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The School–to–Work Transition in Brazil: Patterns and Determinants of Young People Trajectories

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Preface

This text is the fruit of process of collaboration and discussions coordinated by the ILO Office in Brasilia, in the framework of the international comparative research Project on "The School-to-Work Transition Survey (SWTS) of Youth", financed by the Mastercard Foundation.
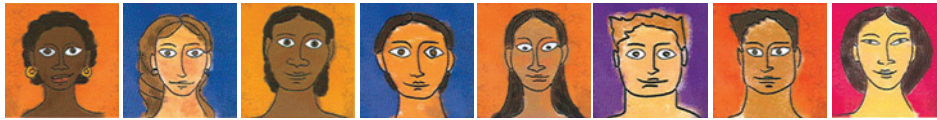
Technical workshops were held, starting in 2013, and a Consultative Council on the SWTS was created, composed of technical representatives of organizations acting in this area, including the Ministry of Labour and Employment, the Ministry of Social Development, the Ministry of Education, the National Secretary of Youth, the National Statistical Office (IBGE), the Institute for Applied Economic Research (IPEA) and the Department for Inter-Trade Union for Economic, Social and Statistical Research (DIEESE). The Consultative Council on the SWTS analysed the generic questionaire for the research project, and revised in light of the Brazilian context and validated the methodology. The questionnaire was applied in face-to-face interviews conducted with a representative national sample of 3,288 young people.[1]

In addition to other studies conducted, using the SWTS dataset, the present study adopted an innovative approach, which involved the calendarization of the data provided by each young person interviewed. This methodology enabled the creation of a new dataset with which a longitudinal analysis could be conducted, thereby allowing for the identification of different paths of young people, and the various educational, demographic and labour market transitions they followed. These different transitions influenced the occupational trajectories of youth people and their possibility to attain an insertion in the labour market in conditions of decent work. With this information, the authors created a typology of occupational transitions, with special attention to the social markers that differentiate between young people in the sample. Among the various important findings presented in this study, one gains a deeper understanding that there is not a single school-to-work transition; rather, there are diverse transitions (educational, demographic and labour market) which influence the trajectories of young people. In addition to this, in the majority of cases, the trajectories are not linear; they are heterogeneous trajectories which mark the passage to adult life and the relationship of these young people with the world of work.

Other findings include the importance for young people of reconciling the different demands and

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[1]   The questionnaire was applied by Venturi Associates in June 2013.

responsibilities of schooling and work. When these demands also include family responsibilities (such as caring for siblings, elderly family members and/or their own children), it tends to become impossible to reconcile these differing demands. The research suggests that many cases of the so-called NEETs (young people that are neither studying, working nor in vocational training), are young people who were unable to reconcile these diverse demands, the majority of whom are young women. This finding highlights the need for public policies formulated with an awareness of how gender, race and various forms of vulnerability impact upon the ability for young people to avail of educational and labour market opportunities.

The SWTS dataset and questionnaire, as well as the studies that were developed in the framework of this project, can be accessed at the following website: https://www.ilo.org/brasilia/temas/emprego/WCMS_618420/lang--pt/index.htm

The analysis and findings presented in this study raise important implications for policymakers; we hope it will stimulate intense discussions and fruitful reflections among this audience, as well as among academics and other specialists in the area of youth and the world of work.

Martin Hahn
Director
Office of the ILO in Brasilia

Authors´ Acknowledgements

held in São Paulo on 29 July, 2015, especially those from Alvaro Comin, the main discussant of our text. Also useful were the suggestions from our colleagues at the Lozano Longo Institute for Latin American Studies (LILLAS) and the Brazil Center during the seminars held at the University of Texas on 13 and 15 October, 2015. Finally, we are equally indebted to our broader audience, made up of data users and producers, public policy managers, academics and civil society actors that participated in the Seminar for disseminating results promoted by the ILO in Brasilia, held at the University of São Paulo on 21 September, 2016.

Of course, we take full and exclusive responsibility for any gaps or imprecisions that might remain in the text.

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Introduction

This study has one goal: to characterize the trajectories of young Brazilians in the labour market and to reflect on some of their main correlates. These trajectories were identified using data collected by a national ILO Brazil/SWTS "School-to-Work Transition Survey", which investigated a representative sample of 3,288 young people interviewed in June 2013.[5]
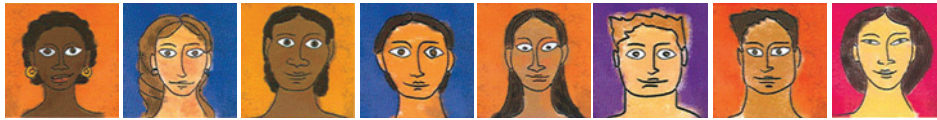
In order to best present our results, we have divided this text into six sections, in addition to the Introduction and Final Considerations. The first section establishes our Starting Points to clarify the theoretical framework and justify the importance of adopting a longitudinal approach when studying ways in which young people enter and move through the labour market. The second section, Creating Timelines, describes how the longitudinal information was produced, which leads to section 3, Identifying Trajectory Patterns, where we present a typology of the various labour market transitions experienced by the young people in our sample. Section 4, entitled Exploring the Associations Between Patterns and Profiles addresses in detail the variables associated with the types of trajectories in order to characterize the young people involved. The last two sections, both entitled Transition and Transitions, underscore the social heterogeneity that marks the different ways of transitioning to adulthood and highlights their plurality. In section 5, we explore the dynamics of parenthood and marital unions in the trajectories of Brazilian young people and identify the associations between labour trajectory patterns and demographic events. In section 6, we analyze how young people in Brazil allocate time between studies and work. This last section focuses on how educational dynamics impact the labour trajectories of young people.

Thus, the study uses an analytical flow that begins with identifying the trajectories in the labour market, then observing them in light of demographic and educational transitions, and concluding with the multiple interactions found between the dimensions of labour, education, and demography. This is the analytical challenge we set for ourselves.

It is worth stating that the scenario for young Brazilians old enough to enter the labour market between 2000 and 2013 developed under very specific circumstances. Indeed, most of their employment experiences occurred in a context of economic growth and increased systematic job

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[5]   More details about the SWTS - "The School-to-Work Transitions Survey for Young People in Brazil" can be found in Venturi and Torini (2014). https://www.ilo.org/brasilia/temas/emprego/WCMS_526223/lang--pt/index.htm

offers, not to mention more jobs with formal contracts. It was also a period marked by greater access to all levels of education, whether through universal primary education, significantly greater access to secondary education, or the remarkable (given the limited starting point) incorporation of young people into higher education, albeit mostly into private institutions. Finally, in those same years the fertility rate dropped at noteworthy speeds and put Brazil, in 2010, below standard replacement levels, a surprising fact if we think of the conditions in which the previous generations experienced their transition into adulthood.

This study captured a special historical moment in Brazilian society with regards to its dynamics of employment, education, and demographics – three key dimensions when reflecting on the conditions for transitioning to adulthood. For this reason, if compared to other cohorts that experienced transitions earlier, this generation of young people experienced a very special context with multiple opportunities available to them. Therefore, the reader should keep this particular timeframe in mind when examining the results of our analysis.

1

Starting Points

The study of young people entering the labour market opens a gamut of analytical challenges that has mobilized the interest of academic literature. Therefore, it is necessary to establish some of our understandings on the subject since they are the basis of the operational decisions we made.

First, we know that the employment transitions of young people not only tend to be more intense that those of adults, but they also are more likely to involve periods of inactivity. They include events of employment, unemployment, and inactivity that are expected to be less recurrent as they advance toward adulthood. For this reason, a longitudinal analysis of these trajectories has provided special insight into the plurality of these movements as young people seek to enter the labour market.

However, it is also important to bear in mind that the work history of young people runs parallel to other equally important events in their lives. Although having interconnected life dimensions is not unique to young people, for them these occur in a period of other life transitions that are pivotal in the process of status autonomization (ALISSON, 1984; ELDER, 1985). Examples of typical phenomena during this phase of life include: transitioning through the education system to complete formal education; entering and circulating in the labour market, in transitions between occupations; leaving the childhood home as a result, or not, of marriage and/or becoming parents. The way these events occur and are interconnected determines the structure of opportunities afforded to young people in terms of educational and occupational achievements and probability of social mobility, which have important consequences on their future social positions as adults. These nexus have been investigated in international literature (SHAVIT; BLOSSFELD, 1993; SHAVIT, MÜLLER, 1998; ROKSA; VELEZ, 2010) and have been documented for the Brazilian case (TORCHE; RIBEIRO, 2010; SILVA; HASENBALG, 2003; MARTELETO; SOUZA, 2012). Therefore, keeping them in our sights and increasing our knowledge about different countries and different circumstances are central to understanding the vicissitudes of young people in contemporary societies.

There is a third analytical challenge that has marked our analysis. Educational, labour, and demographic events do not occur in any specific sequence that can be predetermined. To the contrary, the trajectories of young people are heterogeneous and characterized by a wealth of experiences: they study and work at the same time, leave school and then later return, begin their first job and

then go back to school. These and many others are some of the possible connections between work, school, and family trajectories. This requires using adequate conceptual and methodological frameworks. Although our primary goal is to identify transition patterns for Brazilian youth in the labour market, we avoided exclusively addressing the dimension of employment engagement and did not use it as the only indicator for the transition to adulthood. Instead, we assumed that the transition to adulthood can only be understood if it is portrayed as a movement that intersects multiple transitions: educational transitions, family transitions, labour market transitions. Only then is it possible to identify Brazilian specificities in the patterns of youth engagement in the labour market, and how these patterns are related to the specific dynamics of Brazil's labour market, the structure and accessibility of different educational levels, and the changes within the family in terms of position and responsability (HASENBALG, 2003; COMIN; BARBOSA, 2011; RIBEIRO, 2011; ALVES DE BRITO, 2014; MARTELETO; SOUZA, 2012). This provides the basis for understanding the specific patterns of trajectories (and transitions) among Brazilian youth and young adults (GUIMARÃES, 2006).

Finally, we assume that the trajectories of young people are socially segmented according to mechanisms that are specific to our society. The social markers that internally differentiate Brazilian youth - age, sex, race, urban-rural residence, and the socioeconomic characteristics of their household - will be considered later on in the text as important variables for understanding the distribution of individuals according to trajectory types.

2

Creating a Timeline[6]

The first step required for building a longitudinal analysis of Brazilian young people's participation in the labour market is to create a monthly occupational timeline for each person interviewed in June 2013 to systematize their situation in the labour market. The timeline is, in fact, a matrix based on three variables: the different alternatives of individual relation to the labour market (total of 14, see Box 1)[7], experienced by all 3.288 young people in our sample, for all the months on which we have information (total of 282 beginning in March 1990, when the first occupational event was identified).

Three observations must be made to clarify both the potential of the ILO/SWTS database and some of the limitations of the fieldwork questionnaire that constrain this type of analysis.

First, because the SWTS established three months as the minimum time lapse before a given activity could be considered an occupational event, it produced imprecise numbers of our young people's labour experiences. We know that Brazil commonly exibits shorter employment relationships than the minimum established by the SWTS; this occurs especially among young people in temporary jobs.[8] And in fact, the interviewee sample shows that 90% of 14-year-olds had not yet had any work experience that lasted over three months. Furthermore, since the questionnaire was set up to begin the labour market trajectory at the first employment rather than at the first attempt at getting a job, we do not have well-defined evidence for most young people under the age of fourteen.

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[6] To make it easier for readers that are less interested in technical-methodological discussions, we have tried to keep operational details to a minimum. Whenever possible we will present more technical information by way of Boxes.

[7] In order to identify the situation of each individual in the labour market we used the questions: C15 – *"Which of the following activities best corresponds to what you were doing?"* and C18 – *"You are/were employed based on what?"*. These variables are replicated in the database for each event and for each interval between events. To place the event in a timeframe and establish a timeline we used questions C14 - *"Start date"*, C17 - *"How long did this activity last?"*, C16 - *"Are you still involved in this activity?"*, in addition to question B2 - *"Age"*. The full questionnaire is available at: https://www.ilo.org/brasilia/temas/emprego/WCMS_638339/lang--pt/index.htm

[8] In Brazil, if we consider those recruited by temporary employment agencies (where two in every three workers are young people), the average length of employment contract is less than three months (cf. GUIMARÃES; CONSONI; BICEV, 2013; GUIMARÃES; VIEIRA, 2015).

Second, because the starting point for collecting interviewee work history data was at their first employment that lasted more than three months, there is no information that allows characterizing how much time was spent looking for that first job. In other words, there is an information gap between when interviewees reach legal working age for the market (as trainees or interns, starting at the age of 14) and when they get their first job. This allows a glimpse into the bias of what it means to be engaged in the labour market. If the market includes the employed and unemployed, looking for a job is what should mark the beginning of market engagement rather than the first employment event; after all, individuals in search of their first job are already participants in the labour market.

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BOX 1

The different alternatives for participating in the labour market

- **"Active Search"**
  Young people who answered option 5 *"Available to work and actively seeking work",* even numbers of question C15 (C15_02, C15_04, C15_16).

- **"Training"**
  Young people who answered option 6 *"Training activities"*, even numbers of question C15.

- **"Domestic tasks"**
  Young people who answered option 7 *"Domestic tasks",* even numbers of question C15.

- **"Inactivity"**
  Young people who answered option 8 *"Did not work or look for work for reasons other than domestic tasks"*, even numbers of question C15.

- **"Salaried worker (no information)"**
  Occupied people who answered 1 *"Worked for a salary/income for an employer (full time or part time)",* odd numbers of question C15 (C15_01, C15_03... C15_15) and did not answer question C18 (997).

- **"Salaried worker with a written contract"**
  Occupied people who answered 1 *"Worked for a salary/income for an employer (full time or part time)"*, odd numbers of question C15 and answered 1 "A written agreement" for corresponding question C18.
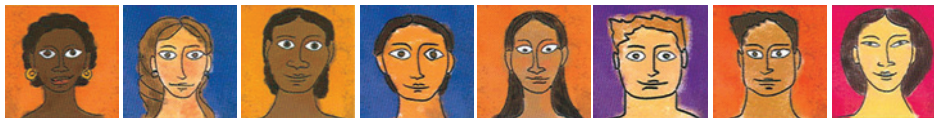
- **"Salaried worker without a written contract"**
  Occupied people who answered 1 *"Worked for a salary/income for an employer (full time or part time)"*, odd numbers of question C15 and answered 2 *"A verbal agreement"* or 3 *"No contract (self-employed, without remuneration...)"* for corresponding C18 question.

- **"Self-employed"**
  Occupied people who answered 2 *"Self-employed"*, odd numbers of question C15.

- **"Family worker without remuneration"**
  Occupied people who answered 3 *"Worked with family members without remuneration (work to benefit the family)"*, odd numbers of question C15.

- **"Trainee/Internship contract"**
  Occupied people who answered 4 *"Trainee/internship"*, odd numbers of question C15.

- **"Unemployment or inactivity"**
  People 14 years old or older who had not yet had an employment event and who were not working in the period before their first job. Because we do not have information as to whether they were looking for work at this time, we cannot verify if the period could be classified as unemployment (if they were job-searching) or inactivity (if they were not job-searching). Hence the ambiguity of the two possibilities.

- **"Less than 14 years old and inactive"**
  Unoccupied people in the period before their first employment event that were under the minimum age legally required to have at least an internship/trainee contract (the legal age for starting formal work is sixteen; apprentice contracts are permitted at the age of fourteen).

- **"Did not answer"**
  Rare cases of people who did not answer (997) or refused to answer (999) any version of question C15 (C15_01, C15_02... C15_16).

- **"No information"**
  Rare cases where the final month of an event does not immediately precede the month that begins the following event, meaning we might have one or more months of the trajectory without information.

Precisely registering this period is especially important when seeking to document how the transition from school to work occurs. In the same way that finishing school does not mean automatically entering the job market, deciding to enter the job market does not mean finding employment. Therefore, not having a question to determine the time spent job-searching before the first employment experience (even if as an apprentice) creates an information gap. How long was the individual inactive once they reached legal working age? When did they begin searching for their first job? This gap forced us to create an ambiguous, and therefore imprecise, category called "unemployment/inactivity" (see Box 1), which unfortunately becomes more important in numerical terms as the individuals get older.

Third, while the first mapped event is dated March 1990, few interviewees cited events that occurred before 2000. We do not believe this is due to "memory effect" errors. Although we know that such an effect can affect the quality of information, especially when it involves the beginning and ending dates of events, we believe the cause here is another. Making up 5.7% of the sample, the oldest interviewees at the time of data collection (29 years old) had reached legal working age only in 1998. Thus, it is not surprising that until 1997 less that 1% of the interviewees had indicated having an employment event. Therefore, because the number of events drops abruptly between 1990 and 2000, we opted to place in the graphs only those events that began in 2000 in order to provide a better perspective of the young people's alternatives concerning labour market participation.

Having made these preliminary remarks, Graph 1 presents an initial picture of the sample's general distribution based on the timeline we created. This first longitudinal result uses a set of transversal images that reveals the monthly situations of the interviewees.

Graph 1

Young people in the labour market: cross-sectional (Brazil, 2000 - 2013)
N = 3.288
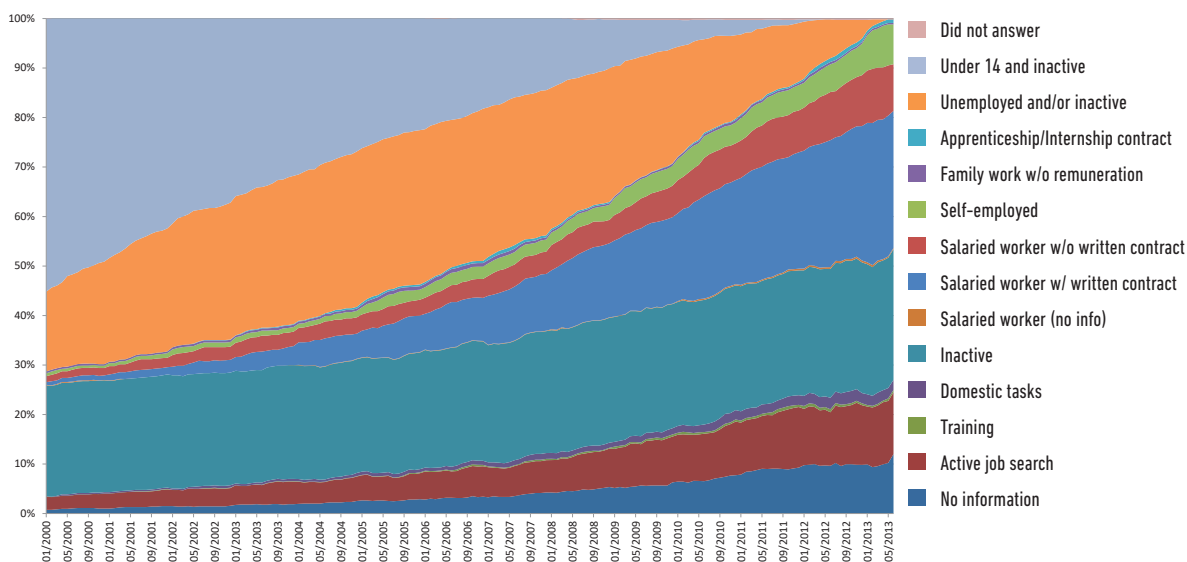
Source: ILO /SWTS – School-to-Work Transition Survey. 2013. Authors´ own processing.

The calendar proved to be an instrument sensitive enough to detect changes in relevant variables, such as age, income, sex, race, and place of residence (whether urban or rural). These variables were selected based on their capacity to discriminate in a previous study developed for this same sample by Venturi and Torini (2014).

The variation observed for age groups was the most significant marker of changes in the sample's distribution of different labour market situations. As we see in Graph Panel 2, the differences became particularly clear when comparing the "adolescents" (hereafter used for the group up to age 17), the "young people" (between 18 and 23), and the "young adults" (between 24 and 29).

The more typical situations of market engagement, namely earning wages (with or without a written contract) and unemployment (expressed in active job-seeking), become more prominent with the increase of age. At the same time, inactivity drops significantly, although it remains (even among "young adults") almost as notable as unemployment. This suggests that a large portion of Brazilian youth either transit between situations inside the labour market or repeatedly leave it. This finding documents the fact that market engagement can be reverted, whether established by age or (as we will see later on), by concluded education. These findings are important, as they challenge analytical understandings of transition as a linear, or even unilinear, phenomenon. To the contrary, the transitions are plural and heterogeneous, and contain a wealth that must be tapped into.

Graph Panel 2
Monthly variation in the situations of young people in the labour market, by age group (Brazil, 2013)

Graph 2.1 - "Adolescents" (under 17)
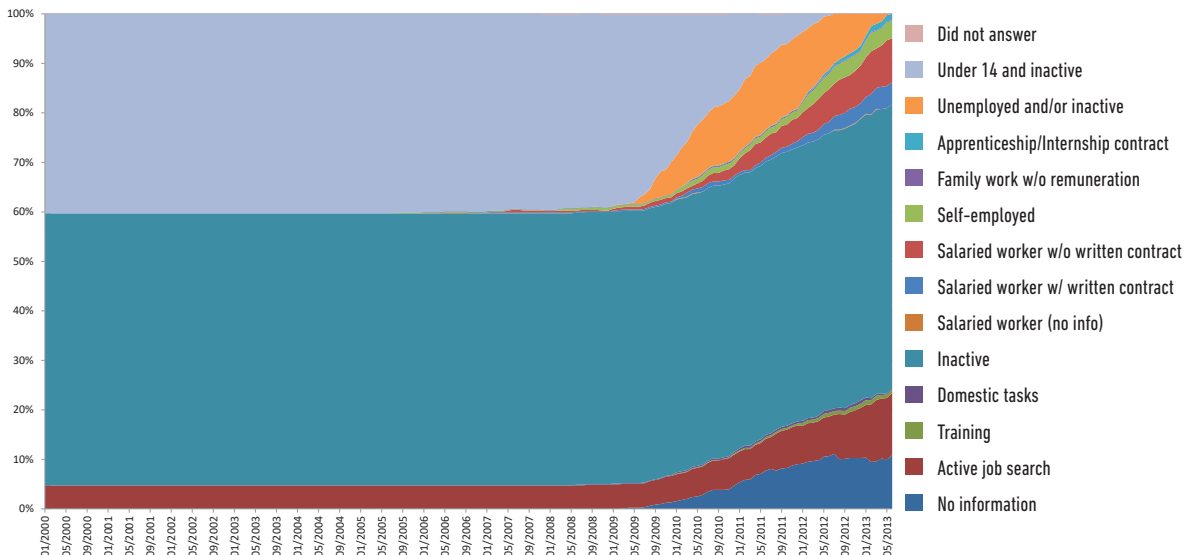
Graph 2.2 - "Young People" (between 18 and 23)

Legend:
- Did not answer
- Under 14 and inactive
- Unemployed and/or inactive
- Apprenticeship/Internship contract
- Family work w/o remuneration
- Self-employed
- Salaried worker w/o written contract
- Salaried worker w/ written contract
- Salaried worker (no info)
- Inactive
- Domestic tasks
- Training
- Active job search
- No information
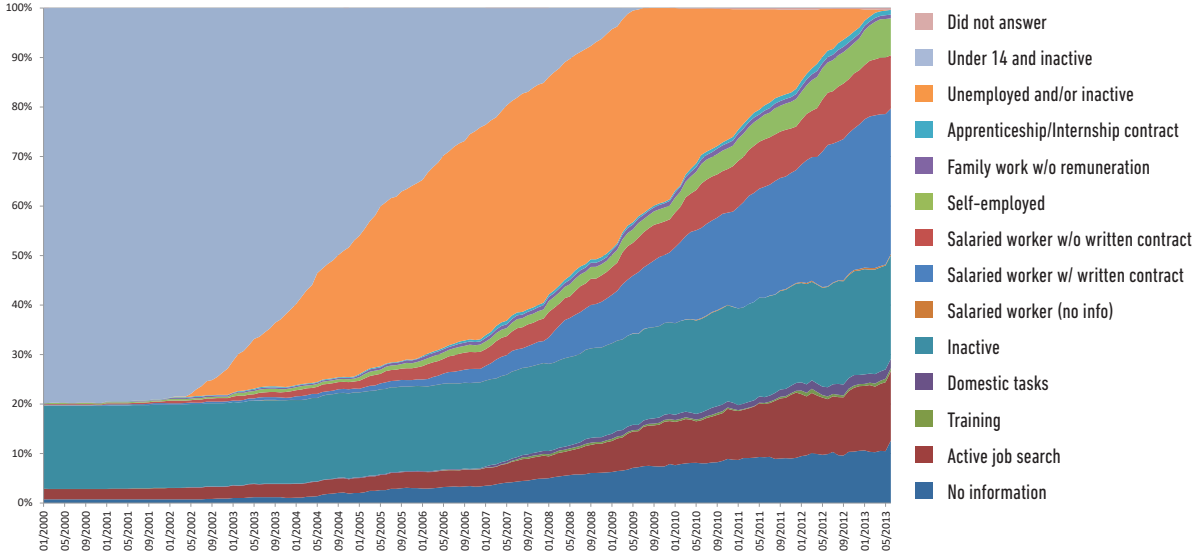
Graph 2.3 - "Young Adults" (between 24 and 29)

Legend:
- Did not answer
- Under 14 and inactive
- Unemployed and/or inactive
- Apprenticeship/Internship contract
- Family work w/o remuneration
- Self-employed
- Salaried worker w/o written contract
- Salaried worker w/ written contract
- Salaried worker (no info)
- Inactive
- Domestic tasks
- Training
- Active job search
- No information
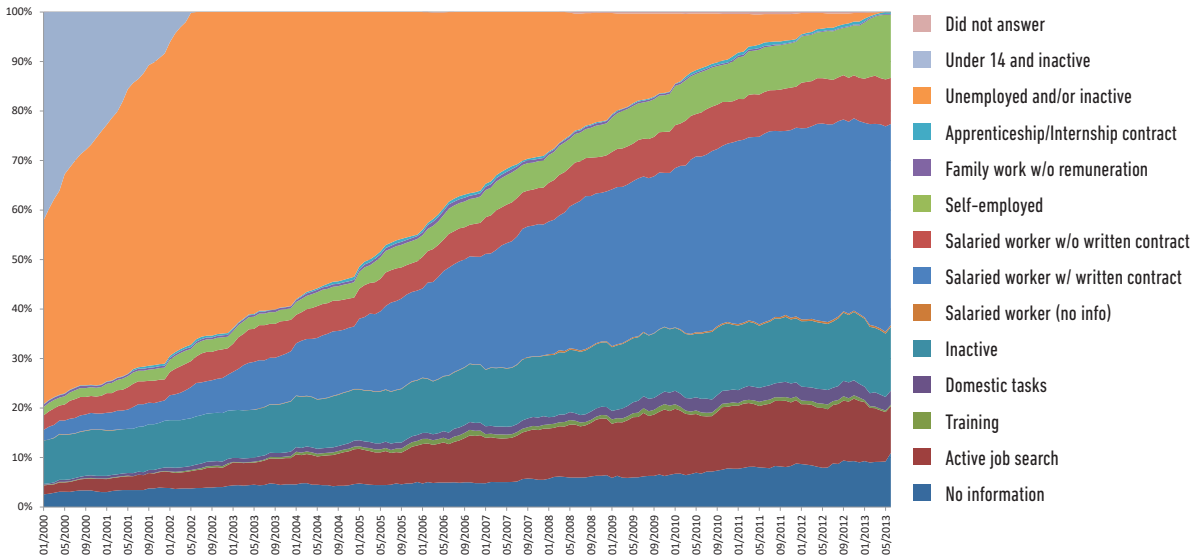
Source: ILO /SWTS – School-to-Work Transition Survey. 2013. Authors´ own processing.

Nonetheless, market situations also vary when observed according to other characteristics such as the income of the interviewees. We classified the young people into three income groups: low income (up to two minimum wages)[9], medium income (between more than two and up to five minimum wages), and high income (more than five minimum wages). In order to better visualise this in the graphs, we show the labour situations with the greatest number of cases in each income group.

Graph Panel 3
Monthly variation in the situation of young people in the labour market, by income group (Brazil, 2013)

Graph 3.1 – Young people with low incomes (up to 2 minimum wages)

Legend:
- Did not answer
- Under 14 and inactive
- Unemployed and/or inactive
- Apprenticeship/Internship contract
- Family work w/o remuneration
- Self-employed
- Salaried worker w/o written contract
- Salaried worker w/ written contract
- Salaried worker (no info)
- Inactive
- Domestic tasks
- Training
- Active job search
- No information

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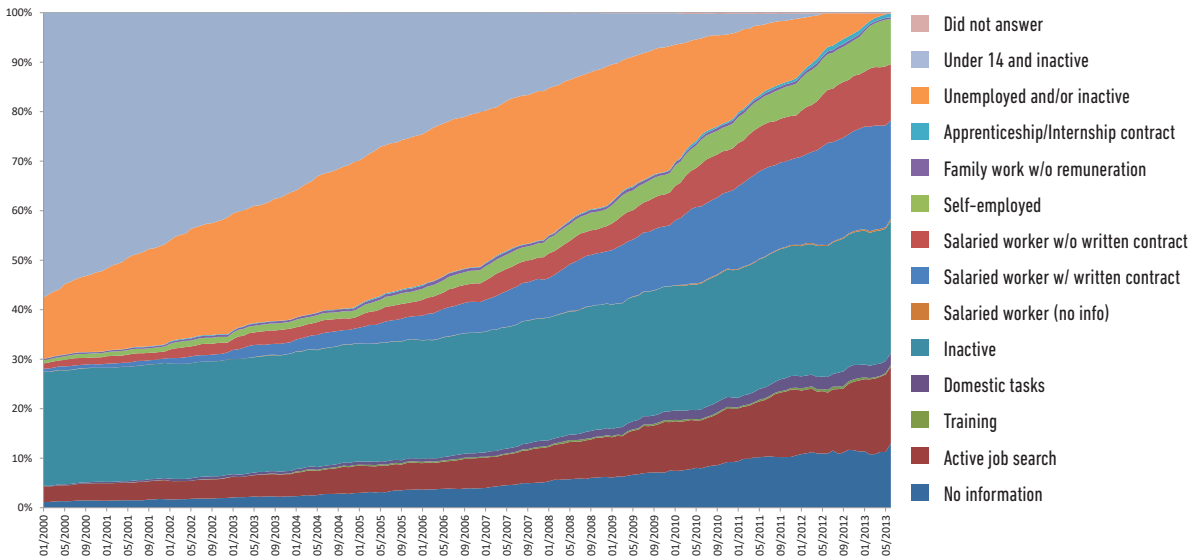
[9]   The minimum wage at the time the data was collected equalled R$ 678.00 (approximately US$308).

Graph 3.2 – Young people with medium incomes (between 2 and 5 minimum wages)

- Did not answer
- Under 14 and inactive
- Unemployed and/or inactive
- Apprenticeship/Internship contract
- Family work w/o remuneration
- Self-employed
- Salaried worker w/o written contract
- Salaried worker w/ written contract
- Salaried worker (no info)
- Inactive
- Domestic tasks
- Training
- Active job search
- No information
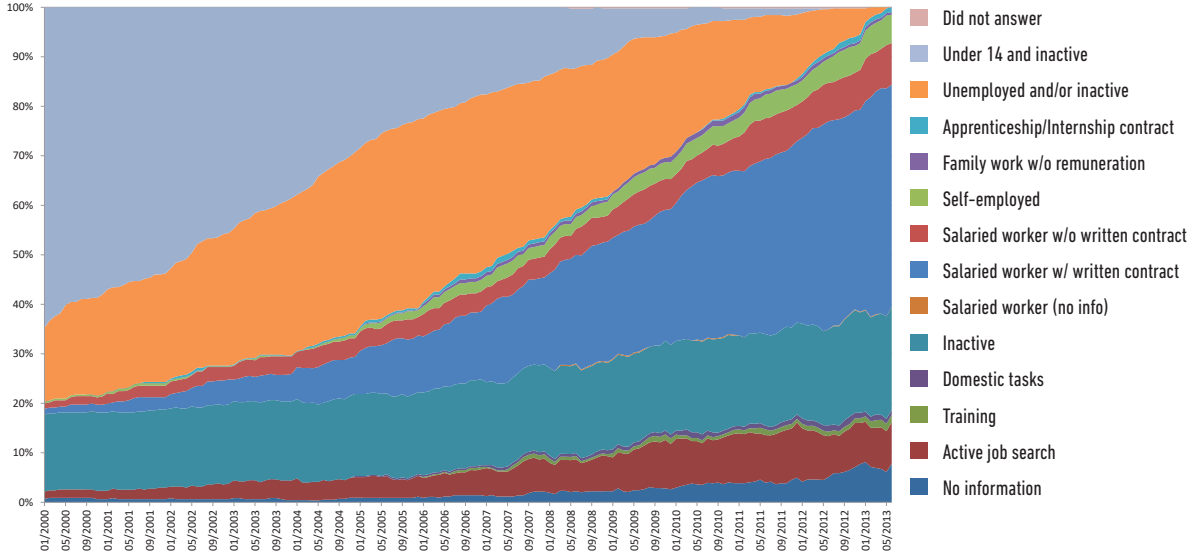
Graph 3.3 – Young people with high incomes (more than 5 minimum wages)
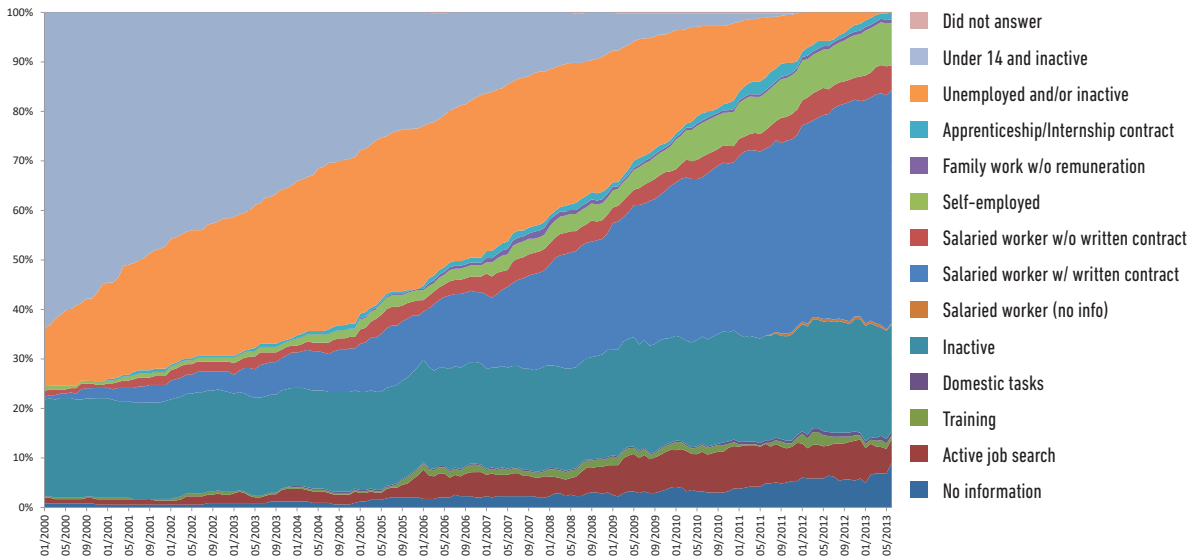
- Did not answer
- Under 14 and inactive
- Unemployed and/or inactive
- Apprenticeship/Internship contract
- Family work w/o remuneration
- Self-employed
- Salaried worker w/o written contract
- Salaried worker w/ written contract
- Salaried worker (no info)
- Inactive
- Domestic tasks
- Training
- Active job search
- No information

Source: ILO /SWTS – School-to-Work Transition Survey. 2013. Authors' own processing.
Note: The labels show the most frequent situations.

Once again one can observe that the portion of young people in monthly situations of inactivity stands out. But the significance of inactivity varies when considering the differences in income. Repeated periods of inactivity seem to characterize the poorest group, while longer periods spent outside the labour market prior to engaging seems to mark those with higher incomes.

On the other hand, when observing the monthly differences among young people actively seeking work, those with higher incomes seem to enter the market when the supply of employment opportunities is greater. This is clearly seen when the number of better-off young people increased in 2005 as employment prospects became particularly favourable. A possible hypothesis could be that their ability to have more control over their survival conditions allowed them to stay inactive for longer periods until employment prospects were advantageous. We will come back to that issue later on with robust models.

Lastly, observing information over time shows the kind of work young people attain. Salaried workers with written contracts do in fact increase in number every month in all the groups. This suggests that older youth have greater capacity to compete for better positions in the labour market, especially when formal job opportunities increase at unusual rates, such as occurred in the period of this study. Nevertheless, formal written contracts are much more frequent for those with higher incomes than those with lower incomes, indicating job quality differences. Also interesting is the behaviour of self-employment, which is equally significant in both income extremities. Here we can see the same polarization that marks self-employment in general in Brazil, between those doing odd jobs and the so called "PJs".[10]*

Other intriguing ideas also surface when analysing the situation of the interviewees as a whole, in the different periods of time, when controlling for sex and race.[11] Because race is an important marker of employment opportunities in Brazil, we opted to keep it constant. In this manner, we can compare the differences between males and females in the same racial group with regards to their labour situations (Graph Panel 4).

It is interesting to mention how the information gap related to job-seeking efforts before getting a first job affects white females more than white males. Another interesting difference that requires a closer look can be seen in the purple area (without a label), which only stands out among white females, corresponds to the females in "domestic tasks".

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[10]   * *Translator's note*: "PJ" means *Pessoa Juridica* in Portuguese and is a person who is legally registered as an enterprise to provide services. When a company hires a "PJ" it does not incur any onus related to labour laws, other than paying an agreed-upon fee. The difference between a "PJ" and someone doing odd jobs is that the "PJ" pays related taxes and can issue official invoices.

[11]   Compared to similar surveys conducted by the ILO in other countries, the SWTS-Brazil questionnaire has the advantage of including the "race" variable. Additionally, it was conducted in a very detailed manner by testing multiple measurements. For our particular analysis, we only consider race where interviewees self-identified as belonging to one of five categories established in the Brazilian census (black, mixed, white, asian, and indigenous). Considering our interest of combining "race" and "sex" into one single variable, we opted to group the five oficial categories into two main ones: "white", which includes individuals who self-identify as white or asian, and "black", which includes all other individuals, mainly those who self-identify as "black" or "mixed-race".

Graph Panel 4
Monthly variation in the situation of white young people in the labour market, by sex (Brazil, 2013)

Graph 4.1 – White young males

Legend:
- Did not answer
- Under 14 and inactive
- Unemployed and/or inactive
- Apprenticeship/Internship contract
- Family work w/o remuneration
- Self-employed
- Salaried worker w/o written contract
- Salaried worker w/ written contract
- Salaried worker (no info)
- Inactive
- Domestic tasks
- Training
- Active job search
- No information
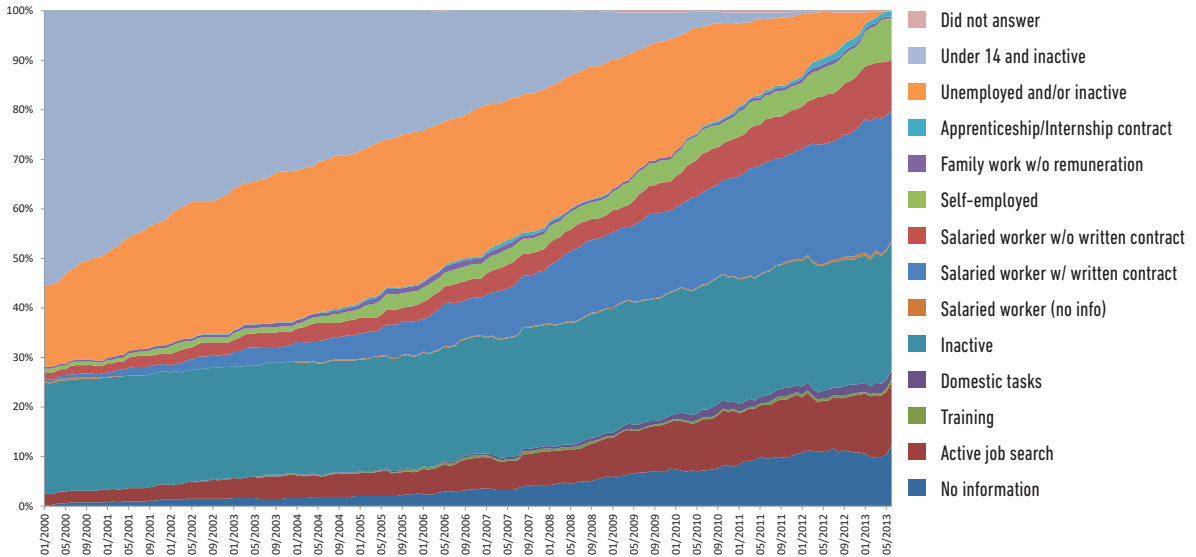
Graph 4.2 – White young females
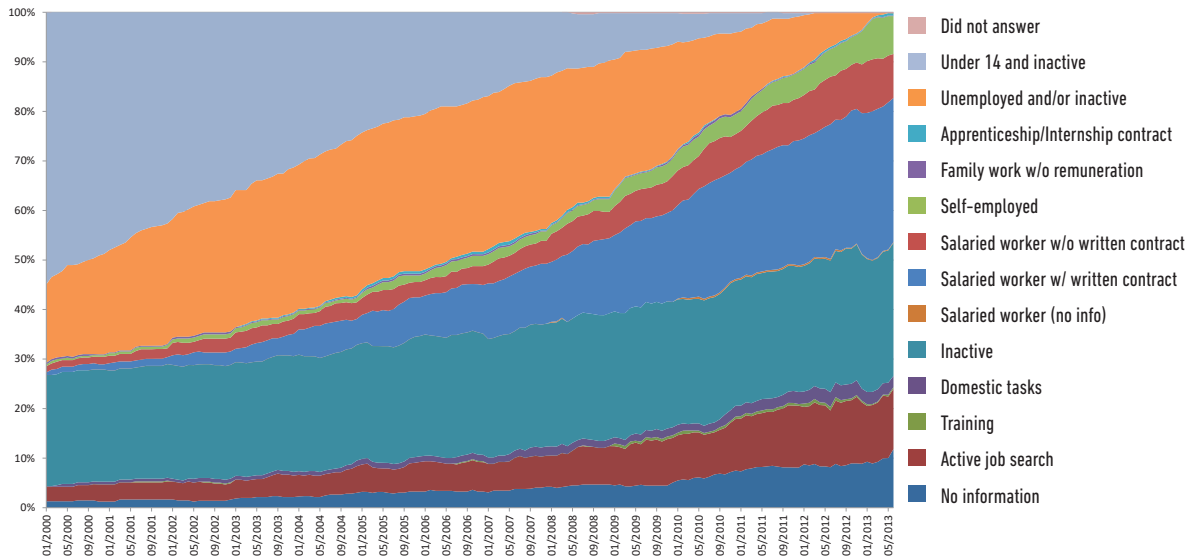
Legend:
- Did not answer
- Under 14 and inactive
- Unemployed and/or inactive
- Apprenticeship/Internship contract
- Family work w/o remuneration
- Self-employed
- Salaried worker w/o written contract
- Salaried worker w/ written contract
- Salaried worker (no info)
- Inactive
- Domestic tasks
- Training
- Active job search
- No information

Source: ILO /SWTS – School-to-Work Transition Survey. 2013. Authors´ own processing.
Note: The labels show the most frequent situations.

In general, however, the figures in Graph Panel 4 seem to first show slight differences that are much more subtle than those observed, for example, when the age groups are controlled. This might allow us to risk creating a hypothesis that the age marker (possibly a proxy of the experience) can be more significant than sex and race. This possibility seems stronger when we observe that that result is roughly similar when comparing the monthly variation in how black young people engage (Graph Panel 5).

Graph Panel 5
Monthly variation in the situation of black young people in the labour market, by sex (Brazil, 2013)

Graph 5.1 – Black young people
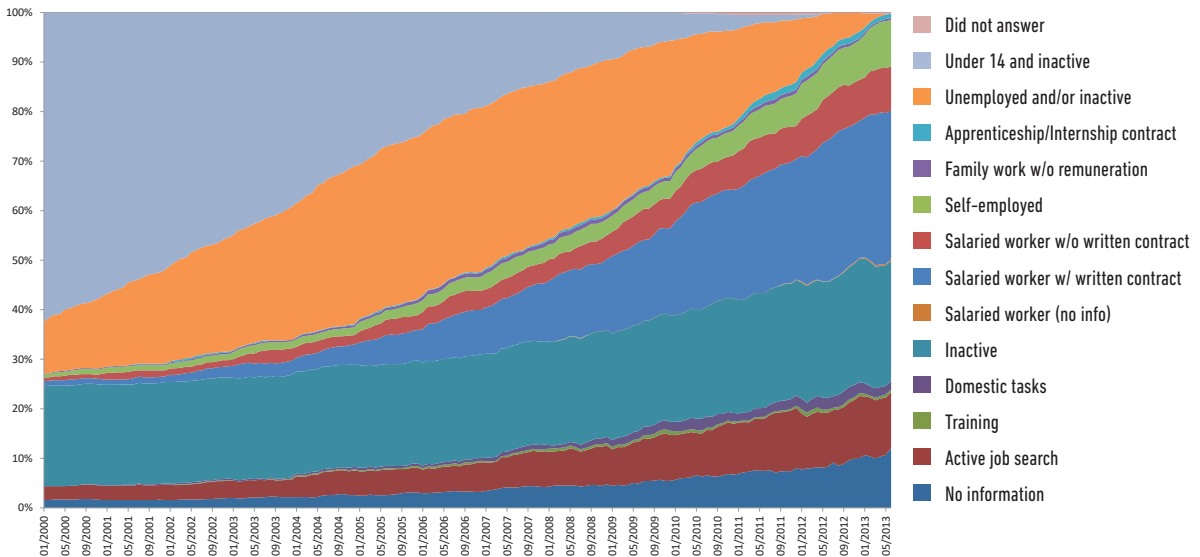
Graph 5.2 – Young black females
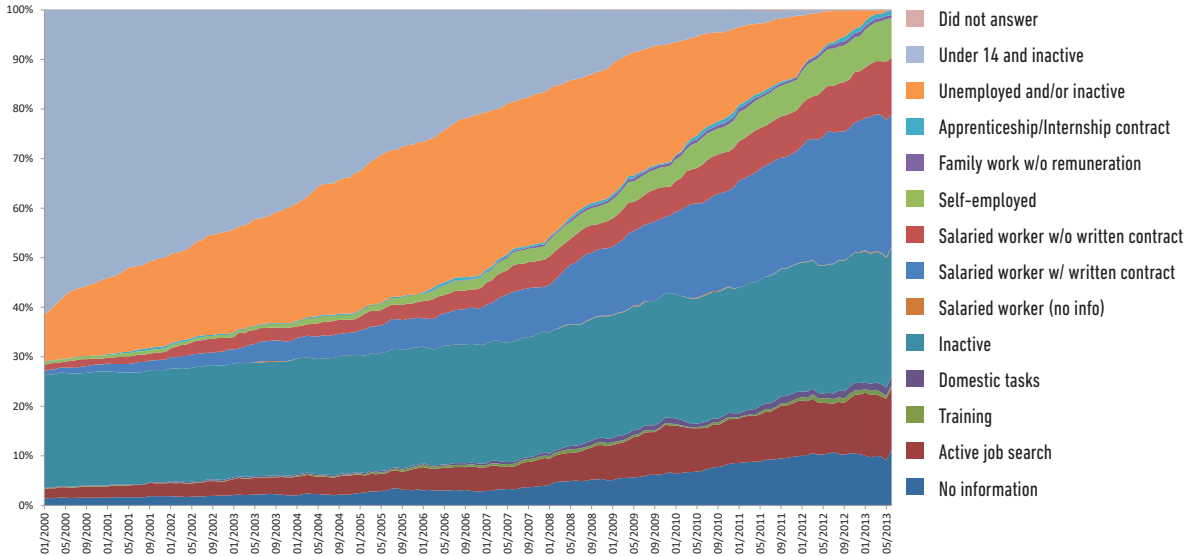
Source: ILO /SWTS – School-to-Work Transition Survey. 2013. Authors´ own processing.
Note: The labels show the most frequent situations.

However, when we observe the labour situations of black youth, the timeline provides a glimpse of some interesting suggestions that go in a different direction, when compared to white youth. First, the impact of the information gap related to time spent looking for work before the first job seems different among black youth than among white youth, with males seemingly most affected. Second, is the surprising presence of black males in the category of "domestic tasks". Curiously, that sample fraction grows over time and seems to become slightly more relevant than the fraction of black females in non-remunerated domestic work.

The final variable that was controlled to verify the sensitivity of the timeline is the place of residence, whether urban or rural. Venturi and Torini (2014) already identified the importance of this marker in order to understand some of the labour characteristics of young Brazilians, which was renewed in our observations of the month-by-month situations of the respondants (Graph Panel 6). The rural-urban difference is another relevant marker for observing variations in work situations. The urban and rural interviewees differ in practically all aspects addressed until now in terms of variable behaviour.

Graph Panel 6
Monthly variation in the situation of young people in the labour market, by place of residence (Brazil, 2013)

6.1 – Young people living in urban areas
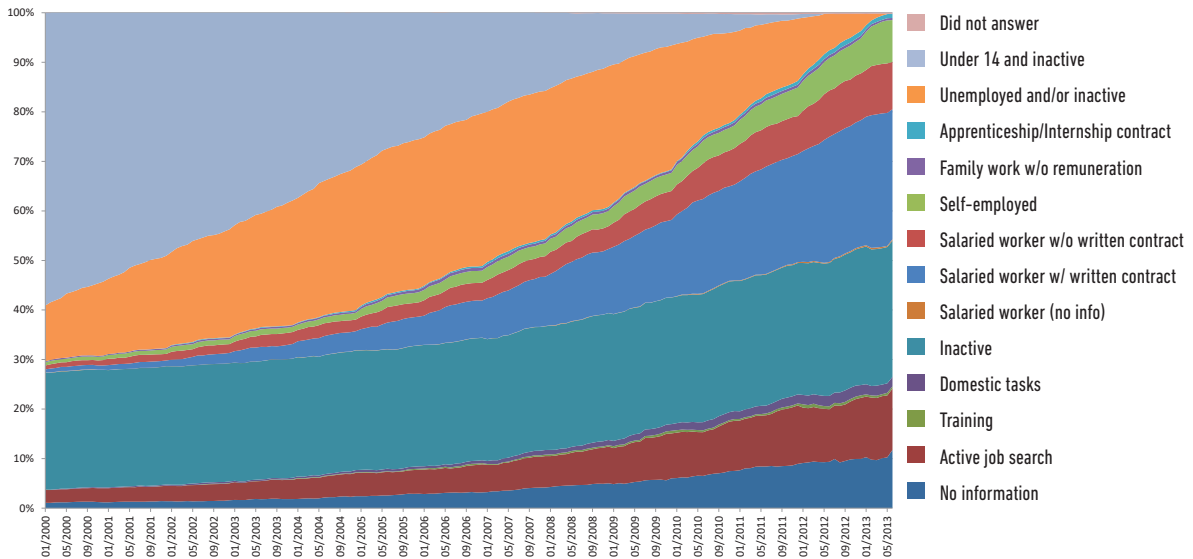
6.2 – Young people living in rural areas
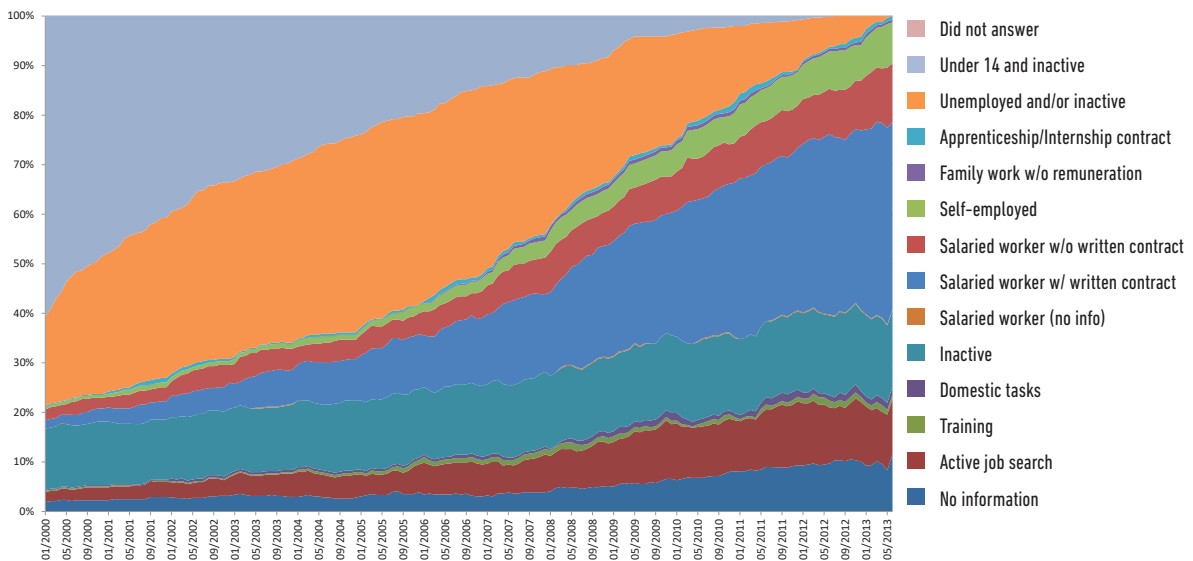
Source: ILO /SWTS – School-to-Work Transition Survey. 2013. Authors' own processing.
Note: The labels show the most frequent situations.
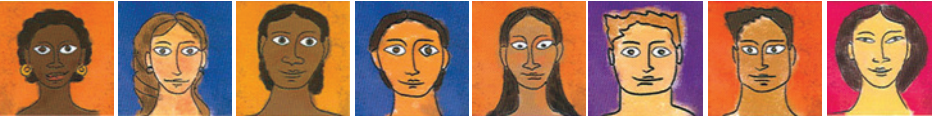
The fact that there is no measurement of the time spent between job searching and obtaining a first job seems to have an important effect, depending on where the young people live. A significant portion of young people living in rural areas fall into the category of unemployment/inactivity, suggesting that imprecise data collection had a greater impact on them. The month-by-month inactivity of the interviewees is quite diverse: it is systematically elevated in urban areas and expressively lower in rural areas. Among those living in cities, wage-earners with a contract are much more frequent in all the months than for those living in rural areas. Even when actively seeking work, there seems to be a similar pattern between the two areas.

The implications uncovered thus far are nonetheless limited by the fact that a longitudinal analysis based only on a timeline of events is a merely a photograph of the sample shown in successive periods. It cannot measure to what extent work transition patterns can define the trajectory of an interviewee. Without that, we cannot identify the recurring patterns needed to classify Brazilian youth according to the type of trajectory that marks their transitions in the labour market (GAUTIÉ, 2003). We will do that in the next section.

3

Identifying Trajectory Patterns

n order to identify the types of work trajectories experienced by Brazilian youth interviewed in 2013, we began, as stated earlier, by creating a timeline of events. Each individual and their work history formed a combination of possible alternatives within our larger starting matrix, which was described earlier. Our challenge now is to reduce this matrix using more advanced statistical procedures to find covariance patterns in the variables via a factorial analysis (see Box 2), and then classify the cases into types through a cluster analysis (see Box 3).

Box 2

Finding the main components of the timeline-matrix

To conduct a factorial analysis we began with our timeline, which formed a matrix in the order of 14 (work situations) x 282 (total observed months) x 3,288 (interviewees). Each young person and their work history formed a possible combination of alternatives in this basic matix. To reach the intended typology, the first statistical procedure was to reduce the matrix using the factorial analysis conducted according to the method of main components (when the total variance of the matrix is taken into consideration). This technique allows finding covariance patterns between variables and identifies a set of latent factors, which are new variables that are less frequent, and which can handle a margin we consider significant of the variance between the matrix data. To determine the right number of factors, we used the screen plot technique, which measures how much of the variance is explained by extracted factor; a measurement expressed in *eigenvalues* (or own values). In the case of our calendar, the four factors were enough to effectively reproduce the variability of the orginal data, accounting for 86.1% of its variance. Beginning with the fifth factor, the drop in *eigenvalues* was insignificant, indicating that we had reached a number of vectors that successfully summarized the variance of the original data, as can be seen below.

Selecting the number of factors in the timeline - matrix
Eigenvalue behaviour
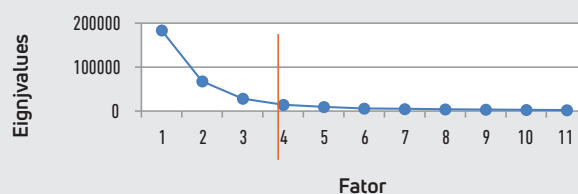
Box 3

Selecting the amount of classes to form a typology

To create a typology of trajectories we used the cluster analysis procedure. This combines the data into clusters to compute relationships of proximity (or similarity) and divide them according to distances (or dissimilarities). We used the hierarchichal method to create groups that increase in size and organized them into hierarchichal trees according to the distance (dissimilarity) between them. The dendogram below shows how a cluster pattern is summarized. In our study, we observed that grouping the cases into six classes enabled a typology that coupled good internal homogeneity and a reasonable quantity of interviewees in each category. In this way, we formed six main types of work trajectory clusters that summarize the paths taken by the young interviewees.

Dendrogram using Ward Linkage
Rescaled Distance Cluster Combine
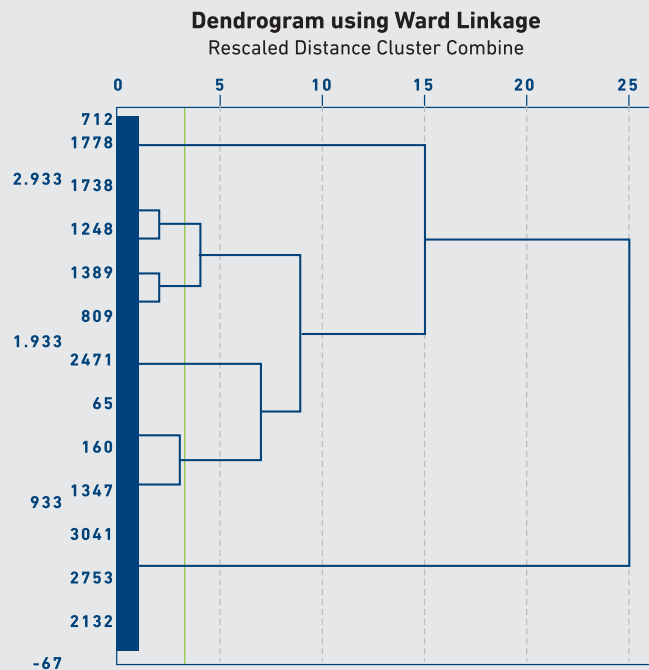
These procedures (described in Boxes 2 and 3) identified six main types of work trajectories that summarize the paths taken by the sample of young people and pointed out recurring transition patterns in the Brazilian labour market in the period between 1990 and 2013.

As seen in Table 1, three types were enough to describe the trajectory pattern of three-fourths of the interviewed cases. They are: i) adolescents in school; ii) young people with recent and varied experience; and iii) young people on their way to becoming salaried workers. Although the three other types have less cases, they typify equally relevant situations from an analytical point of view. They are: iv) young people who reached stable and structured market engagement; (v) primarily black young adults with more time in the labour market, but facing greater risk of unemployment; and vi) young adults that, despite recent market engagement, show greater control over the conditions of their transition into the labour market.

Table 1

Types of trajectory clusters

%

Types/classes of trajectories	Simple	Accumulated
1. Adolescents in school	28.4	28.4
2. New arrivals: young people with recent and varied experiences	23.9	52.3
3. Young people on their way to becoming salaried workers	22	74.3
4. Young people with stable and structured labour market engagement	11.3	85.6
5. Young black adults: longer periods of engagement and higher unemployment	7.5	93.1
6. Young adults: recent labour market engagement and greater control over circulation	6.9	100.0
	100	

Source: ILO /SWTS – School-to-Work Transition Survey. 2013. Authors' own processing.

Let us take a closer look at each of these classes of trajectories to better detail their characteristics and graphically (Graphs 7 to 12) represent how the young people grouped in each class navigate between different work situations over time.

The first type of trajectory (Graph 7) joins almost one-third of the sample cases (28.4%), including the younger, still-adolescent interviewees (almost 60% were between 15 and 19 at the time they were interviewed). The youth in this group said they were unavailable for work, mostly because they were still studying (52.1%); others said they were too young to work (11.7%). Young females were the majority in this group (58.7%), and it is significant that 6.2% of them said they could not work because they were pregnant. Because of this set of characteristics, we called this trajectory **"Adolescents in school."**

Graph 7
Class 1 – Adolescents in school

(28.4% of the cases)
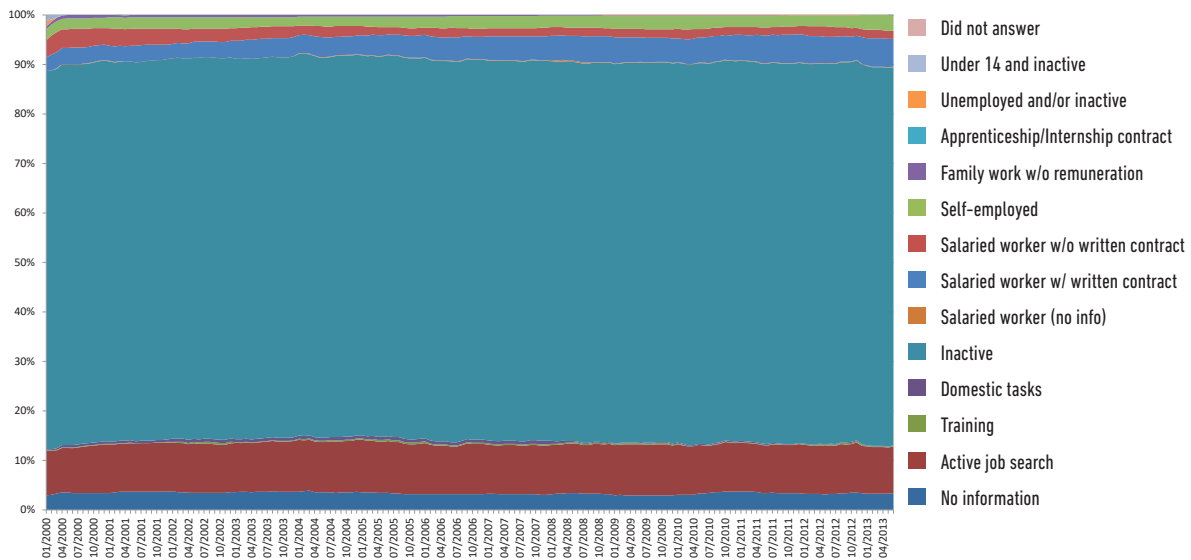
Source: ILO /SWTS – School-to-Work Transition Survey. 2013. Authors´ own processing.

The second type of trajectory is formed by one-fourth of the sample (23.9%). Together, types 1 and 2 compose slightly over half of the cases, which indicates the importance these two trajectory patterns in representing how young Brazilians enter the labour market. Class 2 encompasses young people that recently had their first job experience (beginning in 2010). For this reason we named them **"New Arrivals"**. The type has slightly more females (51.2%) and is relatively young (only 15% were over 24).

Two aspects draw attention in this second trajectory pattern. One is the enormous yellow area in Graph 8 that indicates a significant portion of time where all we know is that there was no work event, meaning the interviewees could have been either unemployed or inactive. Furthermore, because of the questionaire problems we mentioned earlier, we cannot say whether they had already attempted (and for how long) to find a job.[12] Another aspect is the broad gradient of colours showing the situations of young people who more recently began their transition into the labour market. They indicate there was no dominating work situation that could define the trajectory from the time of the first work experience. Rather, the significant amount of movement between different situations is what seems to determine how this group is included in the market. For these reasons, the "new arrivals" are also described as **"young people with recent and varied work experiences."**

[12]   Had we been able to document whether or not there had been job searches, this could be a typical trajectory of relatively longlasting unemployment, or of a transition between unemployment and inactivity marked by discouragement. However, we are not empiracally confident enough to affirm this, which is why we classified them as "Unemployed/Inactive", especially because they are already at an age where they are ready for work experience, albeit only learning and training.

Graph 8
Class 2 – New arrivals: young people with recent and varied experiences

(23.9% of the cases)
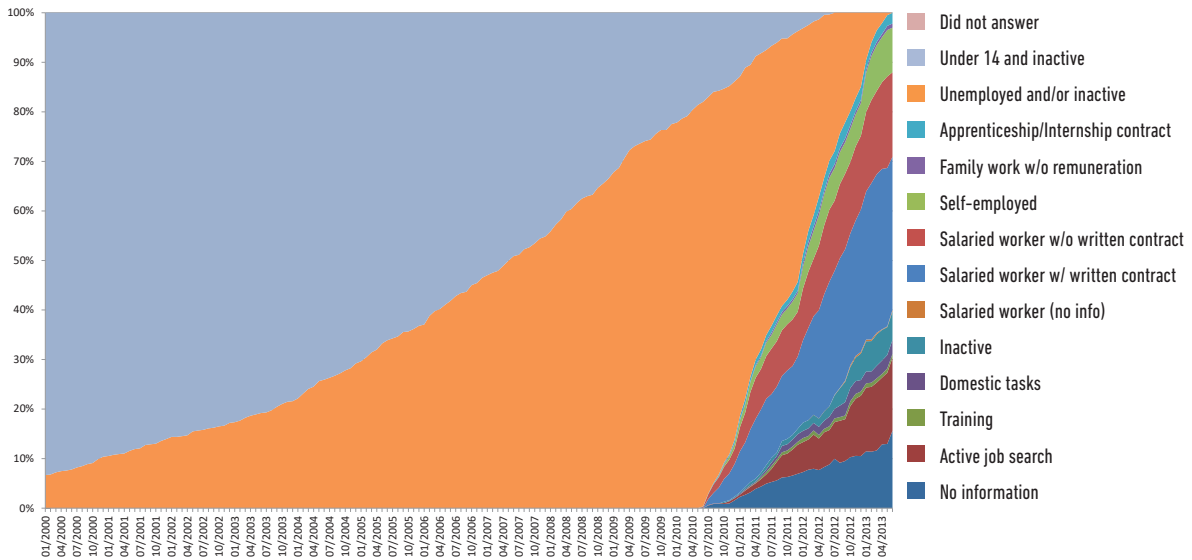
Source: ILO /SWTS – School-to-Work Transition Survey. 2013. Authors' own processing.

The third type of trajectory makes up 22% of the cases and its mobility between situations is shown in Graph 9. As mentioned earlier, three (of the six) classes of trajectories were enough to describe three-fourths of the sample. This group is formed primarily by males (54.6%) that are slightly older (65.9% are between 18 and 24) and, possibly for this reason, attained their first work event sooner (beginning in 2008).

What draws attention here is the amount of individuals unavailable to work because of "family responsibilities or house work" (46%) or "sickness, injury, or disability" (18%).

While the yellow area indicating unemployment/inactivity remains similar to the "New Arrivals", it is interesting to observe that the transition after the first job seems less erratic. This group shows a concentration of cases with longlasting wage-earning experiences. Furthermore, it has a sizeable contingent of individuals who keep jobs with written contracts, and are thus protected by Brazilian labour regulations (CLT).

The size of the group looking for work seems to suggest that it circulates in a market segment that is structured around the two dominant figures that are typical of a capitalist market: salaried workers (with or without contracts) and the unemployed. For this reason we call this trajectory **"young people on their way to becoming salaried workers."**

Graph 9
Class 3 – Young people on their way to becoming salaried workers

(22% of the cases)
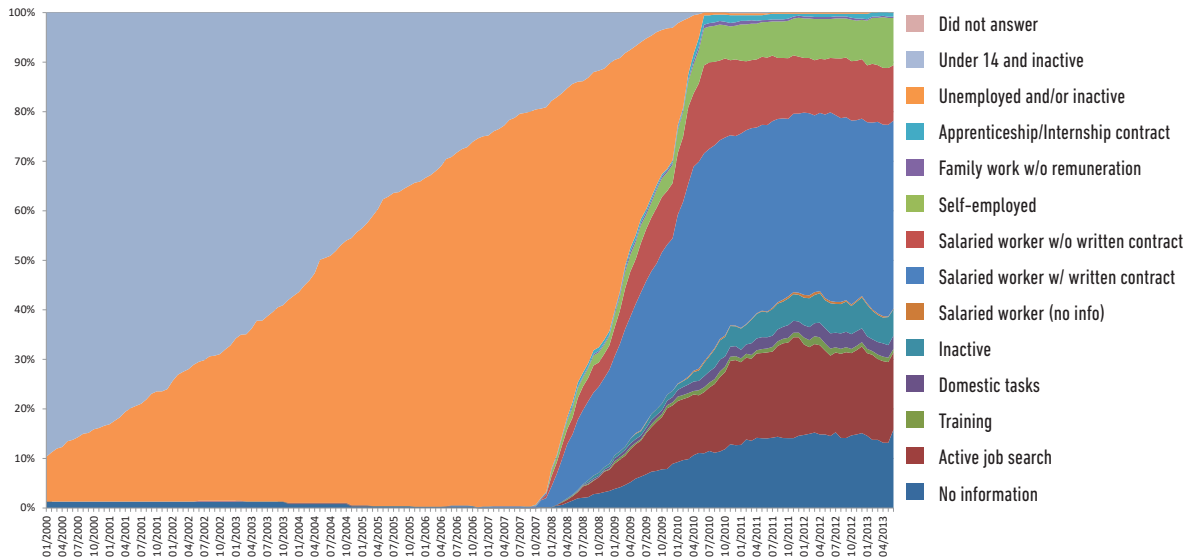
Source: ILO /SWTS – School-to-Work Transition Survey. 2013. Authors' own processing.

The last three classes of trajectories form the minority of the cases (only 25.7%). However, their unique trajectory patterns and individual profiles, which we will see later on, justify taking including them in our analysis. In other words, although numerically much less significant, these last three classes are analytically relevant given the specificity of their trajectories.

Graph 10
Class 4 – Young people with stable and structured labour market engagement

(11.3% of the cases)
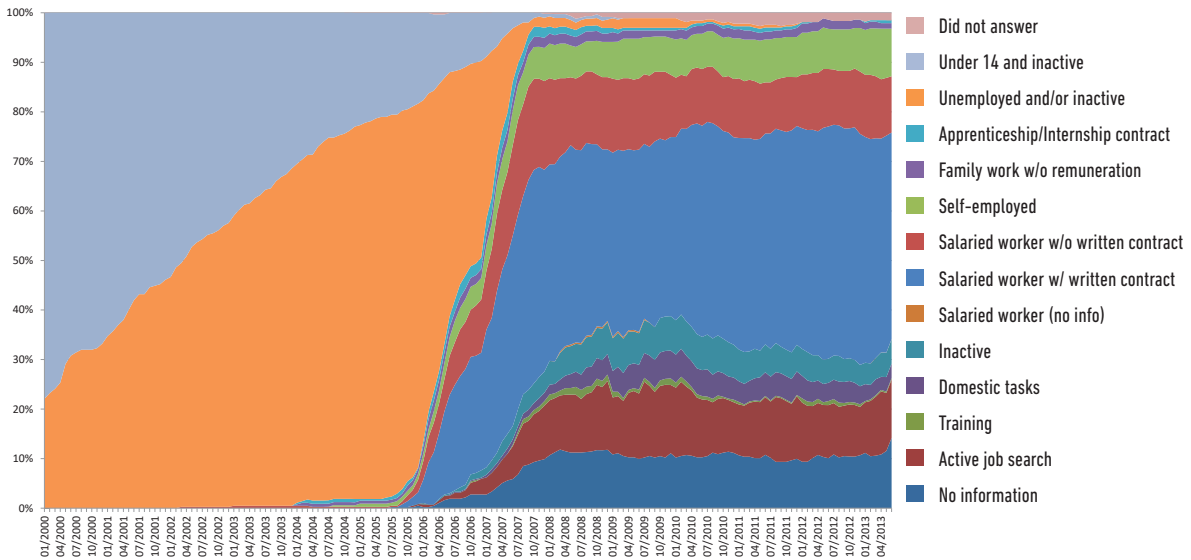
Source: ILO /SWTS – School-to-Work Transition Survey. 2013. Authors' own processing.

The class 4 trajectory is called **"young people with stable and structured labour market engagement"** (Graph 10). They form only 11.3% of the cases and experienced their first work event even earlier than the previous group (beginning in 2006). This is because they are older (52.5% are over 24 and only 7.1% are under 20). The group is also slightly dominated by males (56.9%). The experience with longlasting wage-earning is even more significant here than in type 3. Furthermore, unemployment has less impact on their trajectories, and a large portion is self-employed. This group has the highest level of education and contains more white people.

In contrast, class 5 has more black people who form 70% of the cases. Here, once again we see a minority trajectory pattern that forms only 7.5% of the sample, but that is highly relevant in their group. The average age of these interviewees is higher (79.5% are over 24), and they entered the job market earlier. Their first job experience lasted longer (beginning in 2002) when compared to the other groups. On average, their level of education is lower (22% did not go past primary school). Unemployment is higher in this group than in the others, although wage-earning (with or without a contract) predominates. The **"young black adults, with longer market engagement and higher risk of unemployment"** (Graph 11) thus form a relevant group in terms of analysis and public policies.

Graph 11
Class 5 – Young black adults with longer market engagement and higher risk of unemployment

(7.5% of the cases)
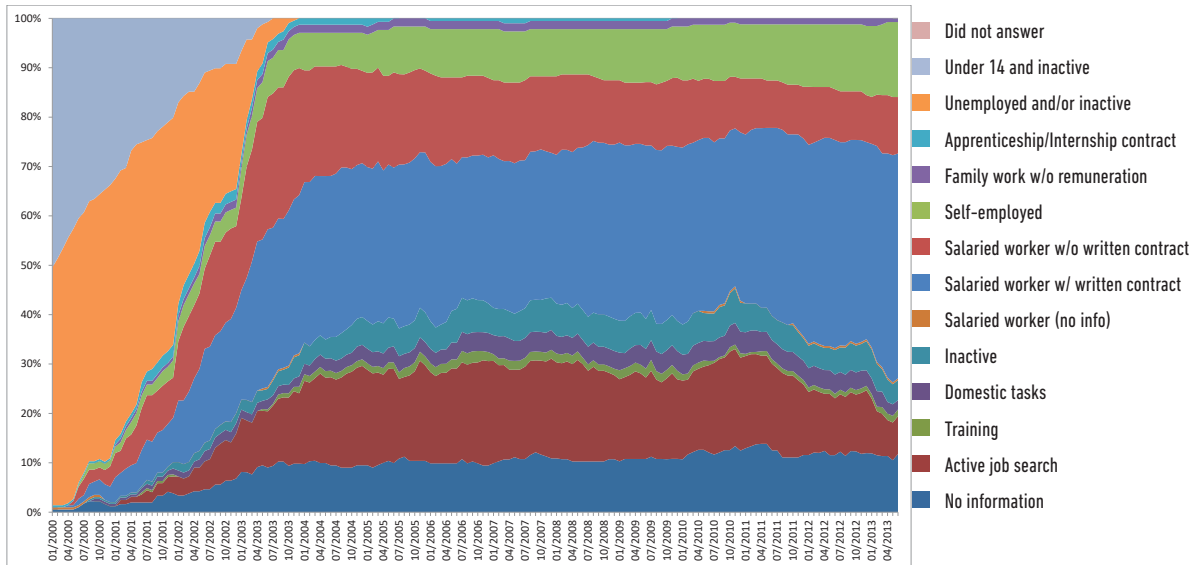
Source: ILO /SWTS – School-to-Work Transition Survey. 2013. Authors´ own processing.

Last, class 6 in the typology of trajectory patterns is also made up of a small amount of cases (6.9%), with a high proportion of males (61.5%). It is significant that they are older (61% between 25 and 29), which puts them closer to the young adults in class 5, yet different in that their first work experience is much more recent, beginning only in 2004 (as opposed to class 5 beginning in 2002). Additionally, they have higher levels of education (55% completed secondary and higher education).

The group's greater control of the labour market seems to be not because they established later employment ties, but also because they had the longest period of inactivity (after their first job) in a trajectory marked by different types of wage-earning (see Graph 12). For this reason, we call this group **"Young adults with more recent labour market engagement and greater control over labour market circulation."**

Graph 12
Class 6 – Young adults with more recent labour market engagement and greater control over labour market circulation

(6.9% of the cases)
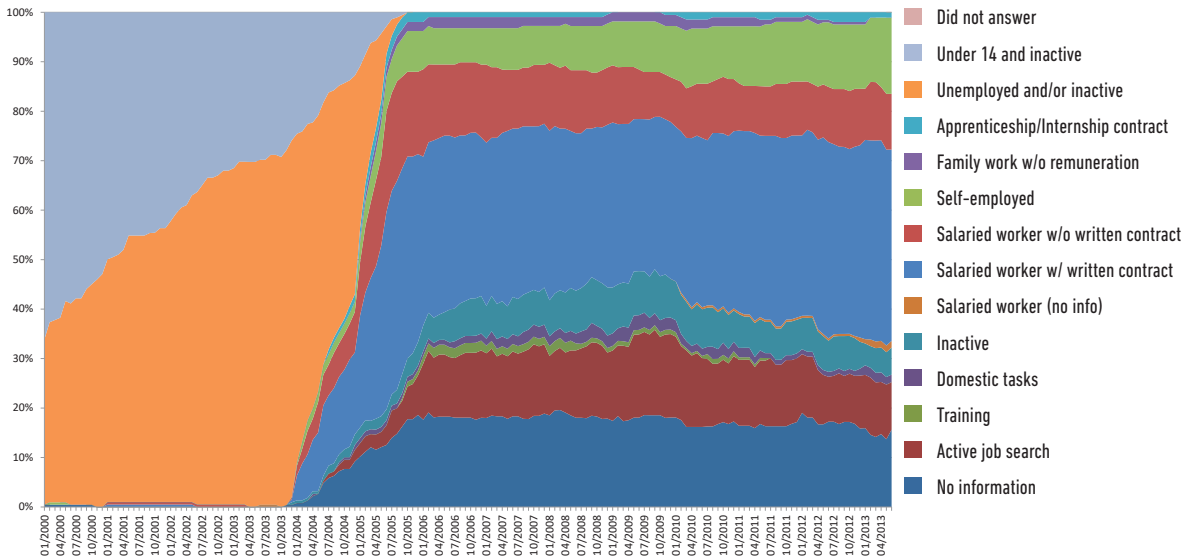
Source: ILO /SWTS – School-to-Work Transition Survey. 2013. Authors´ own processing.

The results presented in these latter graphs show that trajectory types are differentiated by how the young people in each class circulate over time between specific work situations. They also show that the specific profiles of these young people differentiated the classes of trajectories. In order to more systematically explore these differences, section 4 will use other statistical tools to verify how the trajectory patterns are associated to the profiles of the young people that form them.

4

Exploring the Associations Between Patterns and Profiles

Assuming that work trajectories are socially determined, and thus reflect the importance of social processes going on outside the labour market, we now investigate whether different sets of specific characteristics were associated in different ways to the classes of trajectories.

To do that, we began with the supposition that a set of factors could have contributed in different ways to alter the probability of forging a certain type of trajectory in the labour market, thus configuring specific patterns of belonging. We organized the profile characteristics of the interviewees into four main dimensions, generating four blocks of indicators related to:

(a) <u>Individual attributes</u>: here we included characteristics that were regularly used as control variables and that are relevant to our subject, such as sex, race, and home situation (whether the young person is a person of reference[13]* or spouse)

(b) <u>Position in the life cycle</u> at the time of the survey: here we considered two types of indicators: 1) a variable defined originally by the ILO SWTS report (VENTURI AND TORINI, 2014) to show the transition toward adulthood; and 2) other variables that we created to indicate the proportion of time in the lives of these young people that has gone by since reaching different transition milestones, such as: time since the birth of a first child, since quitting school, since the first work event, and since marriage (the latter calculated from the time the young person began living with his/her partner).

(c) <u>Relationship with the labour market</u>: to avoid being contaminated by the variables used to create trajectory typologies, here we include characteristics related to the quality of the young person's relationship with the labour market, specifically: job satisfaction/dissatisfaction and amount of time spent in active job search and in earning a wage (since the first work event).

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[13] * *Translator's Note*: This term is used by the Brazilian Census to refer to the person recognized as the responsible person in a household who may or may not be the breadwinner.

(d) <u>Social characteristics of the home of origin:</u> here we included the level of education of the parents, whether there was a person of reference and spouse in the home of origin, and whether or not the young person was a migrant.

Furthermore, these variables were chosen based on our understanding that labour market trajectories are built in a variety of ways according to how work, education, and family experiences are interwoven. Therefore, characterizing life cycle positions became a valuable dimension for exploring the effects of educational and/or demographic events on belonging to one type of trajectory or another. Hence, the social differences identified in the previous section will be more deeply explored by introducing characteristics of the home of origin.

From an operational point of view, we began the analysis by trying to formulate an initial, statistically sustainable response to address the association between the characteristics of each block and the trajectory typology. To do this, we verified if there were empirical correlations between the indicators used to compose each of the blocks and the trajectory classes.

Table 2 shows the correlation[14] between the six trajectory types and the variables that compose the first block of indicators that refer to the indivual attributes of the young people, specifically: race; sex; and home situation.

All the other characteristics of the individual attributes block are associated to the trajectory classes in a manner that is statistically significant. Males are less associated to class 1 (adolescents in school), and more associated to classes 3, 4, and especially 6, which include the most active trajectories in the labour market, whether because of greater stability and structure (class 4) or because of greater control over market stability, even when engagement occurred more recently (class 6).

Females are more associated to class 1 (adolescents in school) than any other trajectory class. It is worth mentioning that if white youth are predominant among the youngest and those out of the market, then this trajectory type is even more strongly associated to the work situation of female adolescent interviewees.

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[14] We used the Spearman coefficiente (rho) to measure this correlation. This non-parametric test that measures the level of association between variables was adopted because it was more appropriate for the nature of the selected variables, many of which were ordinal or nominal.

Table 2

Level of association between the trajectory classes and individual attributes

	Sex *male=1*	Age	Race *white=1*	Race *black=1*	Race *mixed=1*	Situation at home *Person of reference or spouse =1*
CLASS 1	**-.111**[1]	**-.292**[1]	**.042**[2]	-0.02	-0.02	**-.097**[1]
CLASS 2	-0.01	**-.215**[1]	-0.03	0.00	0.03	**-.133**[1]
CLASS 3	**.047**[1]	**.088**[1]	0.01	0.00	-0.01	0.01
CLASS 4	**.049**[1]	**.208**[1]	0.02	-0.03	0.00	**.089**[1]
CLASS 5	0.01	**.293**[1]	**-.040**[2]	.038	0.01	**.181**[1]
CLASS 6	**.065**[1]	**.213**[1]	-0.02	0.03	0.00	**.103**[1]

Source: ILO /SWTS – School-to-Work Transition Survey. 2013. Authors´ own processing. (1) sig<0.01, (2) sig<0.05.

We preferred to alter the operationalization of the race variable and divide it into three categories: white, mixed-race, and black.[15] The results were especially interesting. Only the mixed-race group showed no statistically significant association with any of the trajectory types. Among black young people there was a positive association with trajectory 5, where young adults had longer periods of labour market engagement and were subject to greater risks of unemployment and to longer periods away from school. White young people were positively associated to class 1 (adolescents in school) and negatively to class 5 (young people subjected to greater risks of unemployment). These results indicate a racial selectivity that distributes blacks and whites into specific and opposite work trajectory classes. This selectivity, however, does not seem to have a negative impact on those who identify as mixed-race, whether in relation to whites or blacks. Race, nonetheless, tells us very little about the dimensions that differentiate classes 2, 3, 4, and 6.

The home situation[16] was used here as an indicator of independence in the life cycle and is another individual attribute that helps us differentiate profiles according to their associations to trajectory classes. In this manner, those in class 1 (adolescents in school) and especially those in class 2 (new arrivals) primarily tend to be living in their parents' homes. Young people from classes 4 (stable and structured engagement), 5 and 6 (both young adults, with 5 having blacks at greater risk of unemployment and 6 having young people that recently joined the market, but with greater control over their engagement), have more likelihood of being persons of reference or spouses. It is clear

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15   This decision is based on our interest in testing for any heterogeneity in a trajectory type in the group we previously previously classified as "blacks". Literature in the field of Brazilian racial inequality have called attention to hiearchical access to opportunities and wages that differentiates between "black" and "mixed-race", the later being at a disadvantage (Silva, 1985; Telles, 2004). Thus, based on the information in the previous section where trajectory type 5 was found to be largely formed by blacks we decided to alter the operationalization of this variable in order to verify the existance of any heterogeneity in trajectories between the main subgroups contained in the old black category. Hence, we separated the category into "black" and "mixed-race".

16   We operationalized the home situation using information about whether the interviewee was the person of reference or the spouse in their home.

that as age advances, so does the propensity toward gaining independence from the family home. It is noted, however, that this movement is far from being "natural", linear, or inexorable. Proof of this is that it affects young adults differently, with a particularly high propensity in class 5.

The results found in this section allow us to better specify our previous interpretations. They certainly strengthen the finding that age is strongly associated to the trajectory typology. It tends to be higher especially in class 5, but it is also positively associated (in an increasing manner) to classes 3, 4, and 6, which are the most active trajectories in the labour market. However, in classes 1 and 2, the older the interviewee, the less the probability of being in those trajectories (which is expressed in the negative value of the coefficient). This reaffirms that age is a characteristic capable of differentiating types of trajectories, and helps understanding them. Nonetheless, this analysis also shows that understanding age variations is not enough to explain how the cases are distributed into the six trajectory classes. Other individual attributes also contribute.

Thus, by observing the diversity of the different trajectories from the perspective of individual attributes, we can say that class 1 (adolescents in school) is predominantly female, younger, slightly more white, and made up of young people living in their parents' home. Although the individual attributes of class 2 (new arrivals with recent and varied labour engagement experience) are more difficult to discern, it can still be characterised as younger in age and living in their parents' home. Class 3 (young people on their way to becoming salaried workers) is the hardest to differentiate according to individual attributes, having slightly more males and older youth than the first two classes. Class 4 (young people with stable and structured engagement) is primarily characterized by predominantly older males who no longer live at their parents' home. Class 5 (black young adults with longer periods of engagement and at greater risk for unemployment) involves a significant number of attributes: older, less whites and more blacks, more frequently heads of household and/ or persons of reference in their homes. Finally, class 6 (young people who, despite recent labour engagement, have greater control over their circulation in the market) is predominantly male, older, and educated, thus generally already independent from their family home.

Let us now examine the second dimension of profile variables that contains the indicators related to the position of interviewees in their life cycle. The phenomenon of transitioning to adulthood is our main interest; we shall try to verify if and how this is associated to the six types of trajectories. Table 3 shows the matrix of Spearman correlations between the types of trajectories and the indicators used to characterize the position of young people in their life cycle.

Table 3

Level of association between trajectory class and life cycle positions

	ILO – transited	ILO – not transited	ILO – in transition	Married	First child	Stopped studying	1st Occupation recorded
CLASS 1	-.457(1)	.541(1)	.044(2)	-.082(1)	-.103(1)	-.241(1)	-.558(1)
CLASS 2	.127(1)	-.165(1)	0.005	-.141(1)	-.132(1)	-.137(1)	-.143(1)
CLASS 3	.145(1)	-.201(1)	0.005	-0.002	-0.014	.100(1)	.186(1)
CLASS 4	.115(1)	-.128(1)	-0.015	.095(1)	.119(1)	.137(1)	.290(1)
CLASS 5	.150(1)	-.117(1)	-.063(1)	.180(1)	.175(1)	.209(1)	.359(1)
CLASS 6	.093(1)	-.108(1)	-0.015	.098(1)	.118(1)	.139(1)	.248(1)

Source: ILO /SWTS – School-to-Work Transition Survey. 2013. Authors´ own processing.
(1) sig<0.01, (2) sig<0.05.

This second dimension of interviewee profile characteristics was strongly associated to the trajectory typology. When considering the transition indicator designed by the ILO[17] it is clear that class 1 (adolescents in school) is different from the others because it concentrates more young people that have not yet begun transitioning, as opposed to those who completed transitions. This is the only class that demonstrates this behavior in terms of the ILO indicator. All other classes (2 to 5) are positively associated to young people who already transitioned, according to the ILO indicator, and thus appear in Table 3 as negatively associated to those had not begun transitioning. Furthermore, the values of the coefficients suggest that only class 1 can be clearly differentiated by the ILO indicator. In other words, the indicator is not very sensitive to pertinent differences when trying to understand the multiple types of transitions – particularly of young people who are already in the labour market. The measurement adopted by this indicator has, in and of itself, a paradoxical analytical result: the movements toward becoming established in the labour market – diverse, uncertain, coming and going, – are reduced to a single state called "transition completed". Thus, we can say that what the measurement wanted to describe, escaped.[18]

The results are also interesting when we observe the relationships between trajectory types and the variables that we created to mark the passage of time using relevant life cycle events. In this case, there is evidence that these measurements can successfully discriminate between the different classes of trajectories. The young people in class 1 (adolescents in school) and 2 (new arrivals in the market) spent, in general, less time between marriage and the survey date; the opposite happened

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[17]   The school-to-work transition indicator proposed by the ILO classifies young people between the ages of 15 and 29 into three categories: a) transition completed; b) in transition; and c) transition not started. This categorisation is based on reported characteristics about labour market participation such as participation, type of work relation, and job satisfaction. More details about how the indicator was designed can be found in Venturi and Torini (2014).

[18]   On the other hand, considering that the ILO indicator intended to faciliate comparisons between countries, its inability to describe pertinent diferences in terms of understanding the multiple types of transitions that distinguish Brazilian youth is a warning of the risk of losing specificities when national contexts are characterised too generally and when typologies are simplified in order to have a common measurement for comparing different societies.

in classes 4, 5, and 6, especially class 5 (blacks with higher risks of unemployment). As such, they experienced the longest time periods since marriage. Evidence of similar patterns can be seen for the other markers. In the case of the arrival of the first child, classes 1 and 2 have negative associations to time spent. In other words, the more time that passed after the birth of the first child, the less the probability of belonging to these two types of work trajectories. Classes 4, 5, and 6, however, have positive associations, which characterize young people with longer time periods since the birth of their first child.

In terms of dropping out of school, the time that transpired since that event is negatively associated to classes 1 and 2, which suggest that these young people left school recently (or haven't left yet). However, the time that transpired since dropping out of school is positively associated to all other trajectory classes, with the longest period of time found in class 5 (young blacks).

Finally, the time that transpired since the first job is an indicator that is strongly associated to the trajectories. We can see that there are very high negative correlations in class 1, which leads us to believe that, on average, these young people have either not yet entered the job market or have recently transitioned into it. The young people in class 5 once again do not follow the pattern and are highly and positively associated to the indicator that marks the beginning of employment life – the same occurs, albeit with less intensity, among young people in classes 4, 6, and 3, in that order.

In summary, because the probabilities for each type of trajectory vary according to where individuals are in the different and important stages their life cycles, we can conclude that the young people in class 1 have, on average, not yet transitioned, according to the ILO measurement. Less time has also passed for these individuals since the markers we considered: birth of the first child, marriage, dropping out of school, and job market engagement. The other side of this story is told by the young blacks in class 5, who are generally more likely to have already transitioned according to the ILO's definition, and who have experienced longer time periods since any of the markers. Between these two extremes are the other typology categories, with class 2 being closer to class 1, and classes 3, 4, and 6 being closer to class 5.

The third relevant dimension for describing the profile characteristics of the interviewees is related to the quality of their employment. Table 4 shows the coefficients of the association between each of the indicators for this dimension and the six types of trajectories.

Table 4

Level of association between trajectory classes and quality of employment

	SATISFACTORY employment	NON-SATISFACTORY employment	Proportion of time as a SALARIED WORKER	Proportion of time IN ACTIVE JOB SEARCH
CLASS 1	−.300[1]	−.057[1]	−.595[1]	−.304[1]
CLASS 2	.086[1]	0.011	.290[1]	−.061[1]
CLASS 3	.083[1]	0.02	.181[1]	.197[1]
CLASS 4	.071[1]	0.006	.125[1]	.091[1]
CLASS 5	.112[1]	0.013	.079[1] [1]	.148[1]
CLASS 6	.069[1]	0.034	.063[1]	.074[1]

Source: ILO /SWTS – School-to-Work Transition Survey. 2013. Authors′ own processing.
(1) Significant associations between individual attributes and classes of trajectories.

Job satisfaction distinguishes class 1 – significantly dissatisfied – from the other classes that are generally more satisfied. On the other hand, time in the labour market (i.e. in active job search and/or as a salaried worker) and the time since the first employment event helped differentiate the categories of trajectories and how they relate specifically to interviewee profiles. The proportion of time spent as a salaried worker or in active job search is closely, albeit negatively, related to class 1 because it is formed by adolescents in school. The time spent as a salaried worker is positively associated to the other classes, especially 2, suggesting that these young people have recently entered the job market, generally in jobs where they receive salaries. Lastly, the importance of searching for work primarily characterizes classes 3 and 5. Young people in transition to becoming salaried workers (class 3) and black young adults (class 5) spent the most time searching for work, indicating that these trajectories are marked by labour insecurity that affects their quality.

Finally, Table 5 presents the results of the correlations observed between the trajectory classes and the family home indicators.

Table 5

Level of association between trajectory classes and family home characteristics

	Level of education of the parents	Migrant	Father and mother in the family home
CLASS 1	0.02	−.095[1]	−0.01
CLASS 2	.052[1]	.041[2]	−0.01
CLASS 3	−0.02	0.02	0.01
CLASS 4	−0.03	0.02	0.01
CLASS 5	−.067[1]	.044[2]	0.01
CLASS 6	0.00	0.01	−0.01

Source: ILO /SWTS – School-to-Work Transition Survey. 2013. Authors′ own processing.
 (1) sig<0.01, (2) sig<0.05.
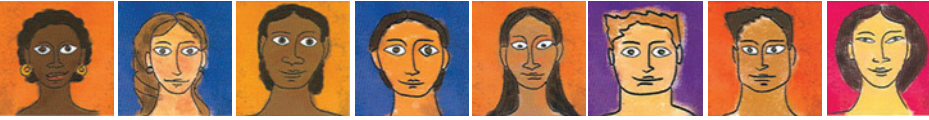
Our results suggest that the characteristics of the family home have relevant associations with only some of the trajectory classes. The level of education of the parents, for example, shows significant and positive associations to class 2, which suggests that these young people are, on average, from homes where the parents have higher levels of education. In contrast, the association is negative for young black adults in class 5, who on average tend to have parents with less education. Migration is more prevalent in classes 2 and 4 (stable and structured employment) and less prevalent in class 1. It is worth mentioning that the first two classes tend to aggregate young people that were not born in the municipalities where they live, while this would be less true of class 1. Whether or not a mother and father were present in the family home was not associated to any of the classes.

In summary, the results obtained on the associations between the trajectory classes and the four dimensions that are socially relevant for transitioning – individual attributes, life cycles, quality of employment, and family home – allow us to characterize the different groups more specifically, and thus emprirically document the diverse profiles found in our six trajectories. We have seen how the dimensions are interrelated and form trajectories that are characteristic of young people that have more or less recently had children or been married. Some trajectories involved longer periods of time in school while, in other trajectories, employment occurred earlier than usual. This reinforces our understanding that looking at the population between the ages of 15 and 29 means seeing more than one kind of youth, and our typology expresses this multiplicity, albeit still incompletely. Within these profile determinants, we saw that age is an extremely relevant variable that can guide us in organizing this multiplicity.

This leads us to a key question: how is belonging to the trajectory classes expressed over time in the life cycles of young Brazilians? Challenged by this question, and in an effort to solidify our conclusions about the links between trajectories and profiles, we conducted a new statistical exercise (see Box 4). We tried to forecast the probability of each individual to belong to each of the six trajectory classes, given the characteristics of the four dimensions described earlier. Futhermore, because of our understanding that age variation plays a central role, we sought to verify how this probability varied over time, as young people advanced in terms of age.

Estimating the probability of belonging to the trajectory classes

To estimate the probability of a given individual to belong to one of the six trajectory classes, we used regression analysis. Because our dependent variable – trajectory class – is categorical in nature, and because its operational definition has more than two categories (six trajectory classes), we opted to use a regression model that could make estimations based on multinomial distributions.

The functional form of the model can be expressed with the following equation:

$$\varphi_i = ln(P_{ik} / P_{iK}) = \alpha + \sum \beta_n X_{in} + \sum \beta_n \delta_{im} + \varepsilon$$

para $k = 1, \dots, K - 1$

where φ_i represents the natural logarithm of the likelihood of belonging to one of the trajectory classes (k).

For each block of variables there are six possible results related to the six classes of the trajectory typology, which is our dependent variable for all the models.

In all the models, α is a constant, β is the regression coefficient, X_{in} is a vector of variables in each model that refers to the dimension that interests us analytically (individual attributes, place in life cycle, employment, and family home), δ_{im} is a vector of control variables that has only one indicator: age. The reason for this is, as mentioned in previous sections, age is highly relevant analytically for all the dimensions examined thus far, which makes it the only variable that cuts across all the models in this analysis.

Based on this assumption – the analytical relevance of age – our models seek to provide evidence concerning the nature of the relationship between age and belonging to different trajectory classes when mediated by specific sets of explanatory variables.

Graphs 13 to 16 sythesize the results. Each graph estimates the probability of belonging to the six trajectories using one of the four dimensions mentioned earlier. By analytically prioritizing age as a factor for interpreting to which trajectory a youth belongs, we opted to present the results of the models using the ages of the individuals. We organized the probability of belonging to a trajectory class in block 1 according to individual attributes (Graph 13); in block 2, to the position of young people in different periods of their life cycles (Graph 14); in block 3, to the characteristics of their engagement in the labour market (Graph 15), and in block 4, to the characteristics of their family home (Graph 16). Age is the only common variable in the estimations. The goal is to show patterns of belonging to the trajectory categories, which emerge from different sets of indicators – our blocks –, and how this belonging to trajectory categories changes as the young person becomes older.

A summary of our findings is presented below in four graphs, each one showing how the probability of belonging to the trajectory classes varies depending on the variables used in the estimation and on age. Line x shows age varying between 15 and 29, and line y shows the probability of belonging to each one of the categories (varying between 0 and 1). The curve represents the variation in probability of belonging to categories 1-6 (types of trajectories) according to age.

Graph 13

Estimated probability of belonging to ILO-SWTS trajectories, according to individual attributes (block 1)
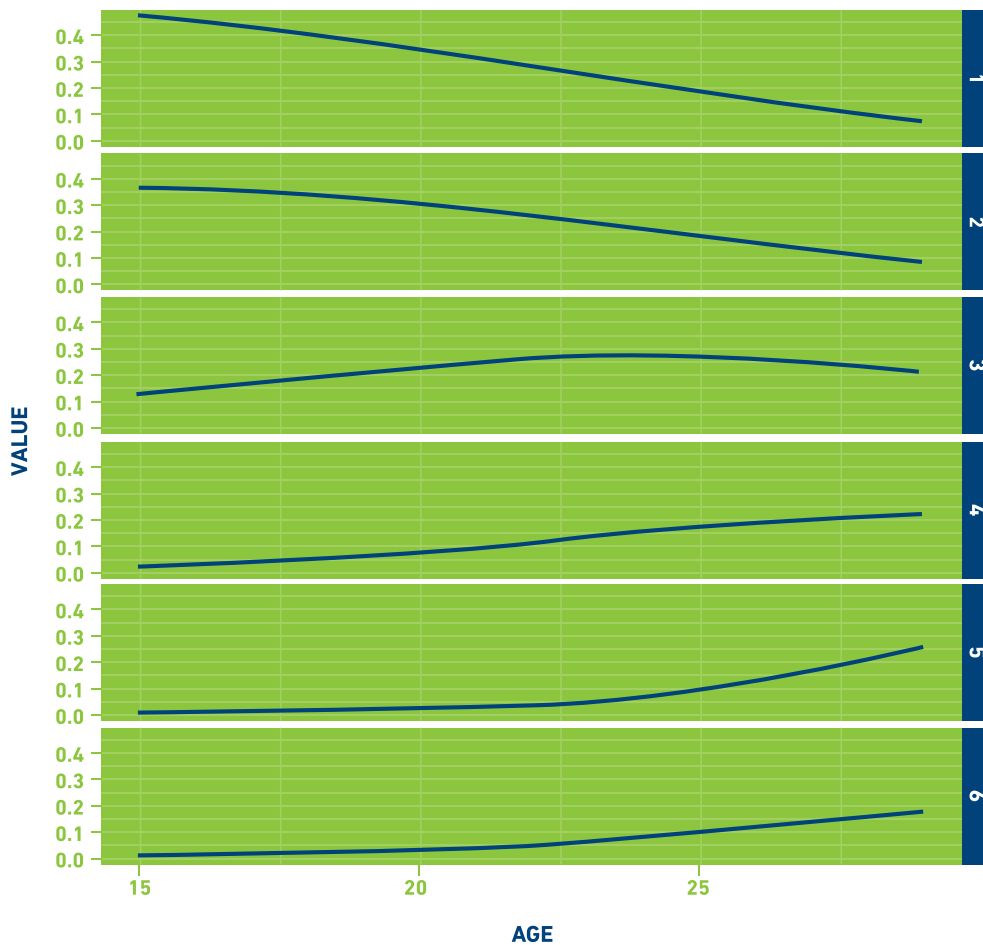
Source: ILO/SWTS – School-to-Work Transition Survey. 2013. Authors' own processing.

Graph 14

Estimated probability of belonging to ILO-SWTS trajectories, according to position in life cycle (block 2)
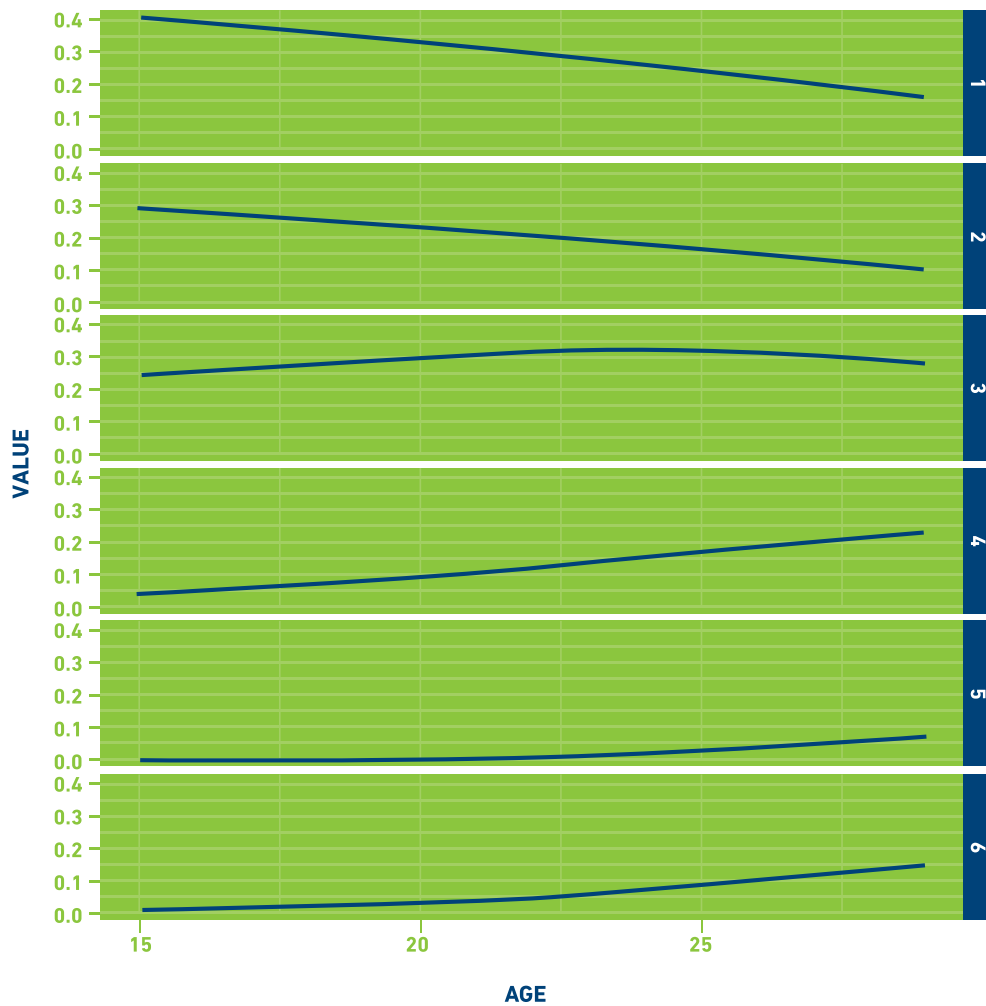
Source: ILO/SWTS – School-to-Work Transition. 2013. Authors´ own processing

Graph 15

Estimated probability of belonging to ILO-SWTS trajectories, according to characterists of labour market engagement (block 3)
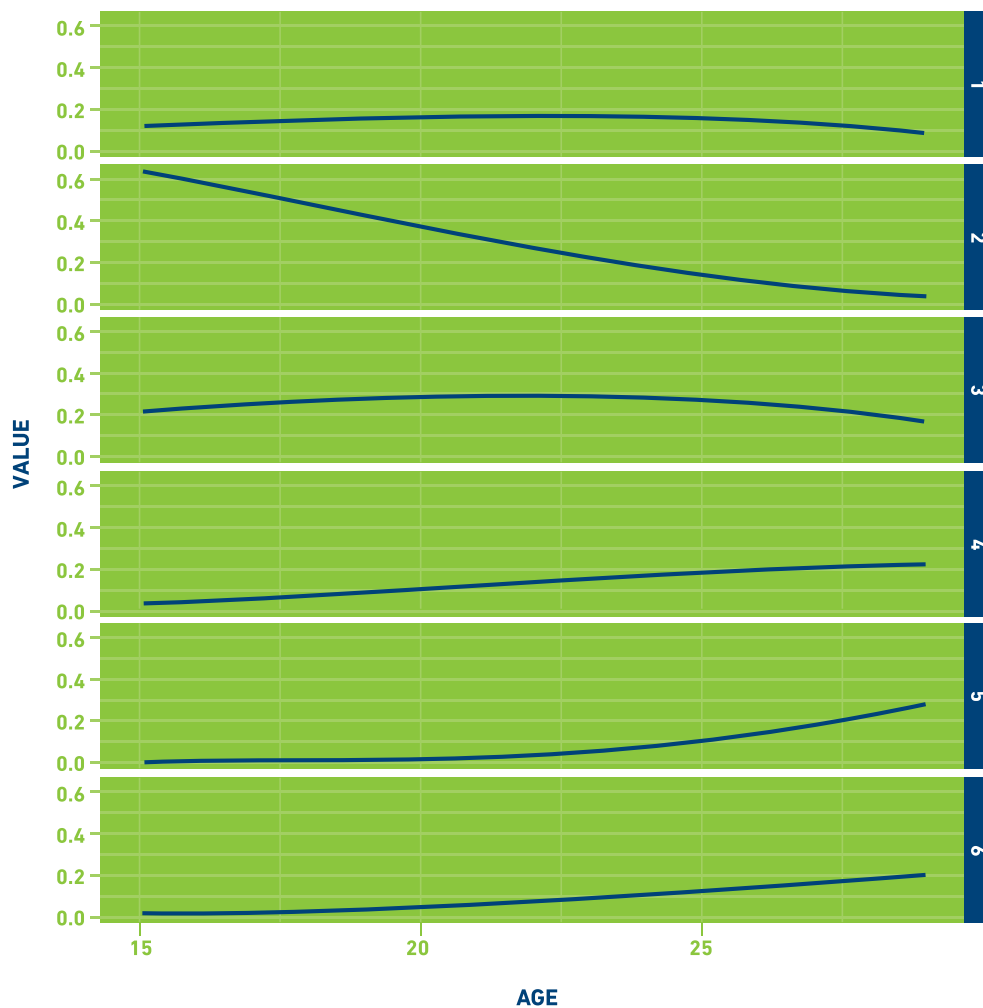
Source: ILO/SWTS – School-to-Work Transition Survey. 2013. Authors' own processing

Graph 16

Estimated probability of belonging to ILO-SWTS trajectories, according to family home characteristics (block 4)
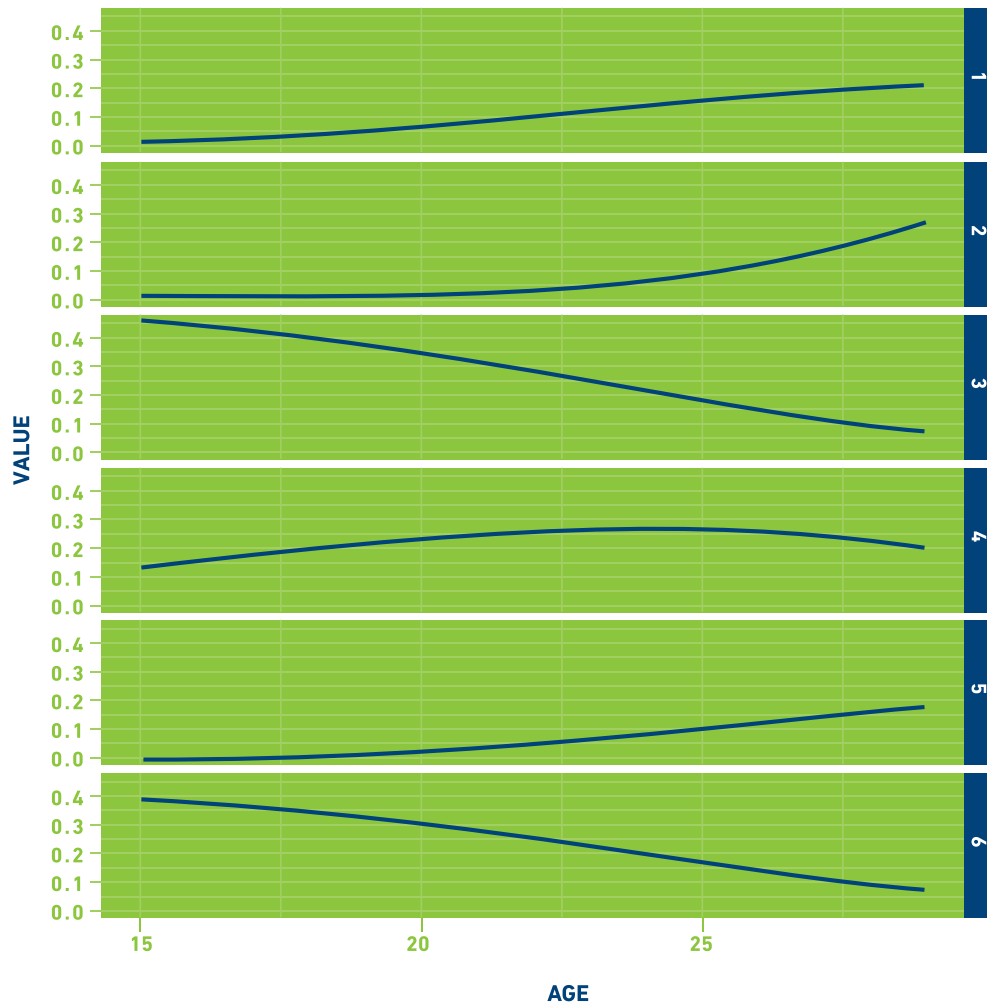
Source: ILO/SWTS – School-to-Work Transition. 2013. Authors´ own processing

The estimation results indicate that belonging to class 1, based on the variables of individual characteristics, decreases rapidly as age progresses (Graph 13). The same occurs, although less rapidly, when based on the variables of life cycles (Graph 14). In other words, the likelihood of being in this trajectory – out of the market and still in school – increases significantly as a result of individual characteristics and position in life cycles. In fact, we have seen that this group is primarily formed by adolescents that are still in school. For an older youth to be part of this trajectory is, to some extent, conditioned upon belonging to homes that have special socioeconomic characteristics such as parents having higher education or being migrants (Graph 16). The quality of labour market engagement has little influence on the probability of being in trajectory class 1, although higher age slightly enhances the probability of job satisfaction and of having more time in the market (as salaried workers or in active jobs search). However, this slight increase seems to last only until the ages of about 22 or 23, when probabilities diminish in a u-shaped curve (Graph 15).

Belonging to class 2 also varies negatively with age when estimated according to individual attributes or positions in life cycles (Graphs 13 and 14). The tendency in class 2 is similar to what was observed in class 1. This group is made up of underage young people, meaning their probability of belonging to class 2 decreases as they get older. Additionally, recent employment is characteristic of younger rather than older youth. Here, older youth entering the job market later than usual, unsettled by uncertainty and lack of structure, can only be explained by their home configuration where either the parents have higher levels of education or they are migrants (Graph 16). The indicators for the quality of market engagement show different results for this group when compared to class 1. Specifically, the characteristics of labour market engagement are what mostly affect the probability of belonging to this trajectory type (Graph 15) and, in addition to being highly negative, they have more impact here than in any other of the 5 labour trajectory types. This makes sense in that the probability of being satisfied in an uncertain trajectory at an older age are certainly and justifiably less.

In terms of belonging to class 3 (young people in transition to becoming salaried workers), the results suggest that this trajectory is more typically associated to interviewees that are neither very young (close to the age of 15) nor very old (close to the age of 29). They suggest that belonging to class 3 is primarily defined by the block of indicators related to life cycles (Graph 14). Nonetheless, the tendency seen in three of the four indicator blocks (individual attributes, labour market, and life cycles) is the lack of a linear association between age and belonging to this class. However, the family home indicators have a negative relationship: if only family home characteristics are used to estimate the probability of belonging, they tend to have a stronger impact on younger youth than on the older youth (Graph 16).

Belonging to class 4 (young people in more stable and structured trajectories) is most difficult to explain through these estimation models. It is more linearly associated to age in terms of individual attributes and life cycles (Graphs 13 and 14). In both cases, albeit less intense than in other classes, age increases the probability of belonging here. The engagement quality indicators say little about the relationship between age and belonging to class 4, although they somewhat suggest that job satisfaction and longer periods of employment tend to increase interviewee probability of belonging as they get older (Graph 15). The family home indicators are what seem to best predict belonging to class 4 for all age groups: young people whose parents are more educated or who are migrants tend

to have high probability of belonging to this trajectory until they are about 24 or 25 years old, after which their probability decreases (Graph 16).

Our results suggest similar patterns of belonging for both trajectory 5 (young adults with higher risks of unemployment) and 6 (young adults with more control over their circulation in the labour market). From the perspective of individual attributes, the probability of belonging is always lower for younger age groups and higher for older groups. In other words, these trajectories are typical for young adults, with higher probability of being older in class 5. Furthermore, we see that young adult black males that no longer live in their parents' home have greater probability of belonging to class 5 than to class 6 (Graph 13). The life cycle indicators, on the other hand, tell a different story. Young people that have experienced certain markers of transitioning toward adulthood (such as time since their first employment, leaving their parents' home, becoming parents, getting married) have greater probability of belonging to class 6 than to class 5, especially if they are older (Graph 14). However, the attributes that clearly identify the differences in the probability of belonging to class 5 or 6 is related to the family home (Graph 16). As age increases, so do the probabilities of belonging to trajectory class 5, while the opposite occurs for class 6 in that age decreases the probability of belonging. This means that young migrants living with highly educated parents have a greater probability of belonging to class 6 at a younger age, but that probability decreases as they grow older. The probability of belonging to class 5 for individuals with similar characteristics is lower for younger youth and tends to increase with age.

In summary, this last exercise consolidates the argument we had been exploring since the beginning of this section, namely that belonging to the different types of trajectories is conditioned in different ways upon analytically relevant social conditions. Thus, certain individual attributes, positions in life cycles, quality of market engagement, and family home characteristics are factors that shape the way Brazilians between the ages of 15 and 29 are distributed in the different classes of labour trajectories identified here.

Our main assumption since the beginning of this text is that work transitions do not take place in a vacuum, but rather are tied to other transitions that also take place during youth. Thus, in the final two sections, we will try to document how work transitions are associated to other equally crucial transitions in the lives of young people: demographic transitions (described in the fifth section) and educational transitions (in the sixth section).
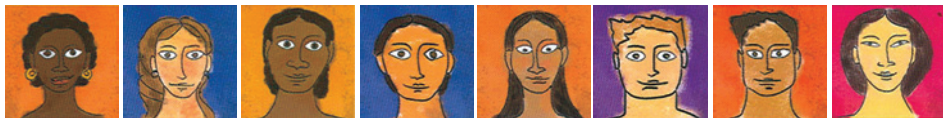
5

Transition, transitions: the dynamics of parenthood and marital unions in the trajectories of young people

Could the birth of a first child be an important determinant in the work trajectories of young mothers and fathers? And what about marital unions? Do the consequences of these demographic events cause significant differences in the work trajectories of young men and women? Although there is a general consensus in literature that demographic events – such as the birth of children and unions – and trajectories of education and work occur simultaneously in the lives of young people (ELDER, 1985), most studies on the work trajectories of young Brazilians overlook demographic events. When these studies ignore the important role of parenthood and unions in the decision-making process that surrounds work, they become limted and offer an incomplete scenario. Thus, the goal of this section is to demonstrate how the birth of a first child and marital unions during adolescence can affect the work trajectories of young Brazilians.

Demographic events are also important for at least four other reasons. First, most countries like Brazil, where the total fertility rates are below replacement levels, are demonstrating higher ages at the time of the birth of a first child, thus shifting the fertility curve toward older age groups. In contrast, Brazil's fertility pattern has become younger (ALVES; CAVENAGHI, 2008). In other words, although Brazil's total fertility is below replacement level, the average age at the time of a first marital union and the birth of a first child remained young. Recent data shows that Brazil ranks fourth in the world in terms of marital unions under the age of nineteen. Second, despite recent drops in income concentration, Brazil is still one of the most unequal countries in the world, which forces us to evaluate to what extent forming families – children and unions – during adolescence becomes one more *stratifier* in Brazilian society. In other words, are young parents and young spouses at a disadvantage in terms of their work situations, which in turn adds new and continuing socio-economic disadvantages? Are these disadvantages similar for men and women? Third, the few studies that examined the consequences of demographic events during adolescence in Brazil present specific samples with limited geographic representation. Our study, on the other hand, will present data that is nationally representative so we can focus on the Brazilian context. The final and fourth reason is that

our study provides the conditions for properly approaching the issue of selectivity, which until now has been a challenge for previous studies that addressed the consequences of juvenile demographic events. Although our methodology has its own set of limitations that we must address, it enables us to evaluate until what point the negative associations remain when considering selectivity, and thus allows us to conclude whether forming a family during adolescence has a causal effect on the work trajectories of young people.

Would young mothers and fathers who grew up in unfavourable socio-economic conditions have had different (and incomplete) work trajectories if they had postponed marital union and parenthood? Or would different (and incomplete) work trajectories due to unfavourable socio-economic conditions during childhood remain, independent of the birth of a first child and a marital union during adolescence? Some techniques in literature that take such selectivity into consideration have been used to verify the causal effect brought on by the birth of a first child and a marital union during adolescence. However, in the Brazilian case, a lack of data that allows establishing the order and timing of these demographic and labour events prevented attaining more knowledge.

In order to reach the objective of this section, we begin with a brief review of general literature about fertility and marital unions during adolescence. Below we describe our data and methods, after which we present the results, followed by a conclusion with a discussion centred on the literature about patterns of disadvantage during youth.

What literature in this field says

What we know from available literature in this field is that the time period in which individuals have children (POWELL; STEELMAN; CARINI, 2006) and form marital unions has important consequences on their socioeconomic opportunities and results. In terms of allocating resources, younger mothers are at a clear disadvantage in comparison to women who become mothers at an older age (or women without children), due primarily to their lower education (LLOYD et al. 2005; McLANAHAN, 2004) and work prospects. Young mothers and spouses can also be at a disadvantage because they are less likely to be in a stable union (SIGLE-RUSHTON; McLANAHAN, 2004). The general idea is that young fathers and husbands are systematically different than older fathers and husbands (or without children) because they are less likely to have a successful educational career and have lower income prospects. Two sets of studies provide solid empircal evidence about the relationship between forming families during adolescence and the education of young adults. There are fewer studies about the relationship between forming families during adolescence and the work trajectories of young adult

  To a large extent, the first set of studies confirmed a negative association between teenage motherhood and educational prospects in countries with high (BROOKS-GUNN; FURSTENBERG, 1986; HOFFERTH, 1987), medium, and low incomes (BUVINIC, 1998; GUPTA; LEITE, 1999). However, these first studies did not take into account the potential selectivity operating on the choice to form families during adolescence. A second set of studies considered that women who became mothers and formed unions as adolescents had limited educational and work trajectories independent of these demographic events that occurred during adolescence. Therefore, teenage mothers had different work careers than older mothers (or women without children) because of the socioeconomic disadvantages they experienced during their childhood, which contributed both to selectivity on

maternity and unions as adolescents, and to negative post-motherhood results (GERONIMUS; KORENMAN; HILLEMEIER, 1994). This second set of studies tried to explain the selectivity of teenage motherhood and sought to find a better comparison group for adolescent mothers (GERONIMUS; KORENMA, 1993; HOTZ; MULLIN; SANDERS, 1997; KANE et al., 2013; LEE, 2010). It used various methodological approaches to explain teenage girls choosing motherhood, which produced mixed results. The only clear conclusion is that the traditional analysis seems to *exaggerate* the negative consequences of becoming a mother during adolescence. This shows the importance of trying to include selectivity.[19]

What can be said about teenage parenthood and marital unions in Brazil? According to the 2010 Census estimates, the relative impact of adolescent fertility on the total fertility rate increased in Brazil, indicating that nearly 20% of births were to adolescent mothers (CHIAVEGATTO FILHO; KAWACHI, 2015), in comparison to just 9% in 1990 (BERQUÓ; CAVENAGHI, 2005b; GUPTA, 2000). Furthermore, adolescent fertility increased in 1980 and 1990 while the fertility rates for all other age groups dropped. Therefore, there is no clear evidence in Brazil of postponing motherhood, which is a common trend in countries that reach a total fertility rate that is below replacement levels.

An important characteristic of adolescent fertility in Brazil is that the birth of a child often happens in or leads to a marital union (CABRAL; HEILBORN, 2005), which shows the importance of choice. A study of three metropolitan areas reported that the birth of a first child led to a marital union for one third of the young mothers, while another 21.8% had already been in a union at the time of the birth (DIAS; AQUINO, 2006). This pattern is very different from teenage pregnancy patterns in other countries where teenage pregnancy rarely occurs in or leads to marital unions (MARTIN et al., 2010).

The SWT survey[20] conducted by the ILO Office in Brasilia provided unique information about age at the time of the birth of a first child, and the age at the time of a first marital union. Our analytical sample, however, contained only 974 young women and 966 young men because we restricted our target group to the age of 18 to 29. We did this to ensure that both the birth of a first child and the first marital union during adolescence had occurred before the age used as a reference to analyse work trajectories, thus guaranteeing the correct order of events. Although we present results for young women and men, research has shown that young men's reports about paternity tends to be unreliable (UPCHURCH et al., 2002a). For this reason, and given the nature of the demographic events being studied, in this section we prioritized analysing young <u>women</u>.

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[19] One approach presented in the literature is the use of siblings and cousins in a *fixed effects* methodology (Hoffman; Foster; Furstenberg, 1993; Levine; Emery; Pollack, 2007) according to the work of Geronimus and Korenman (1992; 1993). Comparing sisters who differ in their fertility timing allows less unobservable variables. The limitation of this approach is that the samples are generally small and the data is scarce. Another approach for dealing with selectivity is a natural experiment that compares younger mothers and older mothers that had miscarriages when they were younger, or in other words, women who would have been mothers had it not been for something out of their control (Hotz; McElroy; Sanders, 2005; Levine; Emery; Pollack, 2007; Marteleto; Dondero, 2013). A third approach involves matching based primarily on characteristics from before the birth of the first child (Assini-Meytin; Greene, 2015; Branson; Ardington; Leibbrandt, 2011; Ranchhod; Lam; Leibbrandt; Marteleto, 2011) to generate a more appropriate counterfactual group. Another study that uses several methodologies (Kane et al., 2013) suggests an effect that varies between 0.7 and 1.0 less years of schooling for teenage mothers in the United States. Box 5 show interested readers the technical solution that we adopted to address the selectivity issue.

[20] The ILO´s School-to-Work Transition Survey (SWTS) involved a national representative sample of 3,288 young Brazilians between 15 and 29 years of age that were interviewed in 2013.
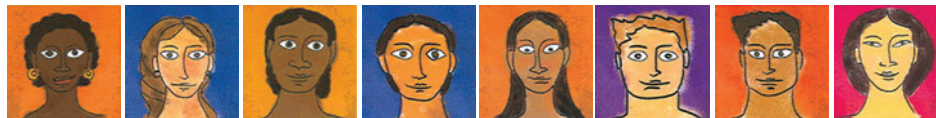
To analyse the effects of unions and parenthood on the work trajectories of our interviewees, we decided to identify separate trajectory patterns for men and for women. The importance of differences in sex, which has been identified in previous analyses, supported our decision that a robust analysis of the effects of demographic phenomenon conducted separately for young men and young women should similarly be applied to the analysis of their work trajectories. Additionally, because unions and parenthood were analysed as part of the experiences of young people over the age of 18 at the time of the interview, we had to produce work experience typologies related to this specific age group.

Thus, by using the same cluster analysis, we identified four types of trajectories that represent the main female trajectory patterns:

(i)   Class 1 was formed by very young women with the highest levels of education of all the female classes. They completed secondary school and higher education, and were no longer in school. This was typified as a short and complete transition toward the labour market.

(ii) Class 2 was formed by older women that completed secondary school and were no longer in school. This was also typified as a short and complete transition.

(iii) Class 3 was formed by older women with low levels of education. Those who did not work reported this was due to family responsibilities. This was typified as a long and complete transition.

(iv) Class 4 was formed by students. This involved young people with low levels of education, many of whom with age-grade distortions. This was typified as in transition or transition not yet started.

Four types of trajectories were also determined for the young men:

(i)   Class 1 was formed by older young men with high levels of education and engaged in the labour market, although still investing in training. This was typified as a short and complete transition.

(ii) Class 2 was formed by older young men with low levels of education and who were no longer in school (although many only completed primary school), and were working. This was typified as a short and complete transition.

(iii) Class 3 was formed by older men with high levels of education. This was typified as a long and complete labour transition.

(iv) Class 4 was formed by the youngest men in the sample (81% were under 25 years of age) with high levels of education. This was typified as still in transition.

We used multinomial regression models to estimate the association between teenage parenthood and marital unions and the work trajectories of young people, conducted separately for young men and young women.

<div style="text-align:center">

Box 5

Como lidamos com a seletividade

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We used a matching technique to deal with the issue of selectivity. The dependent variable in Equation 1 is latent and represents the birth of a first child (or the first marital union) during adolescence. The corresponding variable is TCBi, a binary variable that appears as 1 if the young person had a first child during adolescence. *Xi1* represents a vector of observed exogenous variables that determine adolescent parenthood: race, parental education, social class during childhood, location in urban area, and migration status[21]; b is a vector of unobservable coefficients to be estimated, and ei1 represents a vector of unobservable variables that determine adolescent fertility:

$$TCBi = Xi1b + ei1 \quad (1)$$

$$Ei = aTCBi + Xi2d + ei2 \quad (2)$$

The matching was implemented using the psmatch2 command in Stata developed by Leuven and Sianesi (2003). Our findings are based on the single nearest-neighbor with replacement. We tested several other strategies such as the nearest-neighbor without replacement and caliper, which did not change the results in any significant way. We followed recent literature on the subject (KANE et al., 2013) and presented the results using calipers of 1% because they are the most conservative. Only the cases found inside the region of common support were considered and continued in the analytical sample. We repeated the analysis with and without case substitutions, which did not significantly alter the results. We also conducted a sensitivity analysis according to Rosenbaum to verify whether the result was homoscedastic within each group, both control and treatment (ROSENBAUM, 2002). These limits were also useful because the algorithms used in the propensity score estimate did not produce estimators that were consistent with the effects of the treatment if it was endogenous (DiPRETE; GANGL, 2004). Finally, we used the bootstrap technique to calculate the standard deviation.

Graph 17 shows the proportion of young women in our analytical sample according to their age when their first child was born. Similar to Graph 17, Graph 18 presents the proportion of young men in our analytical sample according to their age at the time of their first marital union.

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[21] Parental education refers to the highest level between the two – of either the mother or the father; the same logic was used in defining the parents' occupation.

Graph 17

Proportion of young women according to their age when their first child was born (Brazil 2013)
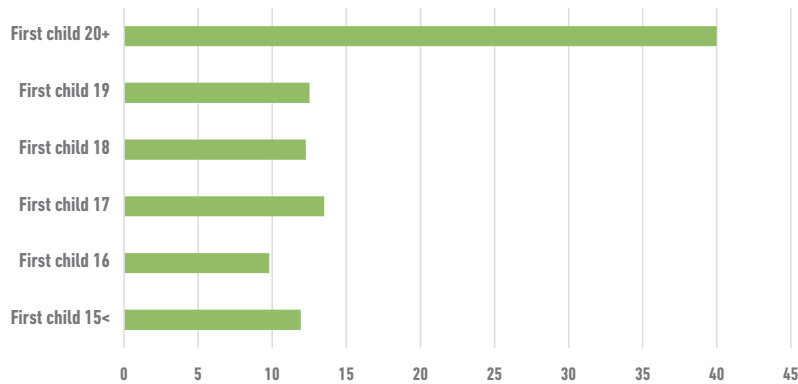
Source: ILO /SWTS – School-to-Work Transition Survey. 2013. Authors´ own processing.

Graph 18

Proportion of young men according to their age when their first child was born (Brazil 2013)
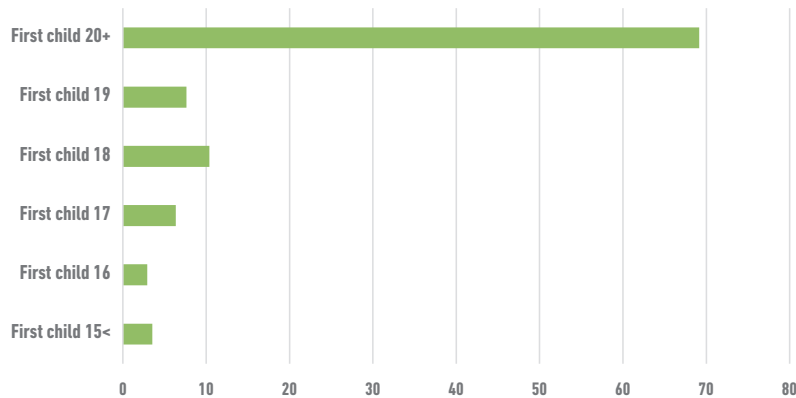
Source: ILO /SWTS – School-to-Work Transition Survey. 2013. Authors´ own processing.

Table 6 shows the descriptive statistics for the variables included in the models. The results demonstrate that almost one-third of the young people in our sample had their first child when they were 18 years old or younger (28.05%). Around one-fourth of the women in our sample began a marital union at the age of 18 or less (25.12%). As expected, the proportions for young men are significantly lower at 7.34% and 8.32%.

Table 6

Averages and proportions, by sex

In %

	Women	Men
First child, 18 years old or less	27.05	7.34
First marital union, 18 years old or less	25.12	8.32
Race		
Non-white	66.07	66.07
Level of education of the parents (1)		
Secondary school or higher	35.20	37.94
Primary school or lower	64.8	62.06
Occupation of the parents (2)		
Professional/Managerial	6.68	7.87
Non-manual routine	5.42	5.41
Qualified manual work	34.34	35.62
Non-qualified manual work	53.55	51.10
Social class during childhood		
Middle or upper class	61.66	64.78
Poor	38.34	35.22
Migrant	26.07	25.63
Place of residence		
Rural	13.17	14.94
Urban	86.83	85.06
Region		
South and Southeast	53.41	54.14
North, Centre-west and Northeast	46.59	45.86
Average age	24.05	23.97
Standard deviation	(3.09)	(3.079)
Number of observations	974	966

Source: ILO/SWTS – School-to-Work Transition Survey. 2013. Own processsing. Standard deviations in parentheses.
Highest level of education chosen from between mother and father.
Highest occupational status chosen from between mother and father.

Table 7 shows the trajectory classes for young men and young women according to our independent variables. The results demonstrate that 48.25% of the young adult women that did not have a child at the age of 18 or less are in class 1, while teenage mothers form 44.12%. Among males, the proportions in classes 3 and 4 change significantly between young adolescent fathers and those who became fathers after the age of 18 (or remain without children) – 11.20% versus 4.50% and 8.91% versus 18.64%.

Table 7

Proportions in trajectory classes, by independent variables and sex

	Women				Men			
	Class 1	Class 2	Class 3	Class 4	Class 1	Class 2	Class 3	Class 4
Youth, 19 years old or older	47.40	16.13	13.87	22.59	32.98	46.70	10.69	9.63
First child, 19 years old or older	48.25	16.21	13.46	22.07	32.92	46.97	11.20	8.91
First child, 18 years old or less	45.12	15.92	14.97	23.99	33.82	43.18	4.35	18.64
First marital union, 19 years old or older	48.95	15.98	13.61	21.47	33.34	47.50	9.92	9.24
First marital union, 18 years old or less	42.79	16.60	14.66	25.94	29.06	37.86	19.22	13.86
Completed secondary school	48.83	17.94	14.28	18.94	37.24	43.18	10.05	9.54
Less than secondary school completed	45.73	13.71	12.94	27.61	28.24	50.39	11.55	9.81
Race								
White	48.95	16.91	12.79	21.34	34.46	43.64	11.47	10.44
Non-white	46.61	15.74	14.42	23.23	32.23	48.27	10.30	9.21
Level of education of the parents[1]								
Secondary school or higher	52.32	16.73	13.20	17.75	37.19	44.48	10.35	7.98
Primary school or lower	44.73	15.81	14.24	25.22	30.42	48.04	10.90	10.63
Occupation of the parents [2]								
Professional/managerial	46.03	14.60	21.52	17.85	42.51	28.95	15.67	12.87
Non-manual routine	54.84	14.50	8.20	22.46	36.20	39.85	14.47	9.48
Qualified manual work	46.43	18.13	13.52	21.92	32.96	49.93	6.14	10.98
Non-qualified manual work	47.44	15.21	13.72	23.63	31.19	47.90	12.71	8.20
Social class during childhood								
Middle or upper class	49.76	16.01	13.49	20.74	34.39	45.31	9.73	10.58
Poor	43.62	16.33	14.48	25.57	30.40	49.25	12.47	7.88
Migration status								
Non-migrant	45.52	16.54	12.99	24.95	33.05	47.36	10.49	9.10
Migrant	52.73	14.99	16.38	15.89	32.80	44.78	11.27	11.15
Place of residence								
Urban	49.40	16.93	13.90	19.78	34.22	46.47	10.03	9.28
Rural	34.26	10.89	13.69	41.16	25.94	47.98	14.49	11.59
Region								
South, Southeast	50.95	16.54	15.90	16.61	37.70	42.31	9.48	10.51
North, Centre-West and Northeast	43.34	15.67	11.55	29.44	27.43	51.86	12.12	8.59
Average age	23.01	25.01	26.19	24.26	23,98	23,37	25,55	25,15
Standard deviation	(2.84)	(2.60)	(2.32)	(3.40)	(2.84)	(3.03)	(3.16)	(3.11)
Number of observations	463	155	135	221	317	454	101	93

Source: ILO /SWTS – School-to-Work Transition Survey. 2013. Authors´ own processing. Standard deviations in parentheses.

(1) Highest level of education chosen from between mother and father.

(2) Highest occupational status chosen from between mother and father.

Table 8 shows the multivariate results and the findings obtained from the simple multinomial models (columns 1, 3, and 5) and the multinomial models with the matched sample (columns 2, 4, and 6) focused on the birth of a first child during adolescence among young women. Class 1 is omitted and serves as a comparison in the models. Our results demonstrate that the young women who became mothers before the age of 18 had a greater probability of belonging to class 3 (than to class 1), compared to young women who had children at the age of 18 or older, when controlling the educational, racial, and socioeconomic background differences of the family of origin. The young women in the third type of work trajectory have a greater probability of being black and of having parents with higher education than the young women in the first type.

Table 8

Results of multinomial models in simple and matched samples—birth of a first child during adolescence. Women

	Class 2		Class 3		Class 4	
	Simple Sample	Matched Sample	Simple Sample	Matched Sample	Simple Sample	Matched Sample
First child at the age of 18 or less	−0.0611	−0.0498	−0.0175	0.723b	−0.146	0.113
	(0.232)	(0.299)	(0.250)	(0.326)	(0.209)	(0.318)
Years of schooling	0.0143	0.133b	−0.0290	0.0739	−0.114b	−0.191**
	(0.0425)	(0.0627)	(0.0440)	(0.0606)	(0.0363)	(0.0614)
Age	0.237**	0.103	0.384	0.277***	0.146***	0.000504
	(0.0335)	(0.0496)	(0.0403)	(0.0572)	(0.0297)	(0.0482)
Race						
Non-white	−0.0895	−0.333	0.211	1.438***	−0.178	0.159
	(0.217)	(0.310)	(0.242)	(0.426)	(0.198)	(0.315)
Parents' education[1]						
Secondary and higher education	−0.0284	−0.869*	−0.0166	0.905*	−0.209	−0.935*
	(0.226)	(0.369)	(0.255)	(0.371)	(0.213)	(0.438)
Parents' occupation[2]						
Non-manual routine	0.0365	0.247	−0.807	−3.135*	0.303	−15.80
	(0.571)	(1.443)	(0.649)	(1.518)	(0.513)	(684.3)
Qualfied manual work	0.310	0.698	−0.473	−1.601	−0.0487	−1.055
	(0.433)	(1.307)	(0.425)	(1.075)	(0.405)	(1.320)
Non-qualified manual work	0.0967	−0.403	−0.571	−2.271*	−0.184	−1.825
	(0.439)	(1.315)	(0.429)	(1.083)	(0.406)	(1.320)
Class						
Middle and upper class	−0.137	0.589	−0.0964	0.143	−0.0949	0.226
	(0.206)	(0.309)	(0.229)	(0.331)	(0.187)	(0.305)
Migrant	−0.302	−1.319**	−0.104	−0.188	−0.714**	−0.405
	(0.222)	(0.402)	(0.237)	(0.374)	(0.218)	(0.332)
Urban	−0.000725	−0.437	−0.508	−2.769***	−0.962***	−1.901***
	(0.339)	(0.508)	(0.342)	(0.442)	(0.246)	(0.389)
Region						
1. Region	0.290	−0.758	0.0287	−0.962	0.514	0.196
	(0.357)	(0.599)	(0.389)	(0.535)	(0.334)	(0.494)
2. Region	0.373	0.774	0.139	1.280	1.541***	2.793***
	(0.404)	(0.751)	(0.447)	(0.782)	(0.338)	(0.623)
3. Region	0.0862	0.677	−0.385	−0.607	0.596**	1.339***
	(0.243)	(0.380)	(0.273)	(0.471)	(0.224)	(0.384)
4. Region	−0.164	−1.096*	−0.462	0.0623	0.178	−1.328**
	(0.319)	(0.442)	(0.365)	(0.431)	(0.292)	(0.508)
_cons	−6.731***	−4.634*	−9.257***	−6.298**	−2.065*	3.751
	(1.168)	(2.081)	(1.333)	(2.011)	(0.993)	(2.034)

Source: ILO /SWTS – School-to-Work Transition Survey. 2013. Authors´ own processing. Standard deviations in parentheses. Reference category: Type 1 work trajectory.

Level of significance: *** 0.001; ** 0.01; * 0.05
Highest level of education chosen from between mother and father.
Highest occupational status chosen from between mother and father.

Graph 19 show the predicted probabilities based on the models in Table 7 for young women. The results demonstrate that the predicted probability for belonging to trajectory classes 1 and 2 dropped significantly for young adolescent mothers when compared to women who became mothers later on (or remained without children); from 60% to 48% in class 1, and from 17% to 13% in class 2. On the other hand, considering averaged independent variables, the probability of belonging to classes 3 and 4 increased when comparing women that had children during adolescence and women who became mothers later on (or remained without children); from 9% to 16%, and from 14 to 22%.

Graph 19

Predicted probabilities for belonging to work trajectory classes, by age when first child was born – Women (Brazil 2013)
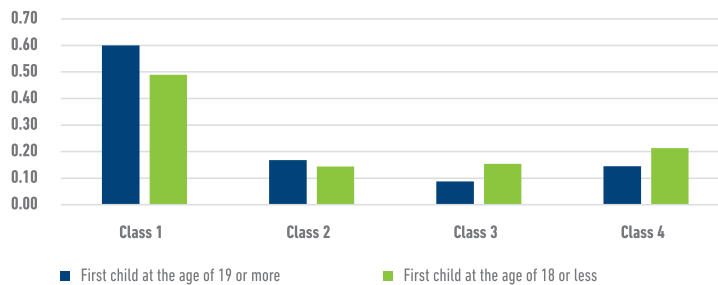
Source: ILO /SWTS – School-to-Work Transition Survey. 2013. Authors´ own processing.

Table 9 shows the results of simple multinomial models (Columns 1, 3, and 5) and of multinomial models with the matched sample (Columns 2, 4, and 6) focused on teenage marital unions among females. Our results demonstrate that young women who entered into some kind of marital union before the age of 18 had a greater probability of belonging to work trajectory class 3 than to class 1, compared to women who entered their first union at the age of 18 or older; controlling for differences in education, race, and socioeconomic backgrounds of the families of origin.
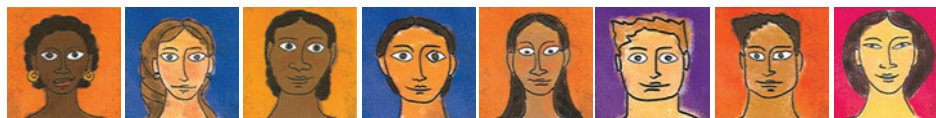
Table 9

Results of multinomial models in simple and matched samples - first marital union during adolescence – Women (Brazil 2013)

	Class 2		Class 3		Class 4	
	Simple Sample	Matched Sample	Simple Sample	Matched Sample	Simple Sample	Matched Sample
First marital union at the age of 18 or less	0.104	0.189	-0.102	0.732*	0.0250	0.249
	(0.237)	(0.296)	(0.263)	(0.353)	(0.210)	(0.263)
Years of schooling	0.0246	0.152*	-0.0149	0.0716	-0.0952**	-0.0814
	(0.0422)	(0.0658)	(0.0439)	(0.0709)	(0.0356)	(0.0525)
Age	0.233***	0.292***	0.390***	0.218***	0.146***	0.115**
	(0.0335)	(0.0501)	(0.0409)	(0.0541)	(0.0294)	(0.0403)
Race						
Non-white	-0.0591	-0.158	0.218	0.723	-0.181	-0.853**
	(0.214)	(0.326)	(0.239)	(0.405)	(0.197)	(0.295)
Parents' education[1]						
Secondary and higher education	-0.00161	-0.0332	-0.0789	-0.225	-0.206	-1.917***
	(0.227)	(0.376)	(0.258)	(0.430)	(0.212)	(0.530)
Parents' occupation[2]						
Non-manual routine	0.00975	0.987	-0.827	-15.11	0.160	-0.573
	(0.570)	(1.526)	(0.648)	(829.9)	(0.505)	(1.736)
Qualified manual work	0.289	1.045	-0.500	-1.160	-0.107	-0.297
	(0.433)	(1.266)	(0.426)	(0.864)	(0.398)	(1.331)
Non-qualified manual work	0.0643	0.693	-0.578	-2.401**	-0.307	-1.266
	(0.439)	(1.267)	(0.430)	(0.882)	(0.399)	(1.339)
Class						
Middle and upper class	-0.139	-0.563	-0.0816	0.570	-0.0857	-0.554*
	(0.206)	(0.291)	(0.230)	(0.376)	(0.185)	(0.266)
Migrant	-0.295	0.376	-0.00162	-0.129	-0.652**	-0.397
	(0.221)	(0.307)	(0.234)	(0.369)	(0.213)	(0.301)
Urban	0.0221	1.370*	-0.484	-0.463	-0.893***	-0.888**
	(0.339)	(0.545)	(0.339)	(0.452)	(0.243)	(0.294)
Region						
North, Centre-west and Northeast	0.216	-0.280	-0.136	-0.872*	0.726***	0.954**
	(0.205)	(0.309)	(0.230)	(0.375)	(0.187)	(0.316)
Constant	-6.991***	-11.33***	-9.755***	-5.967**	-2.291*	-0.682
	(1.113)	(2.152)	(1.286)	(1.955)	(0.926)	(1.813)

Source: ILO /SWTS – School-to-Work Transition Survey. 2013. Authors´ own processing. Standard deviations in parentheses. Reference category: Type 1 work trajectory.
Level of significance: *** 0,001; ** 0,01; * 0,05
(1) Highest level of education chosen from between mother and father.
(2) Highest occupational status chosen from between mother and father.

Graph 20 shows the predicted probabilities based on the models in Table 9 for young women. The results demonstrate that the predicted probability for belonging to class 1 is similar for women whether they had unions as teenagers or not. The probability of belonging to class 2 dropped slightly from 20% to 18% among women who formed unions as adolescents. In contrast, the probability of belonging to class 3 increased significantly, from 3% to 12%, for women who formed unions as adolescents. The probability of belonging to class 4 drops for young women who formed unions as adolescents, going from 23% to 17%. Once again, here we consider averaged independent variables to calculate the predicted probabilities.

Graph 20

Predicted probabilities for belonging to work trajectory classes, by age at the time of the first marital union – Women (Brazil 2013)
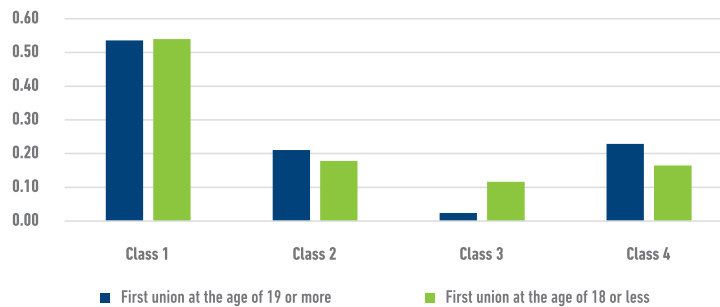
Source: ILO /SWTS – School-to-Work Transition Survey. 2013. Authors´ own processing.

The results in Graphs 21 and 22 are similar to Graphs 19 and 20, only they refer to males. It is worth emphasizing that only a small portion of young men in the sample reported the birth of a child or a union during their adolescence, a common phenomenon in the literature. For this reason, the results must be considered with caution. Additionally, the sub-sample is small.

Nonetheless, some of the differences had statistical significance. Young teenage fathers had a lower probability of belonging to classes 2 and 3 than to class 1. As a reflection of this result, Graph 21 shows a very similar predicted probability of belonging to class 1, whether or not they had become fathers during their adolescence (38% versus 42%). On the other hand, young teenage fathers had a significantly lower probability of belonging to class 2 than young men who became fathers later on (52% versus 38%). The proportion of young men in class 3 is very small; young teenage fathers had a greater probability of belonging to class 4 (19%) than those who became fathers later (10%). Graph 22 shows that the probability of belonging to classes 3 and 4 are greater for young men that formed marital unions during their adolescence than for young men that formed their first unions later (49% versus 33%). The predicted probabilities of being in class 1 are similar, whether the young men formed unions later or as adolescents (33% and 34%).

Graph 21

Predicted probabilities of belonging to work trajectory classes, by age when first child was born – Men (Brazil 2013)

■ First child at the age of 19 or more   ■ First child at the age of 18 or less
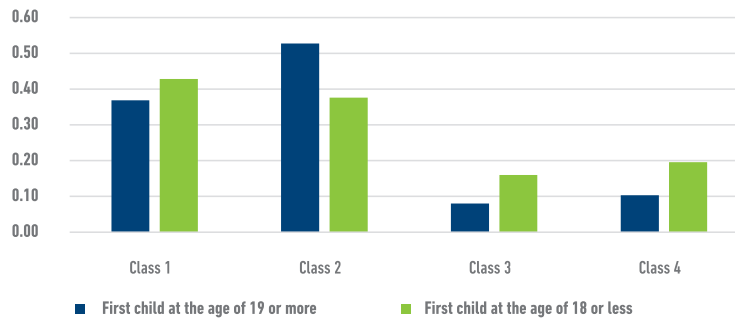
Source: ILO /SWTS – School-to-Work Transition Survey. 2013. Authors' own processing.

Graph 22

Predicted probabilities for belonging to work trajectory classes, by age at the time of first marital union – Men (Brazil 2013)

■ First marital union at the age of 19 or more   ■ First marital union at the age of 18 or less
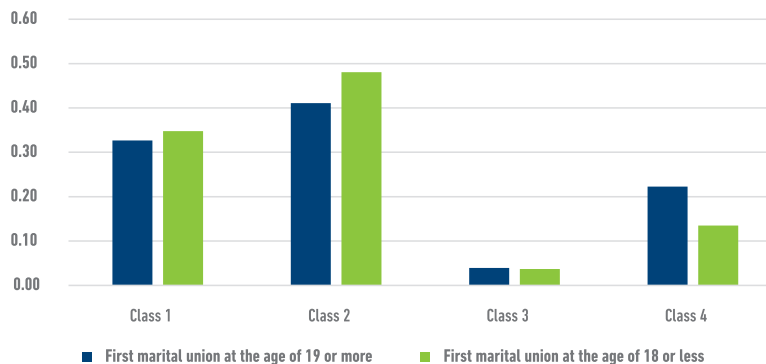
Source: ILO /SWTS – School-to-Work Transition Survey. 2013. Authors' own processing.

When observing the findings of this section as a whole, and when reflecting on the objective that guided it, some initial conclusions can be proposed. First, we see that the literature about the disadvantages and differences associated to the birth of a first child and to forming a marital union during adolescence demonstrates negative associations and effects in both high and low income countries. The literature about patterns of disadvantages documented the educational disadvantages of young adolescent mothers and of their children in Brazil (MARTELETO; DONDERO, 2013). However, studies about work transitions have not taken into consideration *if* and *how* demographic events during adolescence affected the work trajectories of these young people in Brazil. This gap

in the literature prevents a full understanding of youth work trajectories for various reasons in Brazil: decision-making processes are interconnected, adolescent fertility is high, the average age of forming a first union is still low, and forming a family during adolescence can be an important stratifier with serious consequences for the income and employability of young people that last a lifetime. The results of our analyses of a unique dataset using sophisticated statistical methods, which take into account selectivity in demographic events during adolescence, demonstrate that such events cause significant differences in the work trajectories of young Brazilians.

To conclude this study, we will now focus on how allocating time between studies and work can impact labour trajectories, and how this impact is linked to demographic variables.

6

Transition, transitions – discussing time allocation between studies and work for young people in Brazil

An important research agenda in the sociology of education and social stratification has specifically addressed the concept of transition in a way that we believe is analytically relevant to understand how young people move toward adulthood. Mare's work (1980, 1981) had broad repercussions in studies on inequality and educational stratification and introduced conceptual and methodological innovations that formed a critical response to the compelling findings that analysed the determinants of educational achievement, indicating a decrease in educational inequalities in modern societies among cohorts born in the 20th century (BOUDON, 1974). Mare proposed that the formal education process could be conceptualized as a sequence of transitions between educational levels. Measuring the formal education process as a series of transitions allows inequalities along educational trajectories, which enables identification of class and socioeconomic background differences in the probability of progressing through educational levels, despite the tendency for a growing proportion of individuals that reach certain levels of education. Based on Mare's theories and methodologies, several national studies were developed to explore the patterns of educational stratification (SHAVIT; BLOSSFELD, 1993). In general terms, the educational progression model (known as the Educational Transition Model, or ETM) can be illustrated as follows:

Figure 1

Illustration of the Educational Transition Model (ETM)
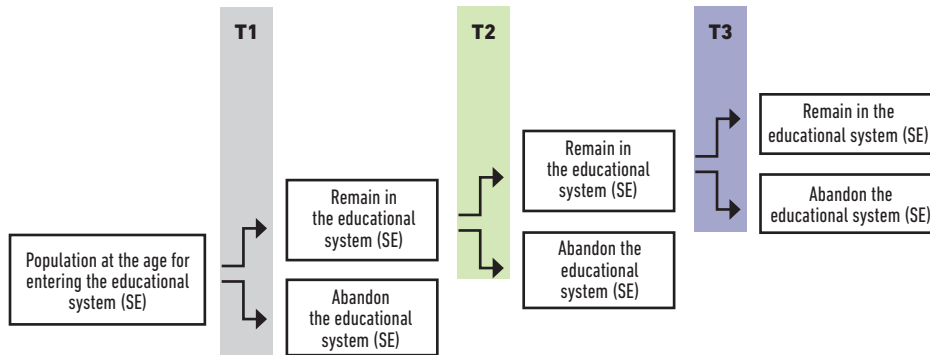
Source: Author´s own design

This model allows the identification of specific barriers in students' progress through educational levels, and clearly pinpoints where the selectivity mechanisms that tend to prevent equal probability for educational success are operating in the many *transitions* that form the education process.

But the life trajectories of young people cannot be understood exclusively within limited dichotomous choices about how educational progress takes place. This is a limitation in the orginal formulation documented in the literature, and has drawn numerous criticisms. The fact is that a broader understanding of the life cycles of young people requires multiple destinations in each transition, not only the two established in the orginal ETM definition – whether to continue schooling or not. Thus, the research agenda that studied educational transitions specifically became a research agenda for transitions in general, which empirically evaluated the schooling progress of young people and its relationship with other events that typically happen at the same time in their life cycle. This meant incorporating into the analytical model the idea that the possible destinations for each transition – which, as a whole, formed general parameters of unequal opportunities for young people – were different and could not be confined to the education system exclusively.

This criticism of the first ETM formulation paved the way for models of analysis that incorporated multiple destination possibilities in the transitions of young people. The model was frequently problematized within the education system, with the argument that the system was typically segmented into different tracks that, throughout the educational trajectory, generated parameters of inequality, depending in which part of the education system the student trajectories were concentrated (BREEN; JONSONN, 2000; LUCAS, 2001). Some segments of the education system facilitated reaching higher levels of schooling, while other segments barred young people from fully completing their education.

This literature does not exclusively deal with how educational segmentation affects the probability of young people to progress in their schooling. It is this fact what inspired us to conduct the analysis presented here. From an empirical perspective, this literature sought to incorporate external school

dimensions into ETM-based analyses in order to estimate their impact on the transitions of young people, thus diversifying the possible transition destinations that characterise youth in the life course.

Considering that diversity found inside and outside school destinations would more reliably portray the transitions in the life course of young people, some research has explored both linearity/nonlinearity in educational trajectories (MILESI, 2010) and labour market participation (ROKSA; VELEZ, 2010) as factors that influence the probability of young people progressing in their schooling. The first case requires considering the absence of linearity in educational trajectories as a significant factor in creating unequal opportunities. The second case evokes empirical evidence to demonstrate how the juxtaposition of trajectories in the educational system and in the labour market form an important component in determining the educational transitions in the life course of the young people being studied. In the Brazilian case analysis, Alves de Brito (2014) demonstrated how, in the transition to higher education entrance, class inequality patterns documented that young people in lower socioeconomic situations were generally required to manage work and studies as a strategy to reach higher education.

This literature has inspired us to propose an investigation design that gives us relevant analytical gains about the specificity of the trajectories and transitions experienced by young Brazilians, and thus gain deeper insight on how opportunity structures are formed, especially when we analyse transitions by linking educational progress to labour market participation.

Analysis design and methodology

For the purposes of maintaining the international parametres for comparisons established by the SWTS, the ILO adopted a methodology that involved creating an index with multiple variables to measure the position of young interviewees on a given path toward autonomy. This indicator was based on variables regarding job satisfaction, completed schooling trajectory, and employment situation. It is a categorical indicator, meaning it separates individuals into categories of different possible trajectories toward adulthood. It groups young people in their life cycles according to three categories: a) transitioned; b) in transition; and c) transition not yet started.

"Transitioned" young people are those in the following situations related to labour market participation: 1) in a regular and satisfactory job; 2) in a regular but non-satisfactory job; 3) in a satisfactory but temporary job; or 4) satisfactory self-employment. Here we note that two dimensions are strategic in creating these categories: regular employment and satisfaction. Regular employment entails a *sui generis* type of variation in that it combines both the contract duration (regular vs. temporary), and the nature of the contract (employee vs. self-employed). Young people "in transition" are those who are unemployed or employed in temporary, non-satisfactory work.[22]

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[22] It must be noted that these definitions do not include other possible combinations that, to us, are socially significant, such as having work but looking for a better job, which is common at a certain age and in certain market contexts (see Guimaraes, 2009). Furthermore, they do not consider unemployment as contingent upon the labour market, but rather as a precursory "phase" in a unilinear movement toward entering the labour market, which is subsequent to reaching a certain level of education. Our intention is to enrich this understanding to show how the different dimensions of transitions are complex, plural, and non-linear in the lives of Brazilian young people.

However, in exploring the connections between employment and educational transitions we are faced with the problem that the SWTS questionaire does not provide data on the school trajectory of the interviewees. It only registers whether they dropped out of school (as if there were no probability of returning later on), and whether they attended school (or not) during each job event.

As we were unable to precisely measure the educational transitions in order to connect them to the work trajectories, we opted for two approaches. First, we constructed a new typology of trajectories that included not only the situation of the interviewees in the labour market (described in detail in the questionnaire), but also their situation in school (summarized as attending school or not). Second, we advanced towards a time allocation analysis, categorizing youngsters' time allocation between school and work and explored the possible determinants for the probabilities of pertaining to one of the categories defined.

We begin, therefore, by investigating the patterns of stratification in the probability of completing transitions toward adulthood, considering the possibilities of associations between schooling progress and labour market participation.

To do this, we defined time allocation as a dependent variable in four possible categories: 1) only study; 2) study and work; 3) only work; 4) neither working nor studying. We opted to do this because the collected information on education was more limited than the information on employment. In other words, we could treat work information as a longitudinal panel database, but we could not do the same with their educational trajectories. [23]

Given these limitations, we decided to work empirically by constructing possible scenarios for the transitions we analysed based on specific educational levels. This allows us to uncover evidence about the different probabilities of transitioning toward any of the four categories of time allocation, taking into consideration the effects of variables that are typically used in analyses of inequalities, especially in educational opportunities and labour market trajectories. There is one question that guides this investigation: What are the probabilities, given certain characteristics, that young people belong to one of the four time allocation categories identified in the previous paragraph? The possible scenarios that we created for our analysis and understanding of destinations produced by the time allocation categories are as follows:

    a)   Young people eligible for secondary school, between the ages of 15 and 19: in this case, those that only study are necessarily those that transitioned into secondary school; those who study and work transitioned into secondary school and into the labour market (measured by their participation); those who only work transitioned into the labour market but do not attend school, which means they did not transition to secondary school; and those who neither study nor work did not transition into secondary school but may have entered the labour market even if at the time of the survey they were not working (population 1).

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[23]   From a methodological point of view, this occurs because, as said earlier, the technique of collecting data as events with clear beginning and ending dates was not used to describe the educational trajectory as it was in the case of the work trajectory. This limits us to transversal information, or in other words, we know an individual's level of schooling at the time of the interview, but nothing of the temporalities (ruptures and continuities) in their educational progression. For this reason, it is impossible to generate an indicator involving multiple variables that is longitudinal in nature to characterise the educational trajectories of these young people as it was possible (and made available) for identifying employment trajectories.

b)   Young people eligible to conclude secondary school, between the ages of 20 and 24: those who only study are purely students with no differentiation as to whether or not they concluded secondary school and entered the labour market; those who study and work may or may not have concluded secondary school (because they are still studying), but definitely transitioned into the labour market; those who only work we are sure transitioned into the labour market, but with no specification as to whether they transitioned to a higher level of education; and those who neither study nor work are those who at the time of the survey were neither attending school nor in the labour market (population 2).

c)   Young people eligible to conclude secondary school, between the ages of 25 and 29: those who only study were only occupied with their education trajectory at the time of the survey, whether they were in secondary school or higher education; those who studied and worked had already transitioned into the labour market and may or may not have concluded secondary school or begun higher education; those who only work had already transitioned into the labour market but we do not know what educational transitions they made beyond beginning higher education; and finally, those who neither worked nor studied were unemployed and were not attending school, but we do not know what transitions they had already made in terms of education and work (population 3).

d)   Young people eligible to enter higher education, between the ages of 20 and 24: those who only study transitioned to higher education, but we have no information about their participation in the labour market; those who work and study had transitioned both into higher education and the labour market; those who only work had transitioned into the labour market but we have no information as to whether they entered higher education; we have no information about those who neither work nor study in terms of educational or work transitions – all we know is that they were neither employed nor attending school at the time of the survey (population 4).

e)   Young people eligible to enter higher education, between the ages of 25 and 29: the same substantive meaning of the time allocation categories mentioned above in item "d" can be applied to this population. Because they are slightly older, our intention is to observe in what sense certain tendencies of belonging to different time allocation categories increase or decrease for older youth – for whom we would expect higher levels of education and longer periods of employment (population 5).

We asked the same question in all these possible scenarios: What is the probability that young people in each of our population references (that form analytical samples) would be in one of the time allocation categories we defined? This analysis can enrich the approach of ILO's transition indicator in that it allows us to better understand two main aspects: 1) first (and most obvious), are the different probabilities of belonging to the study and work category that, by definition, characterizes youth trajectories without linearity between the end of schooling and the beginning of employment; and 2) second, it can test the hypothesis that socioeconomic segmentation exists and can determine the probability of transitioning in the educational system and labour market. We believe that this exercise can reveal a plurality of stratification parameters that is not identifiable by the ILO indicator in international comparisons, and can show singularities in how transition sequences are structured in the life course of young Brazilians.

We sought to estimate the probability of belonging to the time allocation categories for each of the populations of interest (i.e. the 5 populations, as identified above). The variable of interest (or dependent variable) is, therefore, the allocation of time. As it is a categorical variable, we used a multinomial regression model expressed in the following equation:

$$\varphi_i = ln(P_{ik} / P_{iK}) = \alpha + \sum \beta_n X_{in} + \sum \beta_n \delta_{im} + \varepsilon$$

for $k = 1, \dots , K - 1$

where φ_i represents the natural logarithm of the probability of belonging to one of the time allocation categories (transitioning to category k). In each of the populations of interest, a young person can belong to the category of: only study (k=1); only work (k=2); work and study (k=3); and neither work nor study (k=4). In all the models, α means a constant, the βs are the regression coefficients, X_{in} is a vector of variables that refer to the social background of the young person, and δ_{im} is a vector of control variables. We used the parents' education levels (the highest between the mother and father) as a social background variable, and as control variables we used: a) race (white/non-white); b) home situation (going from living in the parents' home to becoming a person of reference/spouse); c) age (completed); and d) parenthood (whether or not they have children). The models were estimated for men and women separately in the same population due to the known differences between them, such as: 1) moving toward independence from the family home (i.e. going from living at home to becoming a key person or spouse); and 2) events in their reproductive life (i.e. having children or not).

The first step in our analysis is to characterise the analytical samples. Table 10 below shows the descriptive statistics for each analytical sample as related to the variables used in our estimates.

Table 10

Descriptive statistics of the youth sample analysed

	Population 1		Population 2		Population 3		Population 4		Population 5	
	H	M	H	M	H	M	H	M	H	M
Education;										
Incomplete secondary school or more;	0.963	0.961	1.000	1.000	1.000	1.00	1.000	1.000	1.000	1.000
Complete secondary school or more;	0.162	0.225	0.650	0.694	0.758	0.827	1.000	1.000	1.000	1.000
Incomplete higher education or more;	0.059	0.086	0.237	0.282	0.294	0.295	0.364	0.406	0.388	0.356
Family Education;										
Primary school or less;	0.449	0.453	0.481	0.524	0.558	0.583	0.416	0.448	0.519	0.556
Secondary school;	0.369	0.388	0.340	0.349	0.278	0.307	0.354	0.378	0.298	0.326
Higher education;	0.170	0.144	0.159	0.119	0.153	0.088	0.221	0.164	0.176	0.102
Other Characteristics;										
Age;	17.16	17.10	22.01	22.04	22.88	26.80	22.05	22.06	26.84	26.76
Race (white=1);	0.407	0.404	0.389	0.386	0.378	0.377	0.436	0.418	0.389	0.388
Parenthood (has child=1);	0.009	0.106	0.175	0.402	0.435	0.612	0.141	0.321	0.415	0.579
Home situation (person of reference or spouse=1);	0.013	0.084	0.212	0.361	0.455	0.529	0.189	0.325	0.423	0.502
Population 1, 2, 3, 4, 5	381	423	343	359	333	334	222	249	251	276

Source: ILO/SWTS – School-to-Work Transition Survey. 2013. Authors´ own processing.

The descriptive statistics on the young people's education reflect the composition of the analytical samples, which are based in part on their level of education. Therefore, we have an increase that separates population 1 from the others and aggregates populations 2 and 3, and 4 and 5 by similar average levels of education. The same happens with the average age of youth sample analysed, given that age was another definition criteria in the analytical samples.

The racial composition of the group, on average, is also not very different in each analytical sample. The main difference is seen in population 4, which is composed of young people between 21 and 24 who are eligible for higher education, where 43.6% of the men and 41.8% of the women are white. It is important to note that statistics show that population 4 reached eligibility for, and in fact entered higher education earlier than the other populations in our sample. The differences between men and women are fairly clear in the indicators for parenthood and home situations. All the selected samples showed a greater number of women having children and leaving their family homes. In other words, they had changed their home situation, and at the time of the survey they were either persons of reference or spouses in their own homes.

Below we present the main findings obtained from the models specified above.

Inequalities between sex and race groups

The results of the estimates are presented in a set of graphs below (Graph Panel 23) as predicted probabilities. At this point in the analysis, it is important to highlight the effects of the race variable, which was coded as whites and non-whites. Each of the graphs shows the predicted probability of belonging to one of the time allocation categories as defined earlier (work and study; only study; only work; and neither work nor study) for each sex and race group (white men; non-white men; white women; non-white women).

Let us look at the graph for population 1, for example. Here we analyze the young people between 15 and 19 that are eligible to transition into secondary school (i.e. meaning they completed primary school). The graph shows the probability of this population group belonging to each time allocation category. In this way, the first set of bars on the left indicate that the predicted probability of non-white men from population 1 working and studying are approximately 40%; for white men a little less, at 35%; which drops to 30% for non-white women and slightly less for white women at 28%. The second set of bars is similarly organised, but for the only study group. Here the order of probability for belonging is inverted: white women with the highest probability, followed by non-white women, white men, and non-white men – the group with the lowest probability of belonging to this category. This case is necessarily about young people who progressed in their educational trajectories and transitioned to secondary school. The other two sets of bars show the predicted probabilities of belonging to the categories of only work, and neither work nor study.
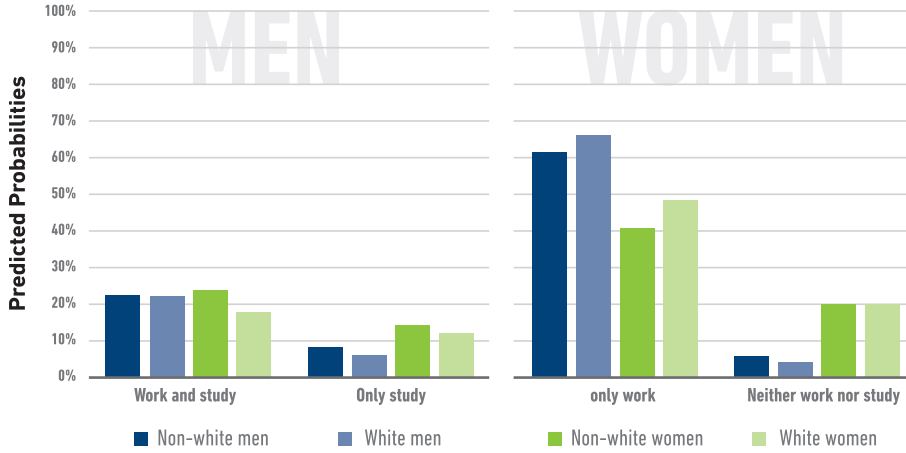
Graph Panel 23

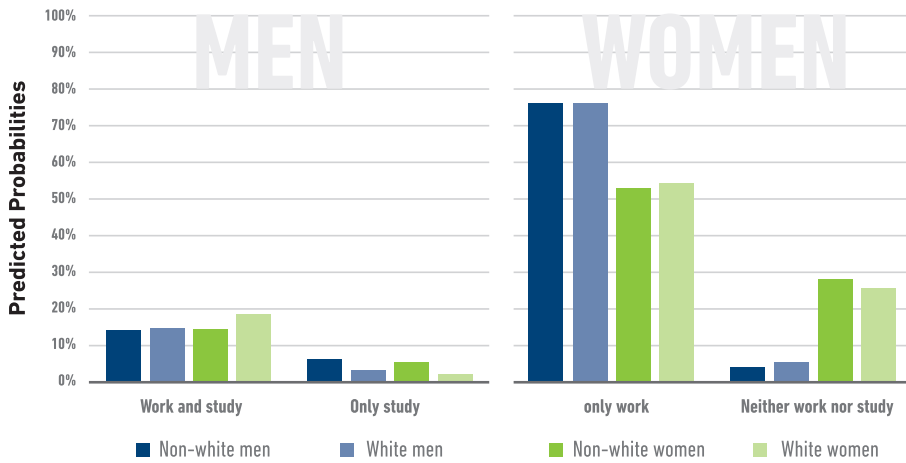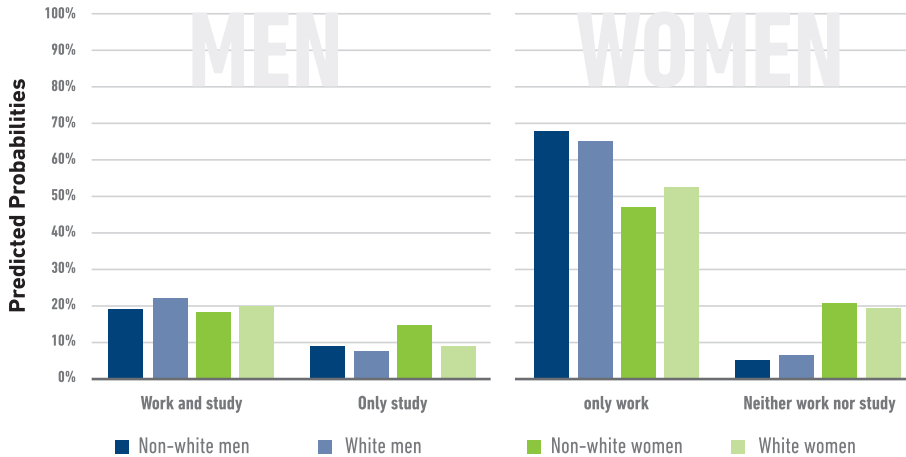**Prediced probabilities of belonging to time allocation categories, by sex and race for each population of interest**
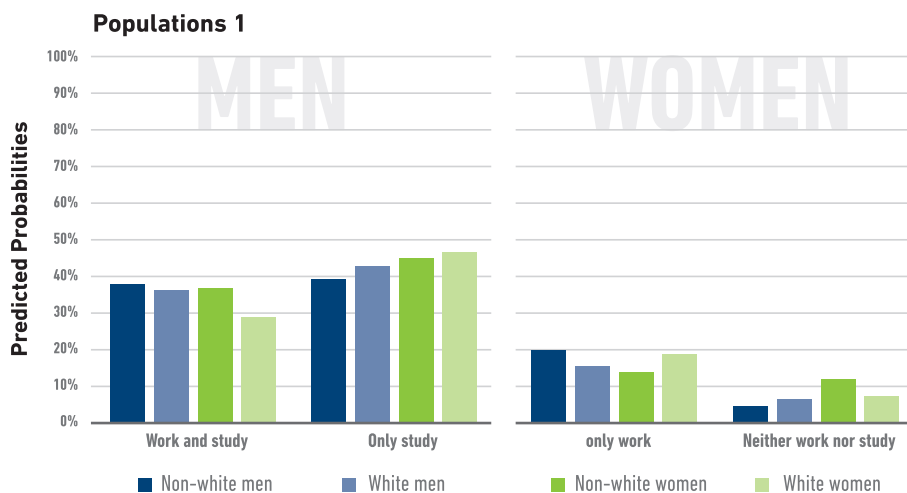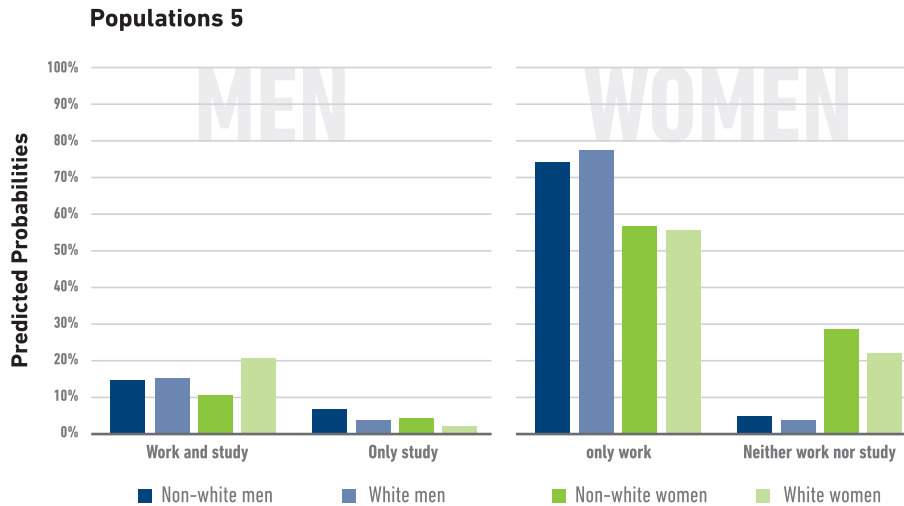
Populations 2

Populations 3

Populations 4

Populations 5

Source: ILO/SWTS – School-to-Work Transition Survey. 2013. Authors' own processing.

 The graphs also enable identification of the predominant time allocation categories within our youth sample analysed. We intentionally use the same colors for the bars representing sex and race. The total percentage of the bars with the same color is 100%, which indicates that the categories of "work and study" and "only study" are predominant in population 1's time allocation. In other words, even the youngest population we analysed – between 15 and 19, with incomplete secondary school – has a high probability of studying and working. It it worth saying that, even where we would expect higher probability of primarily educational trajectories, the need to manage studies and work is common; even the probability of just working are higher than for neither studying nor working. The graph for this population also shows how these probabilities vary according to the sex and race of the young people – generally with higher probability of transitioning into the labour market for men than for women, and for non-whites than for whites.

The other graphs in Panel 23 follow the same logic in showing the results for each of the populations of interest. The set gives us a comparative global perspective of the populations and their time allocation patterns, given our interest in showing evidence about the possibility of different destinations based on the scenarios defined by age and educational parameters.

This comparative intention highlights how the time allocation pattern revealed by the survey is very different for the youngest population (15 to 19) that had completed primary school. For all the other populations, the men – white and non-white – have a greater probability of just working. See, for example, the graph for population 2 that shows 21 to 24 year-olds that did not complete secondary school. For this group, especially the men, the probability of just working are over 60% - higher for whites than for non-whites. For women, this percentage is also higher among whites, but significantly lower than for the men (between 40 and 50%). This difference indicates greater probability of women belonging to the categories of only study and neither work nor study. We can also see that the probability of working and studying for non-white women is the same as for white and non-white men. But in general, what the graph shows most clearly is the difference in time allocation patterns for population 1 and population 2. Population 3 is formed by young people with the same level of

education as population 2 (incomplete secondary school), but that are slightly older (between 25 and 29). Here, what we can observe with regard to population 2 is the increased concentration in the category of only work, the probability reaching almost 80% among men and over 50% among women. This causes a more significant decline in the probability of men to neither work nor study or to only study – for women, the probability of belonging to these categories remains strong, especially in the category of neither study nor work. Racial inequalities are more accentuated in population 2 (the youngest), always with more probability of non-whites transitioning into the labour market, whether balancing work and studies or not. These inequalities are less evident in population 3 (the oldest) where racial inequality is stronger among white and non-white women in their probability of belonging to the category of neither work nor study.

Our results also suggest that concluding secondary school introduces a slightly different time allocation pattern, as indicated by the findings related to populations 4 and 5. They are in the same age group as populations 2 and 3 (21-24 and 25-29), but with different education levels in that they concluded secondary school. In this case, both categories that involve studies indicate transitions into higher education – associated or not to work, because this is the only way of continuing their educational trajectory. In other words, if the young person completed secondary school and was studying at the time of the survey, he or she had necessarily entered higher education. Our findings suggest the probability that these categories (work and study and only study) concentrated, on average, less than half of the time allocation for the two youth sample analyzed, and they tended to drop in the oldest population. These young people primarily allocate time exclusively to work. For the 21- and 24-year-olds, the probability of only working among non-white men are higher, similar to white women. For the 25- to 29-year-olds, the racial differences are less pronounced in this category. These differences are expressed in higher probability of white women studying and working, and of non-white women neither working nor studying.

Thus, the results show how the distribution pattern of young people in time allocation categories is a consequence of belonging to groups of sex and race. At the same time, they show how these same inequalities increase or decrease depending on the point of the young person in his or her life course, from both the standpoint of age and the number of transitions in the educational system. Sex, race, age, and schooling are important aspects that structure opportunities for linear transitions between education and work.

Inequality according to social background

The probability of belonging to different categories of time allocation also varies depending on social background. This can be seen in the findings presented in Graph Panel 24.

The social background indicator used was the family education, represented by the highest level of schooling reached by either the father or the mother. We opted for a slightly different strategy for presenting the findings. The graphs still express the predicted probabilities of belonging to time allocation categories. However, in Panel 24 the graphs add an analysis of the predicted probabilities according to the level of family education. Each set of four bars shows the distribution of the time allocation between all the time allocation categories within the same level of family education. In this way the set of 4 bars accounts for 100% and each time allocation category has a different colored bar.
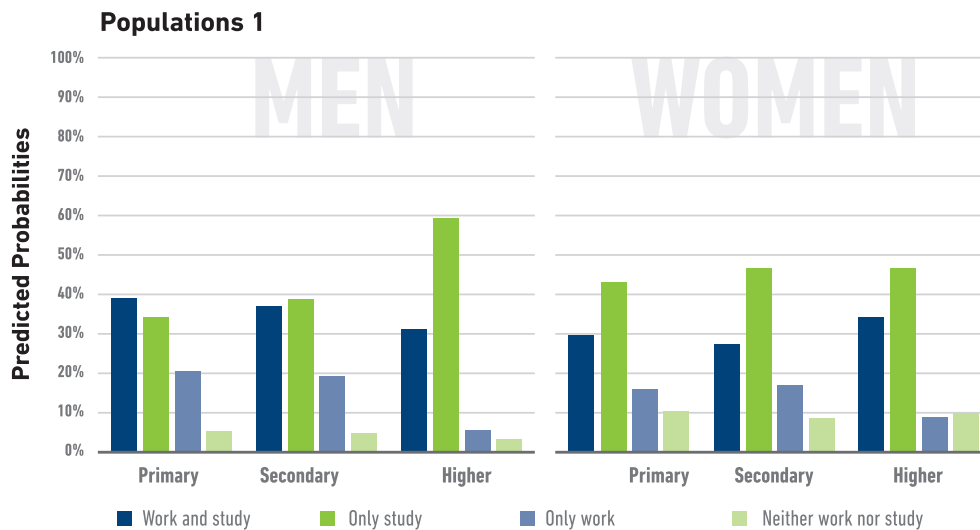
The graph that refers to population 1 (15 to 19 years old, completed primary school) shows very clear differences in how young men with different social backgrounds allocate time. Those whose parents had reached primary school or less were most likely to both study and work (40%), followed by only studying (34%), only working (20%), and neither working nor studying (5%). The distribution of men from families that reached secondary school had a greater probability of only studying, but still had a significant probability of both working and studying. The main difference was found between these young men (from families that reached secondary school) and those from families that reached higher education. For the latter group, the probability of being in the study only category – which means having entered secondary school – is significantly higher than the other time allocation categories, and than what was observed for those from less educated families. Among the women, the probability of only studying are always predominant, independent of the parents' level of education. The probability of only working shows the greatest variations according to social background.

Graph Panel 24

Predicted probabilities of belonging to time allocation categories, by sex and social background, for each youth sample analysed

Populations 1
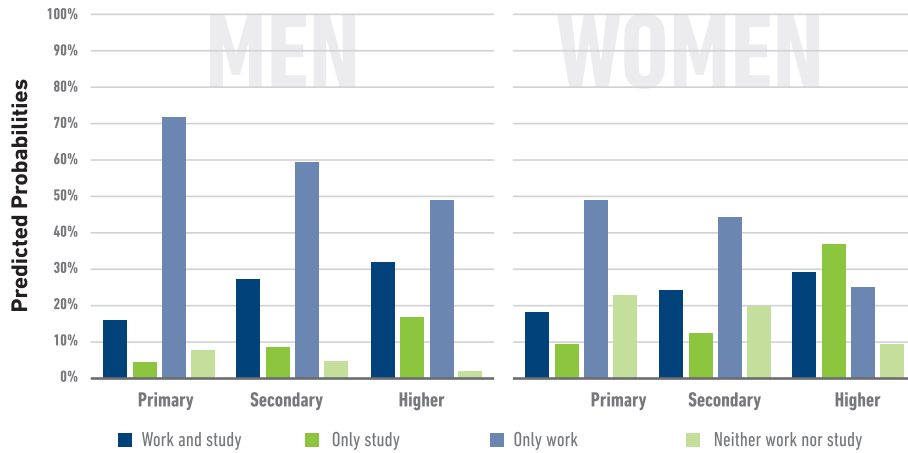
Populations 2

MEN

WOMEN

Predicted Probabilities

Primary · Secondary · Higher

■ Work and study ■ Only study ■ Only work ■ Neither work nor study

Populations 3

MEN

WOMEN

Predicted Probabilities

Primary · Secondary · Higher

■ Work and study ■ Only study ■ Only work ■ Neither work nor study

Populations 4

MEN

WOMEN

Predicted Probabilities

Primary · Secondary · Higher

■ Work and study ■ Only study ■ Only work ■ Neither work nor study

Populations 5

Source: ILO/SWTS – School-to-Work Transition Survey. 2013. Authors´ own processing.

When comparing the two populations of young people who did not complete secondary school, the time allocation pattern changes. The probability of only working for the youngest (between 21 and 24), especially for young males, are predominant in all the categories of family background, and they drop as family levels of education increase. This tendency is counterbalanced by increased probability of: a) studying and working, and b) only studying, which increases as family education increases. But the probability of studying and working for this population are always greater than thei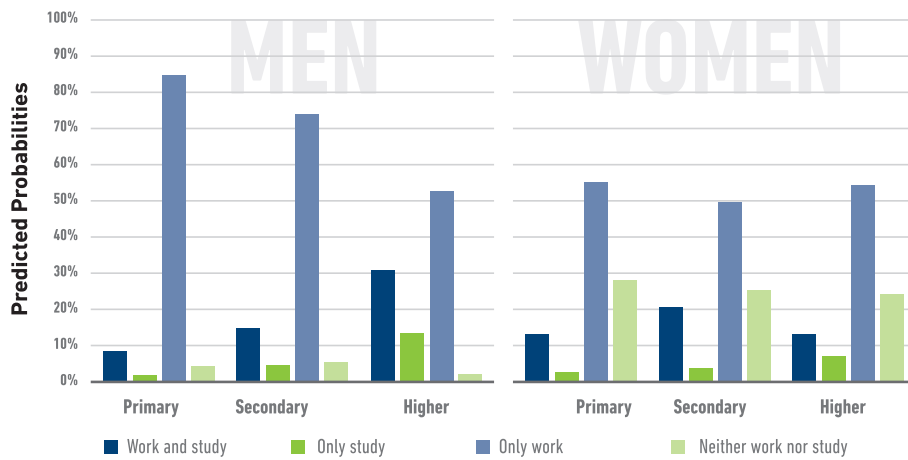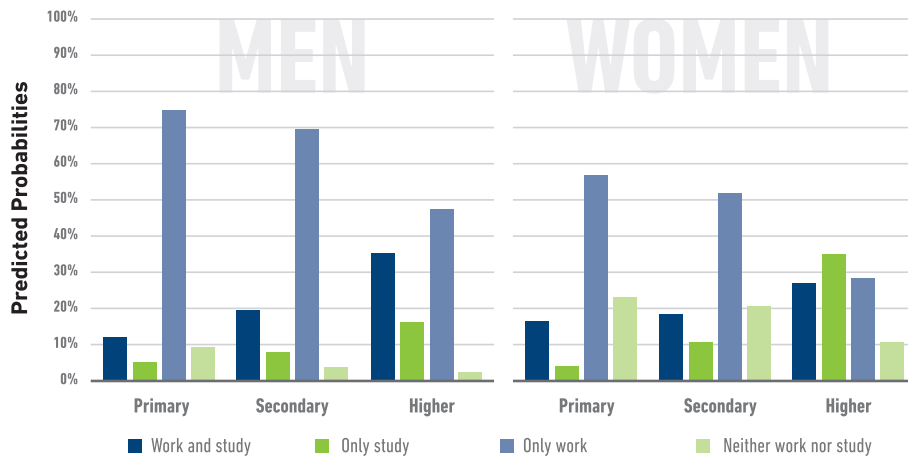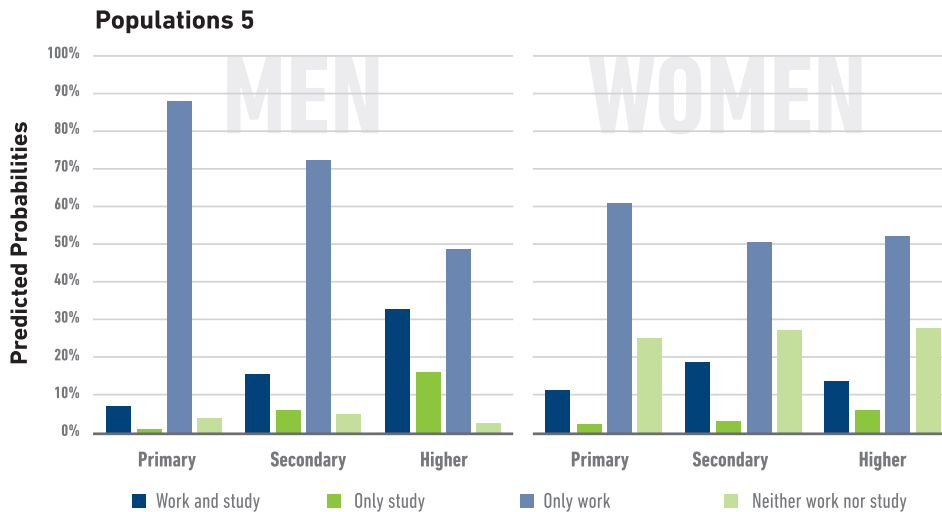r probability of only studying, thereby providing evidence that the supposition of linearity in the school-to-work transition is not sustainable for young people between 21 and 24 years of age. On the other hand, the concentration of probabilities in the only work category is less pronounced among women, and is the main destination for those who come from families that completed primary or secondary school. What draws attention to the women that come from families with higher education, is that most of them allocate time exclusively to studying, which is different from the pattern observed in other groups of sex and social background. The analysis of the results for population 3, which has the same level of education as population 2, albeit older (25 to 29), suggests an even more intense concentration of probabilities for allocating time to only work, which occurs for both men and women. For young males, the variation according to family educational levels maintains the tendency observed for the other youth samples analysed: the higher the social background, the lower the probability of allocating time exclusively to work, and the greater the probability of both studying and working. The tendency among women is somewhat different. In population 3, the probability of neither studying nor working begin to increase overall, and for only working they are significantly higher than among young women with the same levels of schooling. What is interesting is that the allocation probabilities in these two categories (only working and neither working nor studying) do not exhibit any significant variations according to social backgrounds. Our results suggest that the only time allocation category for population 3 in which higher social background is associated with more probabilities is that of only studying. The allocation patterns of men and women are also very different in populations 4 (21-24) and 5 (25-29), both of which are eligible for entering higher education. The younger men have a greater probability

of only working, but not as much as seen in populations 2 and 3 that have lower levels of schooling. This decreases as social background increases. The probability of both studying and working, which indicates educational trajectories that reach higher education, also increase for men according to their social background. It is interesting to note how the probability of allocating time exclusively to studying is lower than allocating time to both studying and working in all the social background categories. This suggests that both our populations that are eligible for entering university (4 and 5) more frequently divide their time in university between studying and working rather than dedicating it exclusively to studying. Further evidence that trajectories with linear school-to-work transitions are rare, especially when analysing the educational transition for entering university, can be found among young people with higher levels of education. The probability of women only studying is always higher than for men, and their probability of only working tends to be lower. The probability of neither studying nor working is fairly frequent among younger women (21 to 24) from families with primary or secondary levels of education. The probability of only studying is only higher among women from families with high levels of schooling. There is a tendency toward polarisation in the categories of time allocation among 25- to 29 year-old women with the same level of schooling (completed secondary school), and only working and neither studying nor working becomes more likely without very pronounced variations produced by social background.

However, the findings about social background as it relates to time allocation categories differ between men and women. The probability of men only working increases in older, better educated populations and decreases when family schooling levels are higher. On the other hand, how women allocate time is not closely related to variations in social background: younger populations mostly study exclusively, and older, more educated populations tend to either only work or neither work nor study in ways that are almost independent of their social backgrounds.

Inequalities associated to having children

One dimension that clearly defines inequalities in trajectories and time allocation patterns is parenthood – inequalities not only between men and women but also between young people that have or do not have children. Graph Panel 25 shows the results obtained from the probability of belonging to time allocation categories that differentiate young people according to parenthood history for those who have and do not have children.

The Panel presents findings for all five of our youth categories. Similar to what we observed in our analyses on inequalities related to race and social background, population 1 (15- to 19-year-olds who completed primary education) exhibits a general distribution pattern of time allocation probabilities that are significantly different from the other populations we analysed. This is the only group where allocating time exclusively to work is not the most frequent. Their time allocation patterns vary extensively depending on whether they have at least one child. Men that do not have children have significantly high probability (over 40%) to only study; meanwhile, the same probability of those who already have at least one child are practically null, or close to 0%. For these men, having a child escalates their probability to work and study to over 70%.

Parenthood also significantly alters women's time allocation patterns, however not as strongly toward study and work, which is higher among those who have at least one child, but still very close to the studying only category. The women in population 1 who do not have children are mostly able to study exclusively. However, if on one hand motherhood reduces their probability of only studying
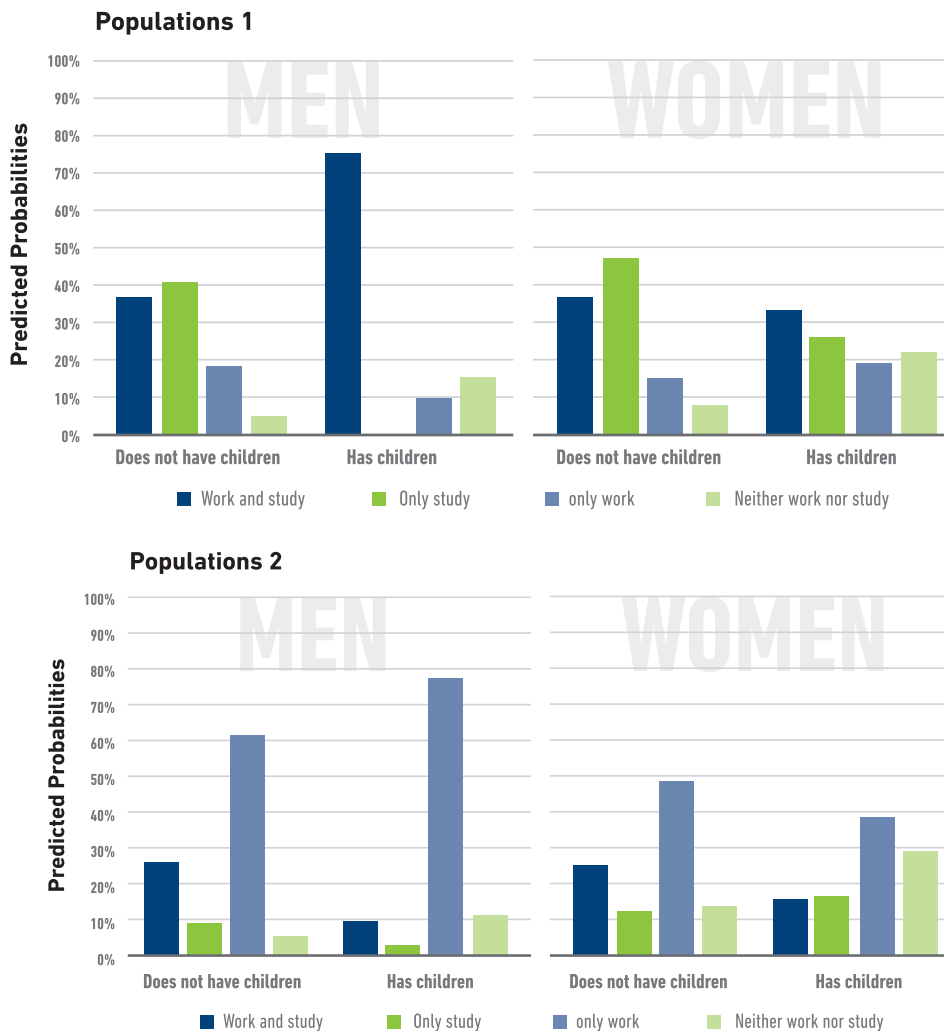
and increases their probability of working and studying, on the other hand it also significantly increases their probability of neither studying nor working.

An analysis of populations 2 and 3, composed of older young people eligible to conclude secondary school, once again shows a significant probability of allocating time to only work. This is true for both men and women, more so for men and young people that have children. Women that have children tend to fall into the neither work nor study category. The same tendency is seen among the older population (3) when compared to the younger one (2). What these findings suggest is that motherhood for these women carries a highly significant probability of interrupting (or not completing) both their educational transitions and their participation in the labour market.

Graph Panel 25

Predicted probabilities of belonging to time allocation categories, by sex and parenthood, for each population of interest
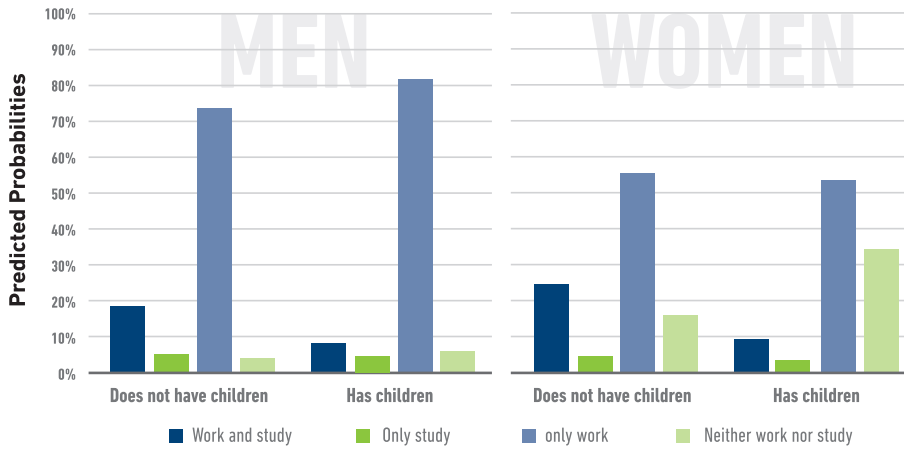
Populations 1

Legend: Work and study · Only study · only work · Neither work nor study

Populations 2

Legend: Work and study · Only study · only work · Neither work nor study

Populations 3

Populations 4

Populations 5

Source: ILO/SWTS – School-to-Work Transition Survey. 2013. Authors´ own processing.

Finally, when we consider populations 4 and 5 made up of young people eligible to enter university, we can see that there is almost no probability of the younger men (between 21 and 24 years of age) with children to only study. They are found primarily in the only work and the work and study categories. The findings regarding the older men (25-29 years of age) are very different in that they have significantly higher probability of only working or of beginning higher education generally along with being employed. Whether the young person has children or not causes little variation: higher probability of only working if he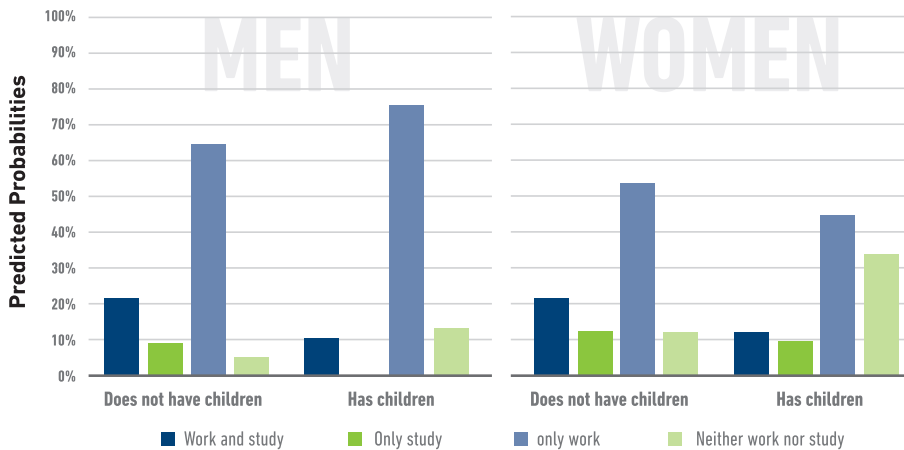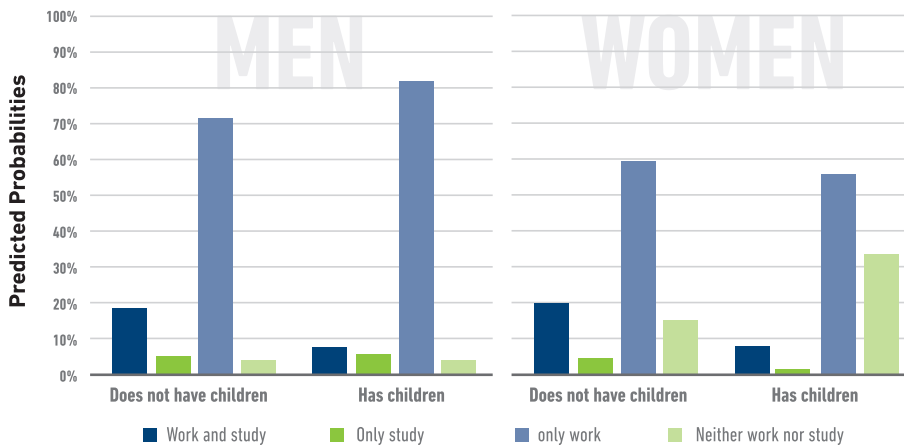 has at least one child, and slightly higher probability of studying and working if he does not have a child. Either way, at this point in their life cycle (between 21 and 29 years of age, eligible for entering higher education), there is little probability for trajectories of only studying, which once again shows that a significant portion of Brazilian youth does not follow linear trajectories of school-to-work transitions. This group also has a high probability of falling into the studying and working category. The women in the younger population group (4) always have a higher probability of working, but even greater probability if they they do not have children. This tendency is even more accentuated in population 5, which is slightly older. A distinguishing characteristic found in the time allocation pattern for women in these populations is their marked probability of neither working nor studying if they have children – much more than among the women that do not have children, which becomes more pronounced in the older population (25-29 years of age).

Our analysis of the parenthood indicator demonstrates how having a child clearly impacts the patterns of how men and women allocate their time, and also how that varies depending on age and level of schooling. Men with children have a significantly greater probability of only working and of both working and studying. The importance of these categories tends to grow with age. Parenthood always has negative effects on the educational transitions of women and increases their probability of only working or of neither working nor studying. Therefore, in the dimensions we analyse here, parenthood is a highly relevant variable for discriminating trajectories and transition possibilities (in the educational system and in transitioning towards the labour market) among men and women.

7

Final Considerations

O ur entire analysis has focused on documenting a central idea, namely that the different transitions (demographic, educational and labour market participation) are connected and produce complex, non-linear transitions that mark the transition to adulthood for young Brazilians.

The methodology of this analysis was based upon the unique dataset produced by the School-to-Work Transition Survey (SWTS) comissioned by the Brazil Office of the International Labour Organization (ILO), which involved a national representative sample of 3,288 young Brazilians between 15 and 29 years of age that were interviewed in 2013. We began by observing the situation of each of the young respondents over a period of time within the range of opportunities available to them in the labour market. They were grouped into three large age groups, which we labelled adolescents, young people, and young adults. As expected, typical situations of market engagement gained importance with age, namely: employment (with or without a written contract) and unemployment (actively looking for work). In contrast, inactivity significantly decreased, albeit remained (even among young adults) almost as important as unemployment. This finding seems to suggest that moving in the different periods of time can mean both circulating inside the labour market or frequently leaving it for a significant portion of the sample. Thus, contrary to the frequent assumption of having a rather linear transition from school to work among youth, this study identified from the start of our empirical analysis, that young people transitioned in ways that were plural and heterogenous, and therefore had to be more fully and precisely identified.

For this reason, and to better typify the trajectories, we used factorial analysis and clustering to determine types of trajectories and identify the profiles of the young people in them. We identified six classes of trajectory patterns. In delineating them, we once again saw that advancing in age was clearly a variable capable of establishing the first major differences between the classes. In fact, longer periods of time before entering the labour market generally corresponded to older youth, the only exception being one of the young adults groups. However, other variables such as sex and race were also associated to the types of trajectories. In order to explore these associations, we conducted a more systematic statistical analysis to link trajectory patterns to the profiles of the young people.

Hence, we showed how belonging to the different trajectory categories was conditioned in different ways by the dimensions related to the individual attributes of the young people, as well as to their position in their life cycle, their employment, and the characteristics of their family home. All of these factors were used in modelling the distribution of young Brazilians between the ages of 15 and 29 in the different classes of trajectories.

Primarily for this reason, we can affirm that labour transitions do not occur in a vacuum, but rather, in congruence with a series of other transformations. Thus, we sought to verify how the empirical material gathered by the ILO/SWTS could help associate labour transitions to demographic and educational events.

In terms of the demographic dimension, we had minimal information related to parenthood in our database; all we had was the date of birth of the first child. There is a gamut of studies that empirically demonstrate how the birth of a first child alters the labour (and educational) transition of the parents. There is no doubt that the birth of a first child incurs important differences in the work transitions of young mothers and fathers (GOLDIN; KATZ 2008; GOLDIN, 2006). In addition to interrupting their education, a large portion of mothers, especially younger ones, tend to leave the labour market and look for occupations that offer greater flexibility, regardless of remuneration and job satisfaction (GOLDIN; KATZ, 2011). There are also income differences between mothers that leave and return to the job market and women without children – although wage differences were not identified between them and the mothers who did not leave the job market. Research has found that mothers who leave the job market when their first child is born and return later are penalized in terms of income (WALDVOGEL, 1999).

Although other parenthood markers are also relevant determinants in the labour transitions (and wages) of young people, such as the space between births and the ages of all the children, the SWTS questionnaire only provided the date of birth of the first child (and thus from this we can calculate the age of parents at the point of this event). This obviously determines the age at which women and men become mothers and fathers and marks important changes in the direction taken by young people.

Another important demographic marker in the process of youth reaching independence is forming a marital union and establishing their own home. We have limited information on both issues. The marriage rate variables provided by the SWTS database are "age when married or started living with a partner for the first time" and "current marriage situation." A marital union affects men and women differently. While it rewards men in terms of wages and work, it does the opposite for women (MADALOZZO, 2008). Furthermore, the type of union also makes a difference in the trajectories and the employment results. For example, there is a wage difference among women in different types of marital unions, where those in informal unions have more advantage (MADALOZZO, 2008).

Our analysis of the distribution patterns for how young people allocate time between their studies and work leads us to conclude that there are important aspects that cause inequalities in the trajectories of young Brazilians. What most underscores this argument is the prominence of needing to reconcile the responsibilites of school and work in the life cycles of Brazilian youth. This is seen in all the populations we analysed, even the youngest ones composed of 15- to 19-year-olds that completed primary school, where we would have expected a pattern that concentrated mostly on only studying. Our results show that there is a significant probability of young people of all ages reconciling the demands of both study and work, which puts into question any linear explanation about the school-to-work transition.

The probability of both studying and working only tends to grow for the older and more educated populations, and are unequaly distributed in terms of sex, social background, race, and parenthood. In other words, the educational and employment events in the life cycles of young Brazilians cannot be understood, as a rule, as linear trajectories – where concluding school comes before employment – and the order of these transitions in the life cycles of young people occur as a result of various selectivity mechanisms, some of which we tried to show here.

Finally, we sought to demonstrate how such selectivity mechanisms (social, racial, etc.) are directly related to age and schooling. We tried to show how some age and education markers are decisive in the life cycles of young people as they transition from the world of school to the world of work. There are notable pluralities and diversities that mark these trajectories and destinations.

We believe that the survey information we analysed here allows us to highlight how Brazilian specificities in the labour market, in the structure and accessibility of different educational levels, and in the changing patterns of family homes and demographics affect trajectories toward adulthood.

Our objective of this analysis was to deepen our understanding about the juxtaposition of these variables found in the transition patterns and the associations that characterise important milestones in the transition to adulthood – especially employment, educational inclusion, marriage, and parenthood. This allowed forming a basis for trajectory (and transition) patterns in the life cycles of Brazilian youth that are socially segmented according to the specific mechanisms of our reality. We believe that the findings of this report can also contribute to the international debate on transitioning toward adulthood from a perspective that highlights these specificities.

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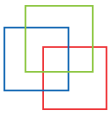
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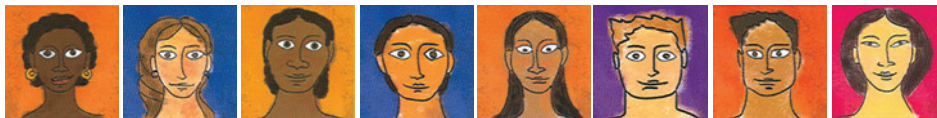
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