

Chapter 2. Micro-level impact of social assistance on inclusive growth

Social assistance programmes are a key component of social protection investments that are likely to affect inclusive growth, especially given that they are non-contributory and target the poor. Yet, besides cash transfers, empirical evidence on their impact on inclusive growth remains insufficiently documented. Through a review of the empirical literature and new empirical analysis for Brazil, Germany, Ghana and Indonesia, this chapter examines the impacts of various social assistance programmes on a range of microeconomic outcomes conducive to inclusive growth that are captured in household surveys. Programmes analysed span lifecycle stages, countries and household income levels. Results make a strong case for investments in social assistance as a driver of inclusive growth but indicate that programme design and implementation, and heterogeneity of benefit levels, matter. Some aspects are difficult to measure in quantitative analysis and deserve greater attention in future data collection and research.

Progressivity of social assistance

Social assistance in the form of cash transfer programmes have rapidly expanded in low- and middle-income countries in recent years and have become central in poverty reduction and social protection strategies in many countries. Social assistance schemes currently cover 31% of the global population (World Bank, 2018^[1]): some 130 low- and middle-income countries have implemented at least one non-contributory unconditional cash transfer (UCT) programme, while about 63 have at least one conditional cash transfer (CCT) programme (Bastagli et al., 2016^[2]).

Still, a large share of the target population lacks access to social assistance. It covers less than 15% of the sub-Saharan African population, benefiting only about 9% of the poorest households (see Table 1.1 in Chapter 1).

New empirical evidence presented in this report is based on four country studies: Brazil, Germany, Ghana and Indonesia. The social assistance programmes analysed include three CCT programmes, a child benefit programme and a cash transfer programme for poor students (Table 2.1).

Table 2.1. Social assistance programmes included in the empirical analysis

Country	Programme name	Programme type	Start year	Target group	Benefit level
Brazil	Bolsa Familia	CCT	2003	Households in extreme poverty	Basic benefit = USD 30 per household per month Variable benefit = USD 10.12 per month per eligible person
Ghana	Livelihood Empowerment Against Poverty (LEAP)	CCT/UCT	2008	Households in extreme poverty	Varies by number of eligible members, from USD 13.4 to USD 22 per payment cycle (6 months)
Indonesia	Programme Keluarga Harapan (PKH)	CCT	2007 ¹	Households in extreme poverty with child below age 21	USD 129 per year per household
Indonesia	Bantuan Siswa Miskin (BSM) ²	Cash transfer for poor students	2008	Students aged 6-21 in poor households	USD 30 for elementary school to USD 68 for senior high school per year per student
Germany	Kindergeld	Child benefit	1996 ³	Households with children below age 18	USD 224 per month for first and second child USD 231 and USD 260 per month for third and fourth child, respectively

Notes: USD = United States dollar.

¹ The large-scale 2007 pilot was later scaled up nationally.

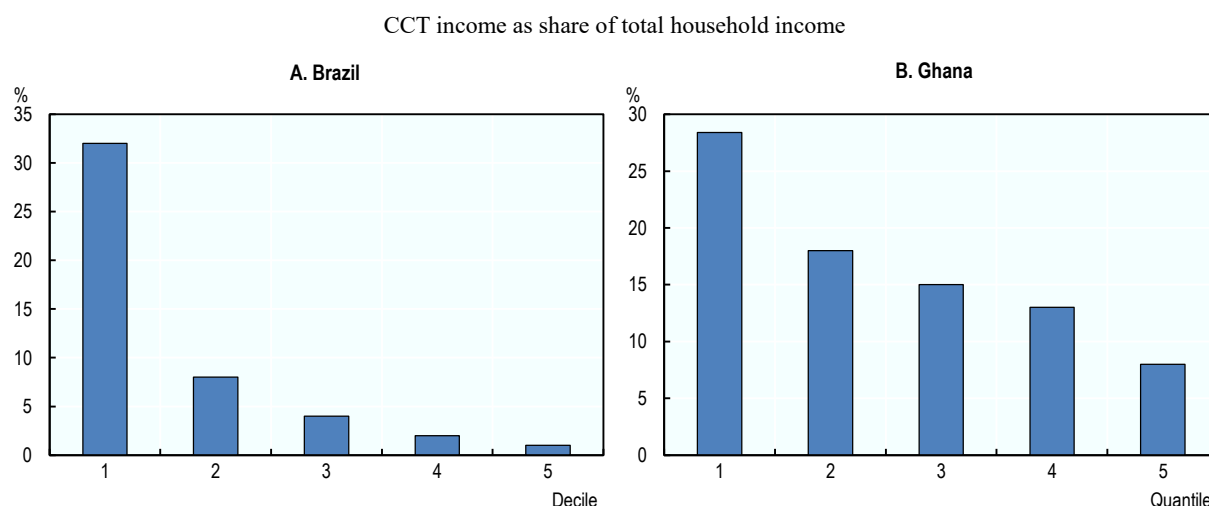
² Since renamed Program Indonesia Pintar (PIP).

³ In place for longer, but a 1996 reform substantially increased benefits.

These programmes have slightly different targets, which affects the selection of households included in the analysis. The three CCT programmes analysed target poorer populations in their respective countries. CCT income as a share of total household income is higher in poorer households, indicating a certain degree of success in targeting. In Brazil, CCTs represent 32% of income among households in the first decile and less than 10% of income among those in the second to fifth deciles (Figure 2.1A). Households above the fifth decile are ineligible and therefore excluded from the analysis.

In Ghana, Livelihood Empowerment Against Poverty (LEAP) cash transfers account for 28% of total household income in the first quintile and 8% in the fifth quintile (Figure 2.1B). The latter constitutes a small but not negligible share of households in the survey sample; the analysis therefore includes all households in the survey.

Figure 2.1. CCTs constitute a large share of household income in the lowest income groups in Brazil and Ghana

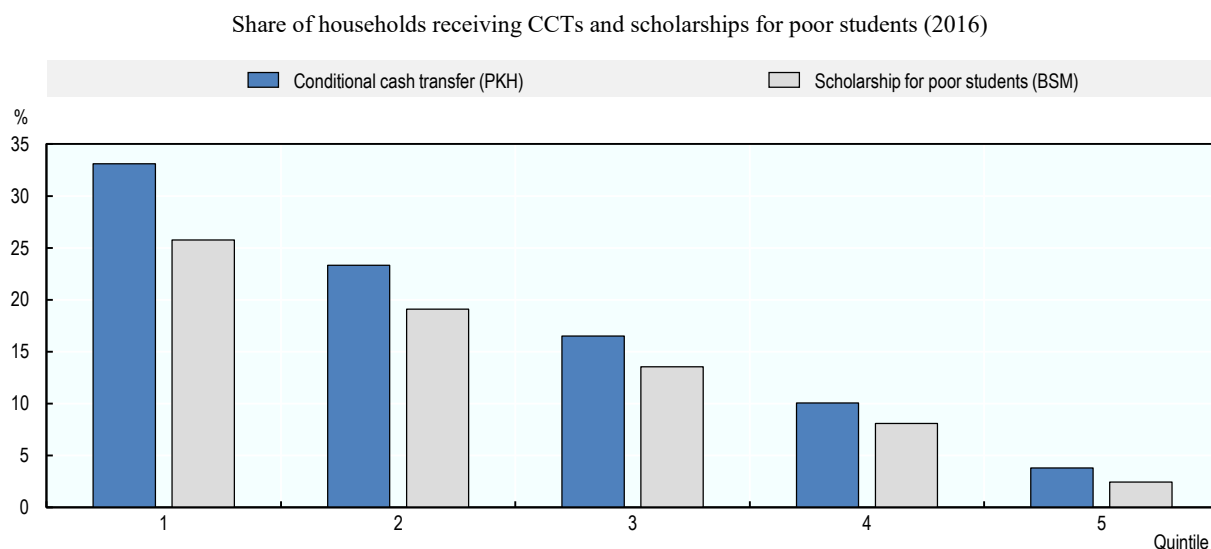


Note: CCT income share for the sixth to tenth deciles in Brazil is zero due to ineligibility.

Source: Authors' calculations based on data (2011-15) from Pesquisa Nacional por Amostra de Domicílios (Brazilian National Household Sample Survey), ibge.gov.br/estatisticas-novoportal/sociais/saude/9127-pesquisa-nacional-por-amostra-de-domicilios.html, and household evaluation data (2010-16) from Ghana's Livelihood Empowerment Against Poverty programme.

Analysis of Indonesia's Programme Keluarga Harapan (PKH) cash transfer programme and Bantuan Siswa Miskin (BSM) scholarship for poor students programme uses programme participation (i.e. whether households received social assistance transfers or not). Households in the first quintiles are substantially more likely to receive CCT income and scholarship benefits (Figure 2.2): one in three (33%) receives CCT income and one in four (26%) receives scholarships, compared with 4% and 2% among households in the fifth quintile. Analysis of the PKH and BSM thus focuses on the first three quintiles.

Germany's child benefit targets all households with children, regardless of income level. Analysis therefore includes all households in the German Socio-Economic Panel survey with at least one child. The level of benefit varies for children past the second child (see Annex 2.A).

Figure 2.2. Poorer households are more likely to receive CCTs in Indonesia

Note: Quintiles are calculated based on income.

Source: Authors' calculations based on data from the 2016 Indonesian National Socio-Economic Survey (SUSENAS), <https://microdata.bps.go.id/mikrodata/index.php/catalog/SUSENAS>.

Impact of social assistance on micro drivers of growth

While social assistance covers all lifecycle stages, most evaluations have focused on programmes targeting children, youth and working-age individuals, which is reflected in the analysis below. Some evidence addresses programmes for the elderly.

Impact of social assistance on children and youth

Many children and youth suffer from poverty, social exclusion and lack of access to necessary goods and services (ILO, 2017^[3]). Social assistance can play an important role in lifting children out of poverty, reducing child labour, and improving health, nutrition and education outcomes.

Cash transfers seem to spur investments in schooling

Existing empirical literature supports theoretical expectations regarding the impact of social assistance on education outcomes (see Chapter 1). Two extensive literature reviews show a positive link between cash transfers and school attendance, with stronger impacts in the case of conditionality (Bastagli et al., 2016^[2]; Baird et al., 2013^[4]). Findings give ample support to the expectation that, since liquidity- and credit-constrained households tend to underinvest in education, social protection benefits can positively affect education outcomes. The reviews also suggest that conditionalities have an effect by themselves (Box 2.1). However, impacts on learning, critical in disrupting intergenerational poverty, are weaker. A few recent studies shed light on cash transfers' long-term impacts and propose that some outcomes, such as learning, might change due to long periods of exposure. However, evidence for the hypothesis remains limited. Other studies have also evidenced that unconditional cash transfer programmes can significantly increase secondary school-age enrolment and spending on school inputs, thus refuting common

perceptions (Peterman, Yablonski and Daidone, 2018^[5]; Baird et al., 2014^[6]; Kilburn et al., 2017^[7]; Handa et al., 2016^[8]).

New empirical evidence presented in this report also points to CCTs' positive effect on school attendance. Increased household income from Bolsa Família, Brazil's flagship social assistance programme, increases school enrolment rates among children and youth up to age 25 (Figure 2.3A). The effect holds in all but the fourth decile. The effect is largest among age groups above age 14, since attendance by younger groups is almost universal.

Indonesia's PKH CCT has similar effects on school attendance. Receiving a PKH positively affects the first three quintiles, with a stronger effect in the first two (Figure 2.3B). Estimations are statistically significant at a 5% level in the three quintiles. These results are in line with previous findings that the PKH significantly improves elementary school attendance (Hadna, Dyah and Tong, 2017^[9]).

Ghana's LEAP CCT is an important income source for the poorest households to cover education expenditures. Basic public education is partly subsidised, but financial access is still an issue (NDPC, 2015^[10]). Until recently, families had to pay substantial sums for higher than basic education, i.e. senior high and tertiary education. Analysis shows that increased income from LEAP significantly increases the likelihood that a child or youth (aged 3-24) in the lowest quintile attends school. Separate analysis of youth aged 12-24, the group most prone to dropout, found similar results. The survey question of school attendance was restricted to the current school year. An additional indicator on dropout – children and youth who ever attended school but are currently out of school – was also analysed for both age groups. As with attendance, LEAP did not have an impact on dropout among households in higher income groups but was very important for the lowest quintile.

Box 2.1. The role of conditionality in cash transfers

The increasing popularity and implementation in developing countries of CCTs have prompted debate over the role and effectiveness of conditionality – primarily whether explicit conditions and their enforcement affect the benefit’s performance and thus whether CCTs are more effective than UCTs (Bastagli et al., 2016^[2]). Both transfers employ means testing, such as targeting mechanisms and eligibility criteria; debate revolves around the conditions on which benefits are contingent (Pellerano and Barca, 2017^[11]).

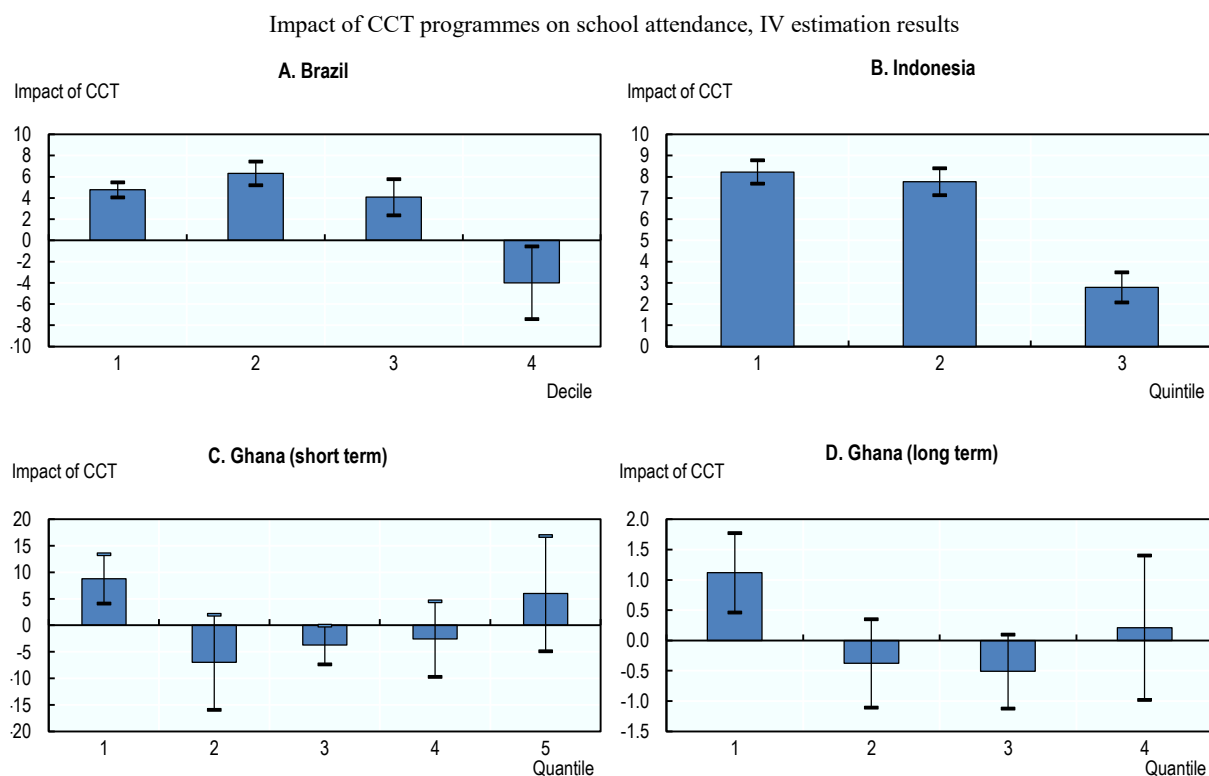
Empirical evidence suggests that CCTs tend to be somewhat more successful than UCTs in achieving education and health outcomes (Bastagli et al., 2016^[2]). The extent and significance of the effect, however, depends on programme design and implementation. In developing countries, only CCT programmes with strong monitoring and enforcement mechanisms had a more significant impact on school enrolment rates than UCTs (Baird et al., 2013^[4]). Moreover, stronger conditions than attendance, such as graduation, have a larger effect on secondary education enrolment and attendance (Barrera-Orsorio et al., 2008^[12]; Saavedra and Garcia, 2012^[13]). Overall, conditionality plays an important role in education outcomes, as long beneficiaries perceive them as enforceable. CCT programmes without proper monitoring have been shown to have a smaller impact than equivalent unconditional schemes that were strongly labelled (Bastagli et al., 2016^[2]).

CCTs tend to have a larger positive impact than UCTs on hospital births, prenatal care visits and use of medical services. However, it is not clear whether this is due to conditionality and, unlike education outcomes, the effect depends not on enforcement but awareness (Bastagli et al., 2016^[2]; IEG, 2014^[14]). Several studies highlight the role of communication, perceptions and messaging. As conditionalities can have unanticipated effects, encouraging participants to take certain actions may be more effective.

Conditionality also implies costs for beneficiaries. Poorer households (the main target) that are located far away from health clinics may have higher time and transport costs to comply with compulsory health checks. Poorer households also often have more children, requiring more frequent visits. Studies also highlight CCTs’ particular impacts on women, who are typically made the main beneficiaries: in some cases, CCTs may reinforce traditional gender roles and increase women’s work burden.

Conditionality also implies implementation costs related to enforcement and awareness raising (Pellerano and Barca, 2017^[11]). The elements that enable conditionality to have a significant impact on outcomes imply higher costs and an increased administrative burden in terms of implementation. The role and efficiency of conditionality depends on both policy design and the institutional context of each country (Pellerano and Barca, 2017^[11]).

Figure 2.3. CCTs have a positive impact on school attendance in Brazil, Indonesia and Ghana

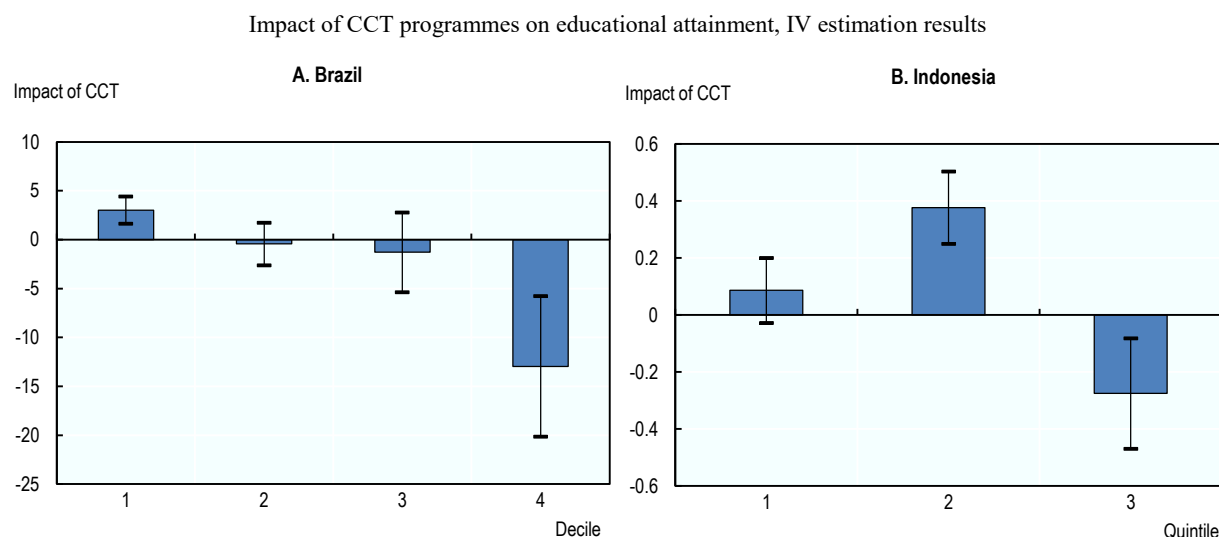


Notes: Blue bars indicate coefficient values; black error bars indicate 95% confidence intervals. If zero is within the confidence interval, the coefficient is considered not statistically significant. For Brazil, school enrolment is estimated for youth aged 14-25. and for Indonesia, school attendance is estimated for youth aged 5-18 LEAP impact evaluations were carried out twice after the programme started in 2008: 2012 (short-term impact) and 2016 (long-term impact).

Source: Authors' calculations based on data from Pesquisa Nacional por Amostra de Domicílios (Brazilian National Household Sample Survey) (2011-15), ibge.gov.br/estatisticas-novoportal/sociais/saude/9127-pesquisa-nacional-por-amostra-de-domicilios.html, household evaluation data (2010-16) from Ghana's Livelihood Empowerment Against Poverty programme, and data from the 2016 Indonesian National Socio-Economic Survey (SUSENAS), <https://microdata.bps.go.id/mikrodata/index.php/catalog/SUSENAS>.

Educational attainment (years of schooling obtained) is another outcome important for future labour market outcomes. Analyses for Brazil and Indonesia show that CCTs have a positive impact on educational attainment among the poorest children and youth (first decile in Brazil; first quintile in Indonesia) (Figures 2.4A and 2.4B). The effect, however, is negative for children in the second to fourth deciles in Brazil, although not statistically significant. In Indonesia, the effect is positive in the second quintile and negative in the third.

Figure 2.4. CCTs have a positive impact on educational attainment in the first income groups in Brazil and Indonesia



Note: Blue bars indicate coefficient values; black error bars indicate 95% confidence intervals. If zero is within the confidence interval, the coefficient is considered not statistically significant.

Source: Authors' calculations based on data from Pesquisa Nacional por Amostra de Domicílios (Brazilian National Household Sample Survey) (2011-15), ibge.gov.br/estatisticas-novoportal/sociais/saude/9127-pesquisa-nacional-por-amostra-de-domicilios.html, and data from the 2016 Indonesian National Socio-Economic Survey (SUSENAS), <https://microdata.bps.go.id/mikrodata/index.php/catalog/SUSENAS>.

Conditional cash transfers appear to have the strongest effect on poor students

These results show that the effect of CCTs on education outcomes are strongest among children in poorer households in Brazil, Ghana and Indonesia. In Brazil, the magnitude of the effect on attendance is strongest in the first two deciles, while CCTs have a positive effect on attainment in the first decile. In Ghana and Indonesia, the effect on school attendance is strongest in the poorest income groups, while the same holds for educational attainment in Indonesia.

CCTs thus appear most important to outcomes among poorer income groups, likely because the poorest households are typically more credit constrained, and additional income can play a big role in making schooling affordable. Results also point to the importance of CCTs in disrupting intergenerational poverty and their role in affecting the future labour market opportunities of the poorer part of the population, which can ultimately contribute to more inclusive growth.

Scholarships tend to impact positively on educational attainment of the poorest students

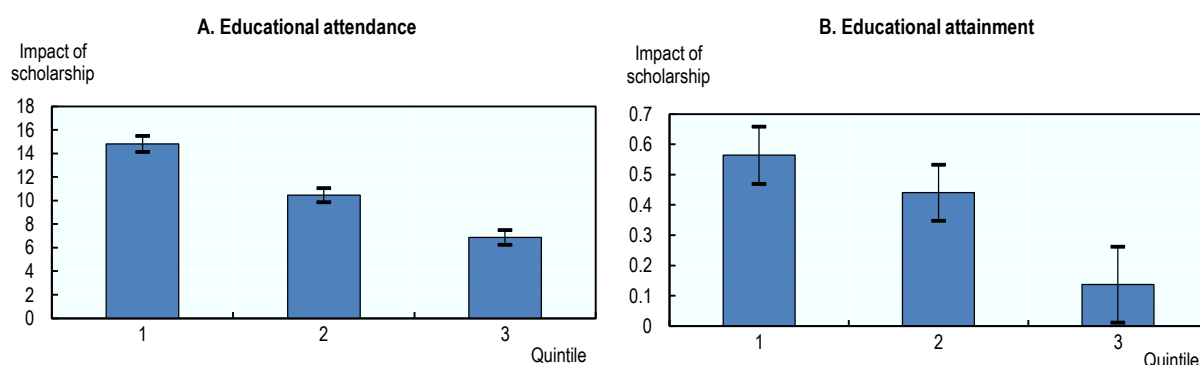
Indonesia's Bantuan Siswa Miskin (BSM), renamed Program Indonesia Pintar (PIP), is another education-focussed social assistance programme introduced in 2008 to cover indirect education costs (e.g. transport, uniforms), which can be a major barrier to access for lower-income households. Benefits are paid to poor households unable to pay elementary, junior high or senior high school tuition fees.

Estimations show that the BSM has a strong positive impact on attendance and attainment. The effect is statistically significant in all income groups, with the strongest

effect in the first quintile for both outcomes, implying that the scholarship is particularly important for the poorest students. This is in line with previous evidence showing that the BSM raises education spending and reduces child labour in households at the bottom of the welfare distribution (De Silva and Sumarto, 2015^[15]). Similarly, a study on Cambodia showed that a three-year scholarship for poor students upon completing elementary school significantly increased educational attainment. However, the study found no evidence that the scholarships affect test scores, employment or earnings (Filmer and Schady, 2014^[16]). Hence, scholarships for poor students can have positive effects on enrolment and attainment but do not automatically lead to better educational achievement or labour market outcomes.

Figure 2.5. Scholarships for poor students increase educational attainment in Indonesia

Impact of scholarships for poor students on school attendance and educational attainment, IV estimation results (2016)



Note: Blue bars indicate coefficient values; black error bars indicate 95% confidence intervals. If zero is within the confidence interval, the coefficient is considered not statistically significant.

Source: Authors' calculations based on data from the 2016 Indonesian National Socio-Economic Survey (SUSENAS), <https://microdata.bps.go.id/mikrodata/index.php/catalog/SUSENAS>.

Overall, the new empirical analysis of social assistance in developing countries points to positive impacts on school attendance and educational attainment, in line with previous empirical findings for both CCT and UCT programmes (Bastagli et al., 2016^[2]).

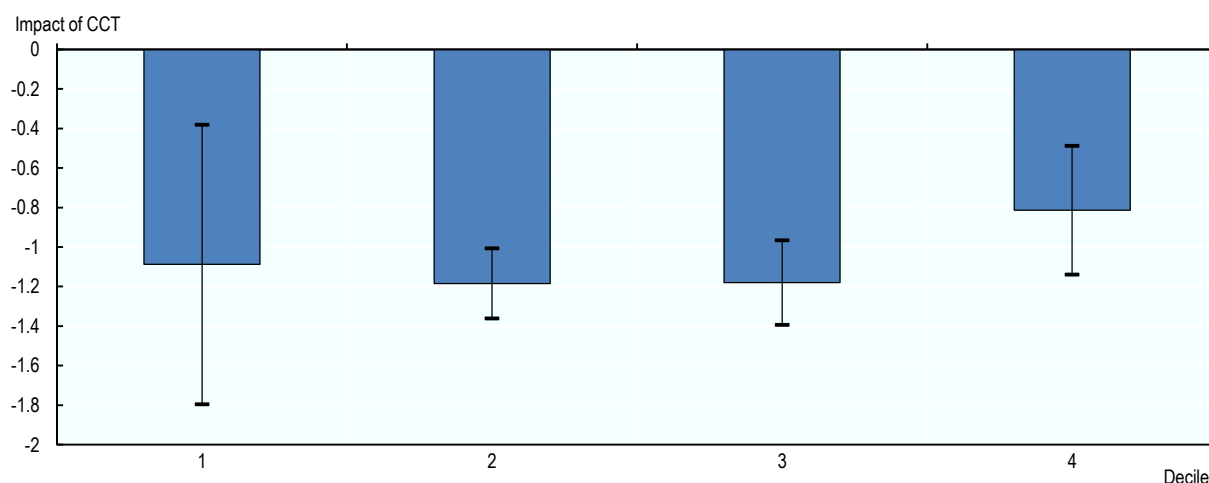
Conditional cash transfers are likely to reduce child labour

Additional CCT income may also reduce the necessity for children to contribute to household income, reducing child labour within and outside households. Transfers linked to or conditional on children attending school are likely to have an even stronger effect on child labour. About half of reviewed studies found that cash transfers showed a reduction effect on child labour participation (working or not working); all that investigated labour intensity (hours worked) found a reduction effect (Bastagli et al., 2016^[2]). A majority of studies reporting a negative relationship between cash transfers and child labour participation concerned Latin American programmes, while no studies in sub-Saharan Africa found a significant impact.

The new empirical analysis of CCTs' impact on child labour in Brazil shows that Bolsa Família significantly reduces the likelihood that a child aged 4-13 works (Figure 2.6). The effect is about the same in all four deciles analysed but slightly stronger in the first to third deciles.

Figure 2.6. CCT income reduces child labour in Brazil

Impact of CCT income on child labour, IV estimation results (2011-15)



Notes: Blue bars indicate coefficient values; black error bars indicate 95% confidence intervals. If zero is within the confidence interval, the coefficient is considered not statistically significant. Child labour is defined as children aged 3-14 who work.

Source: Authors' calculations based on data from Pesquisa Nacional por Amostra de Domicílios (Brazilian National Household Sample Survey) (2011-15), ibge.gov.br/estatisticas-novoportal/sociais/saude/9127-pesquisa-nacional-por-amostra-de-domicilios.html.

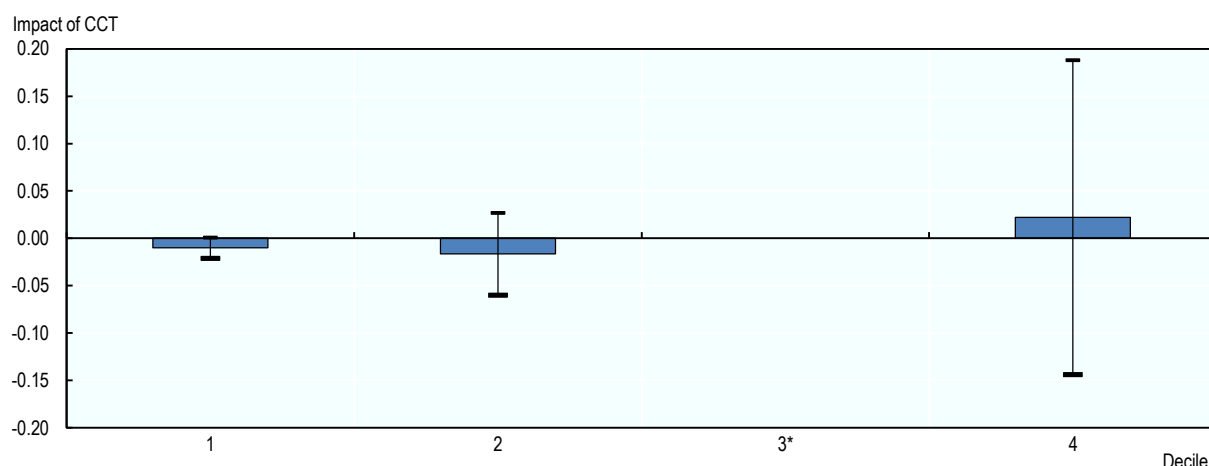
Conditional cash transfers may not reduce early pregnancy

Last, CCTs can affect children and youth through impacts on early pregnancy. Delaying childbearing is an important factor in improving young women's education and health outcomes and, in the long term, disrupting intergenerational poverty. Cash transfer income can reduce financial dependency and delay marriage and childbearing decisions (Bastagli et al., 2016^[2]). CCTs can also have an indirect effect on early pregnancy through positive effects on educational attainment.

However, analysis of Bolsa Família shows that the CCT income has no effect on the likelihood of early pregnancy (Figure 2.7). The effect is negative for girls in the poorest quintiles but not statistically significant in any of the estimations. Hence, even if CCT programmes have positive effects on school attendance, their positive effect on other child and youth outcomes cannot be assumed. A study on two Colombian CCT programmes with crucial design differences showed that the type of conditions matter: conditioning on educational attainment had no reduction effect, while a renewal condition based on performance and a permanent loss of the benefit if the attendance condition is not fulfilled reduced early pregnancy (Cortés, Gallego and Maldonado, 2016^[17]).

Figure 2.7. CCT income does not affect early pregnancy in Brazil

Impact of CCT income on early pregnancy, IV estimation results (2011-15)



* Decile 3 is excluded from analysis due to too few observations.

Notes: Blue bars indicate coefficient values; black error bars indicate 95% confidence intervals. If zero is within the confidence interval, the coefficient is considered not statistically significant. Bars show the effects of a 10% increase in household income from CCTs. Early pregnancy is defined as girls younger than age 16 who have ever had a child.

Source: Authors' calculations based on data from Pesquisa Nacional por Amostra de Domicílios (Brazilian National Household Sample Survey) (2011-15), ibge.gov.br/estatisticas-novoportal/sociais/saude/9127-pesquisa-nacional-por-amostra-de-domicilios.html.

Universal child benefits seem to have no or limited effects on education

Universal child benefits, or family cash benefits, are cash transfers to cover the cost of children, reduce child poverty and improve long-term opportunities for children. They exist in almost all countries with developed welfare; 31 of 34 Organisation for Economic Co-operation and Development countries had a child benefit system in 2015 (OECD, 2016^[18]).

Child benefits can affect well-being through two main channels: 1) the increase in income can allow households to buy more goods and services for children; and 2) child transfers can reduce stress and improve relationships in households, improving emotional well-being (Laetitia and Mao Takongmo, 2018^[19]). Child benefits are most often universal and not based on income or employment conditions. Their effect thus likely differs from other redistribution programmes, such as CCTs, that target poor and vulnerable households.

A study of the impact of universal child benefits in Canada finds no evidence that the programme improves child and parent outcomes at the aggregate level but does show modest positive impacts on households with low education and on girls (Laetitia and Mao Takongmo, 2018^[19]).

Analysis for this report looks at the impact of child benefits on educational outcomes in Germany. Child benefits, together with parental allowance and maternity benefits, are among the main components of German family policy. Child benefits' two main purposes are to ensure the minimum subsistence level of children and to boost fertility rates.

The analysis includes the ten years surrounding the 1996 child benefit reform (e.g. 1992-2001) to increase the sample size. Results do not show any statistical impact of child benefits for either outcome variable analysed: secondary school attainment and attending the best secondary school track, *gymnasium* (grammar school). Child benefits may need to be higher to have perceptible effects in a developed country with a sophisticated welfare state and close to universal benefits and services. This is consistent with results showing that child benefit income mainly has a major impact on disadvantaged families, while universal benefits do not seem to affect household well-being (Gaitz and Schurer, 2017^[20]; Deutscher and Breunig, 2018^[21]).

Impact of social assistance on working-age individuals and the elderly

Social protection can play an important role in ensuring income security for working-age individuals and the elderly, affecting their well-being and that of household members dependent on their income. During working age, social assistance programmes can affect both labour and employment outcomes, such as participation and intensity, and other outcomes, such as fertility rates and entrepreneurship.

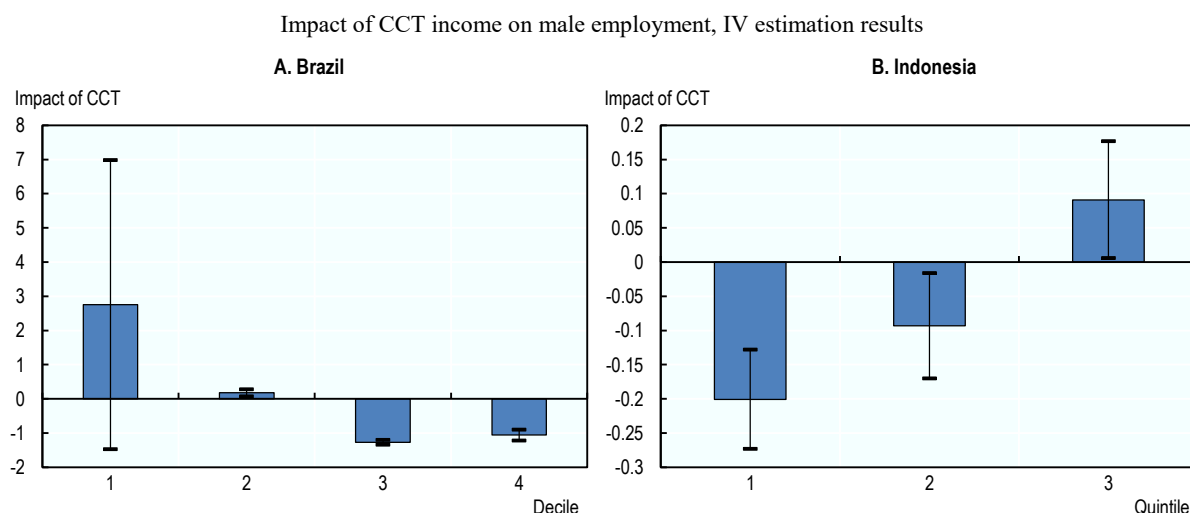
Conditional cash transfers appear to have mixed effects on employment

The impact of cash transfers on labour force participation and employment holds substantial interest for researchers and policy makers. The empirical literature shows relatively weak support for the hypothesis that social assistance dramatically reduces incentives to work. Overall, there is no systematic evidence that cash transfers discourage work and lead to dependency (Peterman, Yablonski and Daidone, 2018^[5]; Banerjee et al., 2017^[22]; Baird, McKenzie and Özler, 2018^[23]).

Modest transfers tend not to be strongly associated with changes in labour supply in either participation or intensity (hours worked). Evidence for the most studied social assistance programmes, CCTs and UCTs, is mixed. In a review of eight studies on CCTs' impact on labour supply, only one found a negative impact on participation, while a reduction in hours worked was found in a few countries, including Uruguay and Brazil (Kabeer and Waddington, 2015^[24]). Another review of the effect of CCTs and UCTs found that, of eight studies, three pointed to an increase in participation and one to a decrease. Of eleven studies reporting on hours worked, three found a decrease (one reported decreases among older people). Sixteen studies specifically addressed female participation, and four found a significant positive impact (Bastagli et al., 2016^[2]). Thus, evidence in the empirical literature on the link between CCTs and labour market outcomes is inconclusive but indicates that 1) modest transfers do not have strong impacts on employment outcomes; and 2) any significant impact found may be negative or positive.

New empirical evidence on CCTs' impact on employment in Brazil and Indonesia presented in this study is also mixed. In Brazil, receiving CCT income from Bolsa Família leads to an increase in employment among men in the two lowest deciles, although the effect is only statistically significant in the second decile. In the third and fourth deciles, the effect is negative and statistically significant (Figure 2.8A). By contrast, in Indonesia, receiving a CCT is associated with lower employment among men in the lower income groups and with higher employment in the third quintile (Figure 2.8B).

Figure 2.8. Impact of CCT income on male employment in Brazil and Indonesia depends on household income



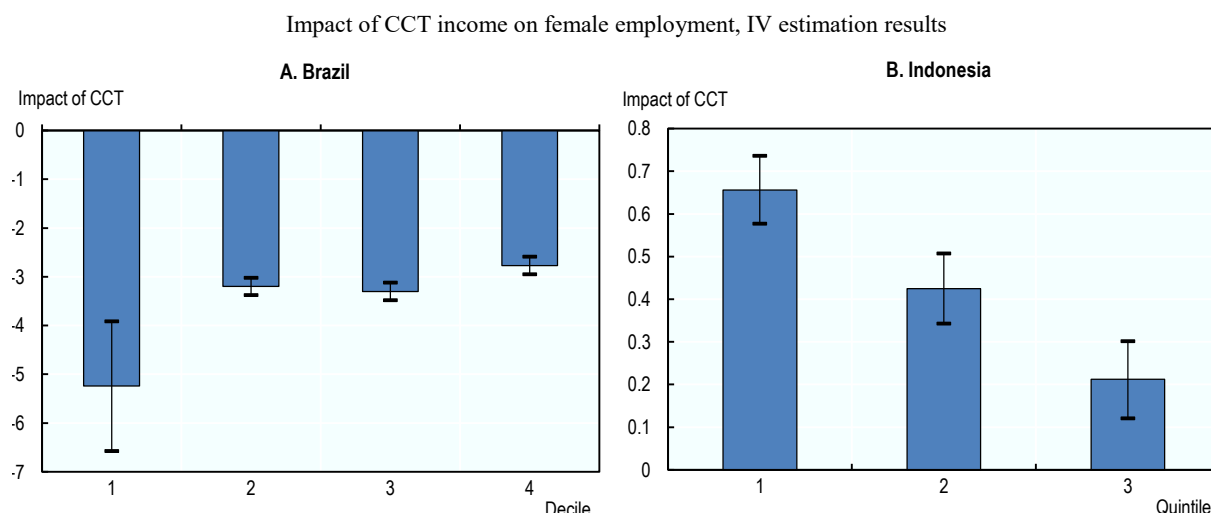
Notes: Blue bars indicate coefficient values; black error bars indicate 95% confidence intervals. If zero is within the confidence interval, the coefficient is considered not statistically significant. Employment is defined as individuals aged 16-64 who work at least one paid hour per week or are employed but on vacation or other paid leave.

Source: Authors' calculations based on data from Pesquisa Nacional por Amostra de Domicílios (Brazilian National Household Sample Survey) (2011-15), ibge.gov.br/estatisticas-novoportal/sociais/saude/9127-pesquisa-nacional-por-amostra-de-domicilios.html, and data from the 2016 Indonesian National Socio-Economic Survey (SUSENAS), <https://microdata.bps.go.id/mikrodata/index.php/catalog/SUSENAS>.

The impact of CCTs on female employment is more consistent across income groups but, again, in opposite directions between the two countries. In Brazil, CCT income has a clear negative impact on female employment in all deciles, with a stronger effect in the third and fourth deciles (Figure 2.9A). This is consistent with some literature showing that, because women are often the main recipients of CCT income, time spent fulfilling conditions may hamper labour market participation. In Indonesia, however, CCT income increases female employment in all income groups (Figure 2.9B).

Both previous literature and new evidence thus paint a mixed picture of CCTs' impact on labour supply. Literature reviews of outcomes of the same CCT programme in different studies confirm this. For instance, a review of eight studies on the effect of Bolsa Família on adult employment found a positive impact in five cases and a negative impact in one (for female heads of households). Three out of five studies reported a small decrease in hours worked per week (two studies only concerned women) (Batista De Oliveira and Soares, 2012^[25]).

Figure 2.9. CCT income leads to a decrease in female employment in Brazil but an increase in Indonesia



Note: Blue bars indicate coefficient values; black error bars indicate 95% confidence intervals. If zero is within the confidence interval, the coefficient is considered not statistically significant.

Source: Authors' calculations based on data from Pesquisa Nacional por Amostra de Domicílios (Brazilian National Household Sample Survey) (2011-15), ibge.gov.br/estatisticas-novoportal/sociais/saude/9127-pesquisa-nacional-por-amostra-de-domicilios.html, and data from the 2016 Indonesian National Socio-Economic Survey (SUSENAS), <https://microdata.bps.go.id/mikrodata/index.php/catalog/SUSENAS>.

Conditional cash transfers tend to have positive or no effects on investments in small businesses

Additional income from cash transfers can help households overcome liquidity and credit constraints and better cope with risks, thereby encouraging investments in business activities and entrepreneurship. Previous studies on the impact of cash transfers on non-agriculture business investments show mixed results. Four of nine studies in a review found a significant increase either in the share of households involved in non-farm enterprises or in total household expenditure on business-related assets and stocks, four found no effect, and one found a decrease in business investments from cash transfers (Bastagli et al., 2016^[2]).

From the new empirical evidence on CCTs' impact on the probability of owning businesses, business owners and the self-employed are very heterogeneous, from self-employed street vendors lacking other employment opportunities to entrepreneurs generating new ideas, products and jobs. Separate analyses were therefore carried out for small, informal businesses and larger, registered businesses in Brazil and Indonesia. Data in Ghana do not allow for the distinction.

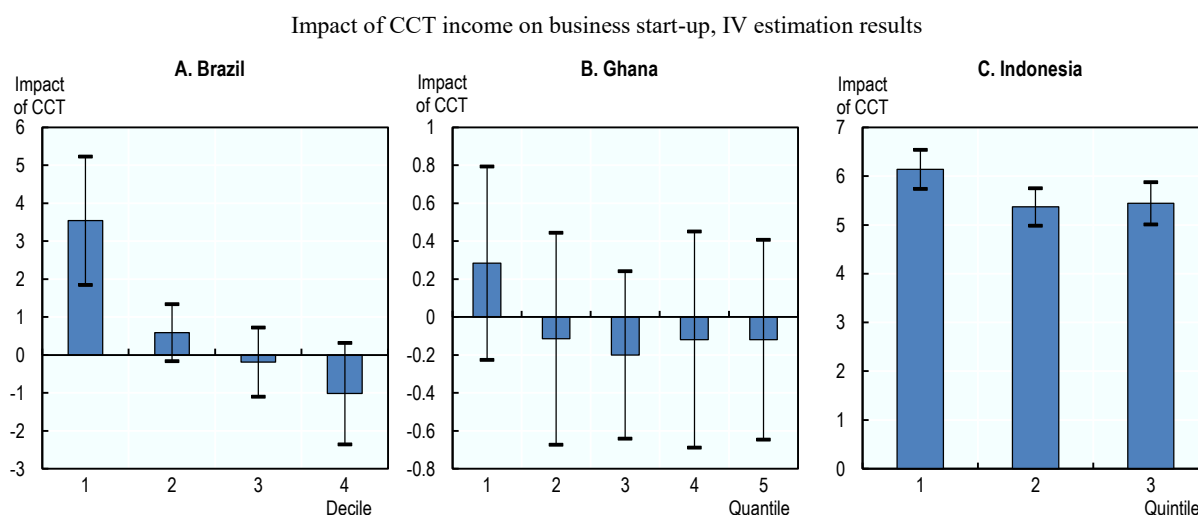
Brazil defines starting a business as households that created one in the year preceeding the interview. Business start-up includes both the self-employed and employers who have been at the activity for one year or less. CCT income has a positive and statistically significant effect on starting small, unregistered businesses in the first two deciles (Figure 2.10A). No effect was found in higher income groups: the coefficients are negative but not statistically significant.

Previous studies investigating the impact of LEAP income on business investments in Ghana show that beneficiaries invest in livelihood diversification, with a significant

number engaging in non-farm businesses and livestock raising (Handa et al., 2014^[26]; Handa and Park, 2012^[27]). LEAP was introduced in 2008. Analysis for this report focuses on non-agriculture business start-up in the two years preceding subsequent surveys, i.e. a binary response on whether households commenced non-farm enterprises in 2010-12 (short-term impact) and 2014-16 (long-term impact). Although the coefficient for the lowest quintile is positive, results show no statistically significant impact of LEAP income on business start-up in all income groups in either the short or long term (Figure 2.10B).

Indonesia analysis looks at business ownership among self-employed individuals without employees (vs. start-ups in Brazil and Ghana). CCT income has a positive and statistically significant impact on business investments in all income groups (Figure 2.10C).

Figure 2.10. CCT income spurs business ownership among poorer households in Brazil and Indonesia



Notes: Blue bars indicate coefficient values; black error bars indicate 95% confidence intervals. If zero is within the confidence interval, the coefficient is considered not statistically significant. Results for Ghana are evaluated for 2014-16 (long-term impact). Independent variables used are: household created an informal business in the 12 months before the survey (Brazil); household created a business in the 12 months before the survey (Ghana); at least one household member is self-employed with temporary staff (Indonesia).

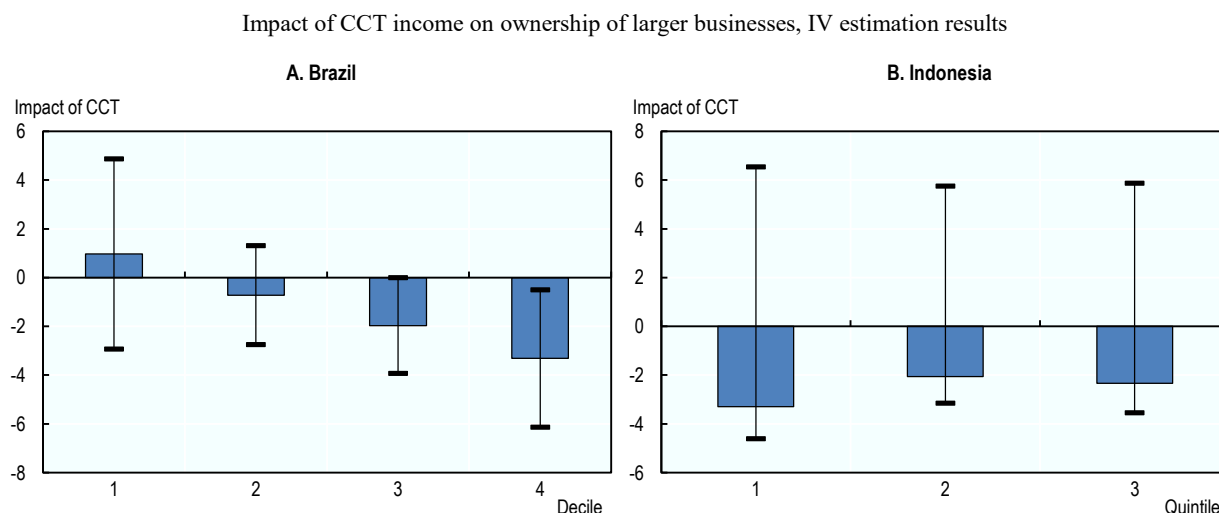
Source: Authors' calculations based on data from Pesquisa Nacional por Amostra de Domicílios (Brazilian National Household Sample Survey) (2011-15), ibge.gov.br/estatisticas-novoportal/sociais/saude/9127-pesquisa-nacional-por-amostra-de-domicilios.html, household evaluation data (2010-16) from Ghana's Livelihood Empowerment Against Poverty programme, and data from the 2016 Indonesian National Socio-Economic Survey (SUSENAS), <https://microdata.bps.go.id/mikrodata/index.php/catalog/SUSENAS>.

Conditional cash transfers do not seem to impact investments in formal businesses

Separate analyses were conducted in two countries for more formal business activities (probability of having started a registered business in the 12 months before the survey in Brazil and probability of running a business with employees in Indonesia). Business ownership is here defined as the self-employed or business owners who pay social security tax in Brazil and as self-employed household members with permanent staff in Indonesia. Analysis of CCTs' impact on formal business activities shows a positive but not statistically significant result in the first income group in Brazil (Figure 2.11A), while the effect in the second to fourth deciles is negative and statistically significant only in the

fourth. Indonesia shows a negative but not statistically significant effect in all income groups (Figure 2.11B). The positive impact on informal business activities among poorer households does not hold for larger or more formal businesses, which have greater potential to contribute to economic growth and job creation.

Figure 2.11. CCT income does not affect investments in larger businesses in Brazil and Indonesia



Notes: Blue bars indicate coefficient values; black error bars indicate 95% confidence intervals. If zero is within the confidence interval, the coefficient is considered not statistically significant. Businesses included in the analysis are defined as those that are registered (Brazil) and businesses with employees (Indonesia).

Source: Authors' calculations based on data from Pesquisa Nacional por Amostra de Domicílios (Brazilian National Household Sample Survey) (2011-15), ibge.gov.br/estatisticas-novoportal/sociais/saude/9127-pesquisa-nacional-por-amostra-de-domicilios.html, and data from the 2016 Indonesian National Socio-Economic Survey (SUSENAS), <https://microdata.bps.go.id/mikrodata/index.php/catalog/SUSENAS>.

Conditional cash transfers can reduce fertility rates

Cash transfers may affect other individual and household outcomes, including fertility. Regular cash transfers for children can encourage larger households, to increase the transfer amount, particularly if 1) transfers are on a per-child basis, instead of a lump sum household benefit; and 2) the programme remains open to subsequent children. Concerns that cash transfers (especially UCTs) may increase fertility rates and negatively affect population control programmes have been put forward in policy discussions in low-income countries, where fertility rates tend to be high. However, little existing empirical evidence supports these concerns. In fact, studies show that, in many cases, the opposite is true: cash transfers lead to a statistically significant decrease in number of pregnancies among beneficiaries (Bastagli et al., 2016^[2]). As regards UCTs, recent studies have shown that the common perception according to which these transfers tend to increase fertility do not withstand rigorous evaluation (Petersman, Yablonski and Daidone, 2018^[5]; Palermo et al., 2016^[28]). New evidence for this report on CCTs' impact on fertility in Brazil, Ghana and Indonesia corroborates these results.

While Brazil's population will peak around 2030, it currently has a low total fertility rate (around 1.8). Higher fertility may spur macroeconomic growth. For poor families, however, higher fertility means more mouths to feed and may perpetuate poverty traps. Analysis of the impact of Bolsa Família income on fertility focuses on whether women

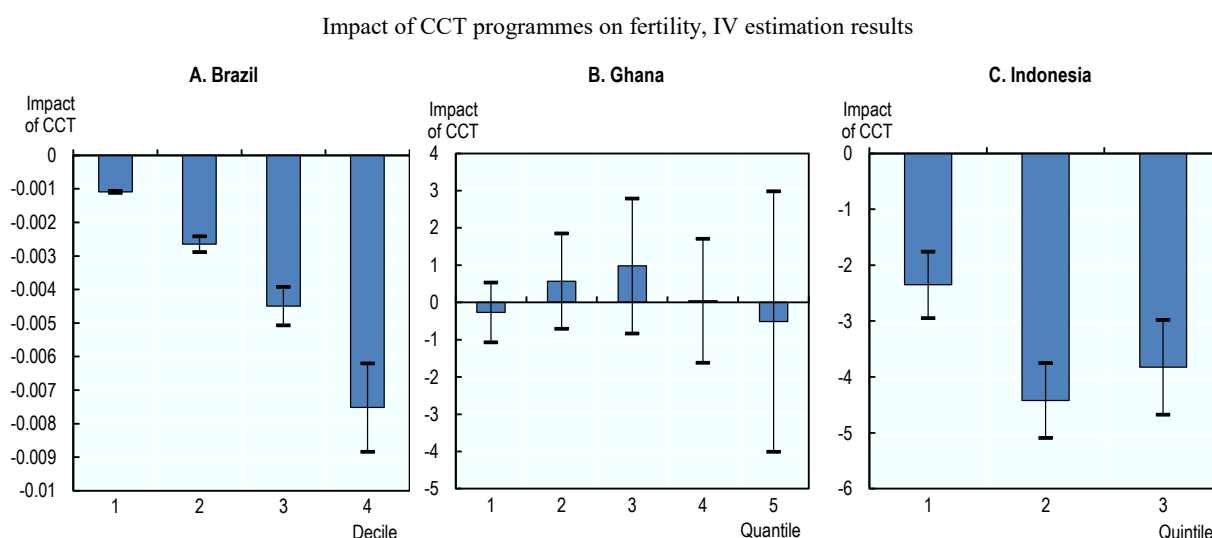
aged 20–49 have had a child in the last two years. Results show that the benefit significantly reduced fertility overall and in all income groups (Figure 2.12A). All results are statistically significant. This is in line with previous literature on the benefit’s impact on number of children in beneficiary households (Simões and Soares, 2012^[29]).

In Ghana, concerns that cash transfers may have negative effects on population control programmes and programmes that promote quality of life for poor mothers are common in the policy discourse. However, analysis of the impact of LEAP income on number of children born in a household in the two years before the survey shows no statistically significant relationship in any income group (Figure 2.12B).

The total fertility rate in Indonesia is 2.4, above the replacement level of 2.1. As in Ghana, a relatively common concern is that targeted cash transfers incentivise poor families to have more children. Estimations of the impact of CCT participation on fertility, however, show the opposite: receiving PKH CCTs is associated with reduced fertility (presence of children under age 1) in all income groups (Figure 2.12C).

Consistent with previous literature, these results run counter to concerns that CCT income increases fertility rates. If anything, they reduce them.

Figure 2.12. CCT programmes reduce fertility rates in Brazil and Indonesia



Note: Blue bars indicate coefficient values; black error bars indicate 95% confidence intervals. If zero is within the confidence interval, the coefficient is considered not statistically significant.

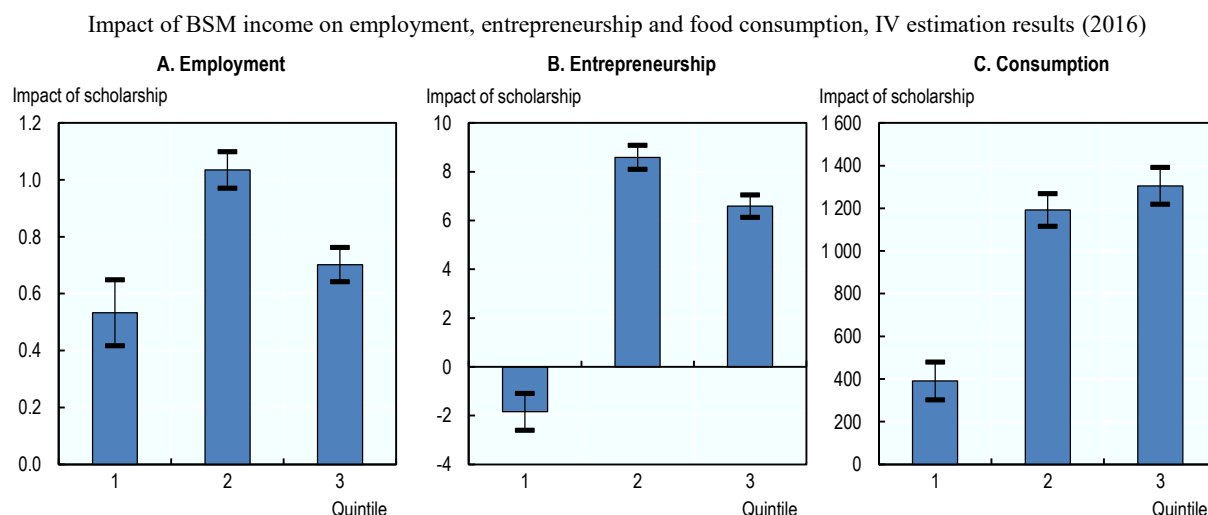
Source: Authors’ calculations based on data from Pesquisa Nacional por Amostra de Domicílios (Brazilian National Household Sample Survey) (2011–15), ibge.gov.br/estatisticas-novoportal/sociais/saude/9127-pesquisa-nacional-por-amostra-de-domicilios.html, household evaluation data (2010–16) from Ghana’s Livelihood Empowerment Against Poverty programme, and data from the 2016 Indonesian National Socio-Economic Survey (SUSENAS), <https://microdata.bps.go.id/mikrodata/index.php/catalog/SUSENAS>.

Scholarships for poor students seem to have positive spillover effects on household food consumption and investments

Education scholarships can have impacts beyond labour supply and education outcomes. Cash transfers targeting poorer households can address liquidity and credit constraints, allowing households to increase consumption and invest in productive assets and business activities. Results based on PIP student scholarship data for Indonesia show the

programme's positive impact on labour supply, self-employment and food consumption in all income groups, with the exception of self-employment in the first quintile (Figure 2.13). However, overall results are positive and statistically significant, in line with the PKH CCT programme results shown above, indicating that cash transfers for education may free up household financial resources for other investments and help boost household welfare and, indirectly, economic growth and wealth redistribution.

Figure 2.13. Indonesia's scholarship for poor students increases labour supply, entrepreneurship and food consumption



Note: Blue bars indicate coefficient values; black error bars indicate 95% confidence intervals. If zero is within the confidence interval, the coefficient is considered not statistically significant. Food consumption is defined as household per capita caloric intake.

Source: Authors' calculations based on data from the 2016 Indonesian National Socio-Economic Survey (SUSENAS), <https://microdata.bps.go.id/mikrodata/index.php/catalog/SUSENAS>.

Social pensions can boost household consumption and investments

Since coverage of contribution-based pension schemes remains low in low- and middle-income countries (see Chapter 3), social pensions have increasingly become a way to expand coverage and address old-age poverty and vulnerability. They also have impacts on other outcomes, such as household consumption and investments. A study shows that social pensions in the People's Republic of China increase consumption and agricultural investments among rural households, particularly the poor, although they have no effect on savings (Zheng and Zhong, 2016^[30]). A study in South Africa shows that social pensions received by women have a large impact on health outcomes (weight and height) of girls but no impact for boys (Duflo, 2003^[31]).

Empirical evidence also shows that cash transfers are effective in raising living standards. In Zambia for instance, UCTs have far-reaching effects both on food security and consumption as well as on a range of productive outcomes, and generate large income multipliers through investment in non-farm activity and agricultural production (Palermo et al., 2016^[28]).

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Annex 2.A. Social assistance in Brazil, Germany, Ghana and Indonesia

This annex provides a brief description of social assistance in the countries under study, in particular of the programmes covered in the empirical analysis.

Brazil

Despite large expenditure on social protection, Brazil spends only 1.4% of gross domestic product (GDP) on social assistance, which covers only 23.7% of the population (World Bank, 2018^[1]). Schemes tend to target the poorest quintiles; however, coverage rates are significantly lower in Brazil than in the rest of Latin America and Caribbean (Annex Table 2.A.1). Nonetheless, social assistance programmes have had a significant equalising effect in Brazil, reducing the Gini coefficient by 2.8%, the poverty headcount ratio by 10.9% and the poverty gap by 23.6% in 2015 (World Bank, 2018^[1]).

Annex Table 2.A.1. Social assistance coverage in Brazil and Latin America and Caribbean, by quintile

	% total population	% of Quintile 1	% of Quintile 2	% of Quintile 3	% of Quintile 4	% of Quintile 5
Brazil (2015)	23.7	58.5	33.6	17.3	7.3	1.9
Latin America and Caribbean (2008-16)	38.5	66.7	52.3	38.5	24.7	10

Source: World Bank (2018^[1]), *ASPIRE: The Atlas of Social Protection- Social Safety Net Expenditure Indicators* (database), <http://datatopics.worldbank.org/aspire/indicator/social-expenditure>.

The federal government created Brazil's flagship CCT, Bolsa Família, in 2003, which has since benefited over 14 million low-income households (IDB, 2015^[32]). It represents a large share of social assistance expenditure but a small share of overall social protection spending: Brazil spent an equivalent to approximately 0.45% of GDP on the scheme in 2015 (STN, 2016^[33]).

The programme targets households in poverty or extreme poverty: according to the National Decree No. 9.396 of 30 May 2018, those with a monthly per-capita income below BRL 178 (Brazilian real) (USD 48.7 [United States dollar]) and BRL 89 (USD 24.4)¹, respectively (Federative Republic of Brazil, 2018^[34]). The scheme grants several types of benefits based on household per-capita income or composition, which are conditional on health and education requirements (Annex Table 2.A.2). Households in extreme poverty are entitled to the Basic Benefit (BB) of BRL 89 per month per household, irrespective of composition. Households remaining below the extreme poverty line after all entitled benefits are eligible to receive the Benefit to Overcome Extreme Poverty (BSP), a top-up to guarantee a monthly per-capita income of BRL 89 (Federative Republic of Brazil, 2018^[35]).

Households below the poverty line are also entitled to Variable Benefits (BV) of BRL 41 per pregnant or lactating woman and/or per child under age 15, and to the Variable Youth

Benefit (BVJ) of BRL 48 per youth aged 16-18 (Federative Republic of Brazil, 2018^[34]). These last two benefits are conditional on maintaining a minimum of school attendance, acquiring all vaccinations and receiving prenatal care (IDB, 2015^[32]; Federative Republic of Brazil, 2018^[35]). Entitlement to these benefits is not automatic; even if eligibility is met, households are still subject to the amount of benefits allocated per municipality through quotas calculated every ten years based on demographic censuses.

Annex Table 2.A.2. Bolsa Família eligibility, conditions and monthly value

Benefit	Eligibility	Condition	Monthly value
BB	Per-capita income less than BRL 89 (USD 30.0)	x	BRL 89 (USD 30.0) per household
BV	Pregnant or lactating women	Prenatal care	BRL 41 (USD 10.1) per eligible person
	Children under age 15	Children under age 7: vaccinations and growth development Children aged 6-15: 85% school attendance	
BVJ	Youth aged 16-18	75% school attendance	BRL 48 (USD 11.9) per eligible person
BSP	Per-capita income with benefits less than BRL 89 (USD 30.0)	x	BRL 89 (USD 30.0) per-capita income with benefits per person

Notes: x = not applicable. BRL 1 = USD 0.2469.

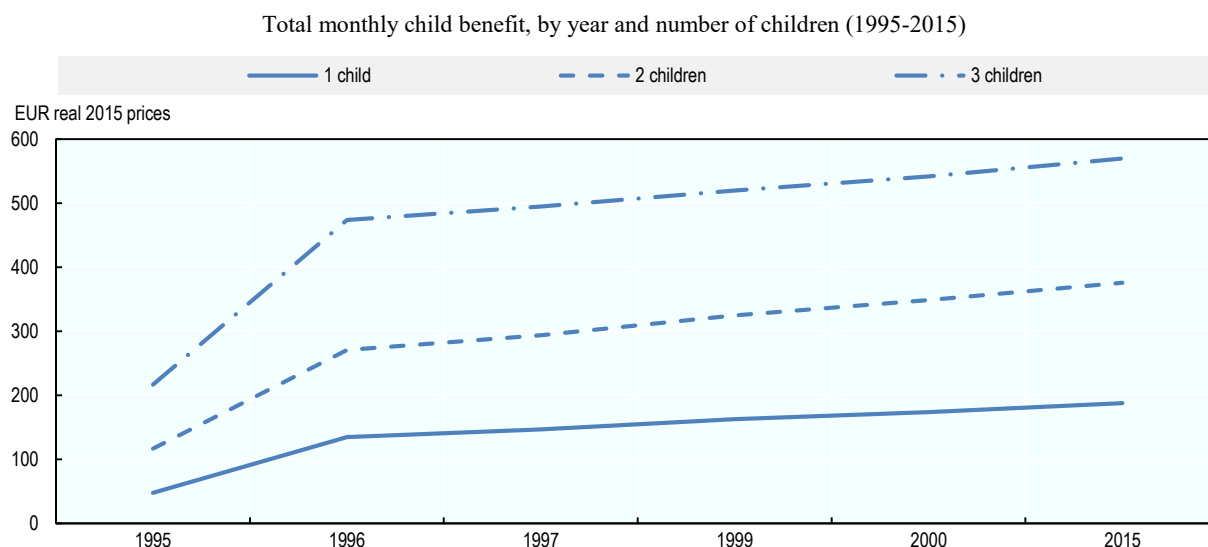
Sources: Federative Republic of Brazil (2018^[34]), “Decree N°9.396, 30 May 2018”, Federative Republic of Brazil; (2018^[35]), *Manual do Pesquisador – Programa Bolsa Família*, Federative Republic of Brazil.

Bolsa Família has had a large effect on equality, helping 36 million people escape poverty, reducing income inequality by 13% in a decade and reducing the Gini coefficient by 21% after one year of implementation (Mathers and Slater, 2014^[36]; IDB, 2015^[32]). Moreover, the CCT has improved the education of the low-income population, keeping 16 million children and youth in school (IPEA, 2013^[37]).

Germany

Despite being a relatively low expenditure compared with the overall social protection budget, the 2.17% of GDP allocated to social assistance is within the regional average and covers 100% of children through child benefits (ILO, 2017^[3]). Benefits have ensured the minimum subsistence level of children and increased fertility rates: due to social assistance transfers, 2013 showed a 50% reduction in child poverty (ILO, 2016^[38]) and 1995-2015 showed a rise in the fertility rate, from 1.25 to 1.5 (OECD, 2016^[39]).

Child benefits date to 1935, but the current integrated system was established through a reform allowing households to choose cash transfers (Kindergeld) or tax deductions (Kinderfreibetrag). The reform came into effect in January 1996, affecting all families with children, irrespective of their date of birth, and introducing significant increases to benefit levels alongside the structural changes. Child-related transfers increased for almost all households, the magnitude of the increase varying by income level and number of children (Annex Figure 2.A.1). In 1995, parents of a single child received a child benefit of EUR 48 per month (euro) (EUR 576 per year) and could deduct EUR 2 824 from taxable income, which accrued savings of EUR 0 to EUR 1 497 per year, depending on their tax rate. After the 1996 reform, parents of a single child either received EUR 135 per month (EUR 1 625 per year) or could deduct EUR 4 241 from income tax. The latter was therefore favourable for parents with a tax rate higher than 38.3%.

Annex Figure 2.A.1. Child benefits in Germany increased substantially after a 1996 reform

Notes: Figure displays total value of child benefits based on number of children in 2015 constant euro. In 1995, total benefit value for households with more than one child varied by income: EUR 96-138 for two children; EUR 144-289 for three children; EUR 192-454 for four children. Figure displays mean values.
Source: Author's calculations based on Riphahn and Wynnck (2017_[40]), "Fertility effects of child benefits", IZA Discussion Paper, www.iza.org/en/publications/dp/10757/fertility-effects-of-child-benefits.

Kindergeld is a monthly UCT provided to all parents or guardians of young people under age 18 (or, exceptionally, those under age 25 enrolled in vocational training) (ILO, 2016_[38]). The monthly stipend per child depends on order of birth: EUR 194 for each of the first two children, EUR 200 for the third child and EUR 225 for each subsequent child (Federal Republic of Germany, 2018_[41]).

Ghana

Social assistance expenditure and coverage in Ghana are low even by regional standards: equivalent to 0.6% of GDP and covering 1.4% of the total population (World Bank, 2016_[42]; 2018_[1]). Following the trend in sub-Saharan Africa, although social assistance programmes aim to target the poor and vulnerable, coverage rates are significantly higher in the wealthiest quintile than in the poorest (Annex Table 2.A.3).

Annex Table 2.A.3. Social assistance coverage in Ghana and sub-Saharan Africa, by quintile

	% total population	% of Quintile 1	% of Quintile 2	% of Quintile 3	% of Quintile 4	% of Quintile 5
Ghana (2012)	1.4	1.3	1.2	1.5	1.5	1.4
Sub-Saharan Africa (2008-16)	14.5	8.6	13.5	16.8	17.2	16.2

Source: World Bank (2018_[1]), *ASPIRE: The Atlas of Social Protection- Social Safety Net Expenditure Indicators* (database), <http://datatopics.worldbank.org/aspire/indicator/social-expenditure>.

LEAP is one of five flagship social protection programmes in Ghana. It is one of the main social assistance programmes and the only cash transfer scheme, amounting to an equivalent of 0.03% of GDP in terms of expenditure (World Bank, 2016_[42]). Piloted in 2008 with 30 000 beneficiary households in 21 districts, it has expanded to

213 044 households in 216 districts in a decade (Republic of Ghana, 2018^[43]). It falls under the mandate of the National Protection Strategy, and aims to support basic human needs and to serve as a springboard out of poverty (Republic of Ghana, 2015^[44]). Although LEAP intends to tackle poverty, not all of the extremely poor are eligible to receive the cash transfer, as only households with members that fall into certain social categories can benefit (Annex Table 2.A.4). One medium-term priority is to extend eligibility criteria to all of the poor and link the scheme to additional benefits (Republic of Ghana, 2015^[44]).

Annex Table 2.A.4. LEAP eligibility and conditions

Eligibility	Condition
Older than age 65 with no support	x
People with disabilities with no productive capacity	x
Orphan and vulnerable children	School enrolment and retention
Pregnant women or mothers with infants	Postnatal clinic attendance and birth registration

Note: x = not applicable.

Source: FAO (2013^[45]), *Qualitative Research and Analyses of the Economic Impacts of Cash Transfer Programmes in Sub-Saharan Africa*, Food and Agriculture Organization of the United Nations, Rome.

Currently, eligibility extends to households with members who are either older than age 65 without support, people with disabilities with no productive capacity, orphaned and vulnerable children, or pregnant or mothers with infants (World Bank, 2016^[42]). The transfer is unconditional for the elderly and people with disabilities; for children and mothers, it is dependent on soft conditions, such as school enrolment and postnatal clinic attendance (Annex Table 2.A.4). The grant is paid in six instalments per year, and its value varies according to number of eligible household members, from GHS 64.0 (Ghanaian cedi) per payment for one member, GHS 76.0 for two, GHS 88.0 for three and up to GHS 106.0 for four or more (a range of USD 13.4 to USD 22)² (Republic of Ghana, 2018^[46]).

Indonesia

The largest share of social protection expenditure in Indonesia goes to social assistance programmes, corresponding to 0.7% of GDP (World Bank, 2018^[1]). Although this is below the regional average of 1.2% of GDP, social assistance coverage is more extensive in Indonesia than in East Asia and Pacific (Annex Table 2.A.5). These programmes have had a significant effect on inequality and poverty reduction, resulting in a 4.6% decrease in the Gini coefficient and a 38.2% decline in the poverty gap (World Bank, 2018^[1]).

Annex Table 2.A.5. Social assistance coverage in Indonesia and East Asia and Pacific, by quintile

	% total population	% of Quintile 1	% of Quintile 2	% of Quintile 3	% of Quintile 4	% of Quintile 5
Indonesia (2015)	48.7	75.6	65.9	52.6	35.9	13.7
East Asia and Pacific (2008-16)	43.6	66.2	53.0	39.8	30.8	28.2

Source: World Bank (2018^[1]), *ASPIRE: The Atlas of Social Protection- Social Safety Net Expenditure Indicators* (database), <http://datatopics.worldbank.org/aspire/indicator/social-expenditure>.

PKH, a household-based CCT, is one main social assistance scheme. Piloted in 2007, it became a national programme to alleviate short-term poverty and increase investments in health and education (ADB, 2012^[47]). Although allocated only 8.5% of social assistance expenditure, it is the most effective in Indonesia. By 2016, it covered 6 million households, providing benefits to 30.5% of the poor and 12.6% of the vulnerable, and led to a 22.0% increase in growth monitoring check-ups and a 10.0% increase participation rate in high school (World Bank, 2017^[48]).

Eligibility is based on household income and composition: those classified poor or extremely poor with at least one member who is either under age 21, people with disabilities pregnant or lactating, or over age 60 (Annex Table 2.A.6). Transfers are paid on a quarterly basis and dependent on completion of relevant health, education or social welfare conditions (World Bank, 2017^[48]). In 2017, the value of the benefit changed from variable based on household composition to fixed at, currently, IDR 1 890 000 (Indonesian rupiah) (USD 129)³ per year per household (Republic of Indonesia, 2018^[49]). Households receive the benefit for up to six years, as long as they remain eligible and comply with conditions. Those still under the poverty line after this period are eligible for the transfer for an additional three years (World Bank, 2017^[48]).

Annex Table 2.A.6. PKH eligibility and conditions

Eligibility	Condition
Pregnant or lactating women	Complete four prenatal care visits and take iron tablets Be assisted by trained professional at birth Complete two postnatal care visits before the baby is 1 month
Children aged 0-6	Complete childhood immunisation Take vitamin A capsules twice per year Attend monthly growth monitoring check-ups
Children aged 6-21 without 12 years of education	Enrol in relevant education level with at least 85% attendance
Older than age 60	Complete health check-ups and follow day care or social activities if available
People with disabilities	Complete health check-ups and follow day care or social activities if available

Source: Republic of Indonesia (2018^[49]), “Regulation of the Social Ministry of the Republic of Indonesia Number 1 Year 2018 about Program Keluarga Harapan”, Government of Indonesia, Jakarta, <http://peraturan.go.id/kementerian-sosial-nomor-%201%20tahun%202018-tahun-2018.html>.

Launched in 2008 as Bantuan Siswa Miskin (BSM), PIP is another key social assistance scheme aimed to reduce the costs of accessing education through cash transfers to poor students. It has led to an unprecedented 4.6% increase in high school enrolment (World Bank, 2012^[50]). It is the third-largest social assistance programme by expenditure and coverage, receiving 16.8% of the social assistance budget and reaching over 19.5 million students (World Bank, 2017^[48]).

The scheme targets enrolled students or school-age children aged 6-21 from the poorest 25% of households who either have a Kartu Indonesia Pintar (KIP card) or a Kartu Perlindungan Sosial/Kartu Keluarga Sejahtera (KPS/KKS card), which make them automatically eligible for the PKH (Republic of Indonesia, 2016^[51]). Eligible students verified by their schools are entitled to annual cash transfers corresponding to their education level: IDR 450 000 for elementary, 750 000 for junior high school and IDR 1 000 000 for senior high school (World Bank, 2017^[48]).

Annex notes

¹ Based on an exchange rate of BRL 3.654 per USD for 2018 according to OECD National Accounts Statistics: <https://data.oecd.org/conversion/exchange-rates.htm#indicator-chart>.

² Exchange rate: GHS 1 = USD 0.2079.

³ Exchange rate: IDR 1 = USD 0.000068.

Annex 2.B. Measuring the impact of social assistance programmes on individual and household outcomes – methodological approach

Estimating the causal effect of social assistance and growth outcomes is challenging due to endogeneity, stemming from three main sources: i) reverse causality, ii) sample selection and iii) omitted variables.

Estimating the impact of social assistance programmes on individual and household outcomes involves finding a credibly counterfactual, i.e. the value an outcome would have taken if a given individual or household who benefited from a social assistance programme had not benefited. However, data on this counterfactual value cannot be obtained since an individual/household is never observed having both received and not received social assistance at the same point in time.

There are different ways of estimating counterfactual outcomes, including random assignment, “quasi-experimental” methods like instrumental variables and regression discontinuity (RDD), and non-experimental methods such as regression techniques, matching, and double (or higher-order) differencing. Every estimation method has its strengths and weaknesses.

The main estimation method used to estimate the impact of social assistance on household and individual outcomes in this report is instrumental variables. A good instrument is uncorrelated with the outcome variable but related to the explanatory variable it is instrumenting. This design estimates impacts of social assistance programmes through statistical econometric models in two steps. The first is to predict program participation based on the instrumental variable. The second is to calculate the programme impact given the predicted value of the first equation. Identifying a good instrumental variable is however challenging. For example, individuals receiving social assistance may be more likely to require other family members to care for them and reduce labour force participation in the household, creating a false negative causal relation between household social assistance income and labour force participation. In addition, most cash transfer programmes with an aim to increase school attendance and attainment target the most vulnerable households, while vulnerable families are less likely to keep their children in school. If this is not taken into account in the evaluation of programme outcomes, the analysis may result in a spurious negative causal relation between cash transfer income and schooling.

An instrumental approach was used in all three countries with CCT programmes (Brazil, Ghana and Indonesia). In Brazil, the instrument used is municipality CCT benefit quota (using a proxy for municipality defined using a combination of state and sampling stratum due to lack of a municipality identifier in the survey). In Ghana, the methodological approach follows the approach by Glennerster and Takavarasha (2013^[52]) by using the ex-ante treatment assignment as an instrument for the ex post treatment variable, the percentage of all income that is derived from LEAP benefits. This instrumental variable approach involves using a 2SLS method to get the estimates for the

impact of the programme. In Indonesia, instrumental variables include household expenditure, household size, household head education, area of residence, housing conditions (e.g. floor, roof), and access to basic infrastructure services, equipment and ICT (e.g. water, sanitation, electricity, refrigerator, computer).

The analysis of the child benefit programme in Germany adopted a slightly different methodology. The estimation strategy made use of a change in the level of the child benefit over time. A major reform of child benefits came into effect on 1 January 1996 and affected all families with children. Prior to the reform, the family benefit system was twofold: child benefits (Kindergeld) and tax-exempt child allowances (Kinderfreibetrag) complemented each other and occurred simultaneously. The reform integrated both systems and since 1996, households have to choose between child benefits and tax deductions. At the same time, both benefits increased significantly in value. As a result, child-related transfers increased for almost all households, but the magnitude of the increase varied according to income level and the number of children. The empirical analysis uses a difference-in-differences strategy exploiting the heterogeneity of the reform's effects of the child benefit depending on household income and number of children. The strategy does however not allow for an estimation of the effects of the child benefits by income classification (e.g. decile or quintile) since income – or its proxy, education – is used to build treatment and/or control groups.



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