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Tax–benefit responses in Uruguay during the COVID-19 pandemic

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Abstract: We analyse the social protection policy response to COVID-19 and its impact on household incomes in Uruguay during 2020 and 2021, based on static microsimulation methods. From the onset of the crisis, the Uruguayan government implemented adjustments to existing social protection policies as well as a new transfer and an emergency tax. The configuration of pre-crisis social protection facilitated the setting-up of rapid support for the vulnerable and for formal workers. The responses adopted by the Uruguayan government were an increase in the amount of existing cash transfers, the introduction of a new cash transfer programme to reach informal workers, and simplification of the requirements for unemployment insurance benefit. On the tax side, a temporary income tax (COVID-19 Emergency Tax) for public workers (excluding health workers) and pensioners receiving an income above a certain threshold was implemented during two months in 2020 and two months in 2021. Our results indicate that the modifications in the social protection system introduced in the face of COVID-19 allowed a reduction in the incidence of poverty by 1.3 and 1.6 percentage points in 2020 and 2021, respectively. The effects were bigger among households with children: if no modifications had been undertaken in social protection as a response to COVID-19, poverty would have been 1.8 or 2.4 percentage points higher for these households in 2020 and 2021, respectively. The most important instruments were unemployment insurance in 2020 and the conditional cash transfer directed at households with children in 2021. Taken together, these modifications to the social protection system prevented the Gini Index from increasing by 0.6/0.7 additional percentage points.

Key words: COVID-19, taxes, benefits, poverty, inequality, Uruguay

JEL classification: D31, E24, H24

Note: This study has received ethical approval by the Joint Ethical Review Board of the United Nations University (Ref No: 202104/01) on 11 May 2021.

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1 Introduction

The economic crisis generated by COVID-19 led to exponential growth in social protection measures around the world as governments resorted to a great extent to social assistance and social insurance measures. In Latin America, public policy responses relied mainly on social assistance tools, although some countries were also able to provide relevant responses using contributory mechanisms oriented towards formal workers (ECLAC 2022). Uruguay is among the countries that were able to respond through both social assistance and social insurance measures, thanks to the greater development of its social protection system compared with other countries in the region (Cruz-Martínez 2021; Garay 2016; Ocampo and Gómez-Arteaga 2017).

The extent and effect of these responses have not yet been analysed in depth, since no suitable information has been available until very recently. This research provides original evidence about the impacts of the measures undertaken by the Uruguayan government during the COVID-19 crisis, using representative household survey data from the National Household Survey of Uruguay (ECH), collected by the Instituto Nacional de Estadística (INE), for the years 2019, 2020, and 2021. Specifically, using a static microsimulation approach, we analyse the role of benefit and tax policies in mitigating the effects of the COVID-19 crisis on household disposable income in Uruguay, considering the distributional and poverty dimensions. The main policy measures adopted by the Uruguayan government were an increase in the amount of existing cash transfers, the introduction of a new cash transfer programme to reach informal workers, and the simplification of the requirements for unemployment insurance benefit. On the tax side, the government implemented a temporary income tax (COVID-19 Emergency Tax) for public workers (excluding health workers) and pensioners receiving an income above a certain threshold. This tax was levied during two months in 2020 and two months in 2021.

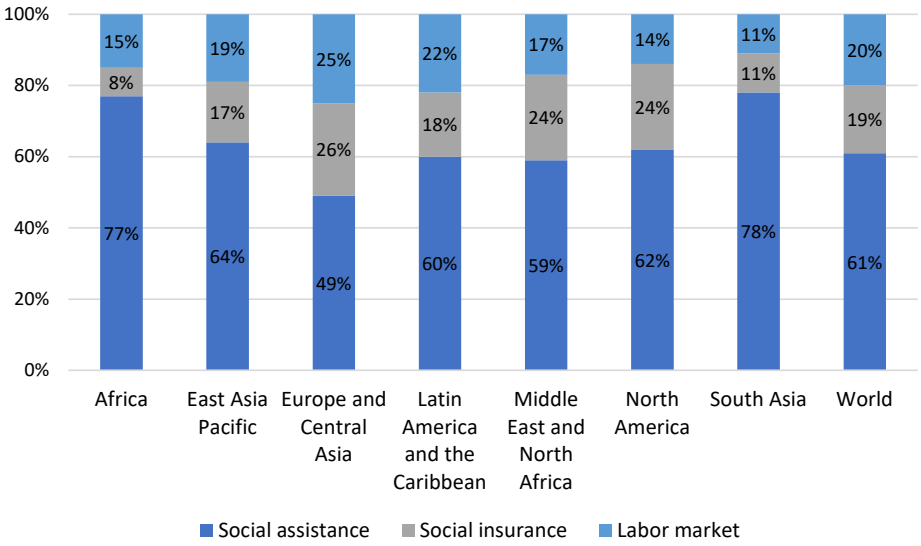
The new fiscal measures introduced in the face of COVID-19 were not enough to prevent poverty and extreme poverty from increasing, but they attenuated the increases. Our results indicate that these measures, taken together, prevented a further increase in poverty of around 1.3 and 1.6 percentage points (pp) in 2020 and 2021, respectively, with a greater effect on households with children. The main instruments were the COVID unemployment insurance and Asignaciones Familiares (AFAM) in 2020, and AFAM in 2021. Food baskets had negligible effects on poverty or extreme poverty. In terms of the equalizing effects of these new social protection measures, they prevented an additional increase in the Gini coefficient of more than half a percentage point. Our evidence on the effectiveness of public interventions implemented in the face of the COVID-19 crisis contributes to the discussion about the potentialities of the current social protection system to cope with unexpected shocks, as well as the question of how to facilitate more effective responses.

The paper is organized as follows: we first provide a brief review of the main public policies introduced in Latin America to manage the COVID-19 crisis (Section 2) and then discuss in depth the benefit and tax responses introduced by Uruguay (Section 3). The methodological aspects, including data and methods, are presented in Section 4, while our main results are discussed in Section 5. The paper closes with some final remarks (Section 6).

2 Public policies and COVID-19: what happened in Latin America?

All countries implemented or strengthened different types of measures to support households during the crisis. The profile of this expansion differed by region, depending on the starting point and the degree of consolidation of social protection systems. According to the systematization of emergency measures in the face of COVID-19 presented in Gentilini et al. (2022), social assistance represents the most prevalent form of support across regions and country income groups, accounting for an average of 61 per cent of all measures. The other forms of support were supply-side labour market programmes (20 per cent) and social insurance (19 per cent) (Figure 1). Even in high-income settings such as European countries, social assistance represents half of enacted measures, although measures linked to the labour market (including wage subsidies, adjustments to labour regulations, training, and reduction of working hours) are also important in this context. In Latin America and the Caribbean, 60 per cent of measures consisted of social assistance interventions, mainly built upon the existing extended network of cash transfers. Generalizations about the size of responses in terms of household protection and government orientations are not straightforward: Brazil's right-wing government implemented very generous cash transfers, whereas the leftist government in Mexico did not expand social assistance at all (Lustig et al. 2020).

Figure 1: Social protection and labour measures by component and region



Source: authors' construction based on Gentilini et al. (2022).

The prevalence of social assistance measures in Latin America and the Caribbean is consistent with the high levels of informality in the labour market and the main features of social protection systems in the region (ECLAC 2022). Despite being a region with incomplete and weak welfare states, Latin American was able to implement relatively quick responses to the coronavirus crisis.[1] The effectiveness of these measures, however, depended on the amount of the transfers and their coverage. According to ECLAC (2022), in March–December 2021, the average monthly amount of transfers exceeded the poverty line only in Chile and only 4 of the 16 Latin American countries (Brazil, Chile, Dominican Republic, and Panama) provided monetary transfers of an average monthly amount higher than the extreme poverty line. The comparison of the average amount of

[1] More than half of the total number of measures announced between 1 March 2020 and 21 January 2021 were introduced between 1 March and 1 April 2020 (Robles and Rossel 2021).

cash transfers by region provided by Gentilini et al. (2022) indicates that the average transfer in Europe was almost three times that in Latin America (see Figure A1 in the Appendix).

A fast-growing literature has analysed the economic and distributional impacts of COVID-19 around the world. Most of these studies assess the impacts of COVID-19 measures on the basis of pre-COVID data and secondary information (such as sectors shut down by law, macroeconomic statistics, or information about unemployment benefits) to predict income losses.[2] Avellandeda et al. (2021) considered the situations of Colombia, Ecuador, and Peru, based on tax–benefit microsimulation and nowcasting techniques.[3] They decomposed changes in household disposable income into the effects of: (i) earnings losses due to COVID-19, (ii) pre-crisis tax–benefit policies (identified by the authors as automatic stabilizers), and (iii) COVID-related tax–benefit measures implemented by the governments. They document the dramatic fall in household disposable income during 2020 compared with December 2019: by the end of 2020, disposable income was 12 per cent lower in Colombia, 18 per cent lower in Ecuador, and 22 per cent lower in Peru. The decline presents a U-shaped pattern across the distribution, with larger shocks in the middle of the distribution. The policies implemented to mitigate COVID effects have a greater impact at the bottom of the distribution, whereas automatic stabilizers (reductions in social insurance contributions and income tax payments) cushion the income shock at the top of the distribution. In a detailed analysis of the case of Ecuador, Jara et al. (2021) emphasized that the new Family Protection Grant provides income protection for the poorest income decile, but in general terms, overall tax–benefit policies do little to mitigate the losses in household incomes due to the pandemic. In particular, informal workers are mainly left unprotected.

Huesca et al. (2021) calculate, for Mexico, the effects of employment and earnings losses on income poverty and inequality between December 2019 and May 2020. Basing their estimations on the Mexican income and expenditure survey (Encuesta Nacional de Ingresos y Gastos de los Hogares, ENIGH) for 2018, they identify individuals at risk of employment loss using a probit model that matches changes in employment and earnings per industry according to the National Occupation and Employment Surveys of December 2019 and May 2020. They document that the largest impacts were on the informal sector, and that the effect of tax–benefit mitigation policies was limited. A microcredit programme for small formal businesses (Crédito a la Palabra) seems to have alleviated the impact of the pandemic on per capita incomes at the bottom of the distribution, whereas the decline in incomes was not evenly distributed, with a greater impact in the middle and top deciles.

A simulation of the short- and long-term distributional effects of COVID-19 in Argentina, Brazil, Colombia, and Mexico was undertaken by Lustig et al. (2020). The short-term effects are derived from a simulation of potential income losses at the household level, using microdata from household surveys and information on the sectoral effects of lockdowns, and from high-frequency surveys on households' reported income losses. Their results indicate that households across the entire income distribution are worse off on average after the pandemic shock, and the losses tend to be higher for the middle deciles than for the poorest. The offsetting effect of social assistance is significant in Argentina and Colombia, and nil in Mexico, where there has been no such expansion.

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[2] In some cases, even if household surveys for 2020 were available, they were considered of limited usefulness due to insufficient or poor quality data.

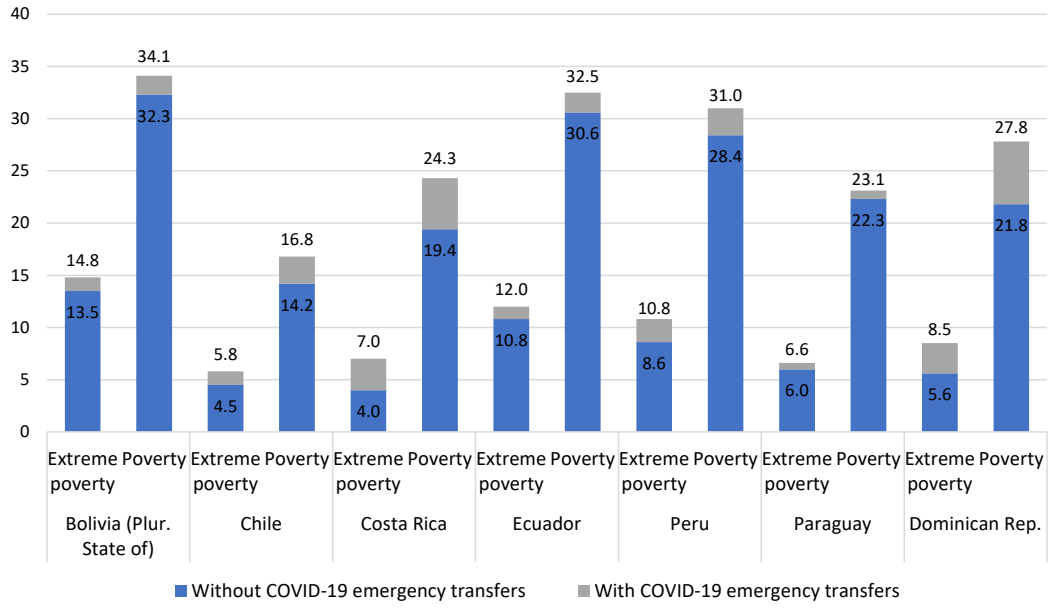
[3] Examples of this kind of research for other regions are Figari and Fiorio (2020) for Italy, Brewer and Tasseva (2021) and Crossley et al. (2021) for the United Kingdom, O'Donoghue et al. (2020) for Ireland, and Cantó-Sánchez et al. (2021) and Almeida et al. (2021) for selected EU countries.

Using a microsimulation model for Colombia, Corredor et al. (2021) analyse two scenarios of job losses under the COVID-19 crisis and simulate public policy responses. They find that the most affected population is at the bottom of the income distribution, with a considerable worsening of poverty and inequality, which is mitigated but not offset by government actions. Cuesta and Pico (2020) also analyse the case of Colombia based on ex-ante microsimulations, finding that COVID-19 has increased the poverty headcount significantly (between 3 and 9 pp increases) and that the overall impact of the compensation package is around 2 pp. The impacts on poverty are similar for men and women.

The only existing study of the case of Uruguay nowcasts poverty and inequality based on household data before the COVID-19 pandemic (Brum and De Rosa 2021), anticipating the potential impacts of the measures implemented. The authors estimate the poverty rate during the COVID-19 crisis, focusing on the second trimester of 2020 and based on the 2019 Uruguayan household survey. The analysis is based on the microsimulation of: (i) the income reduction for formal-sector workers, based on data on layoffs and unemployment benefits, combined with estimations of the feasibility of workers working from home or in proximity with others; (ii) the effect of COVID-triggered additional cash transfers; (iii) the reduction of informal and self-employed workers' income and employment based on estimations of the aggregate GDP shock, under different scenarios of contraction in economic activity. Their results show a rapid increase in poverty rates, which climb from 9 to 11.8 per cent in their central scenario, and positive but modest ameliorating effects of government policies announced during the second quarter of 2020. The authors argue that a greater reduction in poverty rates could have been achieved at low cost (around 0.5 per cent of GDP).

The analysis presented in ECLAC (2022) considers the effect of emergency transfers on poverty for seven Latin American countries, whose surveys included questions on income received from the cash transfer programmes implemented in 2020, and finds that poverty and extreme poverty would have been considerably higher without the COVID transfers (Figure 2). The effect on poverty goes from almost 1 pp (in Paraguay) to 6 pp (in Dominican Republic).

Figure 2: Incidence of extreme poverty and poverty, with and without COVID-19 emergency transfers, in Latin America, 2020 (percentages)



Source: authors' construction based on ECLAC (2022).

In sum, close to real-time assessment of the impact of the crisis on poverty shows relevant impacts mainly in terms of poverty increases, with differing responses in terms of the mitigation policies and their effects.

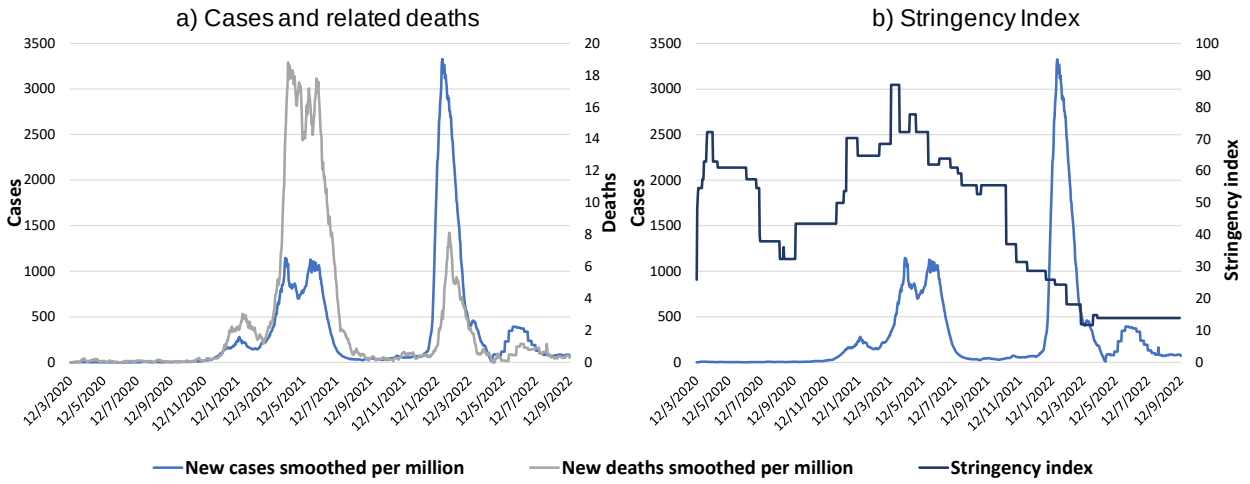
3 COVID-19 crisis in Uruguay and benefit and tax responses

3.1 Economic consequences of COVID-19 in Uruguay

The Uruguayan government did not implement complete lockdown measures, but there were strong recommendations to stay at home, and economic activity was significantly affected. In this context, the impact of the pandemic on poverty and income distribution is not direct but mediated by other factors, such as the direct effect of the restrictions on employment (and especially how this effect is distributed across occupations) and the magnitude and distribution of the policies implemented in response to the economic crisis.

Uruguay faced two peaks of infection, one around the end of March 2021 and the other, with a higher magnitude of infection, at the beginning of 2022 (Figure 3a). The incidence of mortality is concentrated in the first wave of infection; by the time of the second wave, mass vaccination had already been implemented in Uruguay. The Stringency Index elaborated by the Oxford Coronavirus Government Response Tracker, presented in Figure 3b, is a composite measure of nine of the response metrics[4] and reflects the constraints on economic activity that Uruguay faced. These constraints were clearly concentrated in the second quarter of 2020 and the second and third quarters of 2021.

Figure 3: COVID-19 confirmed cases and related deaths, and Stringency Index



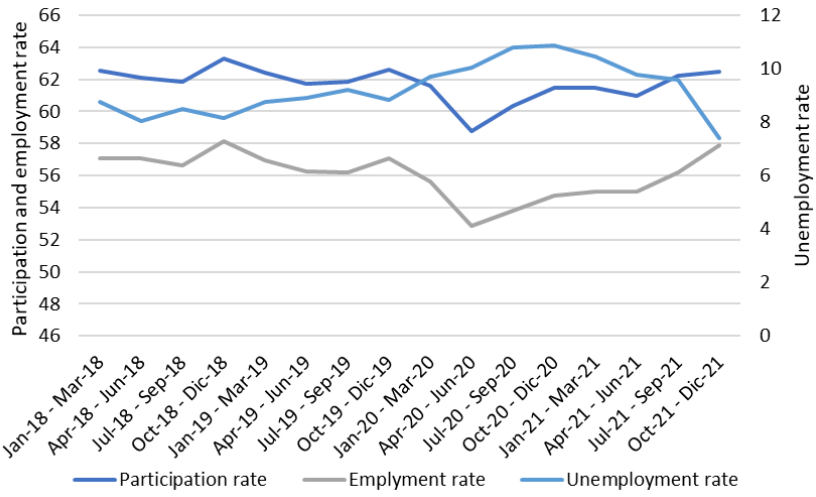
Source: authors' construction based on Our World in Data.

These events implied a deterioration of the labour market. Participation and employment rates decreased, whereas the unemployment rate climbed to 11 per cent in 2020 (Figure 4). The withdrawal of the labour force from the labour market in the face of the prevailing adverse

[4] The nine metrics used to calculate the Stringency Index are: school closures; workplace closures; cancellation of public events; restrictions on public gatherings; closures of public transport; stay-at-home requirements; public information campaigns; restrictions on internal movements; and international travel controls. The index on any given day is calculated as the mean score of the nine metrics, each taking a value between 0 and 100.

conditions explains why the increase in the unemployment rate was not higher still. It is also important to note that workers who report in the household survey that they have a job to which they will return within the next three months are classified as 'absent employed', i.e. they are not among the unemployed (Amarante et al. 2021). This is explained by the fact that the Uruguayan social protection system has long included subsidies for temporary reductions in economic activity for firms that face adverse demand shocks. These subsidies are considered part of the unemployment insurance programme. As discussed in the following section, during the health crisis, the relaxation of unemployment insurance allowed a considerable number of workers to enter the programme. In fact, the percentage of absent workers, which traditionally oscillates around 5 per cent in the second quarter of the year (it is highly seasonal), rose to 17 per cent in the second quarter of 2020, reaching a peak of 24 per cent in the month of April. This also helps to explain why the significant fall in GDP was not accompanied by an explosion in unemployment.

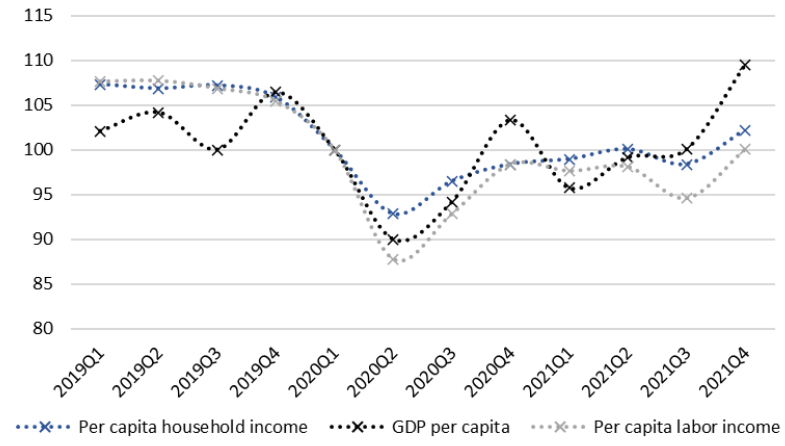
Figure 4: Participation, employment, and unemployment during COVID-19 crisis



Source: authors' construction based on household surveys.

As a consequence of these constraints and in parallel with labour market performance, per capita GDP declined strongly in the second quarter of 2020, presenting from then on a recovery with oscillations (Figure 5), also associated with mobility and activity constraints.

Figure 5: Evolution of GDP and household income (per capita). Index 100=2020Q1



Source: authors' construction based on ECH and Banco Central del Uruguay data.

The evolution of per capita household income was smoother in the second and third quarters of 2020. By the end of the second quarter of 2020, GDP per capita was 10 per cent lower than in the first quarter, whereas per capita household income was 7.2 per cent lower and labour income, in turn, was 12.2 per cent lower. The fact that the decline in household income was lower than that in GDP or labour income suggests that public policies played a role in protecting household incomes. During 2021, household income recovered and by the last quarter it was 2.2 per cent higher than in the first quarter of 2020. But the recovery of GDP per capita was much more vigorous: by the end of 2021, it was 9.5 per cent higher than in the first quarter of 2020. Labour income was at the same level as in the quarter before the pandemic. These figures clearly indicate that economic recovery did not reach labour income and household income to the same extent as GDP. A more detailed analysis of changes in household income along the income distribution is presented in Section 5.

These results would have been worse if social protection measures had not been implemented. On the benefit side, the main measures consisted of the deployment of cash transfer measures, as well as intensive use of the unemployment insurance programme. On the tax side, a temporary income tax (COVID 19 Emergency Tax) for public workers (excluding health workers) and pensioners receiving an income above a certain threshold was introduced. This tax was levied during two months in 2020 and two months in 2021. The following sections discuss the extent of these measures, as well as the main policy responses to the COVID-19 crisis in Uruguay.

From the onset of the crisis, the Uruguayan government implemented social protection adjustments and new measures, all of them conceived as temporary measures. As discussed in Bastagli and Lowe (2021), the configuration of pre-crisis social protection ensured rapid support for existing programme participants. But, although the information system associated with existing policies allowed the vulnerable population to be identified, the authorities chose to establish a new programme not based on the same administrative records.

3.2 Benefits and transfers in normal times

The two main cash transfers in Uruguay, which existed pre-COVID, are the Tarjeta Uruguay Social (TUS) and Asignaciones Familiares Plan de Equidad (AFAM-PE), and these programmes were used by the government to implement quick responses to the COVID-19 crisis, as discussed below.

TUS was introduced in 2008 and is administered by the Ministerio de Desarrollo Social. It consists of an unconditional monthly cash transfer, granted through a prepaid card, aimed at households of extreme economic vulnerability. The card can be used in a network of affiliated stores to purchase food and cleaning and hygiene products (exempt from value added tax when purchased with the card). Until 2013, participating businesses had to be micro, small, or medium-sized companies (SMEs). This requirement was then removed, and larger stores began to be included in the shopping network. After this expansion in the network, however, purchases could no longer be traced. As a rule, the card is issued to women in the household. The monthly transfer amounts range from around US$30 for a household with no children or one child and up to US$81 for a household with four or more children, while the supplement per pregnant woman or child under four years of age amounts to US$7. Since 2011, households in the worst economic situation have received double the standard transfer. In 2020, about half of eligible households received the doubled amount.

AFAM-PE consists of a cash transfer focused on poor households with pregnant women or children under 18 years old, conditional on certain educational and health requirements (around 40 per cent of children under 18 are beneficiaries). The programme is administered by the Banco

de Previsión Social. The amount of the transfer depends on the number of children in the household, based on an equivalence scale, and in order to generate positive incentives for education, higher transfer amounts are granted according to the beneficiaries' progress in the educational system. The basic amount of the transfer is around US$53, and the supplement for secondary education attendance is around US$23.

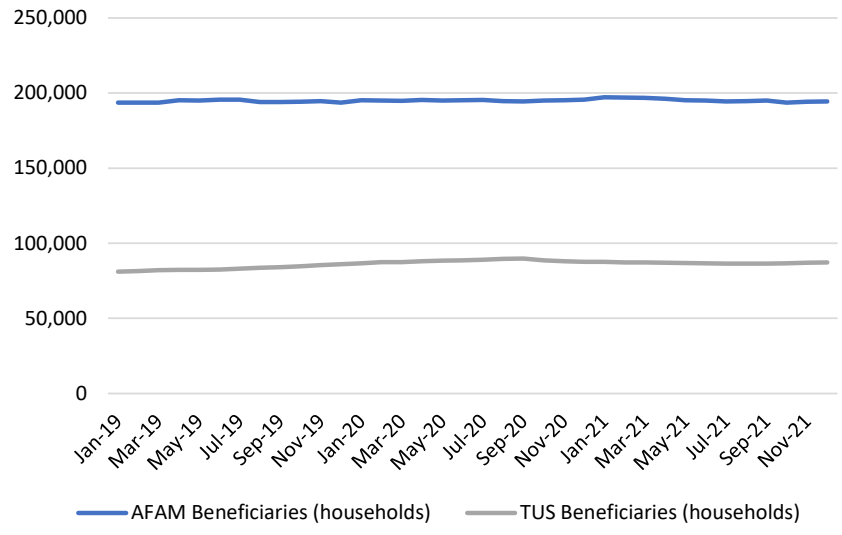
The targeting strategy for TUS and AFAM-PE requires applicant households to meet two conditions. First, a household must have a per capita income below a certain threshold, which is set at different levels for each programme and is periodically verified against the social security records (all formal incomes included).[5] Beneficiary households must also have a predicted poverty score above a certain threshold (set at different levels for TUS, double TUS, and AFAM-PE). Most households receiving TUS are also beneficiaries of AFAM-PE (94 per cent). The exception are the few poorer households in the lowest 10 per cent of the distribution with no child in the household.

The other social protection programme that played a relevant role during COVID-19 was unemployment insurance. This programme had different schemes in operation in Uruguay before COVID-19: typically a simple layoff scheme, but also modalities of suspension and reduction. The suspension modality acts like a work-sharing or shared-work programme, constituting a subsidy for temporary reductions in the number of hours worked in firms that face adverse demand shocks, the objective being to avoid laying workers off.

3.3 Benefits and transfers during COVID-19

Contrary to what happened in other countries in the region, the number of beneficiaries of the two main cash transfers, AFAM-PE and TUS, did not increase during the coronavirus crisis: the government decided to scale up their benefits without increasing the coverage of the programmes (Figure 6).

Figure 6: Coverage of cash transfers AFAM-PE and TUS during COVID-19



Source: authors' construction based on Banco de Previsión Social (AFAM) and Ministerio de Desarrollo Social (TUS) data.

[5] During the pandemic, educational and health conditionalities were not controlled. In January 2022, the income ceiling controls for AFAM's beneficiaries were eliminated, both for ongoing payments and for new applications.

Starting in April 2020, the government increased the amount of the cash transfers received by vulnerable households. The original rule was that if the household received both TUS and AFAM-PE, the stipulated relative increase was applied to the TUS transfer amount, whereas if it received only AFAM-PE, the relative increase was applied to the AFAM-PE transfer. The increases were set at 50 per cent of the corresponding transfer amount from April to December 2020, with the exception of October. Given the amounts involved in each transfer, this design implied relevant horizontal inequalities, as poorer households received a duplication of TUS (which involved a smaller amount than a duplication of AFAM-PE). This was corrected during 2021, when all households that were receiving both AFAM-PE and TUS received an increase of 50 per cent of the amount of the AFAM-PE transfer from January to May; and from June to August they received double the (standard) transfer amount. Finally, increases of 70 per cent and 50 per cent in the amount of the transfer were given in September and October, respectively. In addition, the government established that prenatal AFAM-PE beneficiaries and those up to and including 3 years of age would receive an increase (an addition of US$60) in their benefit from September to December 2021.[6]

The other measure related to cash transfers was the introduction of a new programme called Canasta de Emergencia, which could be used in supermarkets and other food stores. The amount of Canasta de Emergencia was around of US$30. This transfer was targeted at informal workers not covered by TUS or AFAM-PE or any contributory public programme. At the beginning of its deployment, the programme involved the delivery of emergency food baskets,[7] but in May 2022 it was changed to a cash transfer modality. In terms of amounts, the food basket represents a maximum of one-third of the other transfer.

The benefit could be requested via telephone, a code being sent by SMS to be redeemed. The code was unipersonal and non-transferable, being associated with an identity card and a cell phone. The creation of new non-contributary programmes was an extended measure in the region. As indicated by data from the COVID-19 Observatory in Latin America and the Caribbean prepared by ECLAC, the bulk of the non-contributory measures announced in the region (262 interventions, representing 71 per cent of all measures) consisted of the creation of a new programme or measure.

It is important to note that, given the design of the transfer, any person not registered as a formal worker (or a beneficiary of social security, TUS, or AFAM-PE) could receive Canasta de Emergencia. Someone living in a household covered by AFAM-PE or TUS could also receive the transfer if they were not the benefit holder. In fact, according to the household survey, of all households receiving at least one Canasta de Emergencia, 40 per cent in 2020 and 32 per cent in 2021 also received TUS or AFAM-PE (see Table A1 in the Appendix). Unfortunately, administrative data related to this programme, which would have allowed us to understand the profile of beneficiaries and the overlapping of policies, are not available, so we can only explore these aspects through household surveys.

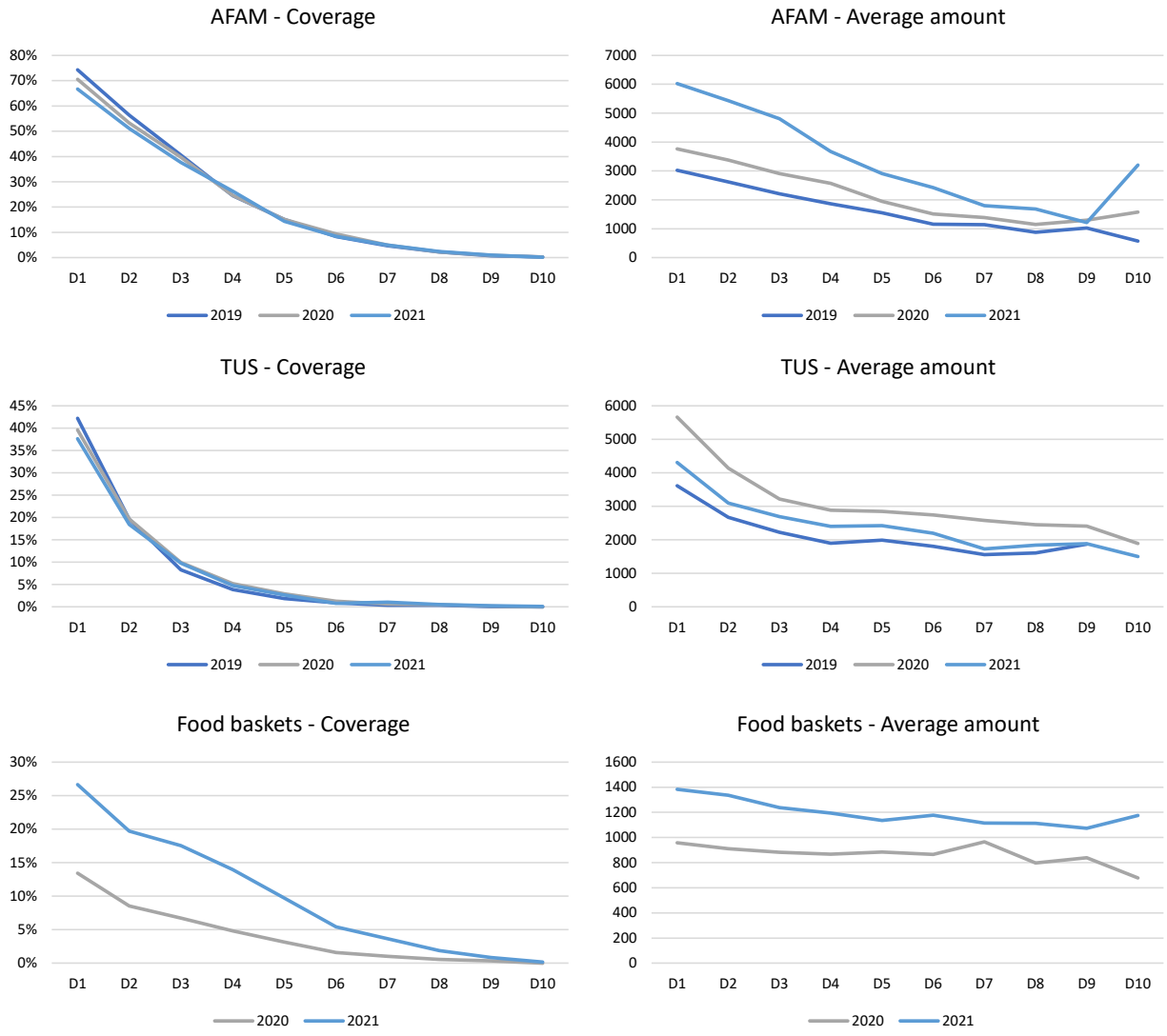
Both AFAM-PE and TUS beneficiaries are concentrated in the lower income deciles (Figure 7 and Figure A2 in the Appendix) and both transfers present good targeting performance. Around 70

[6] This supplement can be considered a pilot for the implementation of Bono Crianza, which started in January 2022. The final implementation of Bono Crianza was set as a monthly cash transfer aimed at households of extreme socio-economic vulnerability with pregnant women and/or children from 0 to 3 years of age. It covers around 30,000 households, not 70,000 as in the pilot phase. It is paid through TUS and consists of around 2,000 Uruguayan pesos ($U), equivalent to US$50, per child.

[7] Although some specific in-kind food baskets existed before the pandemic, these programmes were very limited.

per cent of households in the first decile receive AFAM-PE, whereas around 40 per cent receive TUS. The available information also indicates that the increase in the coverage of food baskets was in the lower part of the distribution, although leakages are also detected (Figure 7). Whereas in 2019 only 0.2 per cent of households received a food basket, the coverage increased to 3.1 per cent in 2020 and 6.5 per cent in 2021. In terms of the amounts of the transfers, TUS was on average higher in 2020 than AFAM-PE, but that reversed in 2021, when transfers on existing programmes were channelled through AFAM-PE (and not through either AFAM-PE or TUS, as during 2020) and were reinforced by the pilot programme for Bono Crianza during the last months of 2020.

Figure 7: Cash transfers: coverage (%) and amounts ($U), 2020 and 2021



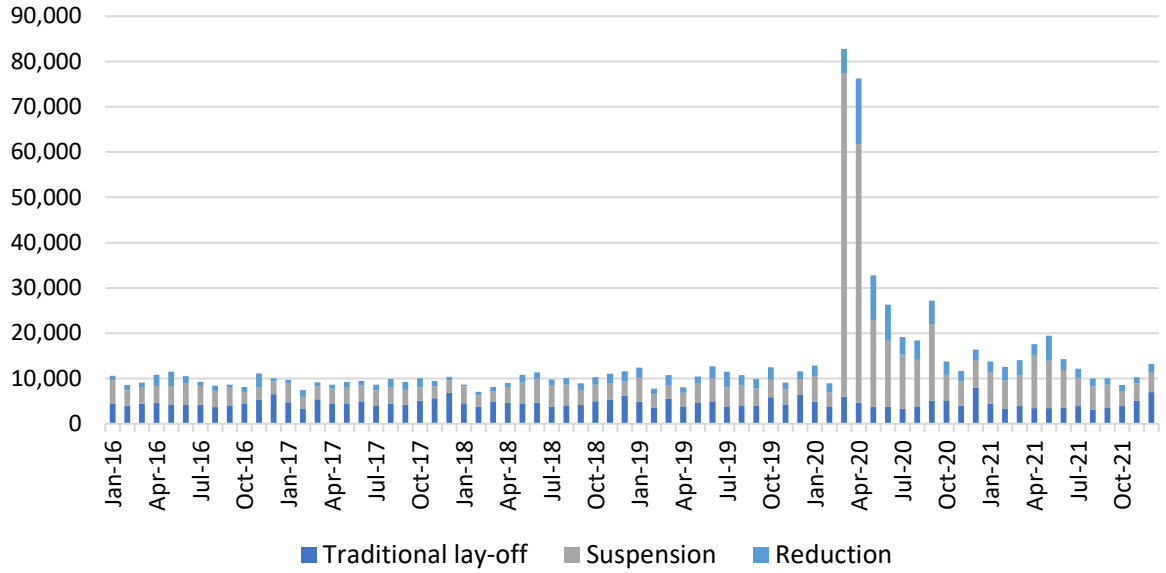
Source: authors' construction based on Uruguayan household surveys (ECH).

With regard to unemployment insurance, this was an effective tool for containing the effects of the COVID-19 crisis in Uruguay (Amarante et al. 2021; Marinakis 2020). Regulatory modifications were implemented to facilitate access to the programme (less demanding requirements) and, in April 2020, the number of entrants to the programme was eight times higher than during the previous two months (Figure 8). The profile of beneficiaries also changed significantly, the programme reaching more women, workers outside the capital city, and workers with dependants (Amarante et al. 2021). After May 2020, the number of entrants began to decline, but for the rest

of that year it remained at higher levels than in 2019. Most of the admissions to unemployment insurance after the COVID-19 crisis occurred in the modality of suspension. As previously discussed, this modality acts like a subsidy for temporary reductions in the number of hours worked in firms that face adverse demand shocks, with the aim of avoiding layoffs. In 2021, the relative importance of the different causes changed, that of reduction gaining in importance.

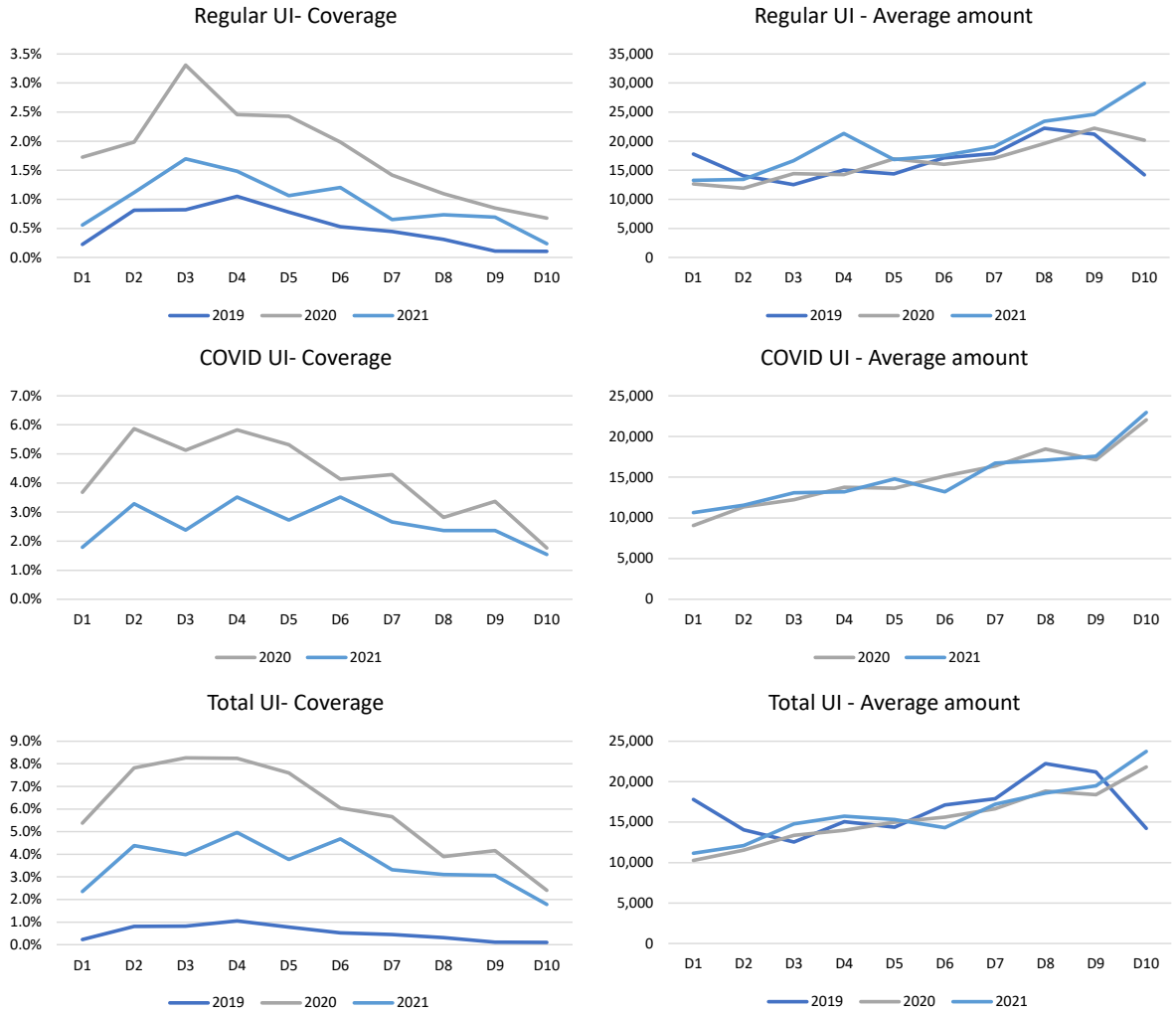
Not only did the percentage of households benefiting from the unemployment insurance programme increase significantly in 2020 and 2021 compared with 2019, but they also changed their profile. During COVID, unemployment insurance had a higher incidence in the lower deciles and consistently provided lower average benefits than those of the regular unemployment insurance (Figure 9 and Table A2). The flexibilization of the programme seems to have facilitated the incorporation of more vulnerable individuals within the pool of formal workers. In any case, beneficiaries of unemployment insurance were much more spread along the income distribution than beneficiaries of cash transfers (Figure A2), which, together with the differential amounts corresponding to the programmes, affected the capacity of each intervention to mitigate the adverse consequences of COVID-19.

Figure 8: New entrants to the unemployment insurance programme



Source: authors' construction based on *Anuario Estadístico*, Banco de Previsión Social.

Figure 9: Unemployment insurance coverage (%) and amounts ($U), 2020 and 2021



Source: authors' construction based on based on Uruguayan household surveys (ECH).

3.4 Fiscal resources

In terms of resources, the flexibilization of unemployment insurance accounted for 33 per cent of the total amount that the government assigned to fight COVID-19 during 2020, whereas cash transfers represented 18 per cent of this fund during the same year (10 per cent corresponding to Canasta de Emergencia, 4 per cent to income supplements via TUS, and 4 per cent to income supplements via AFAM-PE; see Table A3).[8] It is important to note that, whereas cash transfer programmes (especially TUS and to a lesser extent AFAM-PE) are targeted at vulnerable households, the unemployment insurance programme covers private formal workers, who in general terms do not belong to the lower deciles. With regard to the food baskets, no studies have analysed the profile of the beneficiaries and the potential distributional impacts.

On the tax side, a temporary income tax (COVID-19 Emergency Tax) for public workers (excluding health workers) and pensioners receiving an income above a certain threshold was introduced. This tax was levied during two months in 2020 and two months in 2021. For those

[8] These resources were gathered under the Solidarity Fund COVID-19 and information about their use is taken from Ministerio de Economía y Finanzas of Uruguay.

receiving a gross monthly income above $U120,000 (around US$3,000), four income brackets were defined, and a mean tax rate (increasing with income) was applied. De Rosa et al. (2020) indicate that Emergency Tax payers belong to the upper 4 per cent of the distribution of personal incomes. But around 75 per cent of those belonging to this upper 4 per cent did not have to contribute to the tax (including private workers and employers), posing serious doubts about the horizontal equity of the policy design. Moreover, although these taxpayers are among the highest income groups in the distribution of income earners, their households are located along the whole income distribution and not concentrated in the higher portion of the distribution of household income. As De Rosa et al. (2020) underline, an alternative way of identifying the contributory capacity of income earners would be to consider their total income instead of relying exclusively on the institutional sector of employment. This could be done, using the mechanisms already in place, through personal income tax and could include both capital and labour incomes.

It is important to note that all those that had to pay the COVID-19 tax were payers of the main direct taxes in force in Uruguay: the Impuesto a la Renta de las Personas Físicas (IRPF) and the Impuesto a la Asistencia de la Seguridad Social (IASS) on pensions. The IRPF is a dual tax on residents' labour and capital income. Labour income is taxed at progressive rates, with eight marginal rates ranging from 0 per cent to 36 per cent that are applied to total salaries and to 70 per cent of self-employed labour income (a 30 per cent deduction for expenses is allowed for self-employed income). Capital gains (derived from sales) and holding income (derived from the possession of assets) are taxed at a flat rate that varies between 3 per cent and 12 per cent, depending on the source (interests, profits, etc.). The IASS has four marginal rates, ranging from 0 to 25.

3.5 The political economy of responses

Targeting resources at vulnerable households in a timely and organized way during a crisis is undoubtedly a very complex task, with political economy implications. As discussed in the literature, the existing conditional cash transfers cannot act as automatic stabilizers in a situation like the COVID-19 pandemic, due to their design. In order to provide immediate support to affected households, an adjustment of the eligibility rules would have been needed. As shown in the previous paragraphs, this was not the path followed by the Uruguayan government, which opted to increase benefits to pre-COVID beneficiaries as well as implementing a new programme.

The alternative could have been a temporary expansion of the existing cash transfers to members of the population that had proven to be vulnerable. This could, for example, have included households with scores somewhat better than the cut-off point of the transfer proxy means test; households that had recently lost the transfer due to non-compliance with conditionalities; or households whose adolescents had reached 18 years of age. In principle, these alternatives could have been implemented on the basis of the information contained in the programmes' administrative records. New applications for existing cash transfers could also have been opened.

If the government had decided to expand the coverage of existing transfers, however, this would have meant allocating more resources to fight COVID-19, as the average amount of the cash transfers, especially in the case of AFAM-PE, was higher than the cost of the emergency food baskets implemented to reach those outside the coverage of social assistance. The resources implied by each option are very different. Additionally, extending the coverage of pre-COVID transfers would probably have entailed a more complex political dimension, as the phasing out of such an expansion might have been resisted more strongly than the closing of a new programme clearly announced as temporary.

The implementation of an income tax on public workers (but not private workers) with higher salaries and on high-income pensioners also calls into question the social acceptability of fiscal schemes. The fact that the public sector (excluding some essential services and, of course, health) immediately switched to teleworking may have acted as a compensating factor, contributing to the acceptance of the measure by the population in general, and neutralizing the opposition of public workers. The absence of public discussion about this measure or its distributive justice is consistent with the idea that the social acceptability of alternative tax and transfer schemes is much more culture- and context-specific than the conventional economic rationale linked to efficiency and equity, as discussed by Kanbur and Levy (2022). The taxation only of high-wage public workers (and high-income pensioners) took place in the context of a country where public sector productivity is frequently questioned. In addition, the government in power had a liberal orientation and favoured a limited role for the state and the public sphere. The idea that the resources were going to be used for a worthy cause, such as the urgent fight against COVID-19, may also have contributed to the measure's acceptance. All these contextual elements help us to understand the path taken by the Uruguayan government in response to COVID-19.

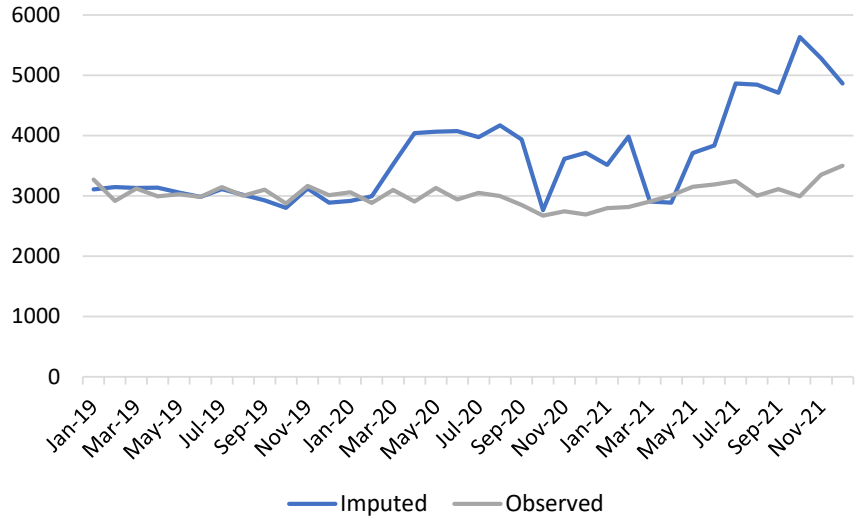
4 Methodological aspects

4.1 Data

Our analysis is based on representative household survey data from the National Household Survey of Uruguay (ECH), collected by Instituto Nacional de Estadística (INE), for the years 2019, 2020, and 2021. The survey is nationally representative and contains detailed information about personal and household characteristics, as well as detailed data on labour and non-labour income, contributory and non-contributory pensions, and cash transfers, among other things. Both pension and labour incomes are collected in net terms (after direct taxes). As in many countries, the COVID-19 outbreak affected survey data collection, and in-person surveys were replaced by phone surveys during the months from March 2020 to July 2021. This meant a significant reduction in the length of the questionnaire, but the survey was still able to provide adequate information about labour market situation and income during the whole period. At the same time, methodological changes were implemented, as the survey moved from a cross-sectional design to a rotative panel, but this does not affect cross-sectional comparisons (see INE 2022).

An important aspect of the household survey is its capacity to capture the payment of extra conditional cash transfers associated with COVID-19. The household survey identifies the beneficiaries of cash transfers, both TUS and AFAM-PE, and the amounts received for each of these benefits. The analysis in the survey of the amounts collected shows no variation in 2020 and 2021 with respect to 2019. This may be due to the fact that families were not able to identify the increase in transfers, which was announced month by month and was not constant over time. It may also be due to problems in the quality of the survey data. If we impute the income corresponding to the transfers in each month during the three years, according to the design rules of the programmes and the COVID-19 supplements, there is a significant difference from the amounts reported by the survey (Figure 10). During 2019 and in months when no COVID-19 complements were paid, the imputed amounts coincide with the figures collected by the household survey. Based on this analysis and given that our main objective is to analyse the impacts on poverty and inequality of the measures implemented to address COVID, including cash transfers, we opted to construct a new vector of household income. This vector is essentially the same as the one reported in the household survey, but instead of taking the transfer amounts reported in the survey, which in our view does not appropriately reflect the COVID supplements, it considers the imputed TUS and AFAM-PE amounts. This will be the baseline household income in our analysis.

Figure 10: Average amount of cash transfers (constant $U)



Source: authors' construction based on Uruguayan household surveys (ECH).

In the case of the emergency food baskets, however, we consider the values collected by the household survey. It is important to note that a household may receive more than one of these baskets, due to the design of the programme.

As mentioned, the Uruguayan household survey does not have information about direct taxes and contributions. In order to analyse the effects of the COVID Emergency Tax, which is levied on nominal remuneration and pensions, we estimate the contributions paid by employers and employees, as well as pensioners, to reconstruct the taxable income and simulate the COVID Emergency Tax. We assume that workers who do not contribute to the social security system do not pay direct taxes.

4.1 Method

This research is based on a static microsimulation approach, and so constitutes a partial equilibrium analysis. Microsimulation models apply to each household in a representative sample of the population (household survey), the main rules that define the tax and benefit system. Besides showing the redistributive impact of the existing systems, these models allow us to assess the redistributive impacts of reforms on taxes and/or benefits. We apply the Uruguayan tax and benefit rules to the Uruguayan household survey for the years 2019, 2020, and 2021.

Before the pandemic, i.e. up to March 2020, our approach consists of comparing different vectors of income to isolate the effects of pre-existing and new public policies.

We reconstruct two vectors of income, market income (Y_h^{market}) and disposable income (Y_h^{dis}), defined as:

$$Y_h^{dis} = Y_h^{market} - (\sum_i T_i + \sum_i T_i^{Covid}) + (\sum_i B_i + \sum_i B_i^{Covid}) \quad (1)$$

where $\sum_i T_i$ are the direct taxes paid by members of household h (IASS and IRPF), and $\sum_i B_i$ are the benefits received by members of household h whose incidence we want to analyse, that is cash transfers, emergency food baskets, and unemployment benefits. Within taxes and benefits, we distinguish those that constitute the regular matrix of Uruguayan social protection from those that were created during COVID (which are zero for the year 2019). $\sum_i T_i^{Covid}$ reflects the COVID

Emergency Tax on public wages and pensions (20 per cent for higher wages and pensions), while $\sum_i B_i^{Covid}$ reflects the increase in the benefit amount of TUS or AFAM-PE, the benefit of the new food baskets, and the unemployment benefits associated with the COVID-19 situation.

In order to reflect the impact of social benefits on poverty and extreme poverty incidence, we compute the traditional poverty measures based on disposable income, and also recalculate them assuming that each of the benefits was zero. The COVID Emergency Tax is not considered in the poverty analysis, as it affects only higher-income households.

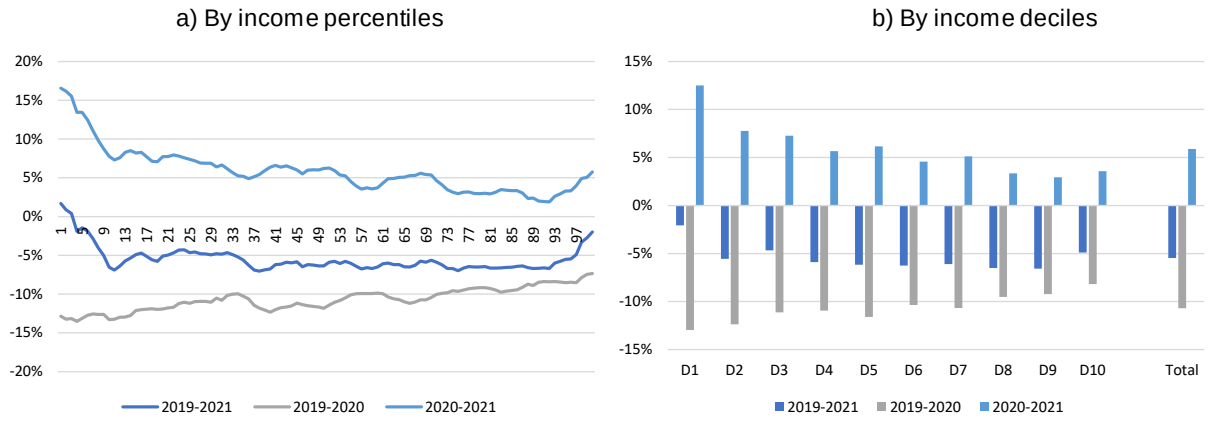
To analyse the progressivity of each intervention, we calculate concentration curves and concentration indexes. Finally, to consider the redistributive impact of the interventions, we calculate the marginal effect of each tax and transfer by recalculating the Gini index excluding the analysed instrument from the income vectors. In this way, we are decomposing the total redistributive action during 2020 and 2021 into the part that is due to the pre-crisis tax–benefit programme that Uruguay had and the part that is due to COVID-related emergency measures.

5 Main results

5.1 Changes in household income

Between 2019 and 2020, the decline in (per capita) household income was higher, in relative terms, for households located in the lower part of the distribution. Figure 11 presents changes in household income using GIC curves (following Ravallion and Chen 2003) and by income decile. Household income recovered during 2021, and this recovery was stronger for households in the lower deciles. Comparing 2019 and 2021, the decline in household income was rather similar along the income distribution, except in the first decile, which presented a lower decline. Consequently, poverty and inequality increased during 2020 but figures improved during 2021, although they did not return to pre-COVID levels (Figure 11 and Table 1).[9] Previous results for Ecuador (Jara et al. 2021), Colombia (Corredor et al. 2021), and Argentina, Brazil, Colombia, and Mexico (Lustig et al. 2020) also found that the middle strata experienced the greatest loss of income.

Figure 11: Changes in per capita household income



Source: authors' construction based on Uruguayan household surveys (ECH).

[9] Table 1 is calculated with our baseline vector of household income, with imputations for AFAM-PE and TUS to reflect the extra transfers due to COVID-19, which therefore do not coincide with official figures computed by INE.

Table 1: Impact on poverty incidence of social protection benefits (all households)

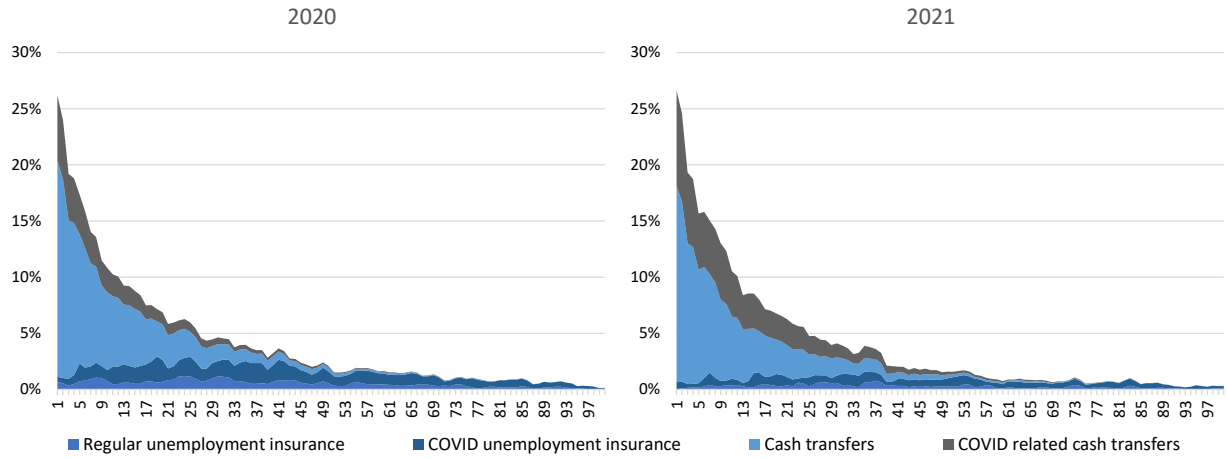
	Poverty headcount ratio			Change (absolute)			Change (%)		
	2019	2020	2021	2019	2020	2021	2019	2020	2021
Disposable income	0.086	0.110	0.095						
Without AFAM-PE (regular)	0.099	0.127	0.109	0.014	0.016	0.014	16.1	14.9	14.7
Without AFAM-PE (COVID)		0.113	0.107		0.003	0.011		2.8	12.0
Without AFAM-PE (all)	0.099	0.129	0.120	0.014	0.019	0.024	16.1	17.4	25.5
Without TUS (regular)	0.092	0.117	0.102	0.007	0.007	0.006	7.8	6.6	6.7
Without TUS (COVID)		0.114			0.003			3.2	
Without TUS (all)	0.092	0.120	0.102	0.007	0.010	0.006	7.8	9.0	6.7
Without food baskets		0.111	0.098		0.001	0.003		0.5	3.1
Without UI (regular)	0.090	0.114	0.097	0.004	0.004	0.002	5.0	3.7	1.8
Without UI (COVID)		0.118	0.099		0.008	0.004		7.0	4.1
Without UI (all)	0.090	0.122	0.101	0.004	0.012	0.006	5.0	10.7	5.9
Without regular transfers (AFAM-PE, TUS)	0.106	0.132	0.114	0.020	0.022	0.019	23.4	19.7	19.8
Without regular and COVID transfers (AFAM-PE all, TUS all, food baskets)	0.106	0.138	0.126	0.020	0.028	0.030	23.4	25.0	31.8
Without regular benefits (AFAM-PE, TUS, UI)	0.110	0.136	0.116	0.025	0.026	0.021	29.0	23.2	21.6
Without regular and COVID benefits (AFAM-PE all, TUS all, Canasta, UI all)	0.110	0.149	0.131	0.025	0.039	0.036	29.0	35.1	37.9

Note: UI = unemployment insurance.

Source: authors' calculations based on Uruguayan household surveys (ECH).

In both 2020 and 2021, social protection benefits alleviated pressure on household budgets, reinforcing the role of traditional cash transfers. Figure 12 presents the composition of household income, separating pre-COVID benefits and benefits implemented due to COVID-19. The powerful role of the pre-existing benefits in the lower part of the distribution, and the weak reinforcement through COVID measures is clearly depicted.

Figure 12: Changes in per capita household income



Source: authors' construction based on Uruguayan household surveys (ECH).

5.2 Poverty and indigence

In order to reflect the impact of the different measures adopted, we depart from poverty and indigence incidence, measured on the basis of disposable household income, and recalculate poverty and indigence rates deducting benefits (cash transfers, food baskets, and unemployment insurance) one by one.[10] We consider the separate effects of the existing programmes and the modifications due to COVID-19. Table 2 and Figure A3 in the Appendix show the main results of this analysis for all households.

If we consider the regular components of the benefit system, the main effect on poverty is due to AFAM-PE. The regular transfer allows poverty incidence to decrease by around 1.6 pp. The supplements imply an additional 0.3 deduction in 2020, climbing to 1.1 in 2021, when the design of the supplement was changed and an additional supplement for children aged 0–3 was given, as discussed in the previous section.

[10] The COVID Emergency Tax is not included in this analysis, as it affects workers in the upper tail of the distribution and has a negligible impact on poverty incidence.

Table 2: Redistributive impact of fiscal instruments

	Gini index			Change (absolute)			Change (%)		
	2019	**2020**	**2021**	**2019**	**2020**	**2021**	**2019**	**2020**	**2021**
Disposable income	0.341	0.350	0.349						
Without AFAM-PE (regular)	0.346	0.355	0.354	0.005	0.006	0.005	1.6	1.6	1.5
Without AFAM-PE (COVID)		0.351	0.352		0.001	0.004		0.3	1.1
Without AFAM-PE (all)	0.346	0.356	0.358	0.005	0.007	0.009	1.6	1.9	2.7
Without TUS (regular)	0.344	0.353	0.352	0.003	0.003	0.003	0.8	0.9	0.8
Without TUS (COVID)		0.351			0.001			0.4	
Without TUS (all)	0.344	0.354	0.352	0.003	0.005	0.003	0.8	1.3	0.8
Without food baskets		0.350	0.350		0.000	0.001		0.1	0.3
Without UI (regular)	0.343	0.351	0.350	0.002	0.002	0.001	0.6	0.5	0.3
Without UI (COVID)		0.353	0.350		0.003	0.001		0.9	0.4
Without UI (all)	0.343	0.355	0.351	0.002	0.005	0.002	0.6	1.4	0.7
Without regular transfers (AFAM-PE, TUS)	0.349	0.359	0.357	0.008	0.009	0.008	2.5	2.6	2.4
Without regular and COVID transfers (AFAM-PE all, TUS all, food baskets)	0.349	0.362	0.362	0.008	0.012	0.014	2.5	3.4	3.9
Without regular benefits (AFAM-PE, TUS, UI)	0.351	0.361	0.358	0.010	0.011	0.009	3.1	3.1	2.7
Without regular and COVID benefits (AFAM-PE all, TUS all, Canasta, UI all)	0.351	0.367	0.365	0.010	0.017	0.016	3.1	4.9	4.6

Note: UI = unemployment insurance.

Source: authors' calculations based on Uruguayan household surveys (ECH).

The effect of the regular TUS transfer on poverty incidence is lower, as it is targeted at more vulnerable households, whose income is furthest from the poverty threshold. In this case, the effect is 0.7 pp in 2020 and 0.6 in 2021, with an additional 0.3 pp in 2020 thanks to the supplemental value, which was not implemented in 2021. An even smaller decline than the one obtained by the supplemental TUS is achieved through the food basket, which implies a 0.1 and 0.3 pp decline in poverty in 2020 and 2021, respectively, underlining the negligible effects of this COVID transfer due to the low amounts involved. The effect of the traditional unemployment insurance payment is around 0.4 pp in 2020, but the modifications to this programme due to COVID-19 significantly boosted the poverty impact of this benefit, implying a reduction of an additional 0.8 and 0.4 pp in 2020 and 2021. This means that, considering the benefits globally, the major impact on poverty incidence was obtained through AFAM-PE, although the flexibilization of unemployment insurance had a relevant effect, especially in 2020.

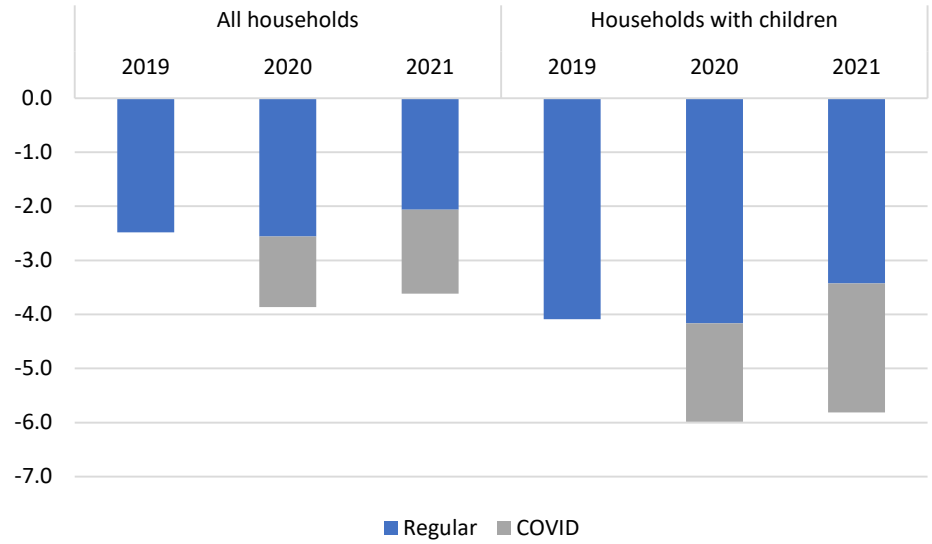
In sum, the modifications in the social protection system introduced in the face of COVID-19 resulted in a reduction in the incidence of poverty of 1.3 and 1.6 percentage points in 2020 and 2021, respectively. The traditional social security system, meanwhile, continued to operate, implying more than a 2 pp decrease in poverty (2.6 in 2020, 2.1 in 2021).

If we restrict the analysis to households with children (Table A4 and Figure A4 in the Appendix), the effect of AFAM-PE is higher, especially in 2021. It is important to remember that poverty in Uruguay has a clearly defined profile, with a high concentration of households with children (Colacce and Tenenbaum 2016; De Armas 2017). Again, AFAM-PE is the main COVID measure in terms of impact on poverty, but the unemployment benefit also played a role for these households. If no modifications had been undertaken in social protection as a response to COVID-19, poverty would have been 1.8 and 2.4 pp higher among households with children in 2020 and 2021, respectively. In comparative terms, this effect with COVID measures is an intermediate result in terms of regional results (see Figure 2) and a meagre one when compared with results in the developed world.

The effects of social protection benefits on households in extreme poverty or indigence—defined as those whose per capita income is below the cost of a basic food basket needed for that household to survive—are presented in Table A5 in the Appendix. The incidence of indigence is very low in Uruguay, as the extreme poverty threshold is well below the poverty line (the implicit Orshanksy coefficient is higher than 3). Only the unemployment benefit, and especially the modifications due to COVID-19, had an impact that can be considered non-negligible.

In sum, as shown in Figure 13, the effects of the additional COVID-19 benefits operated mainly through unemployment insurance in 2020 and AFAM-PE in 2021. The global effect was moderate for all households in terms of poverty reduction and the impact was slighter higher when we restrict the analysis to households with children.

Figure 13: Effect of social protection benefits on poverty incidence



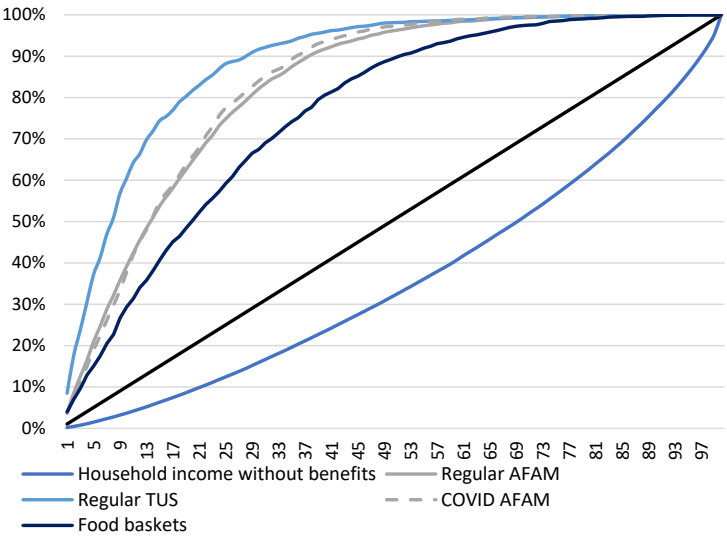
Source: authors' illustration based on Uruguayan household surveys (ECH).

5.3 Progressivity of benefits and taxes

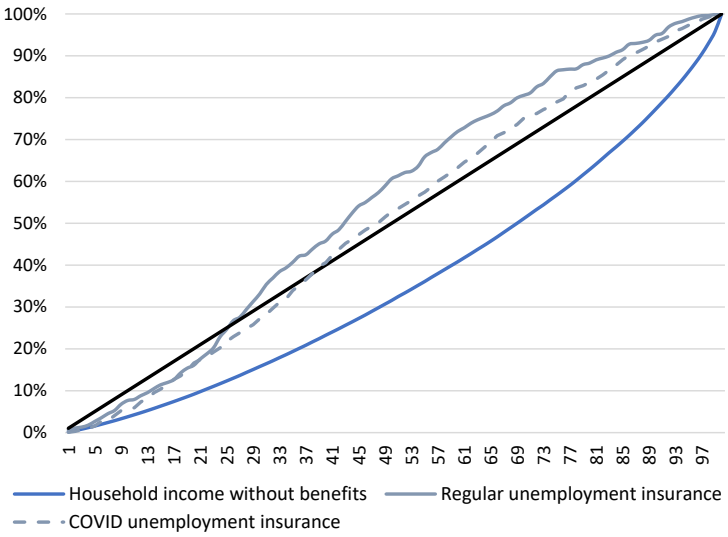
The redistributive impact of each instrument will depend on the progressive character of the instrument, the population's coverage, and the amount involved. As Figure 14 shows, all the benefits that we are considering are progressive, as their concentration curves lie above the pre-transfer Lorenz curve, indicating that benefits as a share of pre-transfer income decline with income. Moreover, all transfers (TUS, AFAM-PE, and the food baskets) are pro-poor, as their concentration curves lie above the diagonal, TUS being the most pro-poor transfer and food baskets the least. This means that the benefit declines with pre-transfer income in absolute terms (and not only as a share). The unemployment insurance benefit, in turn, is progressive but not pro-poor.

Figure 14: Concentration curves for social protection benefits

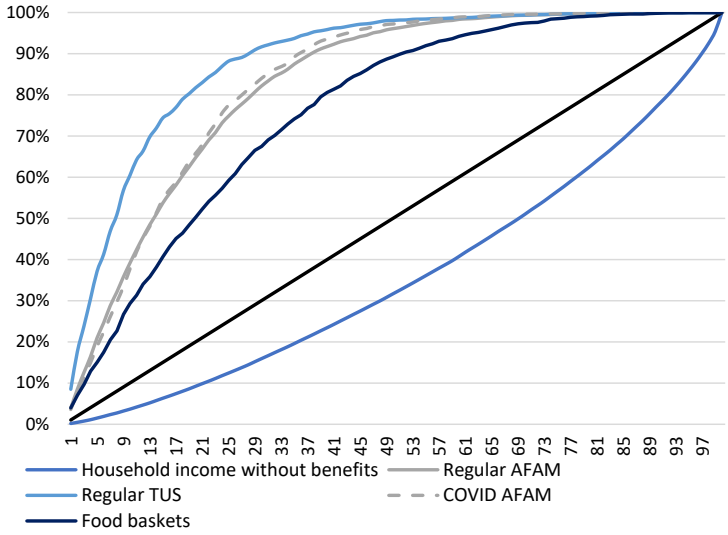
a) 2020 transfers



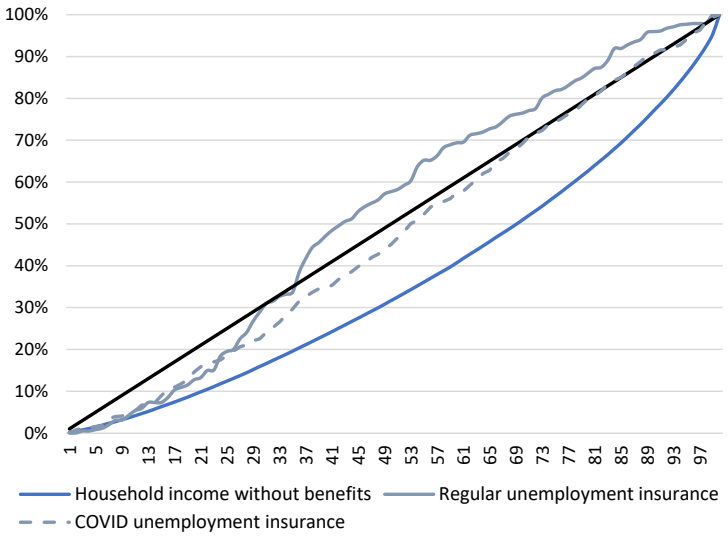
b) 2020 UI benefits



c) 2021 transfers



d) 2021 UI benefits

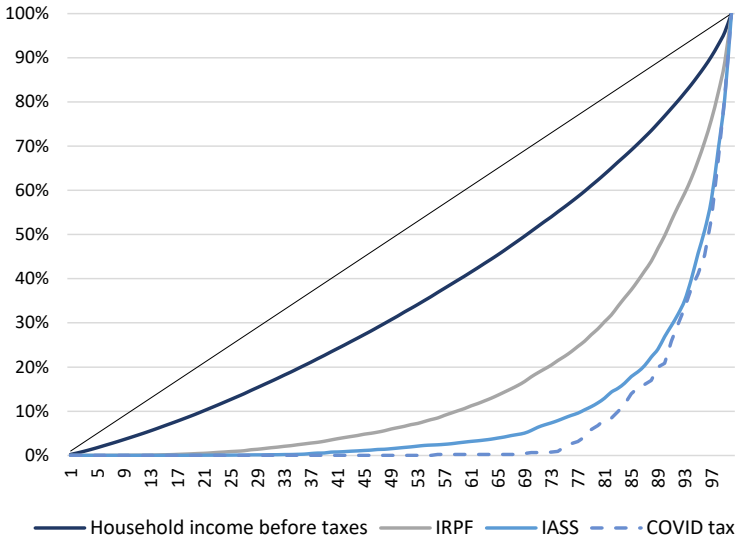


Source: authors' illustration based on Uruguayan household surveys (ECH).

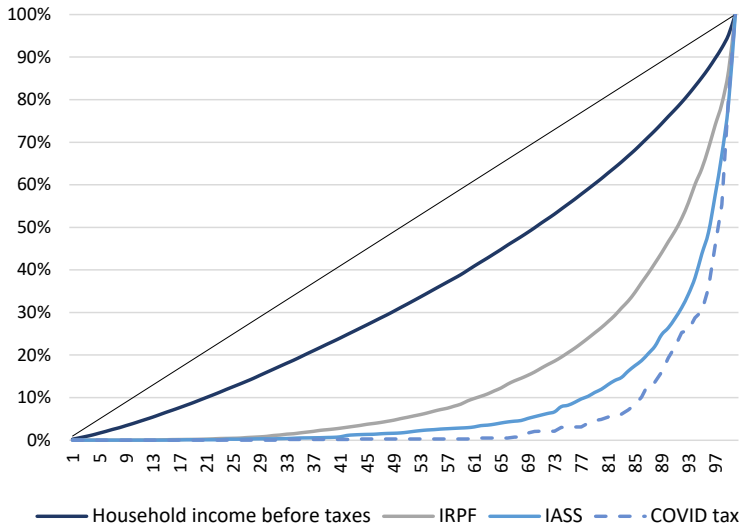
With respect to taxes, all direct taxes are globally progressive, as the concentration curve lies below the pre-tax Lorenz curve, and the COVID Emergency Tax is the most progressive (Figure 15).

Figure 15: Concentration curves for direct taxes

a) 2020 taxes



b) 2021 taxes



Source: authors' illustration based on Uruguayan household surveys (ECH).

5.4 Redistributive impact

To measure the redistributive impact of each instrument, we calculate each marginal contribution with respect to inequality calculated on the basis of household disposable income. This marginal contribution is the difference between the inequality index (in our case, the Gini index) calculated on disposable income, and the inequality index calculated on disposable income but excluding the specific benefit (or adding the tax) that we are analysing. Direct taxes have a significant marginal effect, leading to decreases in inequality of around 3 pp, mainly through IRPF and IASS. The COVID Emergency Tax does not change the income distribution indicators, basically because it was levied on a minority of workers and during very short periods.

The highest marginal contribution is given by the action of AFAM-PE. In regular times, this implies a reduction of around half a percentage point in the Gini index, but during COVID, the effect climbed to 0.7 in 2020 and 0.9 in 2021, when the pilot programme for smaller children was implemented (see Table 2). TUS also had a nearly half-point impact on the Gini index during 2020, when the supplemental transfer was introduced. The marginal contribution of the unemployment insurance programme was doubled thanks to the COVID modifications. During 2020, it implied an equalizing effect on the Gini index of half a percentage point. Taken together, the modifications to the social protection system introduced during the COVID crisis prevented the Gini index from increasing by an additional 0.6/0.7 pp.

6 Final comments

The irruption of COVID-19 impacted economic activity around the world, and countries were faced with the urgent need to implement responses to protect the population. In the case of Uruguay, these responses were operationalized mainly through an increase in the amounts of existing transfers, less demanding conditions of entry to unemployment insurance, and the creation of a new (and low) benefit for people who were not entitled to social assistance or social security and were not formal workers.

The generally effective design and targeting of the existing transfers made it possible to enhance their impact through the expansion of the amounts of these benefits. However, most of the resources were allocated to a new transfer and to making unemployment insurance more accessible. The new transfer, however, had less effective targeting and lower progressivity than the existing ones, which is not surprising due to its design. The amount involved was, in any case, relatively minor, which means that its overall effects were insignificant. Meanwhile, unemployment insurance, which also absorbed a large share of resources, had a greater effect on poverty protection. Although it was not a pro-poor benefit, it protected households in the middle of the distribution, providing considerable benefits.

These efforts were not enough to prevent poverty and extreme poverty from increasing, but they attenuated the impacts. Our results indicate that these measures, taken together, prevented a further increase in poverty of around 1.3 and 1.6 percentage points in 2020 and 2021, respectively, with a greater effect on households with children. The main instruments were: the COVID unemployment insurance programme, jointly with AFAM-PE, in 2020; and AFAM-PE in 2021. The food baskets had negligible effects on poverty or extreme poverty.

In terms of the equalizing effects of these new social protection measures, they prevented an additional increase of the Gini coefficient of more than half a percentage point. The COVID Emergency Tax, which was progressive but implied severe horizontal inequalities, did not have any distributive effect, as it was collected only for four months. In sum, although the effects were positive in terms of poverty alleviation and prevention of increases in inequality, they were modest, implying that the negative effects were ameliorated but not eliminated.

Our detailed analysis of the Uruguayan case illustrates that the pandemic has highlighted the lack of a safety net for vulnerable populations in the event of negative income shocks. It has put on the agenda the challenge of adapting and strengthening social protection systems to respond through temporary interventions and mechanisms. The urgent need to cover temporary poverty exposes the weaknesses in the mechanisms foreseen for expanding social protection coverage and the difficulty of reaching informal workers.

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Appendix

Table A1: Overlapping of benefits at the household level (%)

	2020			2021		
	AFAM and/or TUS and no emergency food basket	No AFAM and/or TUS and emergency food basket	AFAM and/or TUS and emergency food basket	AFAM and/or TUS and no emergency food basket	No AFAM and/or TUS and emergency food basket	AFAM and/or TUS and emergency food basket
D1	82	8	10	64	18	19
D2	86	8	6	68	20	12
D3	86	9	5	68	24	8
D4	83	14	3	64	29	7
D5	87	11	2	62	33	5
D6	90	8	2	68	30	2
D7	86	13	1	57	40	3
D8	79	21	0	72	27	1
D9	90	7	3	63	33	3
D10	100	0	0	76	24	0
TOTAL	85	9	6	66	23	11

Source: authors' calculations based on Uruguayan household surveys (ECH).

Table A2: Coverage (%) and average amounts ($U) of social protection benefits, by income decile (2020 and 2021)

			D1	D2	D3	D4	D5	D6	D7	D8	D9	D10	Total
AFAM-PE	Coverage	2019	74%	56%	41%	25%	15%	8%	5%	2%	1%	0%	17%
		2020	71%	53%	40%	25%	15%	9%	5%	2%	1%	0%	17%
		2021	67%	51%	38%	26%	14%	8%	5%	2%	1%	0%	17%
	Average amount	2019	3.022	2.622	2.206	1.868	1.556	1.162	1.139	876	1.027	578	2.314
		2020	3.764	3.375	2.910	2.572	1.949	1.513	1.389	1.149	1.296	1.578	2.952
		2021	6.027	5.430	4.807	3.676	2.905	2.425	1.795	1.681	1.219	3.207	4.652
TUS	Coverage	2019	42%	20%	8%	4%	2%	1%	0%	0%	0%	0%	5%
		2020	40%	20%	10%	5%	3%	1%	1%	0%	0%	0%	6%
		2021	38%	18%	10%	5%	3%	1%	1%	1%	0%	0%	6%
	Average amount	2019	3.614	2.669	2.222	1.900	1.990	1.803	1.560	1.609	1.867	0	2.974
		2020	5.661	4.136	3.219	2.881	2.847	2.739	2.577	2.451	2.410	1.889	4.449
		2021	4.311	3.098	2.695	2.398	2.426	2.195	1.725	1.842	1.882	1.504	3.441
Food baskets	Coverage	2020	13%	9%	7%	5%	3%	2%	1%	1%	0%	0%	3%
		2021	27%	20%	18%	14%	10%	5%	4%	2%	1%	0%	8%
	Average amount	2020	957	910	882	866	884	865	966	797	839	678	906
		2021	1.382	1.337	1.238	1.194	1.135	1.178	1.115	1.112	1.073	1.176	1.253
UI regular	Coverage	2019	0%	1%	1%	1%	1%	1%	0%	0%	0%	0%	0%
		2020	2%	2%	3%	2%	2%	2%	1%	1%	1%	1%	2%
		2021	1%	1%	2%	1%	1%	1%	1%	1%	1%	0%	1%
	Average amount	2019	17.804	14.052	12.545	15.042	14.387	17.118	17.879	22.220	21.199	14.220	15.809
		2020	12.655	11.907	14.416	14.254	16.985	16.032	17.033	19.579	22.223	20.154	16.096
		2021	13.261	13.420	16.631	21.333	16.850	17.538	19.082	23.406	24.626	29.945	19.432
UI COVID	Coverage	2020	4%	6%	5%	6%	5%	4%	4%	3%	3%	2%	4%
		2021	2%	3%	2%	4%	3%	4%	3%	2%	2%	2%	3%
	Average amount	2020	9.060	11.343	12.243	13.775	13.653	15.131	16.373	18.455	17.135	22.031	14.777
		2021	10.646	11.565	13.086	13.192	14.787	13.213	16.732	17.070	17.585	22.952	15.171
UI total	Coverage	2019	0%	1%	1%	1%	1%	1%	0%	0%	0%	0%	0%
		2020	5%	8%	8%	8%	8%	6%	6%	4%	4%	2%	6%
		2021	2%	4%	4%	5%	4%	5%	3%	3%	3%	2%	3%
	Average amount	2019	17.804	14.052	12.545	15.042	14.387	17.118	17.879	22.220	21.199	14.220	15.809
		2020	10.260	11.537	13.370	13.990	14.991	15.619	16.658	18.837	18.384	21.827	15.332
		2021	11.154	12.096	14.775	15.731	15.312	14.321	17.222	18.597	19.485	23.751	16.307

Note: UI = unemployment insurance.

Source: authors' calculations based on Uruguayan household surveys (ECH).

Table A3: Coronavirus Fund in Uruguay

	2020		2021		2020 & 2021	
	US$ (thousands)	%	US$ (thousands)	%	US$ (thousands)	%
Emergency food basket	72,935	10	106,272	9%	179,208	10
TUS (COVID complement)	26,640	4	0	0%	26,640	1
AFAM-PE (COVID complement)	30,926	4	133,443	12%	164,369	9
Sickness insurance	26,347	4	73,481	6%	99,828	5
Unemployment insurance	237,677	33	79,026	7%	316,703	17
Other (Social Development Ministry)	7,092	1	36,216	3%	43,308	2
Other (BPS, foregone contributions)	239,048	34	205,256	18%	444,304	24
Health (Public Health Ministry, ASSE)	47,449	7	441,066	38%	488,515	26
Other (inc. UdelaR, INAU, C. Electoral)	22,623	3	77,879	7%	100,502	5
Total Coronavirus Fund	**710,737**	**100**	**1,152,638**	**100%**	**1,863,376**	**100**

Source: authors' calculations based on data from the Ministry of Economics and Finance.

Table A4: Impact on poverty incidence of social protection benefits: households with children

	Poverty headcount ratio			Change (absolute)			Change (%)		
	2019	2020	2021	2019	2020	2021	2019	2020	2021
Disposable income	0.133	0.165	0.143						
Without AFAM-PE (regular)	0.156	0.193	0.168	0.024	0.028	0.024	17.9%	16.9%	17.0%
Without AFAM-PE (COVID)		0.170	0.163		0.005	0.020		3.0%	13.8%
Without AFAM-PE (all)	0.156	0.198	0.186	0.024	0.033	0.042	17.9%	19.7%	29.4%
Without TUS (regular)	0.144	0.177	0.154	0.011	0.012	0.010	8.6%	7.2%	7.3%
Without TUS (COVID)		0.171			0.006			3.5%	
Without TUS (all)	0.144	0.181	0.154	0.011	0.016	0.010	8.6%	9.7%	7.3%
Without food baskets		0.166	0.147		0.001	0.004		0.4%	2.8%
Without UI (regular)	0.138	0.171	0.145	0.006	0.005	0.002	4.2%	3.2%	1.4%
Without UI (COVID)		0.175	0.149		0.010	0.005		6.1%	3.6%
Without UI (all)	0.138	0.181	0.151	0.006	0.015	0.007	4.2%	9.3%	5.0%
Without regular transfers (AFAM-PE, TUS)	0.167	0.202	0.176	0.034	0.037	0.032	25.9%	22.1%	22.4%
Without regular and COVID transfers (AFAM-PE all, TUS all, food baskets)	0.167	0.211	0.194	0.034	0.046	0.051	25.9%	27.6%	35.2%
Without regular benefits (AFAM-PE, TUS, UI)	0.174	0.207	0.178	0.041	0.042	0.034	30.8%	25.2%	23.9%
Without regular and COVID benefits (AFAM-PE all, TUS all, Canasta, UI all)	0.174	0.225	0.202	0.041	0.060	0.058	30.8%	36.2%	40.5%

Note: UI = unemployment insurance.

Source: authors' calculations based on Uruguayan household surveys (ECH).

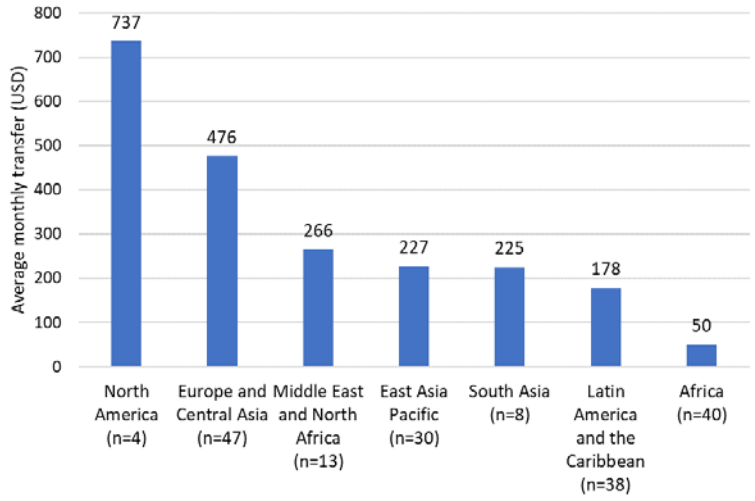
Table A5: Impact on extreme poverty incidence of social protection benefits: all households

	Indigence headcount ratio			Change (absolute)			Change (%)		
	2019	2020	2021	2019	2020	2021	2019	2020	2021
Disposable income	0.000	0.002	0.001						
Without AFAM-PE (regular)	0.000	0.005	0.001	0.000	0.002	0.001	2.4%	109.7%	105.9%
Without AFAM-PE (COVID)	0.000	0.002	0.001		0.000	0.001		15.4%	97.5%
Without AFAM-PE (all)	0.000	0.005	0.003	0.000	0.003	0.002	2.4%	121.7%	335.8%
Without TUS (regular)	0.000	0.004	0.001	0.000	0.002	0.001	9.7%	101.8%	114.6%
Without TUS (COVID)	0.000	0.003			0.001			41.4%	
Without TUS (all)	0.000	0.006	0.001	0.000	0.004	0.001	9.7%	171.5%	114.6%
Without food baskets	0.000	0.002	0.001		0.000	0.000		7.1%	21.6%
Without UI (regular)	0.000	0.003	0.001	0.000	0.001	0.000	45.0%	45.7%	11.7%
Without UI (COVID)	0.000	0.003	0.001		0.001	0.000		36.6%	20.4%
Without UI (all)	0.000	0.004	0.001	0.000	0.002	0.000	45.0%	83.8%	32.2%
Without regular transfers (AFAM-PE, TUS)	0.000	0.009	0.003	0.000	0.007	0.002	9.7%	316.0%	417.3%
Without regular and COVID transfers (AFAM-PE all, TUS all, food baskets)	0.000	0.012	0.006	0.000	0.010	0.006	9.7%	472.8%	981.6%
Without regular benefits (AFAM-PE, TUS, UI)	0.000	0.010	0.003	0.000	0.008	0.003	54.7%	361.8%	435.2%
Without regular and COVID benefits (AFAM-PE all, TUS all, Canasta, UI all)	0.000	0.015	0.007	0.000	0.013	0.006	54.7%	584.1%	1055.7%

Note: UI = unemployment insurance.

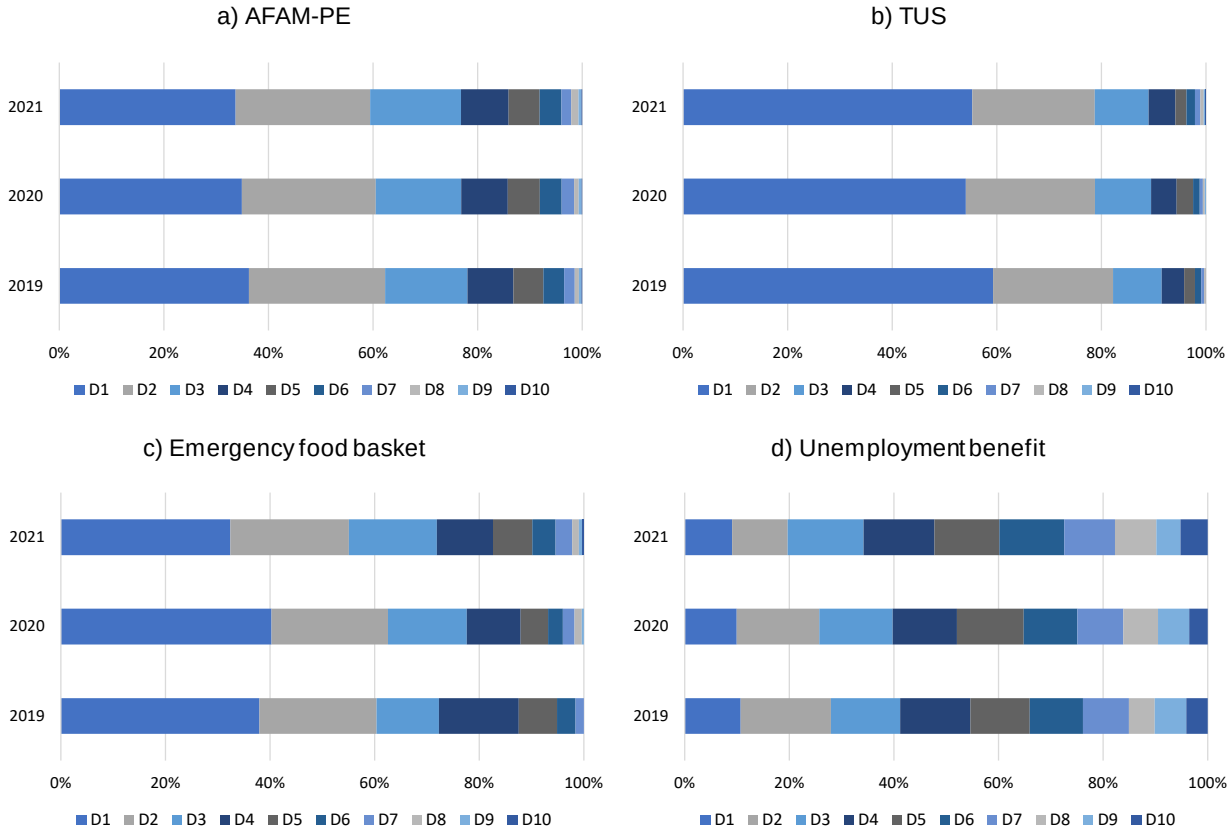
Source: authors' calculations based on Uruguayan household surveys (ECH).

Figure A1: Size of cash transfer benefits (US$ per capita)



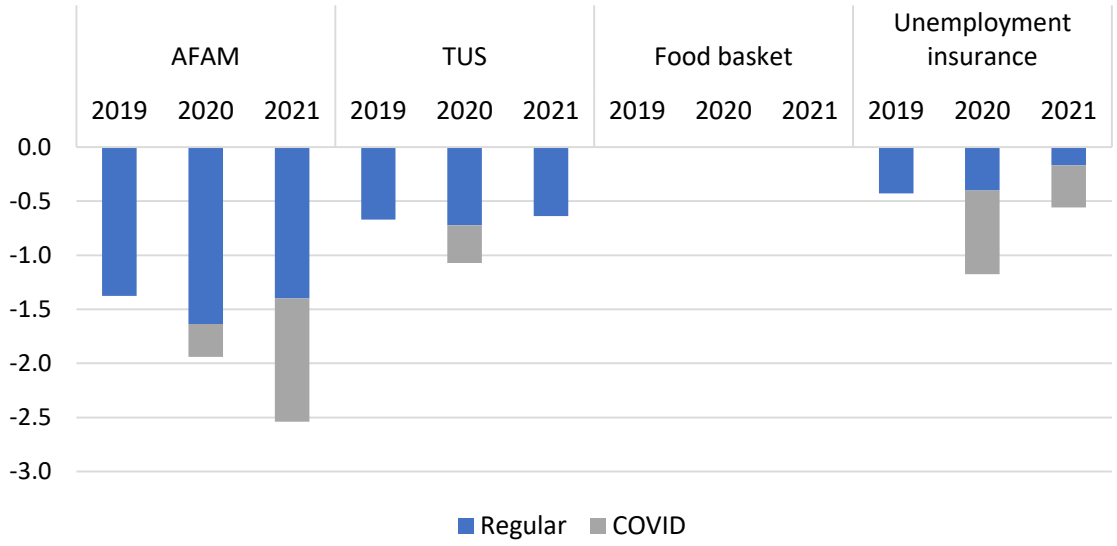
Source: authors' illustration based on Gentilini et al. (2022).

Figure A2: Distribution of beneficiary households by income decile



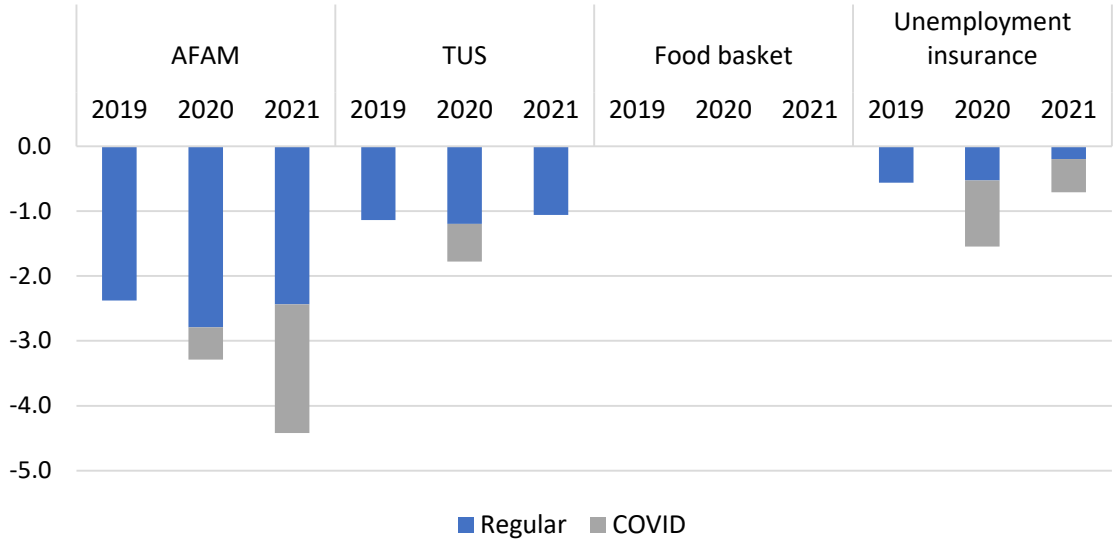
Source: authors' illustration based on Uruguayan household surveys (ECH).

Figure A3: Impact of social protection benefits on poverty incidence: all households



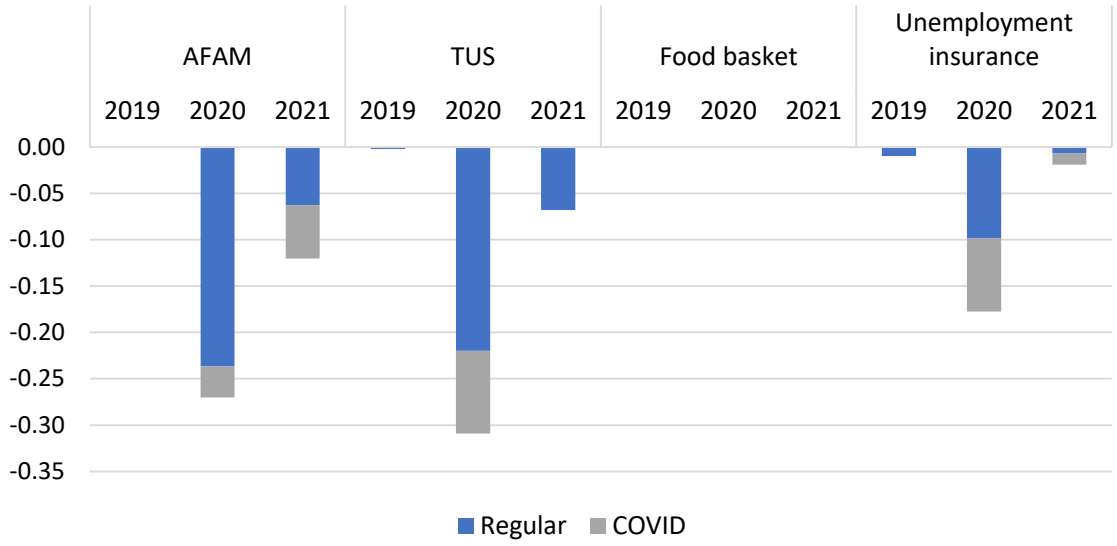
Source: authors' illustration based on Uruguayan household surveys (ECH).

Figure A4: Impact of social protection benefits on poverty incidence: households with children



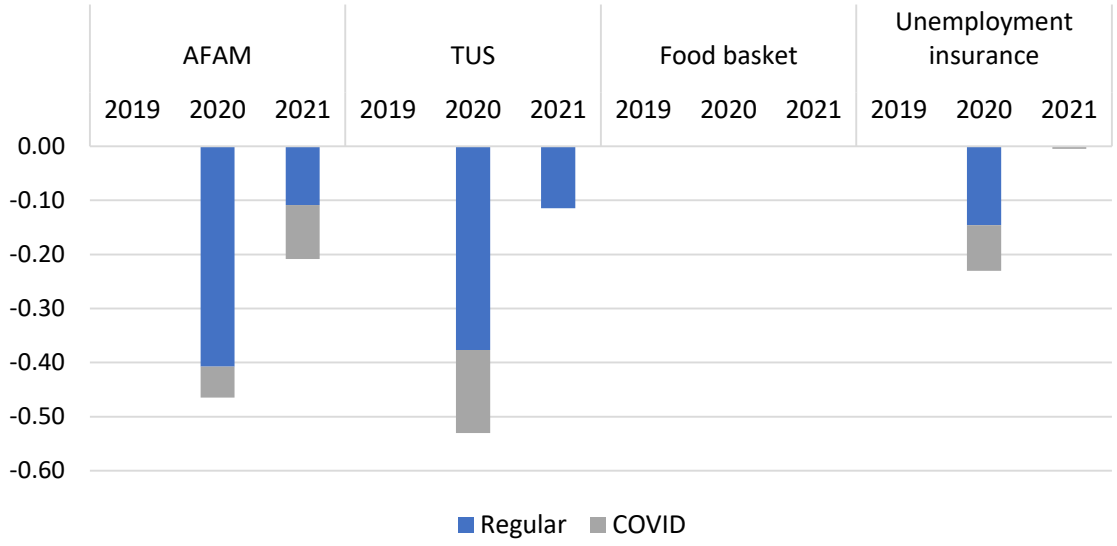
Source: authors' illustration based on Uruguayan household surveys (ECH).

Figure A5: Impact of social protection benefits on indigence incidence: all households



Source: authors' illustration based on Uruguayan household surveys (ECH).

Figure A6: Impact of social protection benefits on indigence incidence: households with children



Source: authors' illustration based on Uruguayan household surveys (ECH).