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**Working Paper**

## Addressing poverty and inequality in Viet Nam during the COVID-19 pandemic: An examination of the alleviating impact of tax and benefit measures

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WIDER Working Paper 2023/120

## **Addressing poverty and inequality in Viet Nam during the COVID-19 pandemic**

An examination of the alleviating impact of tax and benefit  
measures

Antoine de Mahieu and Jesse Lastunen\*

October 2023

**Abstract:** This paper investigates the impact of the COVID-19 pandemic and related tax-benefit measures in Viet Nam. The focus is on the initial phase of the crisis in 2020. The study delves into how the pandemic affected disposable incomes, examining the differences across the income distribution and impacts on measures of poverty and inequality. The paper also evaluates the effectiveness of tax-benefit policies in reducing income losses caused by the pandemic, covering both the automatic stabilization of the pre-existing tax-benefit system and discretionary policy measures adopted in response to the crisis. The findings suggest that disposable incomes decreased by nearly 2.25 per cent on average, with the most pronounced effect experienced by higher-income households. Additionally, the estimates point to moderate increases in both the headcount poverty rate and the extent of poverty, as measured by the poverty gap. Automatic stabilizers had a limited effect in cushioning the income shock. The discretionary social protection measures, however, halved the pandemic-induced rise in the national poverty rate and fully reversed income losses for the poorest income quartile.

**Key words:** COVID-19, income distribution, poverty, inequality, Viet Nam

**JEL classification:** D31, E24, H24

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## 1 Introduction

The COVID-19 pandemic, considered a global health emergency by the World Health Organization from 2020 to 2023, significantly affected the lives and purchasing power of many households around the world. After the outbreak of the virus, governments swiftly took public health measures to limit the spread and impact of the pandemic. Widely used containment and lockdown measures resulted in income losses for workers who had to stop or reduce their activity and caused important supply shortages, including food scarcity, primarily due to disruptions in supply chains.

Viet Nam was no exception and used strategies such as targeted lockdowns, travel bans, business closures, mass quarantines, and widespread testing to curb infections. This led to disruptions and challenges in multiple sectors of the economy. According to statistics from the General Statistics Office of Viet Nam, 69.2 per cent of the working-age population experienced income reductions, 39.9 per cent were forced to cut working hours and take time off work, and 14 per cent had to quit working altogether or suspend production and business activities (GSO 2021a).

Services, especially tourism-related services, were one of the sectors severely affected by the pandemic in Viet Nam. The country, known for its natural beauty and cultural heritage, experienced a sharp decline in international arrivals as travel restrictions and border closures were imposed worldwide. According to the General Statistics Office, international arrivals dropped by 78.7 per cent in 2020 compared to the previous year (GSO 2021c). This decline in tourism had cascading effects on related industries, including hospitality, transportation, and retail. It is estimated that 71.6 per cent of employees in the service sector were affected. Notably, the pandemic caused the first significant decline in the labour market over the past years, with a reduction of 1.2 million workers. In contrast, between 2016 and 2019, the labour force had been growing at an annual rate of 0.8 per cent.

To alleviate the financial repercussions of the pandemic and the containment measures on the population, existing tax and benefit policies were adapted and new policies were introduced around the world. The speed at which these initiatives were implemented was unprecedented. For instance, the United Nations Special Rapporteur on extreme poverty and human rights reported that by September 2020, 208 countries and territories had adopted 1,407 new social protection measures (United Nations 2020). In Viet Nam discretionary benefits were offered to individuals who lost their jobs and small household businesses that were suspended to help mitigate economic losses. Additional assistance was also provided to social protection beneficiaries and people in households on official lists of the poor and near-poor. Businesses also benefitted from exceptional measures to reduce their costs. These included electricity fee waivers, loans, and temporary suspensions of social contribution payments (Nguyen et al. 2023).

This paper estimates how the pandemic affected disposable incomes, by particularly examining the differences among income brackets. It also investigates whether and to what extent the tax-benefit system helped households cope with the deteriorating economic conditions. For this purpose the contribution of tax-benefit policies in mitigating the income shock is split into (i) automatic stabilizers (automatic changes in taxes paid and benefits received as a result of the income shock), and (ii) COVID-related tax-benefit measures introduced by the government in 2020. Automatic stabilizers have the advantage of preventing governments from having to make decisions within a constrained timeframe, without careful assessment of targeting error risks, benefits and costs, and

the distributional impact of their measures. The analysis aims, therefore, at understanding the extent to which automatic stabilizers worked and at identifying potential improvements.

Our analysis requires microeconomic data reflecting household incomes and labour market conditions before and during the crisis as well as detailed modelling of the tax and benefit policies in the country, including reforms linked to the COVID-19 pandemic in 2020. The main challenge is the lack of up-to-date microeconomic data on household characteristics and incomes during the crisis. To address this, we reweight the data to account for structural demographic changes and estimate job losses by randomly distributing industry-level gross domestic product (GDP) shocks across workers. For the analysis of the effect of taxes and benefits, we use VNMOD, a tax-benefit microsimulation model for Viet Nam.

The analysis shows that automatic stabilizers only helped households to a limited extent. Discretionary benefits, however, efficiently mitigated economic losses at the bottom of the income distribution. They limited poverty increases to an estimated 4.8 per cent, compared to 11.5 per cent without these measures. Economic inequality, as measured by the Gini coefficient, increased by 0.9 per cent. Without discretionary benefits, the increase would have been 1.5 per cent.

Our research contributes to a broad academic effort to understand the role of tax-benefit systems in mitigating the effects of the COVID-19 pandemic on disposable incomes in developing countries. Similar approaches have been adopted, among others, by Jara et al. (2022) for Ecuador, Wright et al. (2021) for Indonesia, and Barnes et al. (2021) for South Africa, along with several studies conducted for developed countries. In addition, cross-country studies on the impact of the pandemic and mitigating tax-benefit policies have been conducted for Andean countries by Avellaneda et al. (2021) and for Sub-Saharan African countries by Lastunen et al. (2023). We contrast our findings with Indonesia (Wright et al. 2021) in the discussion. Outside of our study and the research on Indonesia, no other analyses have been identified that evaluate the effects of tax-benefit policies during the pandemic in developing Asia.

The article is structured as follows. Section 2 describes the impact of the COVID-19 pandemic on the Vietnamese economy, while Section 3 discusses both the pre-existing and COVID-related tax and benefit policies that helped mitigate the shock on household incomes. In Section 4 we introduce the VNMOD model, along with the data employed for the modelled scenarios. Section 5 details the findings, and Section 6 provides a discussion and conclusion.

## **2 The COVID pandemic in Viet Nam**

On 31 December 2019 China officially reported a cluster of pneumonia cases in Wuhan. By January 2020 the pandemic had made its presence felt in Southeast Asia, with countries like Thailand, the Philippines, Singapore, Cambodia, Malaysia, and Viet Nam reporting their initial cases. The early instances in these regions were mainly linked to international travel, with Viet Nam, for example, observing a shift to local transmission by February and March. Many other countries worldwide began reporting their first cases in March 2020.

On 21 March 2020, in response to the escalating situation, Viet Nam took the decision to suspend entry for all foreigners, effective from midnight of the following day. Moreover, a compulsory fourteen-day quarantine requirement was implemented for all incoming Vietnamese citizens. In a significant move the country also initiated a nationwide lockdown lasting for 15 days starting from 1 April. These stringent measures yielded positive outcomes, with the country not confirming any

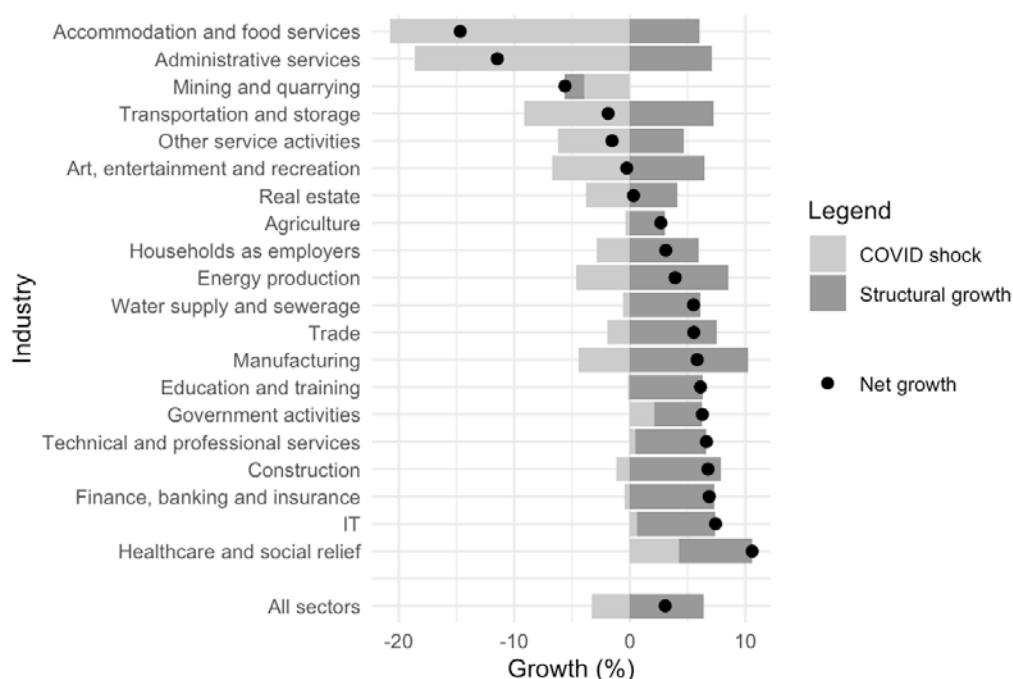
instances of local transmission from mid-April to the end of July, and the first COVID-19-related death in Viet Nam occurring only on 31 July 2020 (Châu and Hiệp 2020).

On the economic side, the COVID-19 pandemic had dire consequences. The Vietnamese economy was growing at a robust rate of more than 7 per cent in the two years preceding the outbreak of the virus. The manufacturing sector was the biggest driver of growth during those years, with growth rates of almost 13 per cent in 2018 and 11 per cent in 2019.

Because of the pandemic this trend was strongly curbed, although not fully reversed. The changes in GDP by sector are shown in Figure 1, where the dark bars represent structural growth, defined as the average growth rate based on a linear extrapolation of 2017–19 trends. The black dots provide the observed GDP aggregate growth rates. The difference between the two is denoted in light grey and labelled ‘COVID shock’, as it represents the extent to which the pandemic reduced GDP across sectors from pre-COVID expectations.

Unsurprisingly, the data shows that the service sectors were hit hardest by the crisis. This includes accommodation and food services, administrative services, and art, entertainment and recreation. The transportation and storage sector was also severely affected, largely due to the travel bans. However, some of the largest industries in the country—agriculture, manufacturing, trade, and construction, which employ 68 per cent of the workforce based on Viet Nam Household Living Standards Survey (VHLSS) 2020 data (GSO 2020)—suffered less. This significantly limited the economic losses experienced by Vietnamese workers on the aggregate. Overall, the economy grew by 3.1 per cent in 2020, instead of an estimated 6.4 per cent in a ‘no-COVID’ scenario. Despite the overall reduction in GDP growth due to the pandemic, Viet Nam was one of the few countries in the world that achieved positive GDP growth in 2020.

Figure 1: Estimated GDP shocks due to the COVID pandemic in Viet Nam, 2020



Note: the figure illustrates changes in sectoral GDP in Viet Nam in 2020. The dark bars point to structural growth, which is defined as the average growth rate based on a linear extrapolation of GDP trends from 2017 to 2019. The black dots denote the observed growth rates. The difference between the two is shown in light grey and represents the shock from COVID-19 in each sector.

Source: authors' elaboration using economic data provided by the General Statistics Office of Viet Nam (GSO 2021b).

In the years that followed the economy continued to suffer but started a gradual recovery. In 2021 Viet Nam faced two important waves of COVID, in the summer and then in the 2021–22 winter. This, together with the restrictions imposed by the government to contain the virus, led to a further decrease in real GDP growth, which dipped to 2.6 per cent in 2021. In 2022, a year marked by the gradual reopening of borders and the lifting of restrictions, real GDP surged to 8.0 per cent.

### **3 Tax-benefit system and government response**

During the first phase of the pandemic, governments in the Asia Pacific region took unprecedented action to support households. For example, the International Labour Organization (ILO) social protection responses to COVID-19 monitor listed 244 social protection measures across 38 countries in the region (ILO and UN ESCAP 2021). The majority of these measures were assistance programmes for workers and/or their dependents, and benefits for poor and vulnerable households. Moreover, in more than half of the countries, the levels and coverage of existing benefits were increased. A majority of countries also implemented measures to reduce or postpone the cost of utilities and social contributions and introduced wage subsidies.

In Viet Nam many households experienced sizeable earnings losses during the pandemic. Existing taxes and benefits served, to an extent, as a safety net by cushioning the income shock. For example, social contributions and income tax liabilities were reduced for individuals who lost their jobs. At the same time income losses made some individuals and households eligible for means-tested benefits offered by the government, such as support for school expenses, electricity subsidies, and pension benefits (see Nguyen et al. 2023 for a detailed description of the Vietnamese tax-benefit system).

Besides these automatic stabilizers, targeted social protection measures were enacted by the Vietnamese government, which contributed to alleviating the socioeconomic fallout. Those measures can be grouped into four main categories: (i) support for employees with unemployment insurance who lost their jobs, (ii) support for employees without unemployment insurance who lost their jobs, (iii) support for small household businesses that were suspended, and (iv) support for poor and near-poor households and individuals receiving social assistance.

Eligibility and level of support for insured employees who lost their jobs depended on different conditions. Under Decision 15/2020/QĐ-TTg of the Prime Minister (Ministry of Labour, War Invalids and Social Affairs 2020), a worker who had participated in social insurance right before the beginning date of suspension or unpaid leave was eligible for assistance under three conditions: (i) if the duration of contract suspension or unpaid leave during the effective period of the employment contract was at least one consecutive month during the period from 1 April to 30 June 2020; (ii) if the suspension or unpaid leave began during the same period; and (iii) if the enterprise for which this person was working did not have any revenue or sufficient funds to pay wages due to the impact of the pandemic. Upon eligibility, the assistance provided was VND 1.8 million (ca. US\$78 in 2020) per month for up to three months, beginning from 1 April 2020.

Workers with a contract but not eligible for unemployment benefits were also eligible for support if they had an income that was lower than the near-poverty standard, as specified in Decision No. 59/2015/QĐ-TTg which promulgated the multidimensional poverty levels applicable during 2016–20. Further, workers without employment contracts were eligible for government assistance if they had an income lower than the above-mentioned near-poverty standard and had one of the following occupations: street vendors and hawkers, waste and/or scrap collectors, carriers (porters), bike taxi and pedicab drivers, street lottery ticket sellers, self-employed workers, or

employees of household businesses in food and drink, lodging, or healthcare industries. In these situations the benefit amount was VND 1 million (ca. US\$43) per month, again for up to three months.

Suspended household businesses were also eligible to receive assistance if they had a tax revenue under VND 100 million (ca. US\$4,300) according to records from January 2020. The assistance was VND 1 million (ca. US\$43 as above) per month for up to three months.

People in households on official lists of poor and near-poor households by 31 December 2019 and social protection beneficiaries who were receiving monthly benefits and were included in the list of beneficiaries as of April 2020 benefitted from government assistance as well. The amount of assistance for these categories of individuals reached VND 250,000 (ca. US\$11) and VND 500,000 (ca. US\$22) per person per month, respectively, for three months from April to June 2020.

Lastly, government assistance included benefits for specific meritorious individuals such as war invalids, reductions in fees and tariffs (e.g., road toll fees, administrative fees, and electricity tariffs), and additional measures aiming at helping businesses, such as the suspension or reduction of social contributions and loans and deferral of tax payments (Nguyen et al. 2023). These latter measures are not included in the analysis due to data limitations.

## 4 Methodology

To analyse the role of pre-existing and discretionary tax-benefit policies in mitigating the adverse effects of the COVID-19 crisis in Viet Nam, we proceeded in four steps.

First, we constructed a ‘no-COVID’ and a ‘COVID’ dataset based on the 2018 VHLSS (GSO 2018). The VHLSS is a sample-based survey carried out on a biennial basis since 2002. The 2018 dataset is the latest dataset available before the outbreak of the pandemic. The survey includes information on income by source, expenditures by consumption item, and demographic information such as age, gender, ethnicity, marital status, and education level. The ‘no-COVID’ dataset was constructed by uprating monetary variables to 2020 using applicable price indices. The survey weights were recalculated using an iterative proportional fitting procedure in order for the new dataset to meet the 2020 marginal densities of age and gender (McLennan 2021). The ‘COVID’ dataset was constructed by calculating the deviation of each industry’s real GDP from its trend in 2020, based on industry-level data provided by the General Statistics Office of Viet Nam (GSO 2021b: Figure 1). The resulting sectoral shocks were then distributed to individual-level earnings in the baseline ‘no-COVID’ dataset.<sup>1</sup> For that purpose workers in each sector were randomly selected, their employment status set to ‘unemployed’, and their income to zero, until the overall reduction in labour income matched the decline in GDP of the respective sector (for technical details, see Lastunen 2021).<sup>2</sup>

Second, the VNMOD microsimulation model was adapted to include policies adopted in response to the pandemic in 2020. VNMOD is a static and non-behavioural model that allows for the

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<sup>1</sup> Our focus is on negative sectoral GDP shocks, and we do not make adjustments to earnings for positive shocks. We believe that the analysis period is too brief to result in significant wage increases due to wage rigidities.

<sup>2</sup> In principle it is also possible to use survey data to impute market transitions in a more detailed manner. Lastunen et al. (2021), for example, use a regression-based method to impute labour market shocks in Uganda (see Oliveira et al. 2021 for the methodology). The data used in the study comes from the World Bank high-frequency phone surveys, available for several low- and middle-income countries, recently also including Viet Nam.



estimation of the effect of tax-benefit reforms, as well as exogenous income shocks, on disposable incomes, poverty, and inequality. The model contains different ‘systems’, which reproduce the tax and benefit transfers of the country over the years. For 2020 two systems were created: one to simulate the effect of the tax-benefit system if no discretionary measures were taken by the government (‘VN\_2020\_nopol’) and one that includes the COVID-related policies (‘VN\_2020\_covpol’).

Due to the characteristics of the pandemic, incorporating COVID-related policies into this framework presents a complex challenge. A sizeable portion of these policies were implemented after the pandemic had already started, and certain measures were designed to remain in effect for just a brief period of time during 2020. To address this, our analysis takes an annual approach. Essentially, we simulate the impacts of tax-benefit measures only for the months they were operational, necessitating an adjustment to scale them proportionally over the course of a year (for more details, refer to the technical note by Gasior et al. 2021). Also, as the VHLSS does not include information on participation in unemployment insurance schemes, whether an individual who lost their job was enrolled was determined randomly, based on an average participation rate of 24 per cent (derived from data by GSO 2023).

Third, disposable incomes were calculated for three scenarios: (i) the ‘VN\_2020\_nopol’ system with the ‘no-COVID’ dataset, (ii) the ‘VN\_2020\_nopol’ system with the ‘COVID’ dataset, and (iii) the ‘VN\_2020\_covpol’ system, with the ‘COVID’ dataset. In this last scenario we ran the model a first time to simulate the total number of beneficiaries of COVID-related benefits according to the model. This number was compared with the number of recipients from detailed data available in World Bank (2021). When the number of recipients in our simulation was higher than the actual number of recipients, which was the case for benefits for poor and near-poor households as well as the number of household businesses that were supported, we calibrated the policies to account for non-take-up. This was done by implementing a function that randomly selects eligible individuals. After this, the model was run a second time.

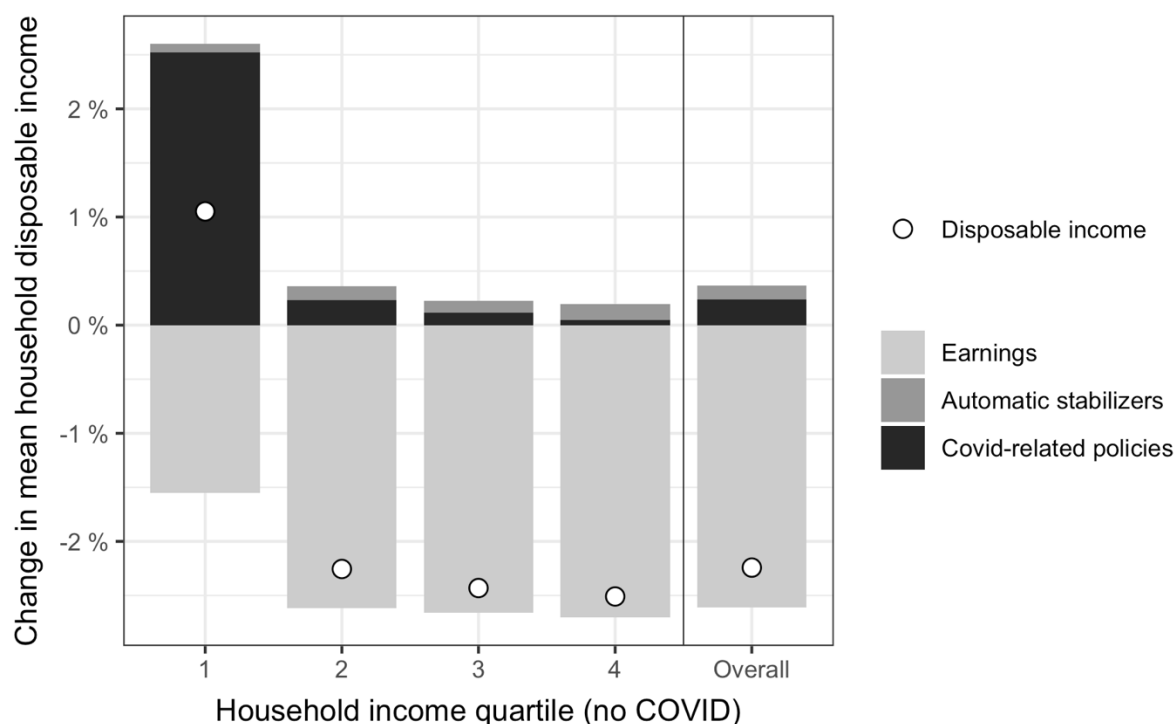
Fourth, the differences in disposable incomes were decomposed. Comparing outcomes under scenarios (i) and (ii) allowed for isolating the effect of automatic stabilizers. Comparing scenarios (ii) and (iii), in turn, made it possible to isolate the effect of the COVID policies.

Simulating the COVID shock and the tax-benefit changes that were implemented in response to the crisis might not lead to perfectly accurate findings due to data limitations. The first constraint is related to the manner in which industry shocks are converted into employment income shocks. On one hand households are randomly selected, which might hide some correlations between households’ characteristics and income losses. Second, it might be that individuals lose part of their income, while in our simulations, income losses are either zero or complete. Further, tax-benefit measures are not always straightforward to incorporate in the tax-benefit microsimulation model. Our modelling is constrained by the level of granularity provided by the underlying microdata, particularly with regard to the exact formulation of tax-benefit regulations. Also, although we consider small household enterprises and self-employed individuals, numerous schemes designed for these individuals lack full transparency in their implementation, or the comprehensive microdata on their business operations necessary for accurate modelling is unavailable.

## 5 Results

Figure 2 shows the average changes in equivalized disposable income by equivalized income quartile, derived from the ‘no-COVID’ dataset.<sup>3</sup> The changes are decomposed into the gross income shock (‘earnings’), the effect of pre-existing taxes and benefits (‘automatic stabilizers’), and the effect of policies that the government took to address the crisis (‘COVID-related policies’). Figure 3 further decomposes the automatic stabilizers into the contributions from reductions in tax and social insurance liabilities and additional income from benefits. Finally, Figure 4 shows the main sectors of employment by equivalized income quartile.

Figure 2: Decomposition of changes in equivalized disposable income, Viet Nam, 2020



Note: the figure decomposes the changes in equivalized per capita disposable household income in 2020 into different sources: (i) earnings losses resulting from the pandemic (light grey), (ii) the automatic stabilization of the tax-benefits system (dark grey), and (iii) the effects of COVID-related policies (black). The net impact is presented by the white dots. The effects are shown separately for different income quartiles and across the entire population, with changes derived with respect to disposable household income in the ‘no-COVID’ scenario.

Source: authors’ elaboration using VNMOD, the tax-benefit microsimulation model for Viet Nam and data from the VHLSS 2018 (GSO 2018).

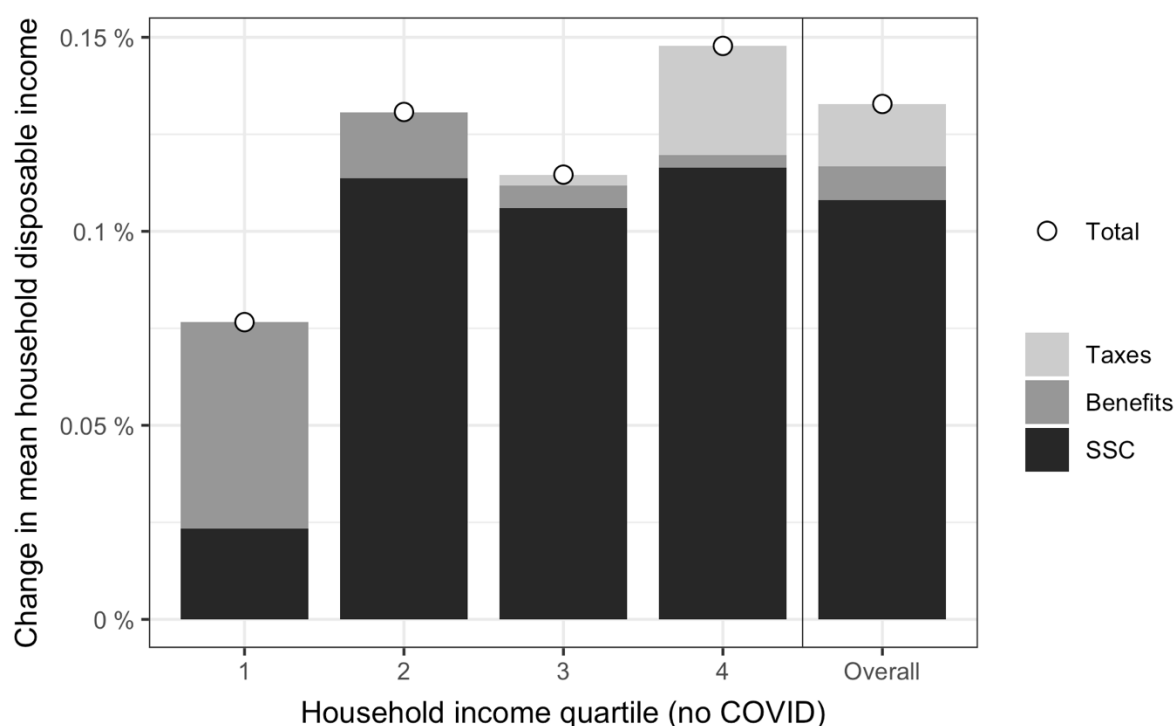
Figure 2 demonstrates that the pandemic had the largest direct impact on the top three income quartiles. This is due to the fact that a relatively larger share of poor households are active in agriculture and construction (see Figure 4), which were barely affected by the crisis. However, individuals in the top quartiles work proportionally more in accommodation and food services, government activities, and transportation and storage, which were severely hit by the pandemic. In addition COVID-related discretionary policies benefitted many individuals belonging to the lowest quartile, as some of the policies were conditional on having an income below a certain

<sup>3</sup> In VNMOD, a per capita equivalence scale is used. Equivalized income thus equals the total household income divided by the number of household members.

threshold. Overall, the simulations show that individuals in the lowest quartile saw their disposable Income slightly increase compared to the baseline (no-COVID or related policies), by about 1.05 per cent on average. Individuals in the other quartiles experienced disposable income losses of between 2 and 3 per cent on average.

As highlighted in Figure 3, automatic stabilizers only cushion a tiny fraction of the adverse shock across the income distribution. Part of the positive but limited stabilization effect, especially in the top quartiles, is due to lower taxes and social contributions paid by formal workers,<sup>4</sup> as those are proportional to earnings. Besides, income losses rendered some individuals, particularly in the lowest quartiles, eligible for means-tested benefits, which further act as automatic stabilizers. Despite these additional benefits the cushioning effect of the stabilizers is small in the bottom quartile. This can be attributed to the fact that a significant portion of the poorest households do not make social contribution payments or pay taxes due to either informal work or low incomes.

Figure 3: Decomposition of automatic stabilizers, Viet Nam, 2020

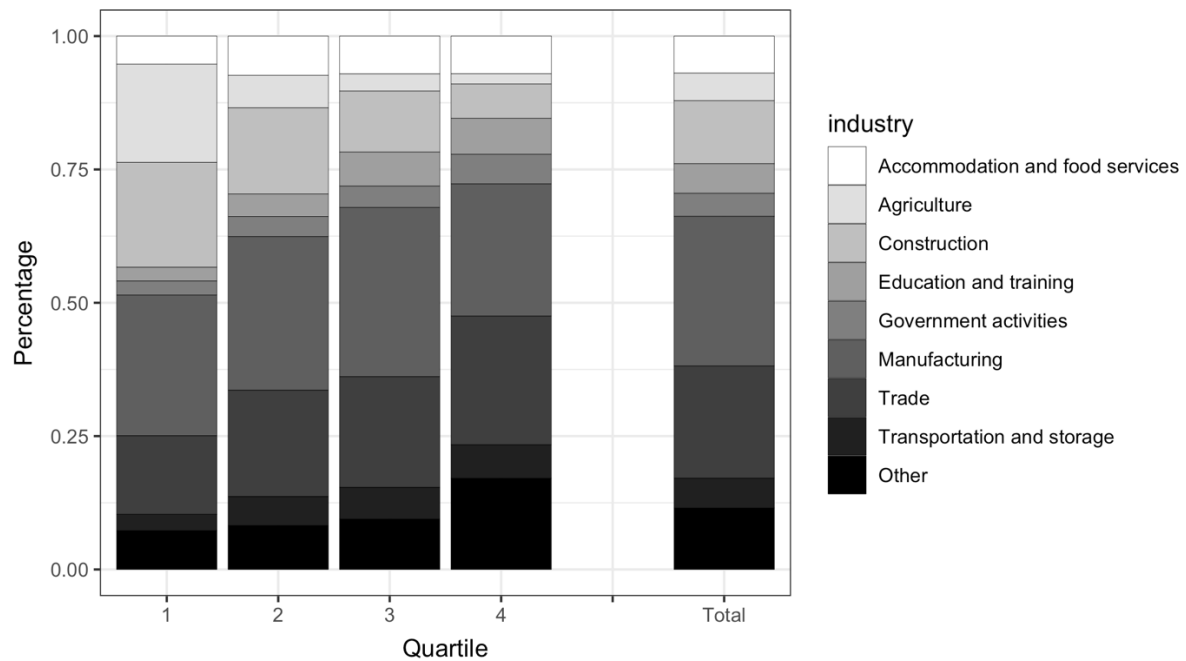


Note: the figure decomposes the automatic stabilization of the tax-benefit system into different sources: (i) savings from reduced tax payments (light grey), (ii) income from additional social benefits (dark grey), and (iii) savings from reduced social insurance contributions (SSC) (light grey). The net impact is presented by the white dots. The effects are shown separately for different income quartiles and across the entire population, with changes derived with respect to disposable household income in the 'no-COVID' scenario.

Source: authors' elaboration using VNMOD, the tax-benefit microsimulation model for Viet Nam and data from the VHLSS 2018 (GSO 2018).

<sup>4</sup> In VNMOD formal workers are defined as workers who do have a formal contract and pay social security contributions, according to their answers provided in the VHLSS. Only formal workers are simulated to pay income taxes and social security contributions in the simulations.

Figure 4: Main sectors of employment by equivalized income quartile, Viet Nam, 2020



Note: an important share of the working population (29%) do not report their main sector of activity in the survey. This may distort the findings of the repartition of workers across sectors and quartiles.

Source: authors' elaboration using data from the VHLSS 2018 (GSO 2018).

Table 1 shows the simulated impact of the COVID-19 pandemic and related policies on poverty and inequality. The findings suggest that the COVID-related policies that were modelled substantially mitigated the impact of the crisis.

Table 1: Impact of COVID-19 and related policies on poverty and inequality, Viet Nam, 2020

	Welfare measure		Change in welfare measure (pp., %)		
	No-COVID scenario	COVID scenario	Total change	Decomposition of total change	
				COVID-related policies	Other (automatic stabilizers and earnings shock)
	(A)	(B)	(C)	(D)	(E)
Poverty rate (%)	9.35	9.80	+0.45*** (+4.77 %)	-0.63*** (-6.72 %)	+1.07*** (+11.49 %)
Poverty gap (%)	4.10	4.32	+0.23*** (+5.56 %)	-0.44*** (-10.62 %)	+0.66*** (+16.18 %)
Gini coefficient (%)	43.28	43.67	+0.39*** (+0.89 %)	-0.25*** (-0.57 %)	+0.63*** (+1.46 %)

Note: the table presents estimates of the impact of the COVID-19 pandemic on measures of poverty and inequality in Viet Nam in 2020. Columns (A) and (B) show the poverty rate, poverty gap, and Gini coefficient in the scenarios in the 'No-COVID' and 'COVID' scenarios. The COVID scenario also accounts for the modelled COVID-related benefit policies. Outcomes are derived using a per capita equivalence scale and the national poverty line. Column (C) shows the overall impact of the crisis as absolute change (B-A) and in percentages (B/A-1). Column (D) displays the independent effect of the discretionary policy changes made during the crisis. Column (E) shows other effects, namely the automatic stabilization of the tax-benefit system and the COVID-induced earnings shock, in percentages. Statistical significance for columns is based on bootstrapped standard errors after 200 replications. Significance levels are indicated as \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

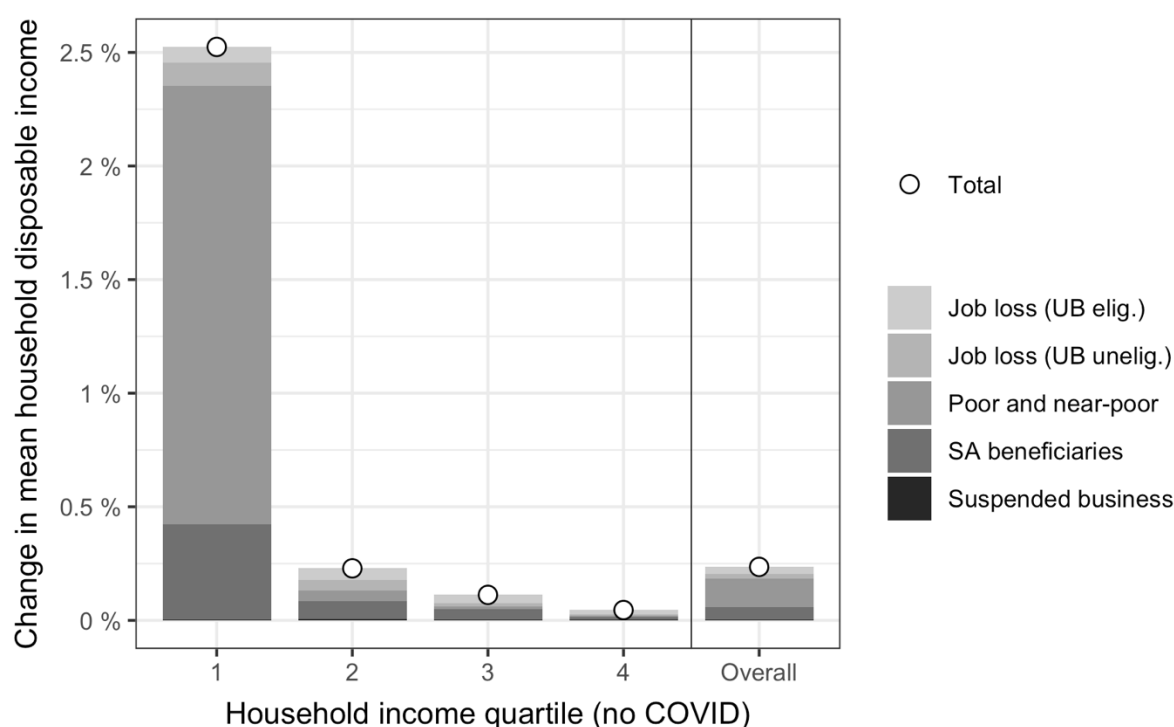
Source: authors' elaboration using VNMOD, the tax-benefit microsimulation model for Viet Nam and data from the VHLSS 2018 (GSO 2018).

The poverty rate increased by 4.77 per cent (0.45 percentage points (pp.)), instead of 11.49 per cent (1.07 pp.) in the scenario without any COVID-related policies. Similarly, the Gini coefficient increased by 0.89 per cent (0.39 pp.), compared to 1.46 per cent (0.63 pp.) without COVID-related policies. The findings are not surprising given that these benefits were predominantly targeted at the lowest quartile, as demonstrated in Figure 2.

Decomposing the effects of COVID-related policies allows us to identify how different measures contributed to supporting households and mitigating increases in the poverty rate (Figure 5). The most significant benefit was distributed to households on the official lists of poor and near-poor households by 31 December. This represented slightly more than 2 million households (about 8 million people) or about 8 per cent of the total number of households.

Although it made up a smaller portion of the overall government aid, assistance provided to social assistance beneficiaries and workers who lost their jobs had a noticeable impact on households, in all quartiles. Lastly, support for household businesses that were temporarily suspended had a minor impact, reaching only around 30,000 households.

Figure 5: Effect of COVID policies by quartile and by category



Note: this figure provides a decomposition of the increases in equivalized per capita disposable household income resulting from COVID-related policies in 2020 into contributions from four distinct measures: (i) assistance to workers who lost their jobs and were eligible for unemployment benefits (UB), (ii) assistance to workers who lost their jobs and were ineligible for unemployment benefits, (iii) support for poor and near-poor households, (iv) support for social assistance (SA) beneficiaries, and (v) support for suspended household businesses. The overall impact of the five policies is presented by the white dots. The effects are shown separately for different income quartiles and across the entire population, with changes derived with respect to disposable household income in the 'no-COVID' scenario.

Source: authors' elaboration using VNMOD, the tax-benefit microsimulation model for Viet Nam and data from the VHLSS 2018 (GSO 2018).

## 5 Discussion and conclusion

Countries around the world faced an exceptional set of economic, social, and health challenges during the COVID-19 pandemic. Enacting effective policy measures was crucial both to address the immediate healthcare crisis and to alleviate the economic difficulties stemming from the pandemic. Viet Nam, by having a developed tourism industry, was particularly exposed to the consequences of travel bans.

Our analysis sheds light on both the economic fallout from the crisis and the efficacy of COVID-19-related policies in addressing its impact on disposable incomes. Our primary contribution lies in illuminating the connection between individual income shocks, disposable incomes, and the subsequent effects on poverty and inequality at a micro level. Furthermore, we analyse the role of tax-benefit policies in mitigating the effects of the COVID-19 shock across the income distribution. We present a comprehensive impact assessment that encompasses a thorough breakdown of the effect of both pre-existing policies and ad hoc measures implemented in reaction to the crisis. Complemented by the work of Wright et al. (2021) on Indonesia, our research fills a notable gap in the literature, offering a deeper understanding of tax-benefit policies amidst the pandemic in developing Asia.

We find that the pandemic led to moderate increases in both income inequality and poverty levels, even when considering the mitigating effects of automatic stabilizers and new policy measures. The impact of automatic stabilizers is found to be particularly restricted, but the discretionary policy measures linked to COVID-19 did have a significant cushioning impact on the lowest income quartile. Those in the bottom quartile did experience limited earnings losses, but they also benefitted from government assistance programmes. The benefits were well-targeted and, in total, surpassed the COVID-related income declines in the bottom quartile.

It is noteworthy that in Viet Nam, beneficiaries of COVID-19-related social assistance support received larger benefits than households in most other countries in the East-Asia and Pacific region. The benefit per beneficiary, when adjusted for GDP per capita, ranked third highest, trailing only Thailand and Mongolia. However, when it comes to overall spending and the number of beneficiaries, Viet Nam ranks towards the lower end of the range (World Bank 2021). This observation underscores Viet Nam's strategic approach of directing its support primarily towards the most economically disadvantaged households. It also aligns with our finding that households in the lowest income quartile were the only ones which, on average, experienced an increase in disposable income.

When we contrast our outcomes with those of Wright et al. (2021), who conducted a similar microsimulation analysis in Indonesia, we note that in both countries disposable income shocks are less pronounced at the lower end of the income distribution. However, in Indonesia, the highest income households appear to also be more resilient to the shock, a phenomenon not observed in Viet Nam. Regarding the type of benefits introduced to cope with the crisis, the main programmes in both Viet Nam and Indonesia relied on lists of poor households and the targeting of social assistance recipients. In Indonesia the BPNT (*Bantuan Pangan Non-Tunai*) food assistance programme and the PKH (*Program Keluarga Harapan*) family assistance programme, which explicitly targeted the poorest families, were expanded both in coverage and level of assistance. In Viet Nam, official lists of poor and near-poor households and social assistance recipients established before the pandemic were used to direct government assistance to the neediest.

Our findings also suggest that agriculture worked as a buffer against earnings shocks for numerous households. While this is good news, it is worth noting that the share of individuals working in agriculture in Viet Nam is decreasing rapidly, and that agricultural revenue also relies on stable climate conditions. The role of this buffer is therefore unreliable and likely to weaken in the future. Moreover, our results demonstrate that in the top income quartiles, with larger social security contributions and tax liabilities, automatic stabilizers played a larger role. As the share of formal workers in the country is likely to continue increasing going forward, the role of automatic stabilizers is also expected to increase.

## References

- Avellaneda, A., R. Chang, D. Collado, H.X. Jara, A. Mideros, L. Montesdeoca, D. Rodriguez, J. Torres, and O. Vanegas (2021). 'Assessing the Cushioning Effect of Tax-benefit Policies in the Andean Region During the COVID-19 Pandemic'. CeMPA Working Paper 8/21. Colchester: Institute for Social and Economic Research, University of Essex. Available at: <https://www.microsimulation.ac.uk/publications/publication-536923/> (accessed September 2021).
- Barnes, H., G. Espi-Sanchis, M. Leibbrandt, M. Leolo, D. McLennan, M. Noble, J. Pirttilä, W. Steyn, B. van Vrede, and G. Wright (2021). 'Analysis of the Distributional Effects of Covid-19 and State-led Remedial Measures in South Africa'. SA-TIED Working Paper 170. Helsinki: UNU-WIDER. <https://doi.org/10.35188/UNU-WIDER/2021/006-1>

- Châu, L., Hiệp, L. (2020). ‘Vietnam Has the First Covid-19 Death, Patient 428’. *Thanh Niên*. Available at: <https://thanhnien.vn/Viet-nam-co-ca-covid-19-dau-tien-tu-vong-la-benh-mhan-428-185979727.htm> (accessed 23 August 2023).
- Gasior, K., H. Barnes, M. Joust, J. Lastunen, D. McLennan, M., Noble, R.C. Oliveira, P. Rattenhuber, and G. Wright (2021). ‘Full-year Adjustment for Modelling COVID-19 Policies in SOUTHMOD Tax-benefit Micro-simulation Model’. Wider Technical Note 18/2021. Helsinki: UNU-WIDER. <https://doi.org/10.35188/UNU-WIDER/WTN/2021-18>
- GSO (2018). ‘Viet Nam Household Living Standards Survey’. Ha Noi: General Statistics Office of Vietnam.
- GSO (2020). ‘Viet Nam Household Living Standards Survey’. Ha Noi: General Statistics Office of Vietnam.
- GSO (2021a). ‘COVID-19 Impacts on Labour and Employment Situation in Quarter IV of 2020’. Ha Noi: General Statistics Office, Viet Nam. Available at: <https://www.gso.gov.vn/en/data-and-statistics/2021/01/covid-19-impacts-on-labour-and-employment-situation-in-quarter-iv-of-2020/> (accessed 24 May 2023).
- GSO (2021b). ‘Data and Statistics’. Data Tables on the Socio-economic Situation in Viet Nam from 2017 to 2020. Ha Noi: General Statistics Office, Viet Nam. Available at: [https://www.gso.gov.vn/en/gso\\_document\\_type/data-and-statistics/](https://www.gso.gov.vn/en/gso_document_type/data-and-statistics/) (accessed 1 May 2023).
- GSO (2021c). ‘Vietnam Tourism 2021: Needs Determination and Efforts to Overcome Difficulties’. Ha Noi: General Statistics Office, Viet Nam. Available at: <https://www.gso.gov.vn/en/data-and-statistics/2021/03/vietnam-tourism-2021-needs-determination-and-effort-to-overcome-difficulties/> (accessed 24 May 2023).
- GSO (2023). ‘Statistical Data, National Accounts and State Budget’. Data Tables on Social Insurance, Health Insurance and Unemployment Insurance. Ha Noi: General Statistics Office, Viet Nam. Available at: <https://www.gso.gov.vn/en/px-web/?pxid=E0321&theme=National%20Accounts%20and%20State%20budget> (accessed 14 August 2023).
- ILO and UN ESCAP (2021). ‘Social Protection Responses to COVID-19 in Asia and the Pacific: The Story So Far and Future Considerations’. International Labour Organization and United Nations – Economic and Social Commission for Asia and the Pacific. Bangkok: United Nations. Available at: [https://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/documents/publication/wcms\\_753550.pdf](https://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/documents/publication/wcms_753550.pdf) (accessed 12 September 2023).
- Jara, H.X., L. Montesdeoca, and I. Tasseva (2022). ‘The Role of Automatic Stabilizers and Emergency Tax–Benefit Policies During the COVID-19 Pandemic: Evidence from Ecuador’. *The European Journal of Development Research*, 34: 2787–809. <https://doi.org/10.1057/s41287-021-00490-1>
- Lastunen, J. (2021). ‘Deriving Shocks to Household Consumption Expenditures from the Associated Income Shocks Resulting from COVID-19’. WIDER Technical Note 16/2021. Helsinki: UNU-WIDER. <https://doi.org/10.35188/UNU-WIDER/WTN/2021-16>
- Lastunen, J., A. Shahir, P. Rattenhuber, K. Adu-Ababio, and R.C. Oliveira (2023). ‘Performance of Tax-benefit Systems Amid COVID-19 Crises in Sub-Saharan Africa: A Comparative Perspective’. WIDER Working Paper, forthcoming. Helsinki: UNU-WIDER.
- McLennan, D. (2021). ‘Iterative Proportional Fitting for Re-weighting Input Data in SOUTHMOD Microsimulation Models’. WIDER Technical Note 17/2021. Helsinki: UNU-WIDER. <https://doi.org/10.35188/UNU-WIDER/WTN/2021-17>
- Ministry of Labour, War Invalids and Social Affairs (2020). ‘Implementation of Policies on Assistance for People Affected by COVID-19 Pandemic’. Ha Noi: Ministry of Labour, War Invalids and Social Affairs (MOLISA), Viet Nam. Available at: <http://english.molisa.gov.vn/Pages/Document/Detail.aspx?Id=39403> (accessed 24 May 2023).



- Nguyen, D.A., A.M. Le, and M.B. Tran (2023). 'SOUTHMOD Country Report Viet Nam – VNMOD v3.3, 2013–22'. UNU-WIDER SOUTHMOD Country Report Series. Helsinki: UNU-WIDER. Available at: <https://www.wider.unu.edu/publication/southmod-country-report-viet-nam-vnmod-v33> (accessed 24 May 2023).
- Oliveira, R., J. Lastunen, E. Nichelatti, and P. Rattenhuber (2021). 'Imputation Methods for Adjusting SOUTHMOD Input Data to Income Losses due to the COVID-19 Crisis'. WIDER Technical Note 19/2021. Helsinki: UNU-WIDER. <https://doi.org/10.35188/UNU-WIDER/WTN/2021-19>
- United Nations (2020). 'Looking Back to Look Ahead: A Rights-based Approach to Social Protection in the Post-COVID-19 Economic Recovery'. Report of the United Nations Special Rapporteur on Extreme Poverty and Human Rights, 11 September. Available at: <https://www.ohchr.org/sites/default/files/Documents/Issues/Poverty/covid19.pdf> (accessed 23 August 2023).
- World Bank (2021). The Labor Market and the COVID-19 Outbreak in Vietnam: Impacts and Lessons Learned for Social Protection. Washington, DC: World Bank.
- Wright, G., M. Noble, H. Barnes, A. Moechtar, D. McLennan, A.A. Yusuf, K. Gasior, and R. Muyanto (2021). 'Estimating the Distributional Impacts of the COVID-19 Pandemic and Remedial Tax and Benefit Policies on Poverty in Indonesia'. CeMPA Working Paper 02/21. Colchester: Institute for Social and Economic Research, University of Essex.