality in that period. Interestingly, all the deciles had higher growth than mean income growth except the top decile. While income growth in the third period had generally bounced back from the second period, both mean and median income growth were substantially lower than the first period. At the same time, differences in growth rates across the income deciles had reduced, suggesting a broad convergence towards slower income growth.

The third limitation of our analysis of adjusted household income lies in the fact that the Gini coefficient is known to be sensitive to inequalities in the middle of the income distribution but not inequalities at the two tails of the income distribution[29]. Therefore, adjusted household income would miss out extreme inequalities that may be more important for policy purposes.

[29] De Maio (2007)

Hence, to triangulate our findings, we calculate the Palma ratio by state using the 2019 HIS and compare it with the Gini coefficient (Figure 2.9). The Palma ratio is the income share of the top decile divided by the income share of the bottom four deciles. Hence, it has the advantage of removing the middle five deciles from the calculations. Our results show a very strong positive correlation between the Gini coefficient and Palma ratio. The three states with the highest Gini coefficients (Sabah, Selangor, Negeri Sembilan) also had the highest Palma ratios, while the three states with the lowest Gini coefficients (Labuan, Pahang, Perlis) also had the lowest Palma ratios.

Figure 2.9: Gini coefficient and Palma ratio, by state, 2019



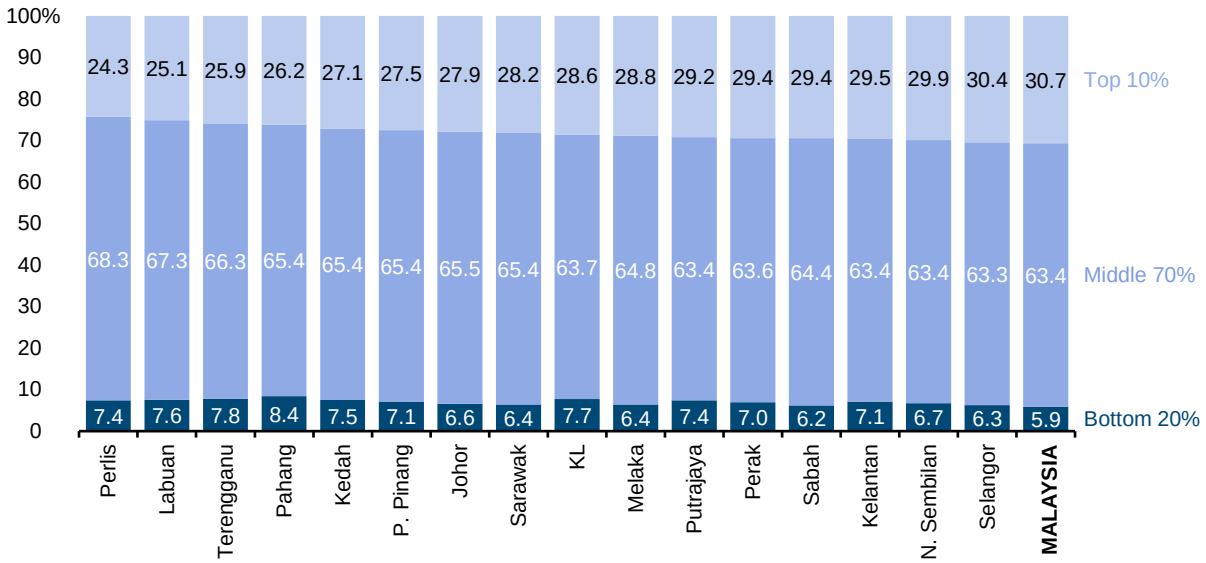
Note: Palma ratio refers to the ratio of income share of the top 10% to the bottom 40% of households.
Source: DOS (2020b) and KRI calculations

Shifting the focus of inequality between the top 10% and bottom 40%, as measured by the Palma ratio, to between the top 10% and the bottom 20%, shows clearer disparities (Figure 2.10). Nationally in 2019, the bottom 10% had an income share of 5.9%, while the top 10% commanded 30.7%. In each state, the bottom 20% had at most 8.4% of income, while the top 10% at least 24.3%. The focus on the bottom 20% follows the recommendation by an earlier KRI report, which found that the bottom 20% consumed mainly basic needs[30].

The policy implication here is that inequality reduction measures should focus on the parts of the income distribution that matter most, especially the bottom and top tails. Relying solely on the Gini coefficient may lead to a misleading assessment of inequality reduction, with a broad segment of households becoming more equal not because of convergence towards high levels of household income, but towards slower growth.

[30] Hawati, Ho and Suraya (2019)

Figure 2.10: Share of total household income, by income group and state, 2019



Source: DOS (2020b) and KRI calculations

2.2 Poverty and Social Welfare

2.2.1. Conceptualising absolute poverty and the PLI in Malaysia

Malaysia's PLI is used as the cut-off to measure absolute poverty. The underlying philosophy is the minimum cost of basic needs, where the amount of household expenditure needed to fulfil minimum food and non-food requirements is calculated to derive the poverty line. The incomes of households are then assessed to determine whether they fall above or below the poverty line. The PLI is calculated for each household, adjusting for household composition, age distribution, gender and regional differences[31]. This methodology has been in use since 2004/2005, replacing the prior approach of calculating the PLI for a model household of five members. In a strict sense, the revised PLI in 2020 did not see a change in the methodology in any fundamental way, but it is updated in terms of the selection of food and non-food items. The impetus to update the food and non-food baskets is driven by the changes in consumption patterns as highlighted earlier, but important items such as eating out is still omitted[32].

As shown earlier, absolute poverty had fallen to an extremely low level of 0.2% in 2019. Despite updating the PLI with the consumer price index to account for inflation, the PLI was still lower compared to countries with similar mean incomes[33]. As there was a disconnect between the PLI and societal expectation of the minimum, and that the PLI could not be used effectively to focus resources on target groups, there was a need to revisit some assumptions behind how the food and non-food baskets were derived to better reflect the progress made in our living standards.

[31] UNDP Malaysia (2007)
[32] Goh and Choong (2020)
[33] Ravallion (2019)

On 10th July 2020, the government announced the new PLI methodology, refining the food basket and increasing the number of items from 106 to 146 in the non-food basket, referencing the expenditure patterns of the B20 income group. This resulted in the absolute poverty rate increasing from 0.2% using the 2005 methodology to 5.6%, but still with a declining trend from 7.6% in 2016 (0.4% using the 2005 methodology).

Prior to this round of revision in the PLI, the government had shifted its focus from the absolute poor to the bottom income distribution. It started with the bottom 30% in the 8th Malaysia Plan and then the bottom 40% (B40) since the 9th Malaysia Plan. However, the B40 demarcation is problematic as it doesn't adjust for household size and composition, doesn't account for geographical variations in cost of living and uses a crude gross income cut-off. After fixing these issues and integrating the analysis with the consumption side, an earlier KRI report shows that the poverty rate should be above the unrevised PLI but below the B40 threshold[34].

Therefore, the new PLI could be used as a basis to rationalise how different social assistance programmes are designed and delivered. It also suggests that we may have to channel more fiscal resources to this group. While focusing on the absolute poor doesn't mean that those above the PLI are not struggling with higher cost-of-living, debt problems and precarious work, it enables government to better tailor the support given to different segments of society based on the nature of their deprivations.

We should also recognise that the PLI is a very specific concept of poverty that measures basic needs in money-metric terms. The PLI is not benchmarked to society's average living standards, and not concerned with upward mobility. Convergence with average living standards may not happen despite marginal improvements in household income.

2.2.2. From absolute to relative poverty

Given the limitations of the PLI used in the absolute poverty measure, we use relative poverty as an alternative poverty measurement in assessing social welfare for the least advantaged members of society. We also use relative poverty thresholds to calculate poverty gaps and squared poverty gaps to give estimates of the intensity of relative poverty. We refer to the relative poverty gap as relative poverty intensity 1, and the squared poverty gap as relative poverty intensity 2. We then discuss some of the criticisms of relative poverty and put forward our own version of what Ravallion called the weakly relative poverty line[35], which in essence is a poverty line that has both absolute and relative elements—we call this the joint absolute-relative poverty line. At the end of Section 2.2, we discuss briefly the Multidimensional Poverty Index (MPI) that was introduced by the government in the 11th Malaysia Plan.

[34] Hawati, Ho and Suraya (2019) show that the bottom 19.1% of households in 2014 consumed mainly basic needs, hence approximating the bottom 20% households.
[35] Ravallion (2020)

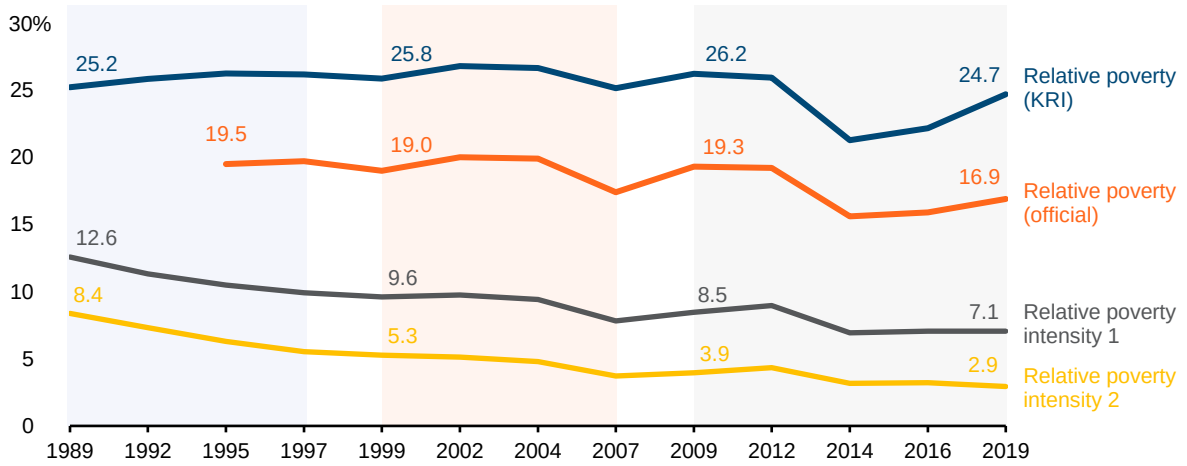
Relative poverty is pegged to the average living standards of society. The relatively poor is usually identified as a group of people who are a certain distance below the benchmark population in the income distribution. Mean or median income is usually used as the benchmark. For example, if relative poverty is defined as 50% below the median, then a median income of RM5,000 means that those who earn RM2,500 and below would be considered as relatively poor.

In the 11th Malaysia Plan Mid-Term Review, the government introduced a subgroup in the B40 called the "low-income households", which is quite close to how a relative poverty is calculated. It is defined as those who are above the PLI and 50% below the median, but it is problematic because it treats absolute and relative poverty as mutually exclusive subgroups[36]. During the release of the 2019 HIS, the government published official relative poverty numbers by using the 50% cut-off below the median.

Our own calculations use 60% of the median as the cut-off. The selection of the cut-off point is subjective—the OECD sets it as income per adult equivalent between 40-60% below the median. We use the upper bound number of 60% within the OECD range, but we should also consider tracking relative poverty at different levels, perhaps to start with three levels i.e. 40%, 50% and 60%. Figure 2.11 shows the difference between our estimation of relative poverty using 60% of the median and the official numbers published by the government using the 50% cut-off below the median.

Our relative poverty rates were stable at 25 to 26% from 1989 to 2012, decreased more markedly to 21.3% in 2014 and then saw an uptick to 24.7% in 2019. The official poverty rates were similar in trend, hovering steadily around 19 to 20% from 1989 to 2012 (except 2007 when it dropped to 17.4%), then decreased to 15.6% in 2014 and bounced back to 16.9% in 2019. The number of households that are considered relatively poor, by our estimation, increased from 829.8k households in 1989 to 1.7 million households in 2019 (official numbers about 1.2 million). This is still a big difference from the 407.5k households counted as absolute poor in 2019 using the revised PLI.

Figure 2.11: Rate of relative poverty and intensity, 1989–2019



Source: DOS (2020b), EPU (n.d.a) and KRI calculations

[36] Choong and Tan (2019)

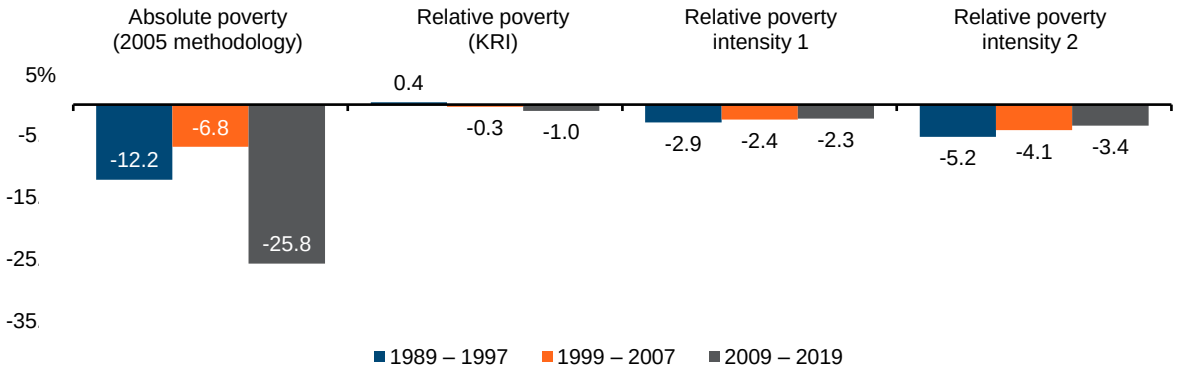
As mentioned earlier, we use relative poverty thresholds to calculate relative poverty intensity. Relative poverty intensity 1 measures the average percentage shortfall of household levels, measured here by income, from the relative poverty line[37]. For example, the poverty gap of 7.1% in 2019 means that every household had an average of 7.1% shortfall from the relative poverty line of RM3,523, which works out to be RM249 per household. Relative poverty intensity 2 shares the same interpretation but gives more weight to those further below the relative poverty line i.e. it focuses on severe poverty[38]. Our calculations show that relative poverty intensity 1 fell from 12.6% in 1989 to 7.1% in 2019. Relative poverty intensity 2 fell even further from 8.4% in 1989 to 2.9% in 2019.

Comparing the average annual growth of the different poverty measures gives a sense of the changes in social welfare for the least advantaged members of society over the three periods (Figure 2.12). Absolute poverty paints an optimistic picture with a sizeable reduction of 12.2% in the first period, a lower reduction of 6.8% in the second period and then back to an extensive reduction of 25.8% in the third period. On the contrary, the relative poverty rate had not changed much in the three decades: an increase of 0.4% in the first period, a decrease of 0.3% in the second period and a decrease of 1.1% in the third period.

The trends of relative poverty intensity are telling as well. The average reduction in relative poverty intensity 1 went down from 2.9% in the first period to 2.4% in the second period and 2.3% in the third period. On the other hand, for poverty intensity 2, the reduction became progressively smaller from the first period to the third period, but the magnitude of the decline was generally larger than for poverty intensity 1.

This suggests that the least advantaged members of society were making more progress in moving up from the extremely low end of the income distribution, but less in closing in on the relative poverty line. This is consistent with the considerable decrease in absolute poverty where, whether we use the old or new methodology, the PLI would have captured those in the extremely low end of the income distribution as well. It means that while we had succeeded in lifting the poor from the floor, it was not to the extent that they had caught up with the average living standards of society.

Figure 2.12: Growth in rate of absolute poverty, relative poverty and poverty intensity (AAGR), 1989–2019



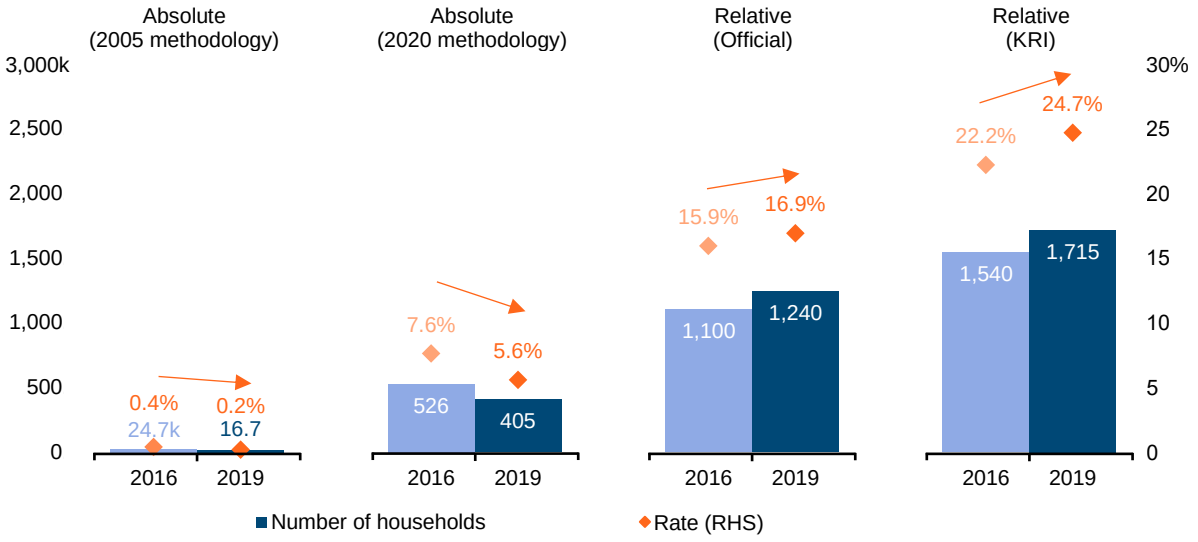
Source: DOS (2020b), EPU (n.d.a) and KRI calculations

[37] Deaton (1997)
[38] Ibid.

The 2019 HIS poverty numbers further reinforce this point (Figure 2.13). The absolute poverty measure shows that the number of absolute poor households declined from 27,800 in 2016 to 16,700 in 2019 using the 2005 methodology; and from 528,000 to 407,500 using the new methodology. Meanwhile, the number of relatively poor households increased from 1.1 million in 2016 to 1.2 million in 2019 using the official relative poverty line; and increased from 1.5 million to 1.7 million using our estimation based on 60% of the median household income.

This is a clear case that we have fewer households below the minimum living standards, but also more households that have not caught up with average living standards. In fact, a difference of RM700—contrast the official relative poverty line of RM2,937 and average absolute PLI of RM2,208—adds about 800,000 households to the count, implying that we have a large number of households vulnerable to falling back into absolute poverty if there are socio-economic shocks.

Figure 2.13: Absolute and relative poverty, by number of households and rate, 2019

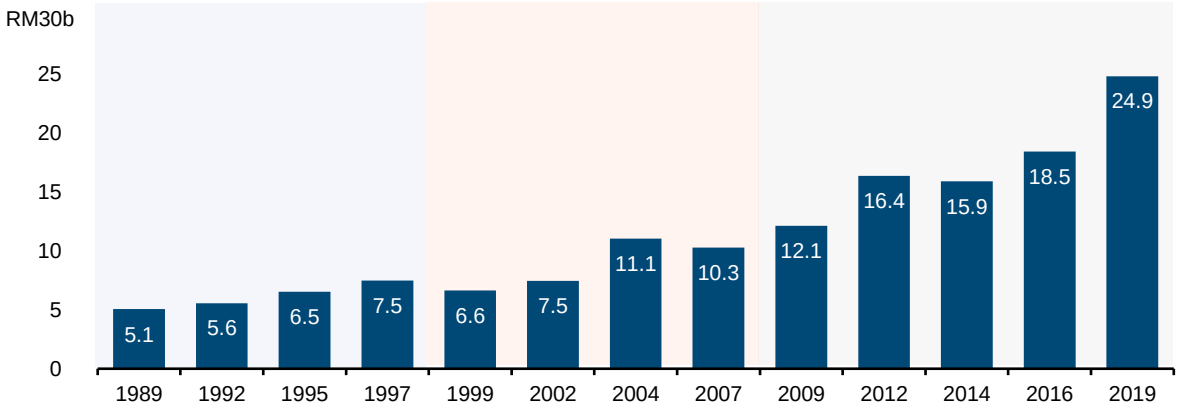


Source: DOS (2020b), EPU (n.d.a) and KRI calculations

At the same time, although the relative poverty rate had been rather stable over time, the amount of resources needed to eradicate relative poverty may not necessarily decrease. One crude way to estimate the resources required to address poverty, in real terms, would be to multiply the number of households in the distribution with their average gap from the poverty line.

For 2019, when there were 7.3 million households in the distribution and an average monthly shortfall of RM249 per household, an annual sum of RM24.9b is required to eliminate relative poverty. For the entire 30 years (Figure 2.14), it shows that the social spending required increased from RM5.1b in 1989.

Figure 2.14: Annual social assistance expenditure required to close relative poverty gap, 1989–2019



Note: This is calculated based on a relative poverty line defined as 60% of the median household income
Source: DOS (2017), EPU (n.d.a) and KRI calculations

However, we emphasise that this should not be taken as the total costs for the government to allocate for poverty eradication, as there are administrative costs, leakages and behavioural effects in taxes and transfers that should be considered[39]. But the key takeaway here is that the resources required to address poverty could increase despite a lowering relative poverty rate.

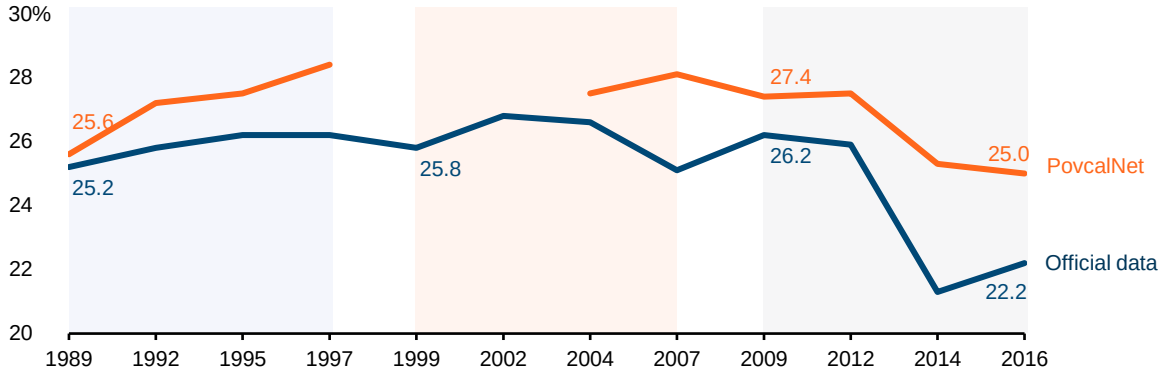
2.2.3. Limitations of relative poverty measures and alternative approaches

One limitation of our relative poverty calculations using publicly available data is that household income is not adjusted for household composition and size. This results in counting larger households with relatively higher income as non-poor (exclusion error) and counting smaller households with relatively lower income as poor (inclusion error). One way to rectify this is to adjust household income using the appropriate adult equivalent scale[40]. However, as we do not have access to micro data, we cross-checked our calculations with the World Bank's PovcalNet that uses a per capita poverty line. A comparison shows that relative poverty would be higher on a per capita basis, with differences in trends between 1995 and 1999, as well as between 2004 and 2012 (Figure 2.15). Nonetheless, it reinforces our finding that relative poverty had not changed much over the three decades.

Another limitation of relative poverty measures, conceptually, is that it is dependent on how mean or median incomes move. If stretched to its logical limits, relative poverty would fall to zero when median income is zero. In more realistic scenarios, it means that relative poverty could decrease during a recession when median income decreases, not because more people escaped poverty, but because the average standard of living has dropped.

[39] Deaton (1997)
[40] Hawati, Ho and Suraya (2019)

Figure 2.15: Relative poverty rate, by data source, 1989–2016

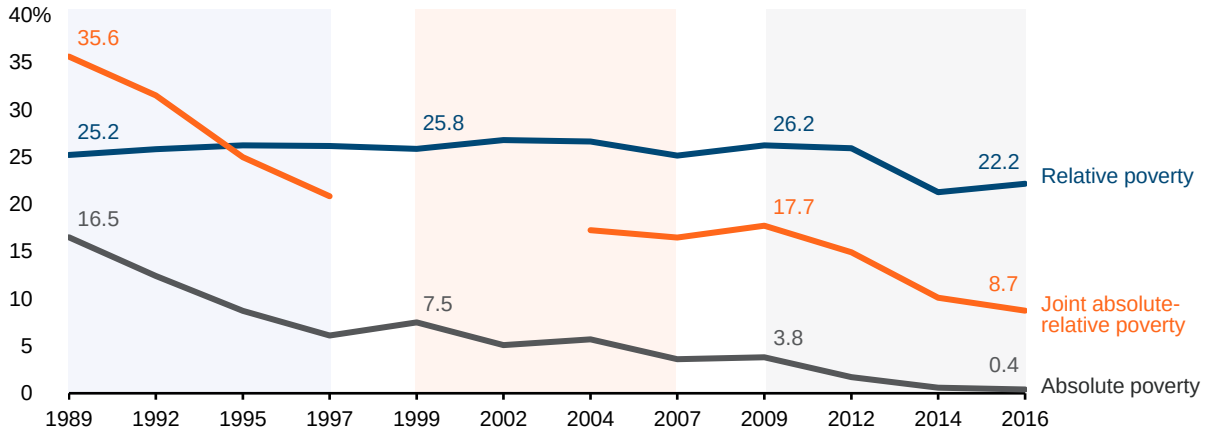


Source: DOS (2017), World Bank (n.d.) and KRI calculations

In addition, it is argued that people care both about their own income (absolute) and their income relative to others (relative), and hence, poverty measures should incorporate both absolute and relative elements[41]. Therefore, while we think that relative poverty captures another important facet of people's expectations of what constitutes minimum standards—in this case, being left behind from society's average living standards, we are not recommending relative poverty to be the sole poverty measure. Instead, it is better to have a dashboard of poverty measures to obtain a balanced sense of the different types of deprivations that people face.

We adapt Ravallion's "weakly relative poverty" measure, deriving the intercept from the average PLI in RM and using 1/6 of the median for the slope[42]. The results show that the joint absolute-relative poverty rate was higher than both the standalone absolute and relative poverty rates in the 1990s (Figure 2.16). As absolute poverty decreased, the joint absolute-relative poverty rate also decreased, but at a lower rate as relative poverty remained rather stable. In 2016, the joint absolute-relative poverty rate was at 8.5%, higher than absolute poverty but lower than relative poverty.

Figure 2.16: Joint absolute-relative poverty rate, 1989–2019



Source: DOS (2017) and KRI calculations

[41] Atkinson and Bourguignon (2000), and Ravallion (2019)
[42] Ravallion used USD2.00 to 2.50 per day for the intercept and 1/6 to 1/3 of the mean for the slope.

Another alternative poverty measure is the MPI. It was introduced in the 11th Malaysia Plan with four dimensions and 11 indicators. The four dimensions are education, health, standard of living and income. The data source to calculate the MPI is the HIS for income and the Basic Amenities Survey, enumerated and published together with the HIS, for non-income dimensions. The MPI was published in the 11th Malaysia Plan Mid-Term Review and updated recently with the 2019 HIS. It shows that the incidence of multidimensional poverty had declined from 3.7% in 2016 to 2.6% in 2019. However, there are disparities across states—for example, Sabah and Sarawak recorded higher incidences at 14.3% and 7.2%, respectively. Meanwhile, the intensity of deprivation had fallen only marginally from 41.5% in 2016 to 41.4% in 2019, which means that the poor were deprived on average in 1.7 out of 4 dimensions, or 4.6 out of 11 indicators[43].

There are three clear strengths of the MPI. First, it broadens the definition of poverty to include non-income dimensions, which gives a more complex and multifaceted understanding of poverty. Second, it enables the identification of joint deprivations at the household level i.e. we can know how many and what kind of deprivations a household has. Finally, the subjectivity in the selection of dimensions and indicators opens up space for consultations with stakeholders as well as allows customisation for specific areas and groups.

However, there are also a few shortcomings. One of the major problems is that the MPI methodology requires the indicators to be selected from the same data source and this severely limits the indicators that can be selected. For example, there are not many questions on health in the Basic Amenities Survey by DOS and the two health indicators chosen may not reflect the priorities of ministries, nor the public concerns. Second, the MPI is still a quantitative measure aggregated into an index and will not be able to capture important qualitative aspects such as quality of schooling and nutrition, which are becoming increasingly relevant for poverty eradication in Malaysia. Third, it is unclear if the MPI can be operationalised into poverty targeting as the current e-Kasih poverty database is still an income-based system. Fourth, the inclusion of income as a dimension in the MPI is debatable as a low PLI would pull down the overall poverty level. Finally, as the MPI is measured at the household level, deprivations may be understated as an argument could be made that household wellbeing also depends on living conditions at the community level—with the provision of public amenities and common spaces, such as public parks and community centres.

Therefore, the strengths of the MPI must be weighed against its shortcomings in determining if it is the best measure to reflect multidimensional poverty in Malaysia. A dashboard approach i.e. selecting indicators and dimensions from multiple data sources is an alternative that may not have the advantage of identifying joint deprivations but may give more room for policy makers to select from a broader range of non-income deprivations.

[43] The intensity of deprivation in the MPI is the average proportion of (weighted) deprivations they experience (Alkire et al. (2011)).

2.3 Growth Elasticity of Poverty

So far, we have looked at inequality and poverty separately. We treat poverty as a special case where the weight is fully assigned to the poor and none to the non-poor. As we have argued earlier, a decrease in poverty may not necessarily lower inequality and vice versa. Hence, it is also important to look at income, inequality and poverty together.

The literature on growth (of income), inequality and poverty are ample. Some earlier debates centred around the extent that growth would trickle-down to the poor, or whether more active distributional policies are needed[44]. Leading up to the Washington Consensus, there was a realisation that the nature of growth for poverty and inequality reduction also mattered, whether capital-intensive (e.g. investments in physical infrastructure) or labour-intensive (e.g. education and small-scale agriculture)[45]. The definition of "pro-poor" growth was debated in the 1990s, whether it should be the income of the poor growing faster than the non-poor, or the absolute improvement in the living standards of the poor, where the former would have more direct links with inequality reduction[46]. Another area of research looks at the growth elasticity of poverty and shows that the initial levels of inequality are important for translating growth outcomes into poverty reduction[47].

We adopt the growth elasticity of poverty approach to analyse income, inequality and poverty while cognisant of its limitations, especially when we do not have micro data to run the analysis. The growth elasticity of poverty measures the percentage change in poverty given a percentage change in growth[48]. In other words, we are interested to assess the extent that income growth is related to poverty reduction. We capture inequality by using the adjusted household income, as explained earlier in Section 2.1. We use absolute poverty rates based on the 2005 methodology because data using the 2020 methodology is available only for 2016 and 2019. See Appendix A for more information.

We consider three aspects of the growth elasticity of poverty:

1. Overall elasticity for the 30 years and how it compares with international trends;
2. Elasticity for each of the three periods;
3. Elasticities for the states with low inequality compared with states with high inequality, using a Gini coefficient of 0.4 as the threshold[49].

[44] Heltberg (2002)
[45] Saad-Filho (2010)
[46] Ibid.
[47] Ravallion (1997), Heltberg (2002) and Adams Jr (2004)
[48] Adams Jr (2004)
[49] Mohammad Zulfan Tadjoeddin (2019) used 0.4 as the warning threshold for Indonesia, referencing similar applications for China by Chen (2013), Rapoza (2013) and Tobin (2011).

The results are shown in Table 2.3. For inference of the overall elasticity, we look at column 2 as it has been corrected for robust standard errors and state fixed effects using a random effects model. Our growth elasticity of poverty is at -2.85, implying that over the three decades, a 1% increase in adjusted household income reduced absolute poverty by 2.85%.

Our growth elasticity of poverty is within the -2.0 to -3.0 range of elasticity estimates that are not adjusted for inequality[50]. Our result is lower than the elasticities estimated by Ravallion (2001) who used similarly adjusted household income for 47 developing countries to obtain estimates of -3.74 for the full sample and -2.94 when Eastern Europe and Central Asia were excluded. Our result is similar to Adams (2004) who used a slightly different model incorporating inequality for 60 countries, obtaining a growth elasticity of poverty of -2.79.

Table 2.3: Growth elasticity of poverty with respect to adjusted household income, 1989–2019

Variables	(1) Overall 1	(2) Overall 2	(3) Period 1	(4) Period 2	(5) Period 3	(6) Gini>0.4	(7) Gini<0.4
Adjusted household income	-2.885*** (0.142)	-2.852*** (0.173)	-2.126*** (0.702)	-1.070* (0.597)	-2.482*** (0.325)	-1.903*** (0.170)	-2.853*** (0.169)
Constant	14.48*** (0.708)	14.52*** (0.836)	10.89*** (3.230)	5.959** (2.889)	12.91*** (1.680)	10.22*** (0.863)	14.16*** (0.890)
No. of observations	160	160	42	56	62	79	81
No. of states	14	14	14	14	14	14	14
State fixed effects	No	Yes	Yes	Yes	Yes	Yes	Yes

Note: The natural logs for adjusted household income and poverty rates are used. Robust standard errors in brackets.
*** p<0.01, ** p<0.05, * p<0.1
Source: KRI calculations

Comparing our results for the three periods (columns 3–5), the third period has the highest elasticity at -2.48, followed by the first period at -2.13 and the second period at -1.07. Our results are robust even when income is unadjusted for inequality. Using mean income alone would still result in the third period having the largest elasticity, followed by the first and second periods. However, based on earlier descriptive statistics of the different poverty measures in Section 2.2, it is likely that we would obtain lower elasticity numbers for the three periods if using relative poverty instead of absolute poverty. However, we are unable to verify this empirically due to data limitations. In addition, there is a low base effect in using the absolute poverty rate, which has decreased significantly over the years. For example, reductions from rates of 50% to 25% and 4% to 2% are both 50% decreases in poverty rates—although it can also be argued that the last mile eradication in poverty is usually harder as small pockets of poverty can be scattered over different regions in the country.

[50] Ravallion and Chen (1999), Bruno, Ravallion and Squire (1998), and Adams Jr (2003)

Our results by inequality threshold (columns 6–7) confirms the point made in previous studies that the initial levels of inequality matter[51]. States with lower inequality have a greater elasticity at -2.85, compared with the states with higher inequality that have a lower elasticity at -1.90. This suggests that states with better income distributions could see more effective poverty eradication with their income growth compared to states with worse income distribution.

However, our results differ when using median instead of mean income, where the states with higher inequality have a slightly greater elasticity than the states with lower inequality. Hence, our results are not robust to the choice of central tendency measure used and the impact of initial levels of inequality on the growth elasticity of poverty would require further investigation.

2.4 Discussion: Nuances in Trends of Income and Inequality

To summarise Section 2, we find that analysing income, inequality and poverty provides more nuanced insights on the state of households. More importantly, just as we should not presume that higher income translates into larger improvements in social welfare, we should also not presume that society is better off just because inequality, or even poverty, is reducing.

Our analysis shows that, despite the contributions of inequality reduction in the third period, adjusted household income was still lower than the first period, suggesting persistently lower income growth that had never recovered to pre-AFC rates. It raises the question of whether the dispersion of income to lower income states and ethnic groups was driven less by a progression upwards in economic activities, but more by a convergence towards similarly low value-added activities.

However, this is not to say that reducing inequality is unimportant, but we may need to look at inequality measures beyond the Gini coefficient to disparities between the two extreme tails of the income distribution, and pinpoint exactly where and how they are problematic.

The higher growth elasticity of poverty in the third period was largely driven by the use of the absolute poverty rate based on the 2005 methodology, which was not adjusted for changes in living standards and societal expectations. Even then, absolute poverty reduction had only managed to move a large segment of Malaysian households just slightly above the PLI, but still with considerable gaps from the average living standards of society.

Moreover, the apparent "equitable growth" in the third period needs to be interpreted with some caveats and requires more thorough research. This is because the optimism of the third period does not seem to translate into realities and perceptions on the ground[52] and seemed to be nowhere near the exuberance felt in the first period[53].

[51] Ravallion (1997), Heltberg (2002) and Adams Jr (2004)
[52] Sunbiz (2020) and Khairie (2019)
[53] Birdsall et al. (1993). It was one of the countries listed as part of the East Asian Miracle in a 1993 World Bank report.

There are questions raised on the official accounts of inequality, particularly the precipitous drop in inequality between 2012 and 2014—when the magnitude of the drop could not be explained even by the introduction of minimum wage and the cash transfer programme BR1M (*Bantuan Rakyat 1Malaysia*)[54]. To have such an impact on inequality, workers need to be earning substantially below the minimum wage prior to its implementation, which was unlikely given the initial low rate set. In addition, the BR1M transfers were not large when calculated on a monthly basis. In fact, commodity prices, especially for crude palm oil, dropped significantly between 2012 and 2014, which would theoretically lower household income instead of increasing it.

Therefore, below are some points that should be taken into consideration:

First, income data obtained from the HIS includes a component called the "imputed rent". The imputed rent is the net estimated value of housing services provided by owner-occupied dwellings[55] and is not money actually received by households. While its inclusion is in line with the international practice, rapid increase in house prices may give a misleading picture of social welfare improvement.

Between 2012 and 2014, the median house price in Malaysia increased at a CAGR of 23.5%, a double-digit growth compared to the years before, which ranged from 4.9-7.0%[56]. This could have contributed to the rapid increase in mean income, although households did not actually receive any additional monetary income. Removing imputed rent from the calculation increases the Gini coefficient from 0.403 to 0.417 in 2014[57]. This suggests that its inclusion reduced inequality as we have a high home ownership rate, where the flow of income from housing services would have contributed to household income improvements of the majority of households beyond the high-income group alone. The Canberra Group Handbook on Household Income Statistics actually recommends that the imputed rent be presented separately to allow for different types of analysis[58].

Second, the household income data is published based on a pre-tax, post-transfer income concept. While there are uses for this definition of income, especially to understand the effects of transfers on income distribution, it precludes analysis of primary income i.e. earnings, which could reveal more insights on the economic structure of the country, technological change and labour market issues which are all important determinants of income inequality[59]. For example, the reduction in wage inequality, though desirable, could be driven by economic forces that have less to do with productivity improvements but by broad-based growth of lower value-added activities[60]—we expand on this in Box 2.

[54] Lee and Muhammed (2018) and Lee and Choong (2019)
[55] CES (2011)
[56] Suraya et al. (2019)
[57] Hawati, Ho and Suraya (2019)
[58] CES (2011)
[59] Atkinson (2015)
[60] Choong (2020)

Third, it should be noted that in 2013 and 2014, salary increments, bonus pay-outs and financial assistance were announced and implemented for the civil service under the Transformative Remuneration System[61]. The government also announced three increments for civil servants who had reached their maximum pay scale[62]. While it is important to ensure decent wages for civil servants, we should be concerned if income growth and inequality reduction were primarily driven by the public sector in the form of emoluments, whereas wage growth in the private sector remains lacklustre. Wages and labour market issues are explored in the second part of The State of Households 2020.

Fourth, although poverty eradication in the third period was extensive based on the unrevised absolute poverty rate, the old PLI did not reflect Malaysia's living standards. It is evident that changing the measure to relative poverty illustrates slower progress in eradicating poverty, with improvements confined to lifting the extremely poor from the floor, but not sufficient in moving them to average living standards. It underscores the point that eradicating various forms of poverty must continue to be a core focus of the government. Resources must be adequately channelled as there could be more people who are poor in absolute numbers despite the reduction in poverty rate.

Finally, the Gini coefficients calculated using household surveys understate the true extent of inequality. From a policy standpoint, it is crucial to ask which part of the income distribution is overly concentrated and warrants policy redress. It is entirely plausible that excessive income concentration lies at the top 1% or the top 0.1%, with very meagre shares going to the bottom, but this may not be captured effectively with household surveys. Focusing on top and bottom incomes is important because it may fuel perceptions of inequality, point to problems that stem from the production and distribution structures of the economy, and has implications for the tax and transfer system[63].

To address some of the issues highlighted above, we turn to the SAM as another data source in Section 3 to analyse income and expenditure as well as distributional patterns. While SAM data has its own limitations, it can fill in some of the gaps that couldn't be elucidated with household surveys. Some other approaches used to overcome the weaknesses of household surveys include the use of tax administrative data, either on its own or to harmonise with household surveys and national accounts[64]. These approaches can be used to mitigate the issue of missing incomes, especially those at the top, but will require a high level of open and granular data.

[61] MOF (2012), MOF (2013) and The Star (2013)
[62] MOF (2013)
[63] Choong (2020)
[64] Center and Lustig (2020), Bourguignon (2018), Atkinson and Jenkins (2020), and Jenkins (2017)

SECTION

03

SECTION 3

HOUSEHOLDS AND NATIONAL ACCOUNTS

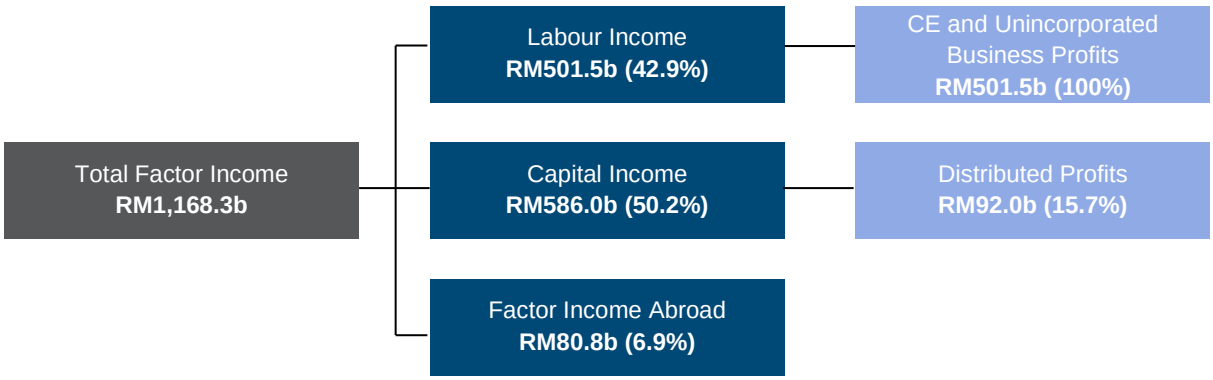
3.1 Linking Factor Income to Household Income

The Social Accounting Matrix (SAM) enables us to analyse household income within the economic structure of the country. Economic activities generate income that is then allocated to different institutional units, i.e. households, corporations and government. Economic activities captured in the national accounts, and its link with household income, helps to shed light on the impact of structural change on households. Unlike other forms of national accounts data such as input-output tables, the SAM provides an integrated framework of economic and social statistics. The SAM dataset was first published by DOS in 2017 (for the year 2014), followed by the release for 2015 at the end of 2019. Globally, it has been used for development planning, impact assessment on income distribution and analysis of how factor income is linked to household income[65].

Factor income is income derived from production activities and paid to factors of production. It is broadly categorised as labour income and capital income. There is also factor income paid to factors of production that reside outside of the domestic economy, but it is usually a small component relative to labour income and capital income, at least in the context of Malaysia. Labour income is made up of earnings i.e. remuneration, in cash or in kind, payable to an employee (known as compensation of employees or CE), and self-employed income, also known as unincorporated business profits (UBP). Capital income is income of financial and non-financial corporations, or in other words, the profits of corporations (mainly in the form of dividends) contributing to household income.

Figure 3.1 shows the transmission of the various components of factor income, derived from production activities, that contribute to household income in 2015. Labour income was distributed in full to households in the form of CE & UBP. On the other hand, only a certain percentage of capital income was transmitted to households in the form of distributed profits (15.7% in 2015). This was because capital income was also used for corporate savings, financial lending and corporate taxation.

Figure 3.1: Transmission of factor income to household income, 2015



Source: DOS (2019b) and KRI calculations

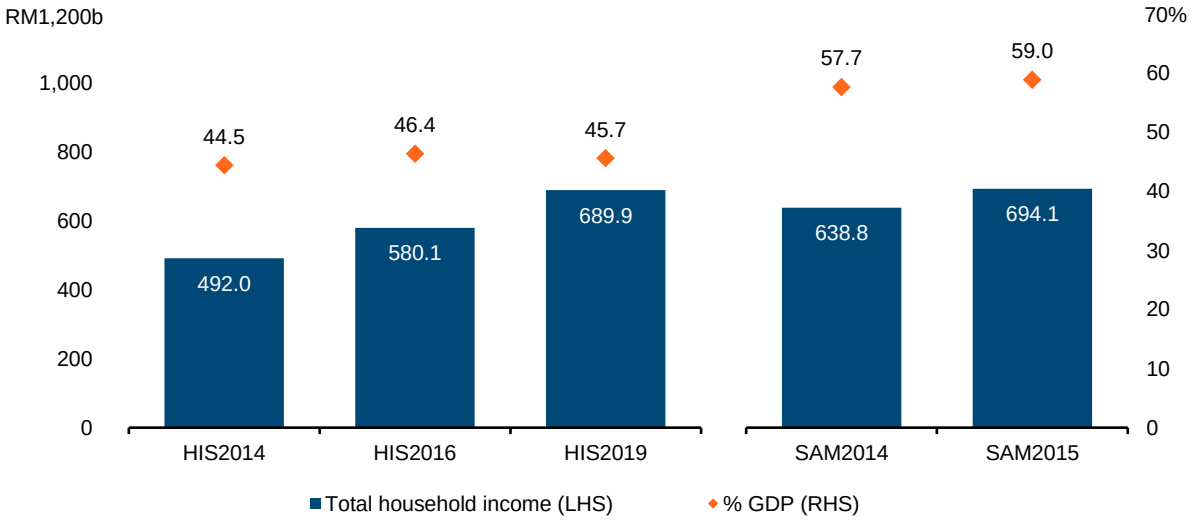
[65] Pyatt and Round (1977), A. Rashid, Kiaeeha and Fatemah (2017), and Civardi and Lenti (2018)

Total factor income grew by 1.7% in real terms from RM1,148.7b in 2014 to RM1,168.3b in 2015. This was driven predominantly by the growth of labour income at 6.4%, whereas capital income decreased by 0.1% and factor income abroad decreased by 11.1%. The share of labour income increased from 41.0% to 42.9% whereas the share of capital income decreased from 51.1% to 50.2%. The numbers in the SAM differ from the official numbers—35.0% for labour income and 60.2% for capital income in 2015—because of the inclusion of unincorporated business profits, plus they have not been adjusted for taxes and subsidies.

For total household income in nominal terms, the SAM shows that it increased by 8.6% from RM638.8b in 2014 to RM694.1b in 2015 (Figure 3.2). It was an increase from 57.7% of GDP to 59.0% of GDP. This amount is greater than total household income captured in the HIS at RM492.0b in 2014 (44.5% GDP) and RM580.1b in 2016 (46.4% GDP), but the growth rate is similar with a CAGR of 8.6%. Total household income as reported in HIS 2019, increased further to RM689.9b in 2019 but fell as a percentage of GDP to 45.7%.

The household income amount in SAM is higher because it is based on national accounts and is supplemented with multiple data sources. These data sources incorporate parts of the lower and upper tails in the income distribution that couldn't be captured with household surveys and includes additional information such as household borrowings.

Figure 3.2: Nominal annual total household income, by amount and percentage of GDP, 2014 and 2015

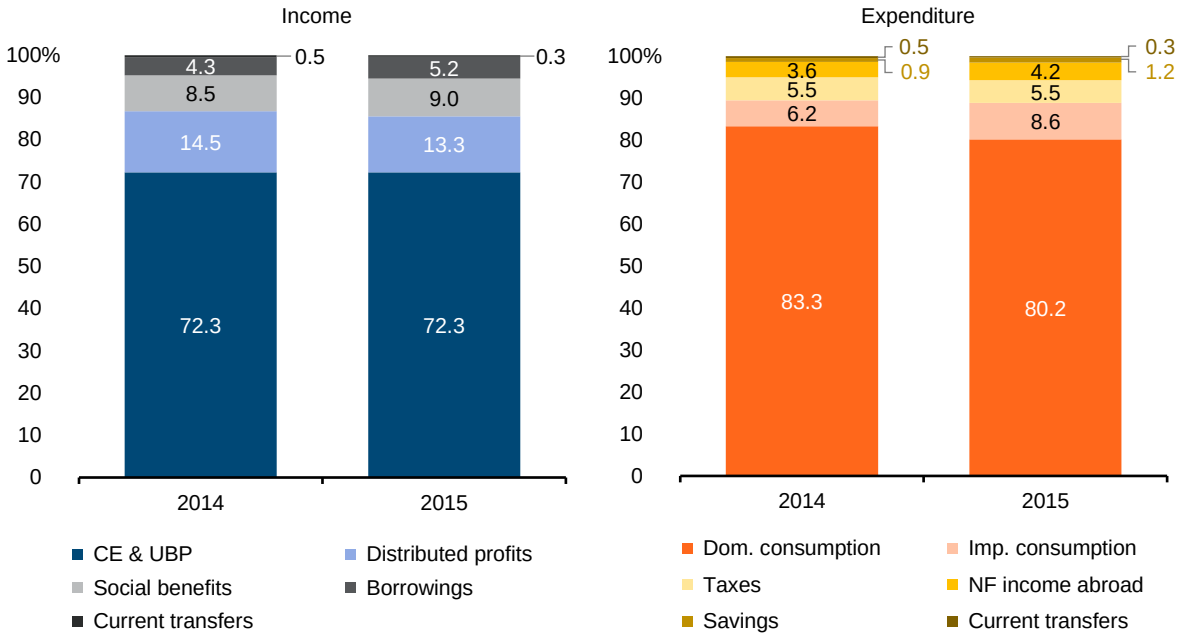


Source: DOS (2019a), DOS (2019b), DOS (2020b), DOS (2020c) and KRI calculations

Total household income in the SAM includes both factor and non-factor incomes. Other than CE and distributed profits which make up factor income, non-factor income captured in the SAM are social benefits, household borrowings and current transfers. Figure 3.3 shows that factor income made up the bulk of total household income. For example, in 2015, 72.3% from CE and 13.3% from distributed profits. About 14.5% were from non-factor income i.e. social benefits (9.0%), household borrowings (5.2%) and current transfers (0.3%).

In addition to income, the SAM also provides the structural flow of expenditure in the economy. For total household expenditure, besides the usual consumption expenditure captured in household surveys, the SAM also captures non-consumption expenditure i.e. taxes, remittances, savings and transfers. Consumption expenditure made up the bulk of total household expenditure, with 80.2% from domestic consumption and 8.6% from imported consumption in 2015. Non-consumption expenditure constituted about 11.2% of total household expenditure i.e. taxes (5.5%), non-factor income abroad (4.2%), savings (1.2%) and current transfers (0.3%).

Figure 3.3: Share of total household income and expenditure, by component, 2014 and 2015



Note: CE stands for compensation of employees, UBP for unincorporated business profits and NF for non-factor.
Source: DOS (2019a), DOS (2019b) and KRI calculations

Box 2: Labour income and inequality in the Shared Prosperity Vision 2030

Succeeding Vision 2020, the Shared Prosperity Vision 2030 (SPV) is the new long-term plan to guide development in Malaysia, with a prominent focus on wealth and income inequalities. A key departure of the SPV from previous development plans is its shift in focus to inequality between labour and capital owners—beyond the conventional income inequality between households.

The SPV makes the case that the labour income share (LIS), measured as the share of CE to GDP, at 35.7% in 2018 is low compared to developed countries. It sets a target of 48% by 2030, formulated as an outcome of addressing inequalities. At the same time, the SPV maintains a target of reducing the Gini coefficient. Thus, the twin goals of increasing the LIS and reducing household income inequality were implicitly assumed to be complementary to each other and to the broader goal of moving the economy up the value chain.

However, this approach is at odds as the LIS may be associated with underlying trends that may be at odds with Malaysia's aspiration to upgrade its economy up the value chain. Ng, Tan and Tan (2019) highlights the negative co-movement of the Gini coefficient and the LIS. In explaining the drivers behind the increase in the LIS, they attribute it to Malaysia's inability to move away from more labour-intensive modes of production, particularly in traditional service subsectors, signalling a persistent trend of deindustrialisation.

Given this perceived relationship between inequality and the LIS, it poses a dilemma for Malaysia: do we choose technological upgrading that comes with higher income inequality or a more equitable society that is yet stuck in the middle-income trap?

In reality, Malaysia is not at an inevitable trade-off. The experiences of other countries indicate that the relationship between inequality and the LIS is not always negatively correlated. For example, France experienced a rise in the LIS from 2003 to 2012, but its Gini coefficient also increased during the same period. Meanwhile, Denmark's LIS was stable from 2003 to 2012, except for a sharp spike in 2009, but its Gini coefficient trended steadily upwards with no clear relationship with the LIS. The Czech Republic had an increase in the LIS from 2007 to 2012 but its Gini coefficient between the two points remained largely the same.

To better understand the link between the LIS and income inequality, Milanovic (2017) argues that whether a rise in the LIS would increase or decrease the Gini coefficient depends on: (i) the distribution of labour income and (ii) the correlation between the ranking of labour income and the ranking of total income. The second condition is important because the increase in the share of an income source that is concentrated but not correlated with total income ranking (e.g. cash transfers, which are usually concentrated at the bottom of the income spectrum) will not increase income inequality. This suggests that the extent of unevenness in labour income, or what can be referred to as labour income dispersion (LID), could be a more important determinant of income inequality compared to the LIS.

To illustrate this relationship, Francese and Mulas-Granados (2015) decomposed the Gini coefficient by income source to test out the relative contribution of the changes in the LIS and LID to the changes in the Gini coefficient. The paper finds that, for 43 countries, the increase in the LID was a stronger driver of growing income inequality compared to the decrease in the LIS. As a robustness check, the same paper also ran a regression analysis for 93 countries for the period 1970 to 2013. The results similarly indicate that the LID had larger effect than the LIS on income inequality.

Adopting the latter approach, Choong, Alyssa and Adam (2020) tested the effects of the LID and LIS on the Gini coefficient using a sample of all 144 districts in Malaysia for 2014 and 2016. The results show that an increase in the LIS was associated with an increase in the Gini, contrary to the linear negative co-movement of the Gini coefficient and LIS shown when no other variables are controlled for. This is because wages are an unequal source of income, with a Gini coefficient that is higher than the overall Gini coefficient[66]. Moreover, the LID is associated with an even greater increase in the Gini coefficient, compared with the LIS. This points to the importance of the LID in determining income inequality outcomes. Thus, this suggests that targeting an increase in the LIS to reduce income inequality is problematic as it is not a good driver to do so.

Nevertheless, an implication of accounting for the unevenness of labour income in conceptualising income inequality is that Malaysia is not at an inevitable trade-off with technological upgrading, where policy to reduce inequality can shift to addressing disparity in labour income instead of increasing the LIS.

3.2 Income and Expenditure in the SAM

We have so far looked at the SAM in aggregate but have not discussed its most salient feature that makes it a "social" accounting in the first place. The SAM essentially integrates distributional elements into the national accounts[67] and disaggregates the households as one of the institutional units[68] into different subgroups depending on the focus of analysis. For example, households can be disaggregated by income groups[69] or by socio-demographic characteristics e.g. gender and education level of the workforce[70].

In Malaysia, the SAM is disaggregated by income into top, middle and bottom. This was done by using the paid employment structure of the HIS and then applied to the SAM to obtain the income range for CE. CE was used as the reference group[71] to get the structure for the other categories, following a 20-40-40 percentage breakdown for the top, middle and bottom. Income is also disaggregated by strata, also following a 20-40-40 percentage breakdown for urban and rural areas. From these, the ethnic breakdown was obtained i.e. Bumiputera and non-Bumiputera. There is also disaggregation by gender, but it is only for the CE portion of the SAM.

[66] Hawati, Ho and Suraya (2019)
[67] Pyatt and Round (1977) has a good discussion on the history of the SAM, tracing it back to the unfortunate separation of the UN's System of National Accounts from the System of Social and Demographic Statistics.
[68] The SAM uses the term households consistent with terminologies in the national accounting framework, but, in most instances, refers to individuals depending on the surveys or data sources that the numbers are derived from. For example, in deriving compensation of employees, it refers to paid employees instead of households. The per capita amount is not provided in the SAM.
[69] Katris, Figus and Turner (2017)
[70] Leadership group SAM (2003)
[71] Control total is the technically precise terminology.

There is an advantage and a disadvantage to this approach in disaggregating households, at least as far as publicly available data is concerned. The advantage is that we can link households of different income groups, strata, ethnicity and gender to sectors and industries in the economy. The disadvantage is that the published data does not include per capita calculations for the top, middle and bottom, which would be the preferred option for comparison.

We could estimate the per capita numbers for CE using the number of employees from the Labour Force Survey, since CE was used as the reference group. However, if we apply the same 20-40-40 income group breakdown to the other income and expenditure categories, it would be misleading to present the results in terms of levels, as they would include non-employees as well. We could convert the estimated per capita numbers into ratios, which would be more accurate in showing the relative difference between the subgroups[72].

Therefore, we proceed as follows in our analysis:

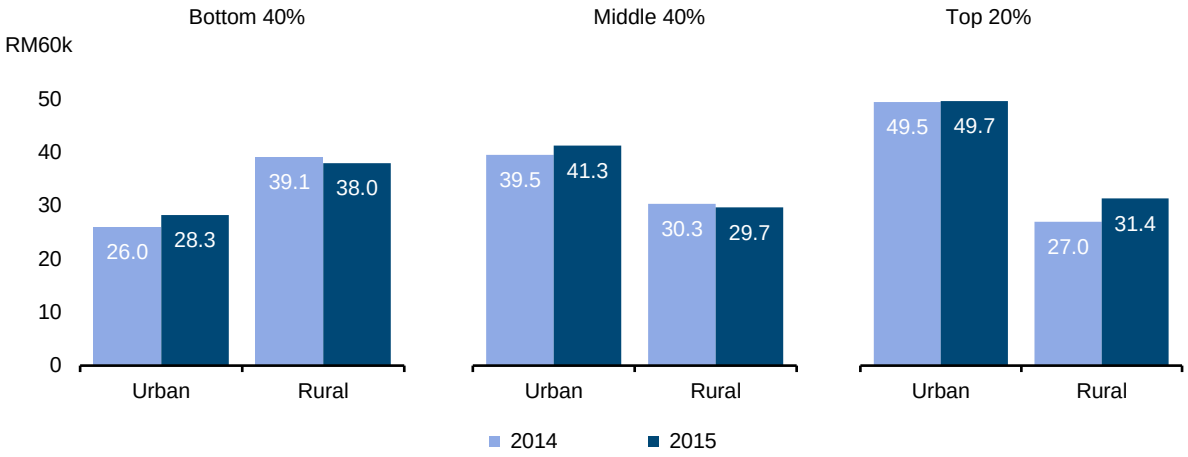
For CE, we compare the absolute difference between each subgroup's per capita income:

1. For all income and expenditure categories (including CE), we use a ratio analysis to compare the relative difference between each subgroup's per capita income
2. To supplement the findings above, we look at the composition of income and expenditure
3. In the next subsection, we link households to the production structure using the Relative Distributive Measure as a way of assessing distributional outcomes by economic sectors

For CE, one interesting observation is that the urban top and urban middle had higher CE than their rural top and rural middle counterparts in 2014 and 2015—which is not surprising—but it was the opposite for the bottom, where the rural bottom had higher CE than the urban bottom for both the years (Figure 3.4). In fact, the rural bottom was almost on par with the urban middle with an urban middle/rural bottom ratio of 1.01 in 2014 and 1.09 in 2015. The per capita CE for the rural bottom declined slightly by 3.0% between 2014 and 2015.

[72] For example, if a total income of RM200 can be broken down to RM40:RM80:RM80 and we have two corresponding population distributions i.e. 20:40:40 and 40:80:80, the first distribution in per capita terms would be RM2:RM2:RM2 and the second distribution would be RM1:RM1:RM1. The per capita income levels depend on the absolute number of people in each distribution, but the ratios would be the same as long as we use the same 20-40-40 percentage breakdown to obtain the per capita numbers.

Figure 3.4: Annual compensation of employees per capita, by income group and strata, 2014 and 2015



Note: Data expressed in 2015 prices.
Source: DOS (2019a), DOS (2019b) and KRI calculations

Comparing the urban and rural gaps for those in the same income groups, the CE & UBP gaps were larger than the distributed profit gaps for the top and middle, but the CE & UBP gap was smaller than the distributed profit gap for the bottom (Table 3.1). This means that while the rural bottom had higher CE & UBP than the urban bottom, the latter had even more distributed profits than the former. However, the rural bottom had more social benefits than the urban bottom. As for borrowings, the gap was more apparent for the top than the middle and bottom.

Comparing the income disparity, the gaps between the urban top and the other subgroups were largest in borrowings, followed by distributed profits and then only CE & UBP. Interestingly, while the urban top received lower social benefits than the bottom, they received social benefits that were either similar to or higher than the middle, mainly because social benefits here include periodical payments such as pensions.

For the rural top, differences with the other subgroups were less stark, with higher distributed profits and generally higher borrowings (except lower than the urban middle). Similar to the urban top, the rural top had social benefits that were either similar to or greater than the middle. Interestingly, the rural top also had CE & UBP that were either similar to or lower than the middle and bottom, suggesting that the rural top relied relatively more on other sources of income, especially distributed profits.

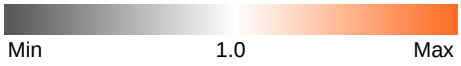
Comparing the middle- and bottom-income group, the middle had more distributed profits and borrowings than the bottom but received lower social benefits. However, the middle and bottom were quite similar in terms of CE & UBP.

What can we draw from these observations on income?

First, CE & UBP generally mattered more in explaining urban-rural differences within the same income groups, but distributed profits mattered more for differences between income groups. Second, the middle did not differ very much from the bottom in terms of CE & UBP which made up the bulk of their income, and on top of that, received lower social benefits than both the top and bottom, perhaps an indication that they were not receiving sufficient pension payments nor qualified for social assistance. Third, borrowings clearly differentiated the urban top from the rest, reinforcing evidences that high-income households accumulate wealth through debt-purchased residential properties, while low-income households use debt primarily for consumption purposes[73]. Fourth, the rural bottom received inordinately more social benefits than all the other subgroups.

Table 3.1: Ratio of income per capita between subgroup, by component, 2015

	CE & UBP	Distributed Profits	Social Benefits	Borrowings
UT/RT	1.9	1.2	1.1	3.9
UT/UM	1.2	1.9	1.3	2.8
UT/RM	1.8	2.2	1.0	4.5
UT/UB	1.8	2.9	0.7	7.2
UT/RB	1.2	6.4	0.2	5.7
RT/UM	0.7	1.6	1.3	0.7
RT/RM	1.0	1.8	1.0	1.1
RT/UB	1.0	2.4	0.7	1.8
RT/RB	0.7	5.3	0.2	1.5
UM/RM	1.5	1.1	0.8	1.6
UM/UB	1.4	1.5	0.5	2.6
UM/RB	1.0	3.4	0.2	2.0
RM/UB	1.0	1.4	0.7	1.6
RM/RB	0.7	3.0	0.2	1.3
UB/RB	0.7	2.2	0.3	0.8



Note: UT stands for urban top 20%, RT for rural top 20%, UM for urban middle 40%, RM for rural middle 40%, UB for urban bottom 40% and RB for rural bottom 40%. CE & UBP stands for compensation of employees, unincorporated business profits.
Source: DOS (2019b) and KRI calculations

For the ratio analysis of expenditure, comparing the urban and rural gaps for those in the same income group, the largest gaps for the top—with urban higher than rural—were taxes, savings and imported consumption (Table 3.2). The gaps were generally less stark for the middle and bottom, with generally higher expenditure for the urban middle than rural middle (except for agricultural consumption) and lower expenditure for the urban bottom than rural bottom.

[73] Suraya et al. (2019)

Comparing the expenditure gaps across income groups, we also find that the gaps between the urban top and other subgroups were largest for taxes—particularly in comparison to the bottom, followed by imported consumption and savings. As for the rural top, they paid higher taxes, especially in comparison to the bottom, but generally had lower savings. The other aspects of consumption were rather similar, but the rural top had lower consumption in the manufacturing industry compared to the other subgroups.

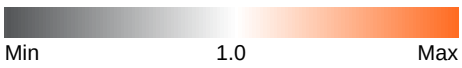
Comparing the middle- and bottom-income group, the middle paid higher taxes as well as had higher savings and imported consumption (with the exception that the rural middle and rural bottom being rather similar in imported consumption and savings).

What can we draw from these observations on expenditure?

First, the differences within and between income groups were mainly higher for imported consumption and non-consumption expenditure i.e. taxes and savings. Second, the middle had quite similar consumption compositions as the bottom but paid substantially higher taxes. Third, somewhat counter-intuitively, the rural top had lower savings than all the other subgroups, perhaps because they had lower mandatory savings due to the prevalence of informality in rural areas and a higher probability that they relied relatively more on distributed profits rather than CE & UBP as an income source. Fourth, the rural bottom had higher domestic consumption than the rest and saved more than the rural top, rural middle and urban bottom.

Table 3.2: Ratio of expenditure per capita between subgroup, by component, 2015

	Consumption				Non-consumption	
	Agricultural	Manufacturing	Services	Imported	Taxes	Savings
UT/RT	0.9	1.8	1.2	2.9	6.7	5.1
UT/UM	1.0	1.1	1.1	2.3	7.3	1.7
UT/RM	0.9	1.6	1.5	3.1	10.1	2.9
UT/UB	0.8	1.2	1.4	5.8	86.7	3.5
UT/RB	0.4	0.8	1.0	3.1	34.9	2.7
RT/UM	1.1	0.6	0.9	0.8	1.1	0.3
RT/RM	1.0	0.9	1.2	1.1	1.5	0.6
RT/UB	0.9	0.7	1.2	2.0	12.8	0.7
RT/RB	0.4	0.4	0.9	1.1	5.2	0.5
UM/RM	0.9	1.5	1.4	1.3	1.4	1.7
UM/UB	0.8	1.2	1.3	2.5	11.8	2.1
UM/RB	0.4	0.7	1.0	1.3	4.8	1.6
RM/UB	0.9	0.8	1.0	1.9	8.6	1.2
RM/RB	0.4	0.5	0.7	1.0	3.5	0.9
UB/RB	0.5	0.6	0.7	0.5	0.4	0.8



Note: UT stands for urban top 20%, RT for rural top 20%, UM for urban middle 40%, RM for rural middle 40%, UB for urban bottom 40% and RB for rural bottom 40%.
Source: DOS (2019b) and KRI calculations

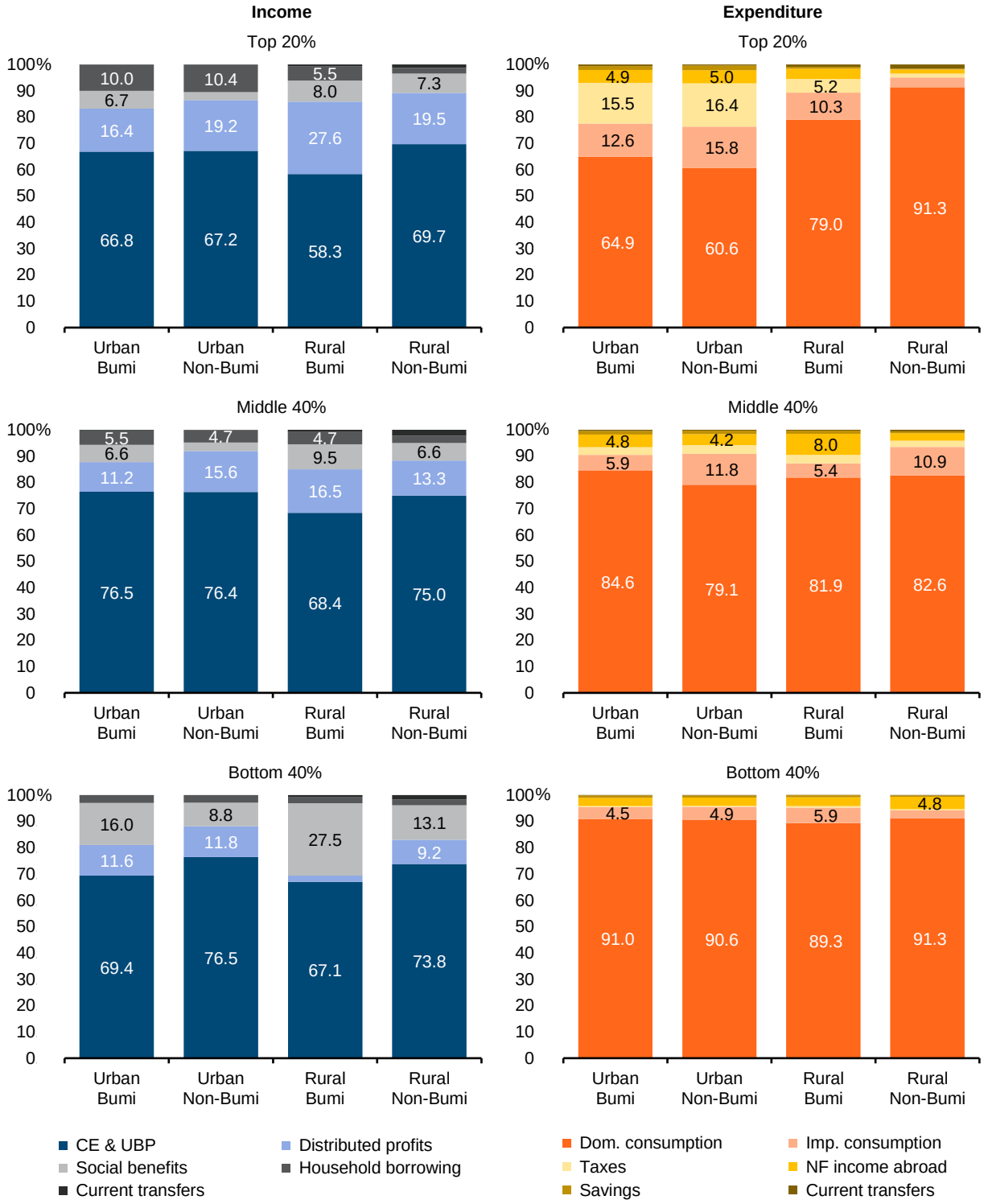
From our analysis of both income and expenditure, we can reasonably surmise that the urban top came off as being in the best position relative to the other subgroups, the middle was not that different from the bottom but received less social benefits and paid higher taxes, while the bottom, particularly the rural bottom, surprisingly had CE & UBP that was comparable to the other subgroups, plus the advantage of having more buffer in social benefits.

We triangulate our findings by looking at the composition of total income and expenditure, for additional insights by ethnic group (Figure 3.5). The top definitely had more diversified income sources, with generally higher distributed profits and borrowings. Rural Bumiputera had the largest component of distributed profits, building on our earlier point that the rural top relied relatively more on distributed profits as an income source. On the expenditure side, the urban top had more diversified expenditure compositions, for both Bumiputera and non-Bumiputera, while rural Bumiputera composition was closer to the middle and rural non-Bumiputera closer to the bottom.

The income composition for the middle differed from the top in that they had lower distributed profits and differed from the bottom in that they had lower social benefits. The middle had a large component of CE & UBP, generally more than 75.0%, except for rural Bumiputera where it was 68.4%. Rural Bumiputera had relatively larger components of distributed profits and social benefits than the other subgroups at the middle. The expenditure composition was quite similar across the subgroups at the middle, except that the component of imported consumption for non-Bumiputera, both urban and rural, was closer to the top.

The bottom had large components of social benefits except for urban non-Bumiputera. Rural Bumiputera had the largest component of social benefits at 27.5% but the smallest component of distributed profits at 2.3%. Non-Bumiputera at the bottom also had higher CE & UBP but lower social benefits than Bumiputera. The expenditure composition was similar across the subgroups at the bottom as domestic consumption constituted about 90.0% of total expenditure.

Figure 3.5: Share of total household income and expenditure by component, by strata, ethnic and income group, 2015



Note: CE stands for compensation of employees, UBP for unincorporated business profits and NF for non-factor.
Source: DOS (2019b) and KRI calculations

3.3 Sectoral Analysis of Household Income Distribution

To further link household income to the production structure of the economy, we use an index called the relative distributive measure (RDM)[74]. The RDM is constructed from our multiplier analysis of the SAM for 2014 and 2015 using an unconstrained, fixed-price multiplier model[75]. Our RDM is basically the industry multiplier share of a subgroup divided by the actual income share of the subgroup for a particular year (see Appendix B for details).

The RDM is used to give a sense of whether a subgroup is able to increase its share of total income above its actual income share for the observed year following a spending injection in the industry[76]. A value of above 1 means that the subgroup has a higher income share following a spending injection, and below 1 means a lower income share post-spending injection[77].

We calculate the RDM for 13 subgroups[78], disaggregated by strata, income and ethnic group, with particular interest in assessing the number of industries a subgroup would emerge as gainers if there is a spending injection, and how many of these sectors are high-technology manufacturing and modern services, which we labelled jointly as "modern"[79]. A subgroup is counted as a gainer in a particular industry only if the subgroup has a result of above 1 for both 2014 and 2015.

The results are presented in Figure 3.6. The gainers are located in the top right quadrant. The x-axis is for the year 2014 and the y-axis is for the year 2015. Each dot represents an industry, where the orange dots are for modern industries and the blue dots for other industries. The higher concentration of dots in the top right quadrant means that the particular subgroup would emerge as gainers in more industries when there are spending injections, potentially signalling the broadness and diversity of the economic base for the subgroup.

Comparing ethnic groups within the same income group and strata (e.g. Bumiputera vs non-Bumiputera urban top), our results generally show that non-Bumiputera emerged as gainers in more industries compared to Bumiputera. The only exception was the rural top, where the number of counts were the same. Non-Bumiputera also had higher counts as gainers in modern industries compared to Bumiputera, with the gap most apparent in urban areas.

Our results suggest that, even if there was convergence in income between Bumiputera and non-Bumiputera over time (see Figure 1.11 in Section 1.1.2), the economic base for Bumiputera remained narrower and less diversified than non-Bumiputera—as Bumiputera had fewer industries that would result in them having higher income shares if there were investments in those industries. The policy implication here is that our affirmative action programmes should focus beyond closing income gaps to also broadening and diversifying the economic base of Bumiputera.

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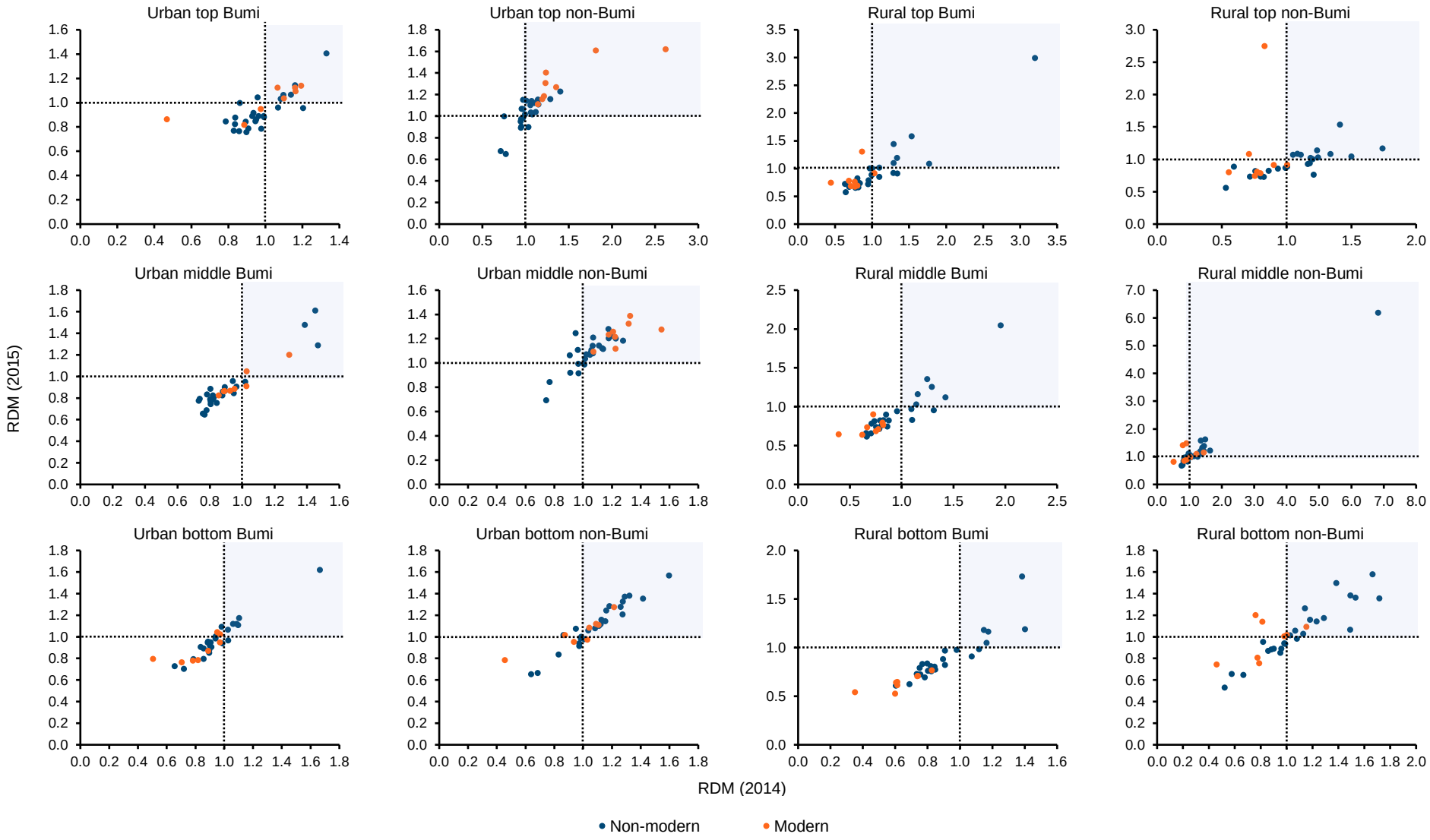
[74] Cohen (1989) and Cohen (2013)
[75] Breisinger, Thomas and Thurlow (2009)
[76] Cohen (2013)
[77] We round up our numbers to one decimal place to distinguish between gainers and non-gainers. For example, a value of 1.004 will be rounded to 1.0, and hence is classified as a non-gainer despite having a value just above one.
[78] For citizens, income groups are disaggregated by top, middle and bottom; strata by urban and rural; and ethnicity by Bumiputera and Non-Bumiputera. Non-citizens are not disaggregated further and we show the results in Table 3.3.
[79] We classify the industries following Ng, Tan and Tan (2019) which adapts the classification by UNIDO (n.d.) for manufacturing and ADB (2013) for services. The full list of industries, including modern industries, is in Appendix 3.

Figure 3.6: Relative distributive measure, by strata, ethnic and income group, 2014 and 2015



Note: Top, middle and bottom refers to households in the top 20%, middle 40% and bottom 40% in each stratum, respectively.
Source: DOS (2019a), DOS (2019b) and KRI calculations

Comparing the urban-rural differences for the same income and ethnic group (e.g. urban vs rural top Bumiputera), for the Bumiputera, the urban had more counts for overall and modern industries only for the top, but the urban-rural differences for the middle and bottom were negligible (Table 3.3). Contrary to that, the urban-rural differences were more apparent for the non-Bumiputera across income groups, with the urban non-Bumiputera registering more counts than their rural counterparts for overall and modern industries. Non-citizens had a relatively high count too, including three counts for modern industries, suggesting that they benefited from a broad range of industries—although it should be noted that the count was high because non-citizens are not disaggregated here.

For the top Bumiputera, mining petroleum, education and government services appeared for both the urban and rural. Transport, manufacturing and services, were also high on the list for the urban Bumiputera top. For the middle Bumiputera, the industries were more public-sector related e.g. government services, education and health. For the bottom Bumiputera, it was more traditional manufacturing and services for the urban, and more primary industries i.e. mining and agriculture for the rural.

As for the non-Bumiputera, they were generally more broad-based and diversified in their economic base as highlighted earlier. There were also more modern industries for the urban top and middle non-Bumiputera, but this reduced to three industries for the urban bottom i.e. manufacturing electrical and electronics (E&E), real estate and business services. On the other hand, there were no modern industries for the rural top non-Bumiputera, but it increased to two industries for the rural middle (manufacturing E&E and real estate) and one industry for the rural bottom (manufacturing E&E).

For non-citizens, the modern industries were rental, manufacturing E&E and manufacturing transport. The full list of industries in which the different subgroups were gainers is in Appendix C.

Table 3.3: Count of industries that raise income shares when invested in, by strata, ethnic and income group, 2014 and 2015

	Number		Percentage	
	Overall	Modern	Overall	Modern
Urban top Bumiputera	8	4	24.2%	50.0
Rural top Bumiputera	6	0	18.2	0.0
Urban middle Bumiputera	4	1	12.1	12.5
Rural middle Bumiputera	5	0	15.2	0.0
Urban bottom Bumiputera	5	0	15.2	0.0
Rural bottom Bumiputera	4	0	12.1	0.0
Urban top non-Bumiputera	16	8	48.5	100.0
Rural top non-Bumiputera	6	0	18.2	0.0
Urban middle non-Bumiputera	19	8	57.6	100.0
Rural middle non-Bumiputera	11	2	33.3	25.0
Urban bottom non-Bumiputera	17	3	51.5	37.5
Rural bottom non-Bumiputera	11	1	33.3	12.5
Non-Citizens	20	3	60.6	37.5

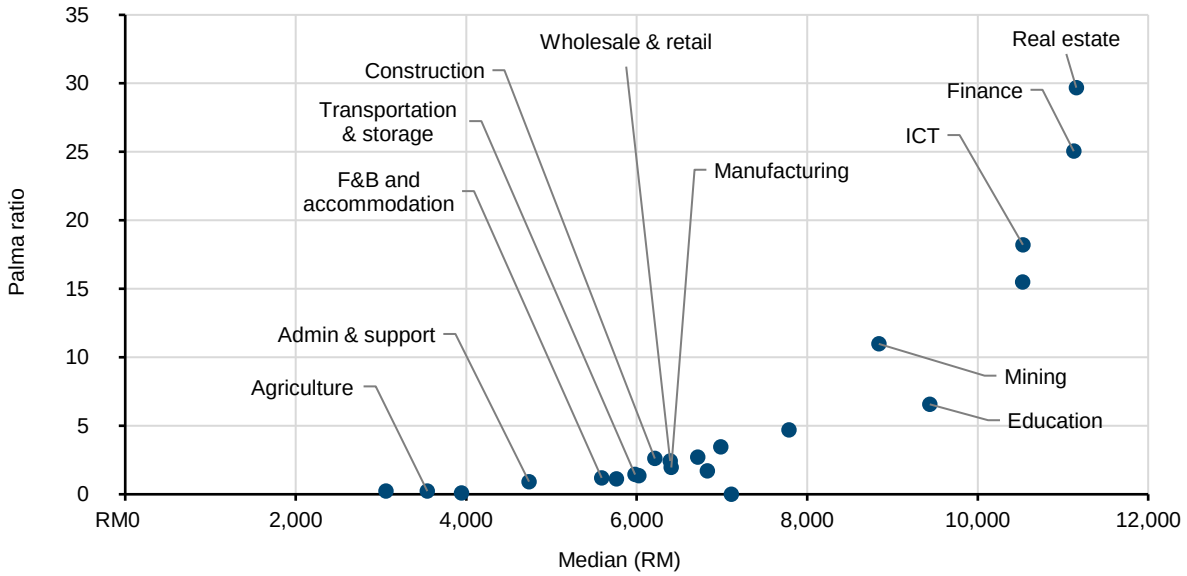
Note: The denominators for the percentage calculations are the total count of overall industries and count of modern industries.
Source: DOS (2019a), DOS (2019b) and KRI calculations

Our analysis of the RDM emphasises the importance of broadening and diversifying the economic base of the different subgroups in Malaysia. To improve social welfare, this entails moving households from lower to higher value-added industries as well as upgrading industries to take on higher value-added activities. The inter-sectoral movement of labour and structural transformation would engender between-group and within-group inequalities amongst households.

Figure 3.7 shows that industries with greater median incomes were positively associated with higher intra-sectoral inequality in 2019, measured using the Palma ratio. Its correlation of 0.86 suggests that when workers[80] move from lower to higher income industries, the contribution of between-group inequality would initially increase and start falling only when there is a critical mass of workers in high-income industries. At the same time, because within-group inequality is higher in high-income than low-income industries, the inter-sectoral movement of labour would contribute to overall inequality. Therefore, the net effect on overall household income inequality would depend on whether the decrease in the contribution of between-group inequality would dominate the contribution of within-group inequality.

Therefore, to achieve growth with distribution, the policy focus can be two-pronged: improve income distribution within industry and shift the labour market structure towards high value-added industries and activities.

Figure 3.7: Palma ratio and median household income, by industry of household head, 2019



Note: Palma ratio refers to the ratio of income share of the top 10% to the bottom 40% of households.
Source: DOS (2020b) and KRI calculations

[80] Workers here refer to head of households as the data is from the 2019 HIS.

CONCLUSION

"...it will have to be Malaysians who create new growth opportunities, open new markets, and generate new and competitive products that contribute to the growth and prosperity of the economy"

Outline Physical Plan 2, 1971–1990

CONCLUSION

Representing the first part of The State of Households 2020 series, *Welfare in Malaysia Across Three Decades* looks at how Malaysian households have fared over three decades, from 1989 to 2019. We demarcate the three decades into three sub-periods i.e. 1989 to 1997 (Period 1), 1999 to 2007 (Period 2) and 2009 to 2019 (Period 3). The improvements in the welfare of Malaysian households over last the 30 years have been closely linked to the economic development and transformation of the nation.

First, we find that household income growth was fastest in Period 1 compared to the two more recent periods. Even after discounting inequality in household income, Period 1 still had the highest growth in household income, highlighting that the decrease in inequality in recent years may not be underpinned by stronger and better-quality income growth. Thus, social welfare improvements must be driven by a combination of strong economic growth and distributional policies.

The growth incidence curves indicate that economic growth had generally been "pro-poor", with households in lower income deciles recording greater income growth compared to those in higher income deciles. However, improvements for a small group at the bottom may not necessarily translate into better distributional outcomes. The Palma ratio shows that wide disparities continued to exist between households in the extreme bottom and top income groups. Meanwhile, the increase in inequality between 2016 and 2019, as indicated by the Gini coefficient and the Theil index, suggest the limits of existing distributional policies and programmes. Therefore, our growth and distributional policies need to be refined to focus not only on helping the bottom but also preventing excesses at the top.

Second, the measure of poverty in absolute terms continues to be important in monitoring poverty eradication in Malaysia, where positive improvements can certainly be seen. However, reducing absolute poverty does not mean that households are converging to society's average living standards, as many are susceptible to various forms of vulnerabilities. Poverty in relative terms indicates that progress has been much slower in assisting the poor and vulnerable—efforts in moving a larger portion of households just above the absolute poverty line to average living standards still appear inadequate.

While acknowledging social welfare improvements over the three decades, we should also be critical in our interpretation. More granular analysis is needed to reconcile the disconnect between statistics and realities on the ground. From a measurement standpoint, monitoring and evaluation can be improved by tracking a broader range of indicators at more granular levels. This could include placing more emphasis on spatial gaps to account for different realities of households at different locations. Distributional analysis that unpacks the different components of income could also provide more insights on the sources of inequality, which facilitates better policy prescriptions. For example, our analysis has shown that the inclusion and exclusion of certain income components could affect aggregate income statistics as well as distributional estimates (i.e. inequality and poverty).

In addition, poverty eradication in its multifaceted forms must continue to be the focus of the government, with an aspiration to move beyond minimum standards towards decent work and living standards. Apart from fulfilling basic needs at the household level, living conditions at the community level should also be stressed, with the aim of providing equal access to common amenities that are of good quality. Strengthening the national social protection system is important so that it could provide safety nets to households facing different types of risks and adversities throughout their life cycle, which may cause them to fall below socially acceptable living standards due to shocks in the system.

Third, the SAM analysis helps to fill some of the gaps typically associated with household surveys. We find that households in the middle were rather "squeezed", with similar to very marginal differences in their levels of employment income relative to the bottom, while concomitantly receiving lower social benefits than both the top and bottom. The middle-income group also had quite a similar consumption pattern as the bottom but paid substantially higher taxes. Hence, economic empowerment programmes coupled with a more broad-based social protection system that continues to provide universal access to quality health and education services—as well as support for families e.g. child benefits and social pension—would deliver a safety net not only to poor households at the bottom but also to vulnerable households in the middle.

Fourth, we highlight a receding share of income from paid employment in recent years, set against a growing trend of income coming from self-employment, transfers as well as property and investment incomes. Despite a rising labour income share over total national income, this was largely due to the growth of employment in traditional services and the significance of employment in SMEs, rather than higher wages or an expansion of the modern economy. These trends suggest the emergence of more precarious forms of work, which are also associated with low adoption of technology, partially due to the availability of low-waged foreign workers in Malaysia. In this regard, transforming the underlying structure of the economy, one that is driven by high value-added economic activities, would help propel households to more decent and higher paying jobs.

Finally, spatial and ethnic analyses reveal similar trends and patterns, where income growth had been greater for lower income states and ethnic groups in more recent years, despite persistent gaps that continue to exist until today. Prior to these recent years, higher income states and ethnic groups (i.e. Chinese and Indian) had higher growth in adjusted household income during the early parts of Vision 2020 in 1989–1997. This shifted to lower income states and ethnic groups (i.e. Bumiputera and Others) since then, in the new century with greater reliance on government spending.

Our sectoral analysis of household income distribution using the SAM shows that, despite the convergence in incomes between the Bumiputera and non-Bumiputera over time, the economic base for the Bumiputera remained narrower and less diversified than for the non-Bumiputera. The Bumiputera had fewer industries that would enlarge their income shares in the event of a spending injection in an industry, in contrast to the non-Bumiputera whose economic base was generally more expansive and diversified.

Addressing the persistent disparities in various dimensions (spatial, income and ethnic groups, etc.) in a holistic way requires us to go beyond our conventional and narrow emphasis on closing gaps, to focus on broadening and diversifying the economic base of households. These need to be supported by initiatives to enhance capabilities and participation of the targeted population, so that all households can be included meaningfully, not only in welfare outcomes, but also in the growth process.

APPENDICES & REFERENCES

APPENDIX A

GROWTH ELASTICITY OF POVERTY

Description of the model and dataset

The model that we report our main findings is estimated as follows:

$$LnP_{i,t} = \alpha_i + \beta(1 - G_{i,t-\tau}) * Ln\mu_{i,t} + \varepsilon_{i,t}$$

where:

LnP_{it} : Natural log of the absolute poverty rate (2005 methodology)

$G_{i,t-\tau}$: Gini coefficient (lagged)

$Ln\mu_{it}$: Natural log of real mean household income (in 2019 price)

ε_{it} : Error term

The data is sourced from HIS and is reported for the 14 states in Malaysia from the years 1989 to 2016, with the data for Labuan merged with Sabah, and Putrajaya merged with Kuala Lumpur. We lag the Gini coefficient to eliminate the possibility of autocorrelation. Based on our specification tests outlined below, we use a random effects model corrected with robust standard errors and state fixed effects.

Specification tests

To test whether a random effects (RE) or fixed effects (FE) model is appropriate, a Hausman test was conducted (Table A1). Results from the test indicate that a RE model is preferred to FE, suggesting that there are unobserved characteristics, but they are uncorrelated with the observed independent variables over time. We tested for autocorrelation, where error terms may transfer from one period to another, to ensure that our estimates are reliable. The Wooldridge test indicates the presence of autocorrelation. We corrected this with robust standard errors, which also corrects for heteroskedasticity. With the use of robust standard errors, we further tested for RE vs FE with the xtoverid test, which maintains the use of a RE model. We further checked for robustness with the Newey-West HAC standard errors.

Table A1: Specification tests conducted

Test	Null hypothesis	P-value	Outcome
Hausman test	The RE estimator is an efficient (and consistent) estimator of the true parameters De Maio), and there should be no systematic difference between the two	0.1711	Do not reject null, use RE
Xtoverid	The FE estimator uses the orthogonality conditions that the regressors are uncorrelated with the idiosyncratic error	0.2556	Do not reject null, use RE
Wooldridge test	No further order autocorrelation	0.0001	Do not reject null, autocorrelation present

Robustness checks

To ensure that the results presented in Table 2.3 are reliable, we ran the same regression but with mean income that is unadjusted for distribution. The same specification tests were conducted, and the outcomes reported are consistent with our main model. The results in Table A2 show that the growth elasticity of poverty is still within the -2.0 to -3.0 range, in line with our main estimates of elasticities with adjusted household income. However, the key difference is that the elasticities in Period 2 and Period 3 were higher when using unadjusted mean income.

Table A2: Growth elasticity of poverty with respect to unadjusted mean household income, 1989–2019

Variables	(1) Overall 1	(2) Overall 2	(3) Period 1	(4) Period 2	(5) Period 3	(6) Gini>0.4	(7) Gini<0.4
Unadjusted mean household income	-2.492*** (0.106)	-2.495*** (0.114)	-2.030*** (0.367)	-1.934*** (0.396)	-4.296*** (0.438)	-1.720*** (0.0645)	-2.640*** (0.154)
Constant	20.68*** (0.788)	20.58*** (0.899)	16.70*** (2.768)	16.28*** (3.172)	35.95*** (3.656)	14.94*** (0.439)	21.68*** (1.224)
No. of observations	174	174	56	56	62	88	86
No. of states	14	14	14	14	14	14	14
State fixed effects	No	Yes	Yes	Yes	Yes	Yes	Yes

Note: Robust standard errors in brackets
*** p<0.01, ** p<0.05, * p<0.1

We also ran the same regression with median income that is adjusted for distribution. The same specification tests were conducted, and the outcomes reported are consistent with our main model. The results are in Table A3 and differ in that the states with higher inequality now have a greater elasticity than the states with lower inequality. Therefore, our results on the initial levels of inequality are not robust to the choice of central tendency measure used.

Table A3: Growth elasticity of poverty with respect to adjusted median household income, 1989–2019

Variables	(1) Overall 1	(2) Overall 2	(3) Period 1	(4) Period 2	(5) Period 3	(6) Gini>0.4	(7) Gini<0.4
Adjusted median household income	-2.164*** (0.559)	-2.164*** (0.559)	-2.276*** (0.552)	-0.259* (0.134)	-2.499*** (0.260)	-1.849*** (0.196)	-1.726** (0.720)
Constant	10.64*** (2.541)	10.64*** (2.541)	11.36*** (2.298)	2.525*** (0.584)	11.93*** (1.292)	9.564*** (0.844)	8.268** (3.441)
No. of observations	160	160	42	56	62	79	81
No. of states	14	14	14	14	14	14	14
State fixed effects	No	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.608	0.608	0.481	0.055	0.659	0.548	0.501

Note: Robust standard errors in brackets
*** p<0.01, ** p<0.05, * p<0.1

APPENDIX B

RELATIVE DISTRIBUTIVE MEASURE

We construct the relative distributive measure from a multiplier analysis using an unconstrained, fixed-price model. This is based on the revised 2014 SAM and 2015 SAM released by DOS, which consist of 67 rows of income and 67 columns of expenditure. The variables that we assume as exogenous are the government sector, consolidated capital, financials (borrowings) and the rest of world, such that they do not generate round-by-round indirect linkage effects.

We first divide each transaction by its corresponding column total to derive coefficient matrix M[81]. Coefficient matrix M is then subtracted from an identity matrix I, and the resulting I-M matrix is inverted. To see the effects of a positive exogenous demand shock for each sector, we construct matrix E where each sector is given a value of one, signifying a RM1,000 increase in demand for each sector[82]. Finally, matrix E is multiplied by the inverted coefficient matrix to give the customary SAM multipliers. These relate to multipliers of spending injections into specific sectors, where we denote injected sectors as j', and the resulting effects on specific sectoral outputs and specific household incomes, which we denote as j and h, respectively. For our report, we are interested in the effects of sectoral injections on household incomes. Thus, we pay attention to $M_{S,\,hj'}$ which gives the multiplier effects of sectoral spending injections on household income.

However, for further interpretation, we construct the RDM from the multipliers to determine which subgroup would be better off following a sectoral spending injection, based on whether a particular subgroup is able to increase their income share above their actual share for a given year. The RDM for household h resulting from sectoral injection j' for a given year (i.e. $RDM_{hj'}$) is defined as follows[83]:

$$RDM_{hj'} = \frac{(M_{s,hj'})/(\sum_j M_{s,hj'})}{Income_{h,o}/\sum_j Income_{h,o}}$$

A value greater than one for a particular subgroup signifies an increase in their income share, while a value smaller than one signifies a decrease. A value equals to one means that sectoral injections would reproduce exactly the share the group had in the base year.

[81] Following Breisinger, Thomas and Thurlow (2009)

[82] All values in the SAM are expressed in RM thousands.

[83] Following Cohen (2013)

APPENDIX C

LIST OF INDUSTRIES FOR GAINERS BY SUBGROUP BASED ON RDM

Table C1: List of industries for gainers by strata, income and ethnic group, with classification of modern industries, 2014 and 2015

	2014		2015		Both	
Urban Top Bumiputera	**Mining**	Petroleum (1.3)	**Mining**	Petroleum (1.4)	**Mining**	Petroleum
	Manufacturing	Transport (1.2)	**Manufacturing**	Transport (1.1)	**Manufacturing**	Transport
	Services	Transport (1.2)		ICT (1.1)	**Services**	Transport
		ICT (1.2)		Finance (1.1)		ICT
		Business Services (1.2)		Business Services (1.1)		Finance
	Manufacturing	Petroleum (1.1)		Transport (1.1)		Business Services
	Construction	Specialised Con (1.1)		Education (1.1)		Education
	Services	Finance (1.1)		Gov Services (1.1)		Gov Services
		Real Estate (1.1)				
		Education (1.1)				
		Gov Services (1.1)				
Urban Top Non-Bumiputera	**Services**	R&D (2.6)	**Services**	Rental (1.6)	**Services**	Rental
		Rental (1.8)		R&D (1.6)		R&D
		ICT (1.4)		Real Estate (1.4)		Real Estate
		Other Services (1.4)		ICT (1.3)		ICT
	Construction	Specialised Con (1.3)		Finance (1.3)		Finance
	Manufacturing	Beverage (1.2)	**Manufacturing**	Wood (1.2)	**Manufacturing**	Wood
		Transport (1.2)		Transport (1.2)		Transport
	Services	Finance (1.2)	**Construction**	Specialised Con (1.2)	**Construction**	Specialised Con
		Real Estate (1.2)	**Services**	Business Services (1.2)	**Services**	Business Services
		Business Services (1.2)		Other Services (1.2)		Other Services
	Mining	Petroleum (1.1)	**Agriculture**	Forestry (1.1)	**Mining**	Petroleum
		Other Mining (1.1)		Fishing (1.1)		Other Mining
	Manufacturing	Textiles (1.1)	**Mining**	Petroleum (1.1)	**Manufacturing**	Beverages
		Wood (1.1)		Other Mining (1.1)		Petroleum
		Petroleum (1.1)	**Manufacturing**	Beverages (1.1)		E&E
		Metal (1.1)		Petroleum (1.1)	**Services**	Transport
		E&E (1.1)		E&E (1.1)		
	Services	Transport (1.1)	**Construction**	Buildings (1.1)		
		NPISH (1.1)		Utilities (1.1)		
			Services	Transport (1.1)		

	2014		2015		Both	
Urban Middle Bumiputera	**Services**	Health (1.5)	**Services**	Gov Services (1.6)	**Services**	Gov Services
		Gov Services (1.5)		Education (1.5)		Education
		Education (1.4)		Health (1.3)		Health
		R&D (1.3)		R&D (1.2)		R&D
Urban Middle Non-Bumiputera	**Services**	R&D (1.5)	**Services**	Finance (1.4)	**Services**	Finance
	Construction	Civil Engineering (1.3)	**Manufacturing**	Wood (1.3)	**Manufacturing**	Wood
	Services	Finance (1.3)	**Services**	Real Estate (1.3)	**Services**	Real Estate
		Rental (1.3)		Rental (1.3)		Rental
	Manufacturing	Wood (1.2)		R&D (1.3)		R&D
		Metal (1.2)	**Mining**	Metal (1.2)	**Manufacturing**	Metal
		E&E (1.2)	**Manufacturing**	Metal (1.2)		E&E
	Services	Wholesale (1.2)		E&E (1.2)	**Construction**	Civil Engineering
		ICT (1.2)	**Construction**	Civil Engineering (1.2)		Special Con
		Real Estate (1.2)		Special Con (1.2)	**Services**	Wholesale
		Business Services (1.2)	**Services**	Wholesale (1.2)		Business Services
		Other Services (1.2)		Business Services (1.2)		Other Services
	Agriculture	Forestry (1.1)		Other Services (1.2)	**Agriculture**	Forestry
	Mining	Petroleum (1.1)	**Agriculture**	Forestry (1.1)	**Mining**	Petroleum
	Manufacturing	Textiles (1.1)		Fishing (1.1)	**Manufacturing**	Petroleum
		Petroleum (1.1)	**Mining**	Petroleum (1.1)		Transport
		Transport (1.1)		Coal (1.1)	**Construction**	Buildings
	Construction	Buildings (1.1)	**Manufacturing**	Food (1.1)		Transport
		Specialised Con (1.1)		Petroleum (1.1)	**Services**	ICT
	Services	Transport (1.1)		Transport (1.1)		
			Construction	Buildings (1.1)		
				Utilities (1.1)		
			Services	Food (1.1)		
				Transport (1.1)		
				ICT (1.1)		
				Utilities (1.1)		
Urban Bottom Bumiputera	**Mining**	Metal (1.7)	**Mining**	Metal (1.6)	**Mining**	Metal
	Manufacturing	Beverages (1.1)	**Manufacturing**	Textiles (1.2)	**Manufacturing**	Textiles
		Textiles (1.1)		Beverages (1.1)		Beverages
	Services	F&B (1.1)		Metal (1.1)	**Services**	F&B
		Health (1.1)	**Services**	F&B (1.1)		Health
				Health (1.1)		
				Gov Services (1.1)		

	2014		2015		Both	
Urban Bottom Non-Bumiputera	**Manufacturing**	Textiles (1.6)	**Manufacturing**	Textiles (1.6)	**Manufacturing**	Textiles
	Services	Other Services (1.4)	**Mining**	Metal (1.4)	**Mining**	Metal
	Mining	Metal (1.3)	**Manufacturing**	Metal (1.4)	**Manufacturing**	Metal
	Manufacturing	Beverages (1.3)	**Services**	Other Services (1.4)	**Services**	Other Services
		Metal (1.3)	**Manufacturing**	Beverages (1.3)	**Manufacturing**	Beverages
	Services	Wholesale (1.3)		Wood (1.3)		Wood
		F&B (1.3)		E&E (1.3)		E&E
	Agriculture	Forestry (1.2)	**Services**	Wholesale (1.3)	**Services**	Wholesale
	Manufacturing	Wood (1.2)	**Manufacturing**	Petroleum (1.2)	**Manufacturing**	Petroleum
		E&E (1.2)	**Construction**	Specialised Con (1.2)	**Construction Services**	Specialised Con
	Construction	Specialised Con (1.2)		F&B (1.2)	**Agriculture**	F&B
	Mining	Coal (1.1)	**Services**	Forestry (1.1)	**Mining**	Forestry
	Manufacturing	Food (1.1)	**Agriculture**	Fishing (1.1)	**Manufacturing**	Coal
		Petroleum (1.1)	**Mining**	Coal (1.1)	**Services**	Food
	Services	Transport (1.1)	**Manufacturing**	Food (1.1)		Transport
		Real Estate (1.1)		Transport (1.1)		Real Estate
		Business Services (1.1)	**Construction**	Buildings (1.1)		Business Services
			Services	Transport (1.1)		
				Real Estate (1.1)		
				Business Services (1.1)		
Rural Top Bumiputera	**Mining**	Other Mining (3.2)	**Mining**	Other Mining (3.0)	**Mining**	Other Mining
	Services	Utilities (1.8)	**Services**	Education (1.6)	**Services**	Education
		Education (1.5)		Gov Services (1.4)		Gov Services
	Agriculture	Fishing (1.3)		ICT (1.3)	**Agriculture**	Fishing
	Mining	Petroleum (1.3)	**Agriculture**	Fishing (1.2)	**Mining**	Petroleum
	Construction	Buildings (1.3)	**Mining**	Petroleum (1.1)	**Services**	Utilities
	Services	Gov Services (1.3)	**Services**	Utilities (1.1)		
		NPISH (1.3)				
	Agriculture	Crops (1.1)				
	Construction	Civil Engineering (1.1)				

	2014		2015		Both	
Rural Top Non-Bumiputera	**Services**	Utilities (1.7)	**Services**	ICT (2.7)	**Services**	Wholesale
	Construction	Buildings (1.5)		Wholesale (1.5)		Utilities
	Services	Wholesale (1.4)		Utilities (1.2)	**Agriculture**	Crops
	Agriculture	Forestry (1.3)	**Agriculture**	Crops (1.1)		Forestry
		Crops (1.2)		Forestry (1.1)	**Manufacturing**	Food
		Fishing (1.2)	**Manufacturing**	Food (1.1)	**Services**	Gov Services
	Mining	Petroleum (1.2)		Beverages (1.1)		
	Manufacturing	Wood (1.2)	**Services**	Business Services (1.1)		
		Petroleum (1.2)		Gov Services (1.1)		
	Construction	Civil Engineering (1.2)				
	Services	Education (1.2)				
	Manufacturing	Food (1.1)				
	Services	Gov Services (1.1)				
Rural Middle Bumiputera	**Services**	Education (2.0)	**Services**	Education (2.0)	**Services**	Education
		Health (1.4)	**Agriculture**	Crops (1.4)	**Agriculture**	Crops
		Utilities (1.3)	**Services**	Gov Services (1.3)	**Services**	Gov Services
		Gov Services (1.3)	**Agriculture**	Forestry (1.2)	**Agriculture**	Forestry
	Agriculture	Crops (1.2)	**Services**	Health (1.1)	**Services**	Health
		Forestry (1.2)				
	Manufacturing	Food (1.1)				
	Construction	Buildings (1.1)				
		Civil Engineering (1.1)				
Rural Middle Non-Bumiputera	**Mining**	Others (6.8)	**Mining**	Others (6.2)	**Mining**	Others
	Agriculture	Fishing (1.6)		Coal (1.6)		Coal
		Crops (1.5)	**Services**	Wholesale (1.6)	**Services**	Wholesale
	Mining	Coal (1.5)		ICT (1.5)	**Agriculture**	Crops
	Manufacturing	Wood (1.4)	**Agriculture**	Crops (1.4)	**Manufacturing**	Food
		Food (1.4)	**Services**	Business Services (1.4)	**Agriculture**	Fishing
	Services	Wholesale (1.4)	**Manufacturing**	Food (1.3)		Forestry
		Real Estate (1.4)	**Agriculture**	Fishing (1.2)	**Manufacturing**	E&E
	Agriculture	Forestry (1.3)	**Manufacturing**	Wood (1.2)	**Construction**	Civil Engineering
	Manufacturing	Metal (1.3)		Metal (1.2)		Specialised Con
	Construction	Buildings (1.3)	**Agriculture**	Forestry (1.1)	**Services**	Real Estate
		Civil Engineering (1.3)	**Manufacturing**	Textiles (1.1)		
	Manufacturing	E&E (1.2)		E&E (1.1)		
	Construction	Specialised Con (1.2)	**Construction**	Civil Engineering (1.1)		
	Services	F&B (1.2)	**Services**	Specialised Con (1.1)		
		Utilities (1.1)		Real Estate (1.1)		

	2014		2015		Both	
Rural Bottom Bumiputera	**Agriculture**	Crops (1.4)	**Agriculture**	Crops (1.7)	**Agriculture**	Crops
		Fishing (1.4)		Forestry (1.2)		Forestry
		Forestry (1.2)		Fishing (1.2)		Fishing
	Construction	Civil Engineering (1.2)	**Manufacturing**	Food (1.2)	**Manufacturing**	Food
	Manufacturing	Food (1.1)				
		Beverages (1.1)				
	Construction	Specialised Con (1.1)				
Rural Bottom Non-Bumiputera	**Agriculture**	Crops (1.7)	**Agriculture**	Crops (1.6)	**Agriculture**	Crops
		Fishing (1.7)	**Services**	Wholesale (1.5)	**Services**	Wholesale
	Manufacturing	Food (1.5)	**Agriculture**	Fishing (1.4)	**Agriculture**	Fishing
		Beverages (1.5)	**Manufacturing**	Food (1.4)	**Manufacturing**	Food
	Services	F&B (1.5)		Beverages (1.4)		Beverages
		Wholesale (1.4)	**Mining**	Coal (1.3)	**Mining**	Coal
	Manufacturing	Textiles (1.3)	**Manufacturing**	Textiles (1.2)	**Manufacturing**	Textiles
		Wood (1.2)		Petroleum (1.2)		Petroleum
		Petroleum (1.2)	**Services**	ICT (1.2)		Wood
		E&E (1.2)	**Agriculture**	Forestry (1.1)		E&E
	Mining	Coal (1.1)	**Manufacturing**	Wood (1.1)	**Services**	F&B
	Manufacturing	Metal (1.1)		E&E (1.1)		
	Agriculture	Forestry (1.1)	**Services**	F&B (1.1)		
	Construction	Specialised Con (1.1)		Business Services (1.1)		

	2014		2015		Both	
Non-Citizens	**Agriculture**	Crops (2.2)	**Services**	NPISH (3.9)	**Services**	NPISH
	Services	NPISH (1.9)	**Agriculture**	Crops (2.9)	**Agriculture**	Crops
	Mining	Coal (1.8)	**Mining**	Coal (2.8)	**Mining**	Coal
	Services	Utilities (1.8)	**Manufacturing**	Food (1.9)	**Manufacturing**	Food
	Manufacturing	Food (1.6)	**Construction**	Buildings (1.9)	**Construction**	Buildings
	Construction	Buildings (1.6)	**Mining**	Others (1.8)	**Mining**	Others
	Services	F&B (1.3)	**Services**	F&B (1.5)	**Services**	F&B
		Health (1.3)	**Manufacturing**	Textiles (1.4)	**Manufacturing**	Textiles
	Mining	Others (1.2)	**Services**	Utilities (1.4)	**Services**	Utilities
	Manufacturing	Textiles (1.2)		Health (1.4)		Health
		Wood (1.2)	**Agriculture**	Forestry (1.3)	**Agriculture**	Forestry
		Petroleum (1.2)	**Manufacturing**	Petroleum (1.2)	**Manufacturing**	Petroleum
		Metal (1.2)		Metal (1.2)		Metal
		E&E (1.2)	**Construction**	Civil Engineering (1.2)	**Construction**	Civil Engineering
	Construction	Civil Engineering (1.2)		Specialised Con (1.2)		Specialised Con
		Specialised Con (1.2)	**Services**	Rental (1.2)	**Services**	Rental
		Forestry (1.1)	**Mining**	Petroleum (1.1)	**Manufacturing**	Wood
	Agriculture	Transport (1.1)	**Manufacturing**	Wood (1.1)		E&E
	Manufacturing	Transport (1.1)		E&E (1.1)		Transport
	Services	Rental (1.1)		Transport (1.1)	**Services**	Transport
		Education (1.1)	**Services**	Transport (1.1)		

Note: Industries in orange are classified as modern. Figures in brackets are the relative distributive measure calculated, where a number of above one indicates that the subgroup has a higher income share following a spending injection. E&E stands for electrical and electronics, F&B for food and beverage, NPISH for non-profit institutions serving households, ICT for information and communications technology.
Source: DOS (2019a), DOS (2019b) and KRI calculations

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