

# The inclusion of poor youth in the Brazilian labour market and the impact of the Bolsa Família programme

Gilson de Oliveira and Augusta Pelinski Raiher

## Abstract

This article analyses the labour market inclusion of young Brazilians, especially poor ones, by measuring the impact of the Bolsa Família programme on the process. Using data from the 2015 National Household Survey (PNAD), an exploratory analysis was conducted and the propensity score matching technique applied. Young people were found to have particular difficulty in entering the labour market, while poor young people were even more excluded, suffering high rates of unemployment and informality and receiving the lowest wages. The study also found that the Bolsa Família programme had no effect on the inclusion of young beneficiaries in the formal labour market, while there was a negative impact on participants' incomes. However, no "sloth effect" was observed.

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## Keywords

Youth, poverty, youth employment, income, labour market, informal sector, full employment, programmes of action, econometric models, Brazil

## JEL classification

J08, I38

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## I. Introduction

Bolsa Família is a federal cash transfer programme in Brazil whose objective is to ensure that people with per capita incomes of up to 170 reais per month can meet their basic needs.<sup>1</sup> The programme's aim is the social inclusion of families living in extreme poverty with a view to improving social indicators and breaking the intergenerational cycle of poverty reproduction (Campello, 2013).

The 2003 interim measure instituting the programme became law in January 2014. It was originally intended to unify and expand some of the country's existing cash distribution programmes, such as Bolsa Escola, Bolsa Alimentação, Auxílio-Gás and the National Food Access Programme (Brazil, Government of, 2014, 2004a and 2004b). In August 2017, the Bolsa Família programme served 13,495,513 families, transferring a total of 2,425,517,419 reais (MDS, 2017).

To be eligible for the Bolsa Família programme, a family must include expectant mothers or children or adolescents between the ages of 0 and 17. In addition, families entering the programme must keep their children and adolescents in school and comply with all basic health-care requirements. These conditions are designed to increase school attendance and improve implementation of the health agenda, thus affecting the quality of human capital formation among beneficiaries and facilitating their subsequent entry into the labour market.

While the empirical literature suggests that cash transfers have a positive impact on socioeconomic indicators, especially when it comes to poverty reduction, as pointed out by Jannuzzi and Pinto (2013) and Campello (2013), among others, some studies point to a negative relationship in the occupational choice between formal and informal jobs (e.g. Castro, 2010). The greatest challenge for the programme, then, is to ensure that beneficiaries comply with its conditions and enter the labour market, thus ceasing to depend on State financial assistance.

Indeed, the report by the Ministry of Social Development (MDS, 2012) found a decrease of 8.8 hours per week in formal working and an increase of 8.7 hours per week in informal working among programme beneficiaries aged 18 to 65. This employment shift reflects a substitution effect in choices between employment with and without a formal contract (Barbosa and Corseuil, 2013).

Costa and Oliveira (2014) used microdata from the 2010 Brazilian Institute of Geography and Statistics (IBGE) sample census to investigate the existence of a "sloth effect" among beneficiaries of the Bolsa Família programme. Overall, they found that the programme had a negative impact on the working hours of beneficiary households. They also found a negative effect on earnings, suggesting that beneficiary households tended to receive less income from work than households not covered by the programme.

It should be noted that this and other empirical evidence relates the Bolsa Família programme to the labour market in general, encompassing the active population as a whole rather than concentrating on the groups directly affected by the programme (i.e. without specifically examining the groups subject to its conditions). Accordingly, the present paper contributes to the literature on the subject by measuring the impact of the Bolsa Família programme on the labour market inclusion of young people, especially the young poor.<sup>2</sup> It does this by comparing two groups: young people who benefited from the programme and those who did not receive these resources but were also poor. This impact is investigated in three dimensions: formal labour market participation, earnings and hours worked.

<sup>1</sup> Note that this figure is for 2015.

<sup>2</sup> Because the Bolsa Família programme started in 2003, many of the young people of 2014 and 2015 (especially those benefiting from it) received its entitlements for a period and thus were subject to its conditions. For this reason, the years furthest from 2003 (i.e. 2014 and 2015) were chosen for the analysis in order to test the effect of the Bolsa Família programme on the part of the population that may have received its entitlements previously and been subject to its conditions.

It is particularly important to analyse the influence on these dimensions of the additional income provided by the Bolsa Família programme in an effort to ascertain whether, given the programme's conditions, it succeeded in enhancing the autonomy of this segment of the population, i.e. whether the young people in the programme actually were able to participate more actively in the labour market and break the vicious circle of intergenerational poverty. The working hypothesis is that the programme's conditions facilitate the entry of young beneficiaries into the formal labour market, leading to higher earnings and an increase in hours worked.

The way young people participate in the labour market is seen as one of the obstacles to economic development in Brazil. This participation is conditioned by certain factors, such as education level and work experience, which constrain individual opportunities and the country's development process (Andrade, 2008; Cunha, Araújo and Lima, 2011; among others).

According to National Household Survey (PNAD) data (IBGE, 2015), the employment rate was 16% lower for economically active young people than for the country's general population, while their unemployment rate was 2.6 times as high. These data show how difficult it is for young people to enter the Brazilian labour market.

Furthermore, only 56% of employed young people worked in the formal sector. The level of formality in an economy is important for the dynamics of development, most particularly because formality is associated with higher wages and guarantees access to employment rights (Oliveira and Piccinini, 2011). Thus, informality is a problem in the Brazilian labour market, and young people are affected by it.

The earnings of young people working informally in 2015 were indeed lower than the wages of those in formal employment. The difference is even greater, however, when these earnings are compared with those of all informal workers in Brazil (32% less). The same situation was observed for young people in formal employment, as they earned 46% less than the national average wage. Thus, not only was there inequality between the formal and informal sectors, but young people also tended to be paid less in each sector considered separately. This was due both to lack of experience and to the fact that this segment of the population does the least-skilled and lowest-paid jobs, owing to the lack of human capital formation and the scarcity of such jobs in the country.

All these indicators confirm the vulnerability of young people in the Brazilian labour market, which is particularly acute in the case of the poor. In 2015, 15% of economically active young people were poor, and the unemployment rate of this group was 2.7 times as high as that of the non-poor young. In other words, unemployment, high as it was among youth generally, was even higher among the most vulnerable young people. Moreover, in addition to being less employable, these worked mainly in the informal sector (78%), which meant they were very differently placed from the non-poor, only 20% of whom worked informally. This confirms how insecure young people's jobs are, especially in the case of those with the lowest incomes, and corroborates the results arrived at by Corseuil and Franca (2015), who found that groups in a difficult social situation faced greater barriers to entry in the Brazilian labour market.

Brazil's labour market is therefore a heterogeneous one in which young people are particularly vulnerable, especially those living in poverty, who have a lower employment rate, earn lower wages and are significantly more likely to be unemployed or work informally.

These data are the justification for this study, whose purpose is to analyse the impact of the Bolsa Família programme on the inclusion of poor youth in the Brazilian labour market. To this end, the article is divided into four sections, including this introduction. The second section presents the methodology, while the third analyses the market for the labour of poor young Brazilians and the impact of the Bolsa Família programme. The fourth and last section presents some final considerations.

## II. Methodology

The data used in this research were taken from the 2014 and 2015 PNAD, with the objective of estimating the impact of the Bolsa Família programme on the market for the labour of young urban Brazilians.<sup>3</sup> Only young people declaring themselves to be economically active were considered in estimating the econometric models, and sample expansion was used in all analyses.

One of the challenges for those studying the impact of the Bolsa Família programme is to identify programme participants, since annual sample surveys generally do not include a specific variable classifying respondents as beneficiaries or otherwise. This makes it necessary to use a method suitable for determining how likely young urban Brazilians are to be participating in the Bolsa Família programme.

Some identification procedures are used in the literature. For example, Dropa (2016) estimated the impact of the Bolsa Família programme on the decisions of children and adolescents to work, using two criteria to identify beneficiaries: (i) a reported per capita income of up to 300 reais and (ii) certain values declared for the “other income” variable.<sup>4</sup> The present study used the same criteria as that author and added the following characteristics to make up the analysis group: economically active young people aged from 15 to 24 and living in urban areas. Young people with no reported per capita income or with inconsistent values were eliminated to minimize bias.

The characteristics of poor youth (taking per capita income of up to 300 reais as a cut-off line) were analysed in relation to other economically active young Brazilians. Setting out from the classification of young people (aged 15 to 24) into those who participated in the Bolsa Família programme and those who did not, the propensity score matching method was used to assess the impact of the programme in terms of the successful inclusion of young people in the formal labour market, the generation of earnings, and hours worked. In total, the sample size for 2014 was 3,810 young people, with 2,101 in the control group and 1,709 in the treatment group. In 2015, the total sample was 3,899 young people, with 1,691 in the treatment group and 2,208 in the control group. The sample consisted of 2,011,122 young people in 2014 and 2,088,975 in 2015.

The econometric method used is presented below. It is important to note that propensity score matching is considered one of the best methods for evaluating public policies, precisely because it compares people in terms of selection probability given their characteristics. This method aims to find a comparison group to set against the treatment group, basing this on a sample of people who do not participate in the programme or policy (control group). The observable characteristics of the treatment group are taken as a basis, and it is compared with the control group, which consists of people with similar characteristics. An average is taken not simply between groups, but between people with the same (or similar) characteristics, i.e. the control group usually has the greatest possible similarity to the group affected by the policy in terms of the observed variables relevant to the treatment. Essentially, this methodology serves to identify non-beneficiary young people with observable characteristics similar to those of young beneficiaries, setting out from selected control groups.

### 1. The econometric model: propensity score matching

An efficient way of evaluating the effect of a public policy on a given variable is to observe it when the unit of analysis *i* (in this case, young people) benefits from a given policy as opposed to when it does

<sup>3</sup> Only urban youth are considered in the study because of the high levels of informality in rural areas, as inferred in the study by Costa and Oliveira (2014).

<sup>4</sup> PNAD variable V1273 captures reported values for interest on savings accounts and other financial investments, dividends, social programmes and other income. Setting out from the assumption that the poor did not have financial investments or receive significant amounts of interest from saving accounts or dividends, this research took declared values of between 30 and 350 reais to be resources transferred by the Bolsa Família programme.

not (Heinrich, Maffioli and Vázquez, 2010). The difference obtained in the variable of interest is the impact of the public policy, i.e.:

$$\delta_i = Y_{1i} - Y_{0i} \quad (1)$$

Where:  $\delta_i$  is the effect of the public policy, in this case the Bolsa Família programme, on the variable of interest (formal employment, earnings, hours worked) for the unit of analysis (the young)  $i$ ;  $Y_{1i}$  is the value of the variable of interest after the young person  $i$  has participated in the programme; and  $Y_{0i}$  denotes the value of the variable of interest if the young person  $i$  did not participate in the programme.

The aim is not to individualize the impact of public policies but to measure their average effect on the group under analysis. For this purpose, the parameter known as the average treatment effect (ATE), described by (2), is used.

$$ATE = E(\delta) = E(Y_1 - Y_0) \quad (2)$$

Where:  $E$  is the expected value;  $Y_1$  is the value of the variable of interest after the participation of young people in the programme; and  $Y_0$  denotes the value of the variable of interest in the event that young people do not participate in the programme.

The difficulty in measuring (2) is that this and other effects are not necessarily observable. Thus, assuming that the difference between the means is given by the mean of the differences, ATE can be represented by (3).

$$ATE = E(Y_1 | T = 1) - E(Y_0 | T = 1) \quad (3)$$

$E(Y_0 | T = 1)$  represents the mean result that would have been obtained for those treated in the absence of treatment, which is unobserved. Consequently, this value is substituted by  $E(Y_0 | T = 0)$ , measuring the value of the variable of interest,  $Y_0$ , for the non-beneficiary group, which is observed. This can be used to calculate:

$$\Delta = E(Y_1 | T = 1) - E(Y_0 | T = 0) \quad (4)$$

Taking (4) and adding and subtracting the term  $E(Y_0 | T = 1)$  will yield the difference between  $\Delta$  and ATE (5):

$$\Delta = E(Y_1 | T = 1) - E(Y_0 | T = 1) + E(Y_0 | T = 1) - E(Y_0 | T = 0) \quad (5a)$$

$$\Delta = ATE + E(Y_0 | T = 1) - E(Y_0 | T = 0) \quad (5b)$$

$$\Delta = ATE + SB \quad (5c)$$

Where: SB is the difference between the Y variable for the group of programme beneficiaries and the group of non-beneficiaries. If SB is zero, ATE can be measured by the difference between the means of the Y variable; however, this is unlikely to be the case, so an appropriate methodology must be used to ensure that the SB term is equal to zero.

One of the methods used to minimize selection bias, especially when the selection of participants in a given programme is not random, is propensity score matching. For this there must be two groups, a treatment group and a control group. The first consists of the people (in the case of this research, young people) who received resources from the programme and the second of those who did not.

The difficulty in measuring the effects of the Bolsa Família programme across these two groups is to distinguish the characteristics of each (age, race, education, etc.), which may be determining the difference in the variable of interest. Cavalcanti and others (2016) argue that the ideal way to evaluate the impact of any public policy would be to compare the same group in two contexts: participation and non-participation in a programme. As this is not possible, however, the alternative is to create a statistically identical group, so that the only differential is whether or not they participate in a specific public policy.

The propensity score matching method allows this comparison to be made by finding similarities within the groups of young people benefiting (treatment group,  $T=1$ ) and not benefiting (control group,  $T=0$ ) from the Bolsa Família programme. This propensity is generated from the observable characteristics of the young people, which affect the likelihood of their participation in the programme. Thus, the participation or non-participation of young people in the programme becomes random (Heinrich, Maffioli and Vázquez, 2010). In this research, the characteristics (called control variables) used for matching were: living in the South or South-East region; living with a partner; being head of household; age; number of children; race; gender; number of people in the family; level of education; per capita household income; being employed. These variables were identified on the basis of studies on the topic that use propensity score matching and analyse the labour market, such as Nascimento and Kassouf (2016), Tavares (2010) and Vasconcelos and others (2017).

The search for similar observations when different characteristics are listed may come up against the problem of multidimensionality, i.e. young person  $i$  may have some characteristics similar to those of young person  $j$  and others similar to those of young person  $m$ . In this case, the difficulty would be to establish whom  $i$  should be compared to. As Rosenbaum and Rubin (1983) point out, propensity score matching minimizes this problem by calculating the probability that the young person will receive the treatment in the light of his or her observable characteristics (covariates). In the present research, the logit model (6) was used to measure this probability, with matching based on the assumption of conditional independence. As a consequence of this assumption, the difference between the means of the covariates in the treatment group and the control group cannot be statistically different from zero.

$$P(T_i = 1 | X_i) = \frac{1}{1 + e^{-x_i\beta}} \quad (6)$$

Where:  $P(T_i = 1 | X_i)$  denotes the probability of the young person participating in the programme, considering his or her covariates.

Next, propensity score matching is used to match young people with equal or similar scores and then assess whether the treatment group secured statistically higher levels of formal employment, hours worked and earnings than the control group.<sup>5</sup> The main limitation of propensity score matching is that if “treated” status is influenced by unobservable characteristics, the conditional independence assumption is not met and the effects estimated may be biased (Oliveira, 2016). Also, when only one particular year is analysed, there may be one-off factors that affect the treatment or control group, skewing the results. For this reason, we opted to repeat the method for another year, applying the analysis to both 2014 and 2015. Annexes A1 and A2 show the correlation between the covariates. In no case did the value exceed 0.80, which, according to Oliveira (2016), is the maximum correlation if the propensity score matching results are not to be distorted.

<sup>5</sup> Matching was carried out using the nearest neighbour algorithm.

### III. Brazilian youth and the labour market: empirical evidence

#### 1. The market for the labour of poor youth and the impact of the Bolsa Família programme

Statistics show how vulnerable economically active young Brazilians are, particularly when they are poor. To break the vicious circle of poverty in Brazil, specific actions are needed to interrupt the process, focusing on this most vulnerable group.

The Bolsa Família programme is one of the policies implemented in the 2000s with the aim of reducing or eliminating vulnerability in the Brazilian population. In theory, its conditions are meant to be conducive to greater inclusion of the population in the labour market, for example by requiring that children and adolescents attend school. The medium-run expectation is that human capital formation in this group will break the intergenerational transmission of poverty via greater labour market inclusion and income autonomy.

Accordingly, the propensity score matching method was used to assess the effectiveness of the Bolsa Família programme in terms of the labour market participation of young people benefiting from its conditions.

The first step in the correct application of the method was to divide the set of poor Brazilian youth into a treatment group (those who participated in the Bolsa Família programme) and a control group (those who did not participate in the programme), ensuring that the characteristics of both groups were the same (see table 1).

**Table 1**  
Brazil: difference of means between the covariates of poor youth before matching, 2014 and 2015

	2014 mean			2015 mean		
	Untreated	Treated	t test – p-value	Untreated	Treated	t test – p-value
South or South-East dummy	0.33	0.20	8.9*	0.33	0.21	7.91*
Partner dummy	0.36	0.22	9.39*	0.31	0.25	4.31*
Number of people	3.96	4.62	11.89*	4.05	4.62	9.72*
Children	0.23	0.29	2.11*	0.26	0.32	2.66*
Household head dummy	0.30	0.16	9.91*	0.25	0.18	5.67*
Gender dummy	0.57	0.55	1.58	0.55	0.56	0.51
Age	20.00	19.52*	5.48*	20.02	19.72	3.64*
Race dummy	0.28	0.20	5.60*	0.27	0.22	1.98*
Household per capita income	214.15	192.89	9.15*	210.34	184.56	10.57*
Occupation	0.61	0.57	1.43	0.50	0.52	0.61
Education	9.31	9.05	2.78*	9.71	9.23	5.14*

**Source:** Prepared by the authors, on the basis of Brazilian National Household Survey (PNAD).

**Note:** South or South-East dummy: 1 for South or South-East, 0 otherwise; gender dummy: 1 for male, 0 otherwise; household head dummy: 1 for household head, 0 otherwise; race dummy: 1 for white, 0 otherwise; partner dummy: 1 if has partner (married or cohabiting), 0 otherwise.

To accommodate this principle, a test of difference of means was used to compare the characteristics (selected covariates) of the young people who participated in the programme (treatment) with the characteristics of the young people who did not participate (control). The results

showed that all covariates except gender and occupation presented significant differences between means, indicating that the two groups' characteristics were different. The results were maintained in both 2014 and 2015, with fairly close values, which confers robustness on the analyses that were then performed.

It is important to note that the characteristics of the treatment group and the control group should be similar after matching, so that the test of difference between means for each covariate should not be significant. If it were, it would not be possible to carry out the analysis of the impact of the Bolsa Família programme on the labour market, essentially because the results could derive from other characteristics of the young people and not from the influence of the programme. Table 2 therefore compares the treatment and control groups after matching, again performing the test of difference between means.

**Table 2**  
Brazil: difference of means between the covariates of poor youth  
after matching, 2014 and 2015

	2014 mean			2015 mean		
	Untreated	Treated	t test – p-value	Untreated	Treated	t test – p-value
South or South-East dummy	0.20	0.21	0.25	0.22	0.20	1.40
Partner dummy	0.22	0.20	1.42	0.25	9.27	1.34
Number of people	4.62	4.56	0.99	4.61	4.56	0.79
Children	0.29	0.29	0.16	0.32	0.33	0.29
Household head dummy	0.16	0.18	1.41	0.18	0.18	0.27
Gender dummy	-	-	-	-	-	-
Age	19.54	19.59	0.78	19.72	19.75	1.20
Race dummy	0.21	0.20	0.77	0.23	0.22	0.70
Household per capita income	192.89	190.53	0.92	184.56	185.94	0.53
Occupation	-	-	-	-	-	-
Education	9.05	8.8	1.90	9.23	9.18	0.61

**Source:** Prepared by the authors, on the basis of Brazilian National Household Survey (PNAD).

**Note:** South or South-East dummy: 1 for South or South-East, 0 otherwise; gender dummy: 1 for male, 0 otherwise; household head dummy: 1 for household head, 0 otherwise; race dummy: 1 for white, 0 otherwise; partner dummy: 1 if has partner (married or cohabiting), 0 otherwise.

As a corollary, the differences between the means of the treatment and control group variables were not statistically significant in either 2014 or 2015, allowing the two groups to be compared.

The results of the logit model that calculates the probability of participating in the Bolsa Família programme for the years 2014 and 2015 are shown in table 3. This probability is used to match observations, so that for each treated observation one (or more than one) “match” is found in the control group with the same estimated probability of participation in the programme. The observations compared differ only in that one receives the benefit and the other does not, i.e. they are identical in all other respects. Virtually all covariates affect the probability of participation in the Bolsa Família programme.

Following the matching of the treatment and control groups, propensity score matching was applied to determine the impact of the Bolsa Família programme on the market for the labour of poor youth. Table 4 shows the result for inclusion in the formal market, which was not statistically significant in either year. In other words, young people who received benefits from the Bolsa Família programme were not necessarily more likely to enter the formal labour market than other poor youth.



**Table 3**  
Brazil: results of the logit model that estimates the probability of participation in the Bolsa Família programme, 2014 and 2015

Variable	2014 coefficient	2015 coefficient
South or South-East dummy	-0.64*	-0.63*
Partner dummy	-0.36*	-0.14**
Number of people	0.17*	0.15*
Children	0.13*	0.19*
Household head dummy	-0.47*	-0.32*
Age	-0.01	-0.2
Race dummy	-0.26*	0.34*
Household per capita income	-0.004*	-0.004*
Education	-0.02*	-0.04*
Pseudo R	0.37	0.28

**Source:** Prepared by the authors, on the basis of Brazilian National Household Survey (PNAD).

**Note:** \*significant at 5%; \*\*significant at 10%.

**Table 4**  
Brazil: average effect of the Bolsa Família programme on the formal labour market inclusion (1 if in the labour market and 0 otherwise) of poor youth participating in the programme, 2014 and 2015

Result variable	Mean effect	Standard error	Z
Formal labour market 2014	-0.02	0.01	-1.31
Formal labour market 2015	0.004	0.01	0.35

**Source:** Prepared by the authors, on the basis of Brazilian National Household Survey (PNAD).

Barbosa and Corseuil (2013) obtained similar results. When they analysed beneficiaries as a group, they found that being a beneficiary of the Bolsa Família programme did not lead to greater participation in the formal labour market. One hypothesis is that the eligibility requirement of the programme limiting it to families with per capita incomes of up to 170 reais leads people (in this case young people) to enter the informal market so as to avoid declaring their income and thus remain in the programme.

In the case of earnings (see table 5), there was an inverse effect, with the Bolsa Família programme having a negative impact on income from work. Specifically, the average earnings of young programme beneficiaries were 24.22 reais lower in 2014 and 14.55 reais lower in 2015.

**Table 5**  
Brazil: average impact of the Bolsa Família programme on the earnings of poor youth participating in the programme, 2014 and 2015

Result variable	Mean effect	Standard error	Z
Earnings 2014	-24.22	10.56	-2.29*
Earnings 2015	-14.55	9.48	-1.90**

**Source:** Prepared by the authors, on the basis of Brazilian National Household Survey (PNAD).

**Note:** \*significant at 5%; \*\*significant at 10%.

One of the explanations for this result derives from the greater prevalence of informal working among the poor youth participating in the programme, who consequently earn less. It should be noted that, among the poor, both Bolsa Família participants and non-participants had high unemployment rates and low employment rates. However, formality and earnings were higher among young people who did not benefit from the programme.

Costa and Ulyssea (2016) found similar results. When analysing the impact of the Bolsa Família programme on the average earnings of participants and non-participants, they also found the programme to have a negative effect on the earnings of beneficiaries.

Lastly, hours worked in the labour market were analysed, without any statistical difference being found in this variable for either 2015 or 2014 (see table 6). This contradicts some research, such as that of Costa and Ulyssea (2016), who pointed to a “sloth effect” for those receiving benefits from the Bolsa Família programme. Thus, no such effect was captured in the case of economically active youth.

The fact that there was no statistically significant difference in hours worked between Bolsa Família beneficiaries and other poor youth, then, and that even so the former tended to earn less, strengthens the argument that informality is a decisive factor in the earnings discrepancy suffered by young workers in the Bolsa Família programme.

**Table 6**

Brazil: average impact of the Bolsa Família programme on the hours worked by poor youth participating in the programme, 2014 and 2015

Result variable	Mean effect	Standard error	Z
Hours worked 2014	0.42	0.74	0.57
Hours worked 2015	0.89	0.81	1.10

**Source:** Prepared by the authors, on the basis of Brazilian National Household Survey (PNAD).

Thus, it cannot be inferred that the Bolsa Família programme is important for the inclusion of young people in the labour market. On the contrary, the programme’s requirements could, in part, be making beneficiaries more likely to work informally in order to remain in it.

## IV. Final considerations

This article has analysed the situation of urban youth in the Brazilian labour market and assessed the effect of the Bolsa Família programme on formal employment, earnings and hours worked.

As a corollary, it has found that young people particularly struggle to participate in the labour market, as they have higher rates of unemployment and informality and receive lower wages than the rest of the population. Lack of professional experience has been identified in the literature as one of the main determinants of the exclusion of young people from the labour market, intensified by the economic crisis experienced during this period.

Within the group of young people, however, the poor were even more severely excluded. Thus, if young people generally are marginalized, the poorer among them are even more isolated from the world of work, with alarming rates of informality and unemployment and the lowest wages.

This situation justifies the implementation of direct actions to break this negative cycle and promote the well-being of the entire population. Given its conditions, which apply particularly to beneficiaries’ children, the Bolsa Família programme should tend to contribute to this change in the medium term. Accordingly, we sought to ascertain whether the programme was having an impact on the market for the labour of poor young Brazilians.

The results did not corroborate this hypothesis, as they did not identify a statistically significant impact of the Bolsa Família programme in terms of increased hours worked or inclusion in the formal labour market. Especially in the latter case, the programme eligibility requirement of a limited per capita income may be the reason why young beneficiaries remain in the informal sector, with more flexible jobs that allow them to underreport their income.

With respect to income formation, the impact of the programme was negative and statistically significant. This finding reinforces the hypothesis that participants chose jobs without employment contracts.

Thus, one of the programme's objectives is not being achieved: it is not leading to greater inclusion of young people in the formal labour market, with the higher incomes this entails, with the result that the future autonomy of this section of the population is being curtailed. The income limit of 170 reais per capita for participation in the Bolsa Família programme seems to be a decisive factor in results that run quite counter to the programme's objectives, as it is likely to keep future generations of beneficiaries in the informal economy.

Accordingly, some points of the Bolsa Família programme need to be reformulated, in particular the per capita income limit for inclusion in the programme. Public policies should also be adopted to combat informality and generate new jobs, especially jobs with formal contracts. Programmes providing incentives to hire young people can also reduce vulnerability to unemployment. Alongside this, young people need to be provided with professional skills through technical courses and high-quality school education appropriate to the demands of the labour market.

Lastly, it must be stressed that the main limitation of research to evaluate public policies using PNAD data is the lack of a variable identifying beneficiaries of the Bolsa Família programme. It is therefore imperative to include questions in the questionnaire about participation in the Bolsa Família programme and the duration of benefits, in order to improve the estimated results. It should also be borne in mind that in 2014 and 2015 the Brazilian economy was in a severe recession and the crisis undoubtedly affected the labour market, a factor that was not considered in the estimates made in this research.

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## Annex A1

**Table A1.1**  
Correlation between covariates, 2015

	South or South-East	Age	Household head	Race	Partner	Per capita income	Education	Number of people	Children
South or South-East	1								
Age	-0.0527	1							
Household head	-0.0235	0.3056	1						
Race	0.1794	-0.0492	-0.0244	1					
Partner	-0.0887	0.3539	0.3988	-0.0598	1				
Per capita income	0.0329	0.0215	-0.0717	0.0046	0.036	1			
Education	0.0412	0.1559	-0.0443	0.0568	-0.1031	0.0814	1		
Number of people	0.0215	-0.1425	-0.3557	-0.0445	-0.2307	-0.0061	-0.0957	1	
Children	0.0043	0.2629	0.2662	-0.0233	0.1623	-0.122	-0.048	-0.0993	1

**Source:** Prepared by the authors, on the basis of Brazilian National Household Survey (PNAD).

## Annex A2

**Table A2.1**  
Correlation between covariates, 2014

	South or South-East	Age	Household head	Race	Partner	Per capita income	Education	Number of people	Children
South or South-East	1								
Age	-0.0313	1							
Household head	-0.0061	0.3426	1						
Race	0.1931	-0.0021	0.0108	1					
Partner	-0.0277	0.3872	0.4255	0.0056	1				
Per capita income	0.094	0.0724	-0.0397	0.039	0.0789	1			
Education	0.0268	0.1248	-0.0315	0.0888	-0.0748	0.0959	1		
Number of people	0.0182	-0.1587	-0.3752	-0.0578	-0.263	0.0007	-0.0798	1	
Children	0.0147	0.2815	0.2273	-0.0183	0.1495	-0.0726	-0.0456	-0.0955	1

**Source:** Prepared by the authors, on the basis of Brazilian National Household Survey (PNAD).