Investments in social protection and their impacts on economic growth

Bibliography and annexes

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Annex 1   Literature review

Annex 1.1   Methodology

The literature research process consisted of a number of stages utilising a number of sources to ensure that the literature review captured as much of the existing impact of social protection literature as possible.

The literature that made up the final literature review was accumulated using a number of different methods. We began with a "core" reading list which was provided by ITUC and consisted of the following papers:

- Hemerijck Anton, Burgoon Brian, Di Pietro Alessandra and Vydra Simon (2016) Assessing Social Investment Synergies (ASIS)
- Onaran (2014) The Case for a Coordinated Policy Mix of Wage-led Recovery and Public Investment in the G20
- Commonwealth of Australia (2014) Social protection and growth: Research synthesishttps://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/9099.pdf
- ITUC (2016) A gender analysis of employment stimulus in seven OECD countries
- ITUC (2017) Investing in the Care Economy Simulating employment effects by gender in countries in emerging economies

Using these reports and papers, in particular the literature synthesis produced by Mathers and Slater (2014) for the Commonwealth of Australia, we constructed a wider curated reading list looking at both the papers cited in their report as well as more recent reports that cite Mathers and Slater. This unearths other key literature reviews on social protection and economic impact, such as those produced by Bastagli et al. (2018) and the OECD (2019).

In addition to this "core" reading list, we exploited the wealth of social protection literature that has been produced over the years by Development Pathways and its staff. Particular focus was given to papers produced within the last two to three years, as these papers contained up-to-date sizeable and extensive literature reviews. The key papers used were McClanahan et al. (2018), Tran et al. (2019) and Gelders and Athias (2019). Bibliographies of these papers were reviewed and used selectively.

Finally, where gaps remained, search engine searches were performed using Google Scholar. The main search strings that we used were:

- "impact" AND "social protection" AND ("economic impact" OR "GDP" OR "economic returns" OR "income " OR "expenditure " OR "spending " OR "consumption " OR "poverty headcount poverty gap " OR "poverty depth " OR "poverty severity")
- "impact" AND "social protection" AND ("benefit incidence " OR "inequality " OR "economic growth" OR "multiplier effect" OR "labour force" OR "productivity" OR "aggregate demand" OR "human capital" OR "wages" OR "employment" OR "labour market")

"Social protection" was interchanged with terms in the following table to acquire more results.

Table 1: *Social protection* alternative terms

1. Basic income / minimum income	10. Monetary transfer	18. Social assistance
2. Cash transfer	11. Non-contributory pension	19. social grant
3. Child benefit	12. Old age pension	20. Social insurance
4. Child grant	13. Old-age benefit	21. Social pension
5. disability benefit	14. Old-age grant	22. Social spending
6. disability grant	15. Public investment	23. Social transfer
7. Family allowance	16. Safety nets	24. UCT/ CCT
8. Financial transfer	17. Social assistance	25. Welfare programmes
9. Income support		

An initial search (using "social protection") returned 87,000 results when filtering for papers published between 2000 and 2020. This was filtered further to only include papers published since 2010, giving 43,500 results. This was done under the assumption that existing social protection impact literature reviews, such as Mathers and Slater, would have captured a lot of the relevant literature up to 2014. Results were sifted by relevance, and only those papers featured within the first two pages were selected. Papers and reports were selected based on whether or not quantitative methods were used to assess impact, since this research would only employ quantitative methods.

Annex 1.2   Existing empirical evidence

The following subsections summarise the existing empirical evidence from the selected papers and report on the returns on social protection investment. This report expands on the research synthesis that has been produced by Mathers and Slater (2014) and Bastagli et al. (2016) presented in Table 2.

Particular attention will be paid to the literature that seeks to combine the direct and indirect social protection policy effects at the micro and macro level.

Annex 1.2.1   Impacts of social protection on recipient individuals and households

A number of studies have looked at the economic returns of social protection programmes at the individual and household level. Studies of this nature look at how programmes, such as cash transfers, affect individuals and households in terms of human capital investment,

household consumption expenditure and labour force participations – all of which are documented determinants of economic growth (Merttens et al., Mathers and Slater, 2014; 2013; Bhalla, 2018; Canelas and Niño-Zarazúa, 2018; Dietrich et al., 2017). This type of analysis is performed in isolation from wider community and national population, thus only capturing partial equilibrium effects. Nevertheless, by demonstrating positive effects on any of the aforementioned dimensions due to social protection, the returns to investment in the form of economic growth can be inferred, but never explicitly quantitatively presented in terms of macro-level outcomes.

There exists a substantial literature evidencing the positive effect of social protection schemes on household consumption expenditure (Skoufias et al., 2008; Merttens et al., 2013; Maladonado, Gomez and Rosada, 2015; Hernani-Limarino and Mena, 2015; Escobal and Ponce 2015; Bastagli et al. 2018, Bhalla; 2018; Hidrobo et al., 2018, McClanahan et al., 2019; OECD, 2019). The magnitude of the increase can vary significantly from country to country and programme to programme, with Bastagli et al. finding a variation in change in consumption expenditure of as little as 2.8 percentage point change following Colombia's Atención a Crisis to as large as 33 percentage point change in Peru's Junto's (Bastagli et al., 2018). Evidence also points to an increase in food consumption expenditure, with others explicitly highlighting an increase in the quality and variety of foods consumed within the household (Skoufias et al., 2008; Escobal and Ponce, 2015), the wider benefit of this being an improvement in the level of food security and increase in dietary diversity (Bhalla, 2018). However, for there to be a positive and lasting impact on household consumption in terms of consumption smoothing, social protection schemes must be designed such that benefits are regular, reliable and predictable (Robino and Soares, 2015; McClanahan et al., 2019).

Social protection programmes have also been important in positively affecting education in the form of increased enrolment rates, reduced drop-out rates, improved test scores and attainment of higher-grade attainment – benefits that affect the demand-side barriers to the access to education (Mundial, 2011; Alatas et al., 2011; Merttens et al., 2013; Baird et al., 2014; Standing and Orton, 2018; Mathers and Slater, 2014; Kidd, 2014; Canelas and Niño-Zarazúa, 2018; Bastagli et al., 2016; Baird, McIntosh and Özler, 2019).

The extent to which social protection programmes will influence education positively is dependent upon existing local barriers, size of the benefit, the local schooling system and the size of the local labour markets. For example, Merttens et al. do not see any effects on school enrolment as a result of the introduction of the Hunger Safety Net Programme (HSNP) in Kenya, as the local barriers in this instance were not related to cost or access to education, but due to forgone income from sending children to school instead of working to provide income for the household (Merttens et al., 2013). The Bono Juancito Pinto programme in Bolivia, on the other hand – a social protection programme designed to increase school enrolment – has been successful in increasing the likelihood of school attendance (Canelas and Niño-Zarazúa, 2018). Other child and education specific programmes have had a similar positive impact on education indicators, for example, the school feeding programmes in Bangladesh, Burkina Faso, India, Kenya and Uganda have increased school attendance, and conditional cash transfer schemes in Colombia, El Salvador, Honduras, Mexico, Nicaragua and Turkey have resulted in increased enrolment

rates (Mundial, 2011). Unfortunately, it should be noted that such programmes do not necessarily result in better grades, as suggested by the mixed evidence (Bastagli et al.,2016).

Whether conditionalities of such a programme are necessary to achieve such ends is debated widely in the literature. Even whether a social protection programme explicitly needs to be targeted at children and education in order to have a positive effect on children's outcomes is debated (Mathers and Slater, 2014). Some studies have shown that other types of social protection programmes have had a positive impact on school attendance by bolstering household incomes, thereby removing financial barriers to children's school attendance – the effect of which may be that there are fewer incentives for families to send their children to work instead of school. For example, old-age pensions have had a positive effect on various education indicators, such as the reduction of the gender enrolment gap as well as school attendance in a number of countries (Evangelista de Carvalho Filho 2008 cited in Kidd, 2014; Gelders and Athias, 2019).

The evidence regarding the relationship between labour force participation and social protection policies is mixed, but it predominantly shows that there is not a negative impact. What the evidence does suggest is that programmes would need to be sufficiently large and complementary to any existing or new active labour market programmes to have a positive effect on employment (Mathers and Slater, 2014; Baird et al., 2018; Hemerjick, 2016; Adato and Bassett, 2009; Thome et al., 2016; Samson et al., 2008; Barrientos and Villam, 2015; Daidone et al., 2014).

The literature also points to social protection schemes having a significant positive effect on female labour force participation and employment (Eyal and Woolard, 2011; European Commission, 2013; Hemerjick, 2016; De Henau et al., 2016; Tiberti et al., 2018; ILO, 2019). Given that the majority of those in wage employment working below 35 hours per week are women and for most, this is due to their household or childcare responsibilities, increased labour participation at the intensive and extensive margin can be facilitated by schemes that serve to minimise the cost of seeking external source of childcare. Social protection can help to reduce childcare barriers that are disproportionately faced by women. For low-income households, having a woman leave the labour market altogether may also appear to be the most cost-effective solution when considering the immediate cost of acquiring external childcare. However, Kaplan has shown that this may not be the case, particularly over the course of life – an example of this is a female teacher in the US that leaves her job after having a child could lose a total of $1.5 million (in 2012 dollars) over her lifetime (Kaplan, 2012 cited in ILO, 2016). Therefore, improving the level of female labour-force participation and employment would have positive effects on the individual both in the immediate term and the long term.

Social protection also plays an important part in helping otherwise liquidity constrained households to cope with adverse shocks (Samson, 2012; MAHKOTA, 2017; Maluccio, 2005; Merttens et al., 2013; Devereux et al., 2006). Households are better able to smooth consumption and thus rely less on negative coping strategies, such as the sale of assets and the withdrawal of children from school. This means that households may, for example, engage in more risks in terms of innovation and invest more in human capital. It may also facilitate longer job search activities (Baird et al., 2018). Given that shocks are likely to affect

all individuals in any context throughout the course of their life, this is a particularly pertinent benefit of social protection.

The role of social protection in allowing individuals and households to mitigate shocks speaks to the importance of lifecycle social protection programmes in reducing inequalities in incomes and opportunities. For example, whilst the effects of general social protection schemes may have a limited effect on children's educational attainment, tailored child social protection programmes have been proven to have a positive impact on child well-being and educational outcomes and thus reducing the inequality of opportunities (McClanahan et al., 2018). Such programmes also support the development of a productive future labour force which will influence economic growth in the long-term.

Annex 1.2.2   Impacts of social protection investment on the local community

Local community-level outcomes can come about as a result of social protection investment both directly, for example through the multiplier effect, and also indirectly, for example, enhanced social cohesion (Mathers and Slater, 2014; Bastagli et al., 2016). In the case of the latter, literature highlights the importance of social protection programmes in bringing about positive social and psychological outcomes to vulnerable groups. In particular, a number of studies point to the role of old-age pensions in reducing social exclusion and the likelihood of living in poverty, with older persons being more able to establish themselves as contributing members of the community. Evidence suggests that old-age pensions allow older persons to provide a stimulus into the local economy by influencing labour force participation and other productive activities (Devereux, 2001; Kidd., 2014; Merttens et al., 2016; Tran et al., 2019; MGLSD; 2020). For example, in the case of the Senior Citizen Grant (SCG) in Uganda, the introduction of the grant had knock-on effects on the supply of labour in the local economy amongst those of working age living in households with a pensioner, as the grant allowed unemployed working age members to engage in own-account work (Gelders and Athias, 2019).

Local labour, capital and land markets play an important part in facilitating spillover effects from recipients to the non-recipient local community (Thome et al., 2014). If local markets are able to respond to the increased local demand for goods due to an increase in demand of local goods by recipient households, then we would expect to see an expansion of local community assets. If, however, these local markets are not responsive, then it is likely that there will be upward pressure on prices resulting in inflation, causing adverse effects locally. These spillover effects can reap greater rewards for the local non-recipients than the recipient individuals and households (Mathers and Slater, 2014). Thome et al., (2014) demonstrate such effects using a local economy-wide impact evaluation (LEWIE) model to estimate the local multiplier effects of the Zambia Child Grant Programmes and the Livelihood Empowerment Against Poverty (LEAP) programme in Ghana. Both studies find significant indirect benefits to the local community. However, if labour and capital markets are not operating effectively, then the multiplier effect is substantially reduced (Thome et al., 2014). Careful policy design is therefore essential in mitigating adverse and unintended effects associated with local market inflexibility.

Annex 1.2.3   Impacts of social protection investment at the national level

The extent to which social protection has a direct positive or negative effect on economic growth is debated in the literature (see Onaran, 2014; De Henau et al., 2016; Connolly and Li, 2016; Babatunde, 2017; Onaran et al., 2019; OECD, 2019). For example, Connolly and Li (2016) find that public social spending has significant and negative effects on economic growth where a one percentage point increase in social spending (as a percentage of GDP) results in a 0.09 per cent lower growth rate in GDP the following year when looking at 34 OECD countries (Connolly and Li, 2016)[1]. Chan et al, on the other hand, find a significant and positive effect of social public spending on economic growth for 115 countries across six regions (Chan et al., 2017), and Onaran et al. find that a policy mix of an upward convergence of wages as well as public investment in social infrastructure results in an increase in output and employment in the short to medium term (Onaran et al., 2019). The variation in outcomes depends on a number of factors, including the country of interest, the institutional context that social investment reforms take place in, and the size of the multiplier effect.

Social protection investment has been shown to reduce the level of inequality and poverty both in the short and the long term (ILO, 2011; Mathers and Slater, 2014; UN DESA, 2018; OECD, 2019). The synergy between social protection and poverty and inequality has been cited widely, particularly when comparing universal lifecycle schemes with poverty-targeted schemes (Niehues, 2010). A reduction in inequality can also have other positive knock-on macro level effects, such as better social cohesion, more stable communities and economic growth.[2]

The methodology employed to assess the direct effects of social protection investment on economic growth has often involved the use of regression models giving the average effects of social investment spending on GDP. Whilst such studies are useful in providing a practical understanding of how social protection spending could influence a particular group or type of country, the model only allows us to look at these effects in an isolated manner and do not include spillover effects—those intended and unintended. Hemerjick et al. suggest that a possible reason for the continued use of such models, given their limitations, is that it is difficult to identify a simple enough framework that could capture the many side-effects that come into effect due to certain policy reforms (Hemerjick et al., 2016).

Unintended adverse effects are something that Hemerjick et al. (2016) attempt to answer by triangulating quantitative micro and macro analysis with qualitative analysis of in country institutions and existing welfare portfolios. As the authors point out, whilst micro and macro analysis provide the rigor, they should not be looked at in isolation, since intuitional context gives relevance to social protection policy reform. They point to the example of Italy, where despite the country having a generous childcare social protection scheme, the effects on employment are hampered by rampant unemployment and no cross-purpose policy

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[1] Whilst this paper refers to social public spending, this is used as proxy for the level of social protection spending.

[2] See Fajnzylber et al. (1999) in Cornia et al. (2004) on the links between social instability and high levels of inequality. Also see Stiglitz (2016) on the costs of high levels of income inequality on opportunity inequality between those at the top and those at the bottom of the income distribution, which ultimately impact sustainable future economic growth. Finally, see Grigoli et al. (2018) on the country heterogeneity of the effects of inequality on economic growth.

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alignment, resulting in pronounced Matthew effects – the economic situation of those in employment is improved but simultaneously made worse for those not in employment. However, the methodology that is applied in Hemerjick et al.'s analysis may not be as useful in capturing macro level effects.

To evaluate whether there is a macro level effect that also factors in spillovers, we would need to employ the recursive running of micro models and a computable general equilibrium model (CGE) (see Kyophilavong, 2011; Tiberti et al., 2018; Levin, 2015; Sharma et al., 2017). Studies that do integrate the top-down approach of CGE modelling and the bottom-up approach of microsimulations capture the general equilibrium effects from household level impacts at the community level and the national level (see Cury, Pedrozo, and Coelho, 2016; Debowicz and Golan, 2014 as cited in Tiberti et al., 2018).

Tiberti et al. (2018) use a recursive bottom-up/top-down CGE model with an econometrically estimated micro simulation approach to look at the micro and macro impacts of a cash transfer in the form of the Child Support Grant in South Africa. The authors look at how labour participation and household consumption at the individual/household level affect the macro under three different financing options: financing through increased household direct tax; financing through increased corporate tax; and financing through a uniform indirect tax on commodities. In their simulations, household consumption expenditure is the main channel through which effects are transferred to the macro level. Their results suggest an increase in household expenditure, especially for poor families, has a positive impact on GDP, as well as a decrease in poverty. Their model also suggests an increase in labour supply which is not complemented by an increase in job creation and thus has an unintended increased effect on unemployment.

Annex 1.2.4   Limitations of the existing evidence

Perhaps the main and most notable limitation of the literature is the lack of evidence of national level effects of social protection policies. Of the literature that does exist, most use regression analysis to look at the effects of particular social protection outcomes on economic growth. The problem with such studies, as mentioned previously, is that they only look at partial effects and do not take into consideration impacts from the individual/household level.

Attempts have been made to remedy this. Studies such as Hemerjick et al. (2016) combine quantitative micro and macro approaches with qualitative institutional analysis to paint a more contextualised picture of the impacts of social investments. However, this particular approach is still limited due to there being no interaction between the micro and macro models, meaning that spillover effects are not factored in. Others have opted for micro-macro simulation approaches that combine microsimulations with CGE models. The approach is by no means without flaws, since it assumes statistic prices and linear effects, but it does allow for the inclusion of spillover effects at the local community and the national/macroeconomy level. The LEWIE model in Taylor (2012) does address the issues of assumed static prices and linearity, but this only allows us to look at the impacts up to the community level.

Another key limitation of the literature is the lack of analysis on the different outcomes of men and women. Whilst studies such as the one undertaken by De Henau et al (2016) for the Women's Budget Group for the International Trade Union Confederation are limited in number, they may be limited in the scope of countries used or the scenarios and indicators that are examined in the study.

Annex 2   Selected results for the three investment scenarios

Table 2: Selected Indicators Universal distribution of transfers – CGE model

Outcome CGE	Scenario	Ghana	Rwanda	Bangladesh	India	Georgia	Serbia	Colombia	Costa Rica
Real GDP (market prices)	Scenario 1	0.24	0.41	0.32	0.38	0.26	0.29	0.25	0.38
	Scenario 2	0.48	0.82	0.65	0.79	0.52	0.58	0.51	0.76
	Scenario 3	0.33	3.5	0.19	0.11	0.1	0.06	0.25	0.45
Real Labour Value Added	Scenario 1	0.03	0.16	0.04	0.09	0.09	0.12	0.17	0.16
	Scenario 2	0.07	0.32	0.07	0.19	0.18	0.23	0.35	0.32
	Scenario 3	0.05	1.34	0.02	0.03	0.04	0.02	0.17	0.19
Real Capital Value Added	Scenario 1	0.02	0.13	0.05	0.02	0.04	0.04	0	0.09
	Scenario 2	0.04	0.26	0.1	0.04	0.08	0.07	0	0.18
	Scenario 3	0.02	1.06	0.03	0.01	0.02	0.01	0	0.11
Real Labour Income	Scenario 1	0.22	0.42	0.27	0.31	0.27	0.31	0.33	0.38
	Scenario 2	0.44	0.85	0.56	0.63	0.55	0.63	0.66	0.77
	Scenario 3	0.3	3.64	0.27	0.31	0.27	0.31	0.33	0.38
Real Capital Income	Scenario 1	0.2	0.39	0.29	0.24	0.22	0.23	0.15	0.31
	Scenario 2	0.41	0.8	0.59	0.49	0.44	0.47	0.31	0.63
	Scenario 3	0.28	3.36	0.17	0.07	0.09	0.05	0.15	0.37
Employment	Scenario 1	0.07	0.27	0.08	0.11	0.11	0.17	0.17	0.21
	Scenario 2	0.13	0.54	0.17	0.22	0.31	0.34	0.35	0.43
	Scenario 3	0.09	2.26	0.05	0.03	0.06	0.03	0.17	0.26
Real Household Income	Scenario 1	1.31	1.42	1.41	1.37	1.2	1.39	1.3	1.53
	Scenario 2	2.63	2.85	2.83	2.76	2.4	2.79	2.61	3.08

Annex 2: Selected results for the three scenarios

	Scenario 3	1.84	11.59	0.84	0.41	0.48	0.28	1.3	1.84
Nominal Tax Revenues	Scenario 1	1.19	2.02	2.41	3.54	1.16	1	1.77	1.23
	Scenario 2	2.4	4.12	4.9	7.27	2.34	2.02	3.58	2.49
	Scenario 3	1.67	17.73	1.44	1.05	0.46	0.2	1.77	1.48

Table 3: Selected Indicators Universal distribution of transfers – SAM Model

Outcome CGE	Scenario	Ghana	Rwanda	Bangladesh	India	Georgia	Serbia	Colombia	Costa Rica
Real GDP (factor price)	Scenario 1	0.72	1.90	1.49	1.25	0.72	0.79	1.02	0.69
	Scenario 2	1.44	3.80	2.97	2.50	1.45	1.58	2.05	1.38
	Scenario 3	1.00	14.82	0.89	0.38	0.29	0.16	1.02	0.83
Real Labour Value Added	Scenario 1	0.27	1.01	0.75	0.65	0.29	0.32	0.41	0.39
	Scenario 2	0.53	2.02	1.50	1.31	0.57	0.65	0.81	0.78
	Scenario 3	0.37	7.88	0.45	0.20	0.11	0.06	0.41	0.47
Real Capital Value Added	Scenario 1	0.45	0.89	0.74	0.60	0.44	0.46	0.62	0.30
	Scenario 2	0.90	1.78	1.47	1.19	0.88	0.93	1.24	0.60
	Scenario 3	0.63	6.94	0.44	0.18	0.18	0.09	0.62	0.36
Employment	Scenario 1	0.39	0.92	0.81	0.24		0.50	0.78	0.45
	Scenario 2	0.78	1.84	1.63	0.47		1.00	1.57	0.89
	Scenario 3	0.55	7.19	0.49	0.07		0.10	0.78	0.53
Real Household Income	Scenario 1	1.43	2.79	2.50	2.09	1.60	1.79	1.68	1.46
	Scenario 2	2.85	5.57	4.99	4.18	3.19	3.58	3.35	2.92
	Scenario 3	2.00	21.73	1.50	0.63	0.64	0.36	1.68	1.75

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Nominal Tax Revenues	Scenario 1	0.90	2.73	1.90	2.30	1.57	1.97	1.37	1.40
	Scenario 2	1.80	5.45	3.79	4.61	3.15	3.94	2.75	2.80
	Scenario 3	1.26	21.27	1.14	0.69	0.63	0.39	1.37	1.68

Annex 3   Progressive distribution of investment level

Table 4: Percentage distribution of investment level by household quintiles

Quintiles	Percentage distribution of total investment
Quintile 1 (Bottom)	36
Quintile 2	28
Quintile 3	20
Quintile 4	12
Quintile 5 (Top)	4
Total	100

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Table 5: Selected Indicators Progressive distribution of transfers – CGE model

Outcome	Scenario	Ghana	Rwanda	Bangladesh	India	Georgia	Serbia	Colombia	Costa Rica
Real GDP (market prices)	Scenario 1	0.23	0.41	0.31	0.38	0.27	0.27	0.25	0.36
	Scenario 2	0.47	0.83	0.64	0.77	0.54	0.55	0.52	0.73
	Scenario 3	0.33	3.51	0.19	0.19	0.11	0.05	0.25	0.44
Real Labour Value Added	Scenario 1	0.05	0.17	0.03	0.1	0.09	0.11	0.18	0.15
	Scenario 2	0.09	0.34	0.06	0.2	0.19	0.22	0.35	0.3
	Scenario 3	0.06	1.41	0.02	0.03	0.04	0.02	0.18	0.18
Real Capital Value Added	Scenario 1	0.01	0.13	0.06	0.06	0.04	0.03	0	0.09
	Scenario 2	0.02	0.26	0.11	0.03	0.08	0.07	0	0.18
	Scenario 3	0.02	1.05	0.03	0	0.02	0.01	0	0.11
Real Labour Income	Scenario 1	0.22	0.43	0.26	0.31	0.28	0.3	0.33	0.36
	Scenario 2	0.45	0.88	0.54	0.63	0.57	0.6	0.67	0.72
	Scenario 3	0.31	3.75	0.16	0.09	0.11	0.06	0.33	0.43
Real Capital Income	Scenario 1	0.19	0.4	0.29	0.23	0.23	0.22	0.16	0.3
	Scenario 2	0.39	0.8	0.59	0.47	0.46	0.44	0.32	0.6
	Scenario 3	0.27	3.38	0.17	0.07	0.09	0.04	0.16	0.36
Employment	Scenario 1	0.07	0.28	0.08	0.11	0.16	0.16	0.17	0.2
	Scenario 2	0.14	0.56	0.17	0.22	0.32	0.32	0.35	0.41
	Scenario 3	0.1	2.33	0.05	0.03	0.06	0.03	0.17	0.24
Real Household Income	Scenario 1	1.31	1.42	1.4	1.37	1.21	1.38	1.29	1.51
	Scenario 2	2.62	2.87	2.83	2.75	2.43	2.77	2.59	3.04
	Scenario 3	1.83	11.66	0.84	0.41	0.48	0.28	1.29	1.82
Nominal Tax Revenues	Scenario 1	1.17	2.02	2.36	3.55	1.15	1.02	1.77	1.21
	Scenario 2	2.36	4.1	4.81	7.27	2.32	2.06	3.6	2.44

	Scenario 3	1.64	17.69	1.41	1.05	0.46	0.2	1.77	1.45

Table 6: Selected Indicators Progressive distribution of transfers – SAM model

Outcome CGE	Scenario	Ghana	Rwanda	Bangladesh	India	Georgia	Serbia	Colombia	Costa Rica
Real GDP (factor price)	Scenario 1	0.76	1.94	1.53	1.32	0.75	0.74	1.07	0.68
	Scenario 2	1.53	3.88	3.06	2.64	1.50	1.49	2.14	1.37
	Scenario 3	1.07	15.14	0.92	0.40	0.30	0.15	1.07	0.82
Real Labour Value Added	Scenario 1	0.28	1.03	0.77	0.69	0.29	0.31	0.42	0.38
	Scenario 2	0.56	2.07	1.54	1.38	0.59	0.61	0.84	0.77
	Scenario 3	0.40	8.06	0.46	0.21	0.12	0.06	0.42	0.46
Real Capital Value Added	Scenario 1	0.48	0.91	0.76	0.63	0.45	0.44	0.65	0.30
	Scenario 2	0.96	1.81	1.52	1.25	0.91	0.88	1.29	0.60
	Scenario 3	0.68	7.08	0.46	0.19	0.18	0.09	0.65	0.36
Employment	Scenario 1	0.41	0.94	0.84	0.25		0.48	0.82	0.44
	Scenario 2	0.83	1.88	1.67	0.50		0.95	1.63	0.88
	Scenario 3	0.58	7.35	0.50	0.07		0.10	0.82	0.53
Real Household Income	Scenario 1	1.45	2.82	2.53	2.15	1.62	1.76	1.70	1.46
	Scenario 2	2.90	5.65	5.07	4.30	3.24	3.51	3.41	2.91
	Scenario 3	2.03	22.03	1.52	0.65	0.65	0.35	1.70	1.75
Nominal Tax Revenues	Scenario 1	0.64	2.82	1.53	2.50	1.56	2.26	1.27	1.37
	Scenario 2	1.27	5.65	3.06	5.01	3.11	4.52	2.54	2.74
	Scenario 3	0.89	22.02	0.92	0.75	0.62	0.45	1.27	1.65

Annex 4   SAM structures

Annex 4.1   Bangladesh

Table 7: Macro SAM for Bangladesh

		agr-sec	ind-sec	ser-sec	lab-fac	cap-fac	hh1-ins	hh2-ins	hh3-ins	hh4-ins	hh5-ins	fir-ins	gov-ins	dir-tax	ind-tax	dut-tax	s-i	inv	row	Total
Agriculture	agr-sec	1086272	99255	2030539	0	0	341144	508794	647462	799800	1129389	0	0	0	0	0	0	122614	122138	6887407
Industry	ind-sec	420902	845852	2485918	0	0	137516	246424	384991	507368	1804215	0	1184666	0	0	0	0	0	44916	8062768
Services	ser-sec	2101006	831048	7868021	0	0	812403	1084157	1285373	1543496	2544469	0	0	0	0	0	6028302	-105014	2803803	26797064
Labour	lab-fac	860138	3413249	5383628	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9657015
Capital	cap-fac	1840151	2657950	4544116	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9042216
Household Quintile 1	hh1-ins	0	0	0	806145	543903	0	0	0	0	0	0	56862	0	0	0	0	0	17737	1424647
Household Quintile 2	hh2-ins	0	0	0	1238507	810639	0	0	0	0	0	0	75461	0	0	0	0	0	55198	2179806
Household Quintile 3	hh3-ins	0	0	0	1649538	889860	0	0	0	0	0	0	89096	0	0	0	0	0	88588	2717082
Household Quintile 4	hh4-ins	0	0	0	2104800	1126735	0	0	0	0	0	0	74836	0	0	0	0	0	200491	3506863
Household Quintile 5	hh5-ins	0	0	0	3858024	2958414	0	0	0	0	0	0	115122	0	0	0	0	0	634149	7565709
Firms	fir-ins	0	0	0	0	2712665	0	0	0	0	0	0	0	0	0	0	0	0	0	2712665
Government	gov-ins	0	0	0	0	0	0	0	0	0	0	0	0	627540	1058923	215710	0	0	0	1902173
Direct taxes	dir-tax	0	0	0	0	0	358	891	4413	5350	237808	378720	0	0	0	0	0	0	0	627540
Indirect taxes	ind-tax	385	94794	963743	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1058923
Duties	dut-tax	13952	0	201758	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	215710
Capital formation	s-i	0	0	0	0	0	133226	339540	394843	650849	1849829	2333945	306129	0	0	0	0	0	37541	6045902
Inventory	inv	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17600	0	0	17600
Rest of world	row	564601	120619	3319341	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4004561
	Total	6887407	8062768	26797064	9657015	9042216	1424647	2179806	2717082	3506863	7565710	2712665	1902173	627540	1058923	215710	6045902	17600	4004561	

Source: Authors' elaboration based on GED (2019). Notes: units are in million BDT and reference year is 2017.

Annex 4.2 Colombia

Table 8: Macro SAM for Colombia

		agr-sec	ind-sec	ser-sec	lab-fac	cap-fac	hh1-ins	hh2-ins	hh3-ins	hh4-ins	hh5-ins	fir-ins	gov-ins	dir-tax	ind-tax	dut-tax	s-i	inv	row	Total
Agriculture	agr-sec	7789	40963	4541	0	0	966	2054	3268	5078	14365	1	32	0	0	0	6016	-1	8152	93223
Industry	ind-sec	12530	194932	58044	0	0	5182	11220	18006	28310	81828	577	8178	0	0	0	137173	-48	105237	661169
Services	ser-sec	7553	94080	219011	0	0	10692	26229	44945	74462	228614	2981	128360	0	0	0	19955	38	17139	874059
Labour	lab-fac	14500	63370	234674	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1361	313905
Capital	cap-fac	45081	177042	286753	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	508876
Household Quintile 1	hh1-ins	0	0	0	7846	5421			0	0	0	4247	4612	0	0	0	0	0	464	22590
Household Quintile 2	hh2-ins	0	0	0	25062	9426	0	0	0	0	0	7385	8827	0	0	0	0	0	723	51423
Household Quintile 3	hh3-ins	0	0	0	40036	20572	0	0	0	0	0	16118	12953	0	0	0	0	0	1588	91268
Household Quintile 4	hh4-ins	0	0	0	66431	36124	0	0	0	0	0	28302	20286	0	0	0	0	0	2258	153402
Household Quintile 5	hh5-ins	0	0	0	174462	166955	0	0	0	0	0	130807	69874	0	0	0	0	0	17989	560087
Firms	fir-ins	0	0	0	0	261598	1487	2828	6868	13181	80865	62251	12834	0	0	0	0	0	12567	454478
Government	gov-ins	0	0	0	0	0	0	0	0	0	0	0	99035	172136	79281	4722	0	0	3009	358183
Direct taxes	dir-tax	433	6473	7436	0	8780	1229	2338	5677	10896	66849	61759	143	0	0	0	123	0	0	172136
Indirect taxes	ind-tax	-212	15686	30423	0	0	824	1932	3237	5272	15875	0	271	0	0	0	5973	0	0	79281
Duties	dut-tax	130	1176	503	0	0	47	110	184	299	901	0	0	0	0	0	1071	0	301	4722
Capital formation	s-i	0	0	0	0	0	827	1572	3818	7328	44956	110531	-13419	0	0	0	0	0	43203	198816
Inventory	inv	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rest of world	row	5419	67447	32674	67	0	1338	3140	5265	8576	25833	29519	6197	0	0	0	28505	12	14934	228926
	Total	93223	661169	874059	313905	508876	22590	51423	91268	153402	560087	454478	358183	172136	79281	4722	198816	0	228926	

Source: Authors' elaboration based on DANE (2020). Notes: units are in billion COP and reference year is 2017.

Annex 4.3 Costa Rica

Table 9: Macro SAM for Costa Rica

		agr-sec	ind-sec	ser-sec	lab-fac	cap-fac	hh1-ins	hh2-ins	hh3-ins	hh4-ins	hh5-ins	fir-ins	gov-ins	dir-tax	ind-tax	dut-tax	s-i	inv	row	Total
Agriculture	agr-sec	5302486	2846995	374832	0	0	182244	214026	248975	269628	305709	0	491	0	0	0	61007	7471	1341777	11155641
Industry	ind-sec	1493583	8306940	7187136	0	0	680804	849122	1089078	1334773	2500583	12393	123089	0	0	0	1575512	-35176	3106703	28224540
Services	ser-sec	1307507	4738812	32358703	0	0	462956	732586	1035716	1659786	3734625	169751	3868077	0	0	0	3177555	0	2933567	56179641
Labour	lab-fac	1078961	1499118	8304190	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10882269
Capital	cap-fac	1147588	1975220	4939264	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8062073
Household Quintile 1	hh1-ins	0	0	0	914269	168116	0	0	0	0	0	398267	215294			0	0	0	36829	1732776
Household Quintile 2	hh2-ins	0	0	0	1308161	189573	0	0	0	0	0	449098	297745	0	0	0	0	0	44864	2289441
Household Quintile 3	hh3-ins	0	0	0	1746949	223515	0	0	0	0	0	529508	401101	0	0	0	0	0	66342	2967416
Household Quintile 4	hh4-ins	0	0	0	2325617	309871	0	0	0	0	0	734085	668556	0	0	0	0	0	80095	4118225
Household Quintile 5	hh5-ins	0	0	0	4573278	741857	0	0	0	0	0	1757459	1807261	0	0	0	0	0	116764	8996619
Firms	fir-ins	0	0	0	0	6356502	175382	212034	253998	366082	1065317	78127	384618	0	0	0	0	0	117514	9009574
Government	gov-ins	0	0	0	0	72638	0	0	0	0	0	406081	0	4874587	1927560	710355	0	0	17131	8008351
Direct taxes	dir-tax	137514	239150	1412485	0	0	206247	249349	298698	430507	1252798	584698	52	0	0	0	0	0	64647	4876146
Indirect taxes	ind-tax	129477	918208	879875	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1927560
Duties	dut-tax	15198	695157	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	710355
Capital formation	s-i	0	0	0	0	0	11878	14360	17202	24793	72150	3033945	200333	0	0	0	4814074	0	1411708	9600444
Inventory	inv	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-27705	0	0	-27705
Rest of world	row	543327	7004940	723154	13995	0	13266	17965	23748	32656	65437	856161	41733	1558	0	0	0	0	0	9337941
	Total	11155641	28224540	56179641	10882269	8062073	1732776	2289441	2967416	4118225	8996619	9009574	8008351	4876146	1927560	710355	9600444	-27705	9337941	

Source: Authors' elaboration based on Cicowiez, Sánchez and Muñoz (2015). Notes: units are in million CRC and reference year is 2012.

Annex 4.4   Georgia

Table 10: Macro SAM for Georgia

		agr-sec	ind-sec	ser-sec	lab-fac	cap-fac	hh1-ins	hh2-ins	hh3-ins	hh4-ins	hh5-ins	fir-ins	gov-ins	dir-tax	ind-tax	dut-tax	s-i	inv	row	Total
Agriculture	agr-sec	3986	1366	181	0	0	111	431	386	350	625	0	21	0	0	0	696	0	1005	9159
Industry	ind-sec	860	20290	3609	0	0	1169	1459	2366	2742	3070	0	0	0	0	0	5915	0	6691	48171
Services	ser-sec	1582	5791	32149	0	0	1429	729	1270	1715	1342	0	4458	0	0	0	42	0	4301	54808
Labour	lab-fac	1600	1673	5881	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9155
Capital	cap-fac	531	3814	9835	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14180
Household Quintile 1	hh1-ins	0	0	0	1145	1922	64	13	50	85	44	0	53	0	0	0	0	0	401	3778
Household Quintile 2	hh2-ins	0	0	0	645	2363	49	9	38	64	33	0	807	0	0	0	0	0	171	4180
Household Quintile 3	hh3-ins	0	0	0	2271	2355	59	12	46	78	41	0	349	0	0	0	0	0	460	5671
Household Quintile 4	hh4-ins	0	0	0	2770	2714	67	13	53	89	46	0	214	0	0	0	0	0	854	6820
Household Quintile 5	hh5-ins	0	0	0	2322	3783	77	15	60	101	53	0	820	0	0	0	0	0	575	7807
Firms	fir-ins	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Government	gov-ins	0	0	0	0	536	0	0	0	0	0	0	0	3000	3570	89	0	0	239	7434
Direct taxes	dir-tax	-105	-16	-26	0	0	438	177	798	987	746	0	0	0	0	0	0	0	0	3000
Indirect taxes	ind-tax	77	2894	599	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3570
Duties	dut-tax	5	84	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	89
Capital formation	s-i	0	0	0	0	0	291	1292	546	540	1730	0	711	0	0	0	0	0	1543	6653
Inventory	inv	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rest of world	row	621	12275	2579	0	507	24	31	58	70	76	0	0	0	0	0	0	0	0	16241
	Total	9159	48171	54808	9155	14180	3778	4180	5671	6820	7807	0	7434	3000	3570	89	6653	0	16241	

Source: Yerushalmi, Labadze and Galdava (2015). Notes: units are in million GEL and reference year is 2013.

Annex 4.5   Ghana

Table 11: Macro SAM for Ghana

		agr-sec	ind-sec	ser-sec	lab-fac	cap-fac	hh1-ins	hh2-ins	hh3-ins	hh4-ins	hh5-ins	fir-ins	gov-ins	dir-tax	ind-tax	dut-tax	s-i	inv	row	Total
Agriculture	agr-sec	39449	2739	4419	0	0	4274	4140	4654	7326	13685	0	0	0	0	0	0	0	1300	7226	89213
Industry	ind-sec	3239	132311	19714	0	0	1508	1726	2228	4513	13219	0	0	0	0	0	35964	1239	29437	245100
Services	ser-sec	11019	24780	177200	0	0	1970	2417	3168	6296	17520	0	22341	0	0	0	0	0	19250	285960
Labour	lab-fac	9078	6095	28023	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	43196
Capital	cap-fac	16617	29622	32405	0	0	0	0	0	0	0	0	0	0	0	0	0	0	781	79425
Household Quintile 1	hh1-ins	0	0	0	4028	3648	0	0	0	0	0	615	30	0	0	0	0	0	300	8622
Household Quintile 2	hh2-ins	0	0	0	4768	2795	0	0	0	0	0	1556	57	0	0	0	0	0	373	9548
Household Quintile 3	hh3-ins	0	0	0	5823	2200	0	0	0	0	0	3497	112	0	0	0	0	0	494	12127
Household Quintile 4	hh4-ins	0	0	0	9603	2105	0	0	0	0	0	10573	366	0	0	0	0	0	1013	23660
Household Quintile 5	hh5-ins	0	0	0	18974	1817	0	0	0	0	0	43014	1006	0	0	0	0	0	2845	67656
Firms	fir-ins	0	0	0	0	63966	0	0	0	0	0	0	9020	0	0	0	0	0	0	72986
Government	gov-ins	0	0	0	0	0	4	9	13	54	209	6101	0	7392	9688	5375	0	0	2762	31607
Direct taxes	dir-tax	0	0	0	0	0	19	60	154	527	2806	3826	0	0	0	0	0	0	0	7392
Indirect taxes	ind-tax	1844	6312	1532	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9688
Duties	dut-tax	1603	3772	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5375
Capital formation	s-i	0	0	0	0	0	846	1195	1909	4945	20216	3804	-3053	0	0	0	0	0	8643	38504
Inventory	inv	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2540	0	0	2540
Rest of world	row	6364	39468	22667	0	2895	0	0	0	0	0	0	1729	0	0	0	0	0	0	73123
	Total	89213	245100	285960	43196	79425	8622	9548	12127	23660	67656	72986	31607	7392	9688	5375	38504	2540	73123	

Source: Authors' elaboration based on GSS, ISSER and IFPRI (2017). Notes: units are in million GHS and reference year is 2015.

Annex 4.6   India

Table 12: Macro SAM for India

		agr-sec	ind-sec	ser-sec	lab-fac	cap-fac	hh1-ins	hh2-ins	hh3-ins	hh4-ins	hh5-ins	fir-ins	gov-ins	dir-tax	ind-tax	dut-tax	s-i	inv	row	Total
Agriculture	agr-sec	14627880	13435178	3573458	0	0	4748455	6157899	7410827	9254048	12724378	0	259862	0	0	0	615250	-1	1876270	74683504
Industry	ind-sec	6816830	109856671	26781344	0	0	3678767	5423966	7230390	10508323	20535488	0	4802467	0	0	0	67180313	5	24697749	287512313
Services	ser-sec	5315714	41804533	25419578	0	0	1962074	3808022	6535960	13556531	52356195	0	25443523	0	0	0	4636889	-2	14596822	195435839
Labour	lab-fac	28393414	33988392	69625063	0	0	0	0	0	0	0	0	0	0	0	0	0	-2	-312600	131694267
Capital	cap-fac	22453945	31631273	68849714	0	0	0	0	0	0	0	0	0	0	0	0	0	4	-1512400	121422536
Household Quintile 1	hh1-ins	0	0	0	7055171	2300620	0	0	0	0	0	0	2618081	0	0	0	0	0	338098	12311971
Household Quintile 2	hh2-ins	0	0	0	11003911	4936114	0	0	0	0	0	0	3126786	0	0	0	0	0	962380	20029191
Household Quintile 3	hh3-ins	0	0	0	15305739	8489722	0	0	0	0	0	0	3671628	0	0	0	0	-1	1448041	28915129
Household Quintile 4	hh4-ins	0	0	0	27112714	14750473	0	0	0	0	0	0	3801274	0	0	0	0	-1	2382662	48047122
Household Quintile 5	hh5-ins	0	0	0	71216732	46528841	0	0	0	0	0	0	12118394	0	0	0	0	-3	6758201	136622165
Firms	fir-ins	0	0	0	0	14001715	0	0	0	0	0	0	3338651	0	0	0	0	0	0	17340366
Government	gov-ins	0	0	0	4963087	0	0	0	0	0	0	0	0	14493397	0	21607300	0	-2	-257200	40806582
Direct taxes	dir-tax	0	0	0	0	0	644740	853983	1213809	1775091	3649574	6356200	0	0	0	0	0	0	0	14493397
Indirect taxes	ind-tax	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Duties	dut-tax	-3867778	14101011	-342033	0	0	119892	308141	525565	1147021	4063739	0	553450	0	0	0	4981018	1	17274	21607300
Capital formation	s-i	0	0	0	0	25451965	1158042	3477181	5998577	11806108	43292792	10984166	-18927534	0	0	0	0	1	-5827828	77413470
Inventory	inv	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rest of world	row	943499	42695255	1528715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	45167469
	Total	74683504	287512313	195435839	131694267	121422536	12311971	20029191	28915129	48047122	136622165	17340366	40806582	14493397	0	21607300	77413470	0	45167469	

Source: Authors' elaboration based on Deb Pal, Pohit, and Roy (2012). Notes: units are in 1,50,000 INR and reference year is 2004.

Annex 4.7 Rwanda

Table 13: Macro SAM for Rwanda

		agr-sec	ind-sec	ser-sec	lab-fac	cap-fac	hh1-ins	hh2-ins	hh3-ins	hh4-ins	hh5-ins	fir-ins	gov-ins	dir-tax	ind-tax	dut-tax	s-i	inv	row	Total
Agriculture	agr-sec	1507499	187140	77577	0	0	94684	135646	183738	271706	982379	0	0	0	0	0	0	1	35681	3476051
Industry	ind-sec	88967	1739183	276914	0	0	27276	34981	48147	289187	465189	0	0	0	0	0	807749	7	322784	4100383
Services	ser-sec	613674	543882	3633189	0	0	90904	48749	108172	98709	326800	0	539309	0	0	0	0	-5	221820	6225202
Labour	lab-fac	597724	311028	1024951	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	1933706
Capital	cap-fac	628602	325739	706864	0	0	0	0	0	0	0	0	0	0	0	0	0	-2	0	1661203
Household Quintile 1	hh1-ins	0	0	0	188646	36713	0	0	0	0	0	0	6105	0	0	0	0	-1	1388	232852
Household Quintile 2	hh2-ins	0	0	0	188241	68004	0	0	0	0	0	0	7647	0	0	0	0	0	2183	266075
Household Quintile 3	hh3-ins	0	0	0	221516	119015	0	0	0	0	0	0	11775	0	0	0	0	0	4979	357284
Household Quintile 4	hh4-ins	0	0	0	375650	310491	0	0	0	0	0	0	23140	0	0	0	0	0	14304	723585
Household Quintile 5	hh5-ins	0	0	0	877090	1124266	0	0	0	0	0	0	40393	0	0	0	0	0	107094	2148842
Firms	fir-ins	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Government	gov-ins	0	0	0	0	2713	0	0	0	0	0	0	0	210770	122350	194048	0	0	433588	963469
Direct taxes	dir-tax	0	0	0	0	0	19765	9606	16463	24720	140217	0	0	0	0	0	0	0	0	210770
Indirect taxes	ind-tax	452	75200	46698	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	122350
Duties	dut-tax	47	194001	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	194048
Capital formation	s-i	0	0	0	0	0	223	37094	765	39264	234258	0	330237	0	0	0	0	0	165908	807749
Inventory	inv	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rest of world	row	39086	724210	459009	82563	0	0	0	0	0	0	0	4863	0	0	0	0	-3	0	1309728
	Total	3476051	4100383	6225202	1933706	1661203	232852	266075	357284	723585	2148842	0	963469	210770	122350	194048	807749	0	1309728	

Source: Authors' elaboration based on Pradesha and Diao (2014). Notes: units are in million RWF and reference year is 2011.

Annex 4.8 Serbia

Table 14: Macro SAM for Serbia

		agr-sec	ind-sec	ser-sec	lab-fac	cap-fac	hh1-ins	hh2-ins	hh3-ins	hh4-ins	hh5-ins	fir-ins	gov-ins	dir-tax	ind-tax	dut-tax	s-i	inv	row	Total
Agriculture	agr-sec	201151	244018	68704	0	0	18685	17390	27256	23886	57403	0	13	0	0	0	12834	21529	93454	786323
Industry	ind-sec	150374	4827872	718100	0	0	109671	134180	240901	247777	594366	0	64127	0	0	0	552818	69070	1159504	8868759
Services	ser-sec	138735	1305473	575738	0	0	73080	115707	201875	275989	481900	0	664021	0	0	0	125109	350	468597	4426571
Labour	lab-fac	21050	533568	1179275	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1733893
Capital	cap-fac	160521	850425	1458087	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2469033
Household Quintile 1	hh1-ins	0	0	0	106537	147449	0	0	0	0	0	0	82162	0	0	0	0	0	65968	402116
Household Quintile 2	hh2-ins	0	0	0	233331	110877	0	0	0	0	0	0	122816	0	0	0	0	0	38053	505077
Household Quintile 3	hh3-ins	0	0	0	312590	294028	0	0	0	0	0	0	151037	0	0	0	0	0	20941	778595
Household Quintile 4	hh4-ins	0	0	0	426206	226398	0	0	0	0	0	0	181149	0	0	0	0	0	22781	856535
Household Quintile 5	hh5-ins	0	0	0	655229	885275	0	0	0	0	0	0	209431	0	0	0	0	0	34529	1784464
Firms	fir-ins	0	0	0	0	805005	0	0	0	0	0	0	0	0	0	0	0	0	0	805005
Government	gov-ins	0	0	0	0	0	80963	40880	51859	40030	137713	75055	0	321385	870006	0	0	0	0	1617891
Direct taxes	dir-tax	0	0	0	0	0	46220	23338	29606	22853	78618	120751	0	0	0	0	0	0	0	321385
Indirect taxes	ind-tax	25984	257639	99308	0	0	16784	21112	37653	40463	92236	0	26213	0	0	0	76178	9574	166863	870006
Duties	dut-tax	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Capital formation	s-i	0	0	0	0	0	1240	82942	65559	72694	39044	609200	32253	0	0	0	0	0	246340	1149272
Inventory	inv	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	132608	0	0	132608
Rest of world	row	88508	849763	327359	0	0	55473	69529	123887	132844	303184	0	84671	0	0	0	249726	32085	548860	2865889
	Total	786323	8868759	4426571	1733893	2469033	402116	505077	778595	856535	1784464	805005	1617891	321385	870006	0	1149272	132608	2865889	

Source: Authors' elaboration based on supply and use tables and national account estimates from The Statistical Office of the Republic of Serbia (SORS). Notes: units are in million RSD and reference year is 2018. Taxes accounts are null since are substituted by the government account.