



RESEARCH ARTICLE

Long-term effects of initial labor market conditions on young Mexicans *

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Abstract

In this paper, we analyze the long-term effects of initial labor market conditions on young Mexicans. We construct a synthetic panel from the National Survey of Occupation and Employment. The sample is grouped according to region, educational level, year of interview, and year of entry into the labor force. The results indicate that the condition of the labor market at the time of entry has long-term effects, especially on income and the discouraged population. As the young population faces greater adversity in the year of entry, income decreases while the discouraged young population increases, but unemployment and informality do not change substantially. The effects are greater when the initial shock increases informality in the region of residence. The effects on income are robust to the inclusion of current conditions in the labor market. We recommend that employment policies should focus on bringing young people into formal employment.

Keywords: Unemployment, informality, Discouraged Population, Underemployment

JEL codes: J46, J64, J81

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1. Introduction

During the first years of employment, young people experience significant wage growth and greater mobility between jobs until they reach a more stable working life (Topel and Ward, 1992). The labor market is usually complex for a young person due to the lack of work experience, complicating the entry into working life. In Latin America, while job quality tends to be higher compared with other developing regions (Hovhannisyan et al., 2022), young workers experience more frequent exits and re-entries in the labor market and have higher participation in informal, precarious low skill jobs (International Labor Organization, 2022). When there is an economic crisis, during which there are fewer jobs for young people and they experience a higher probability of being laid off, a question arises about whether it will also have long-term impacts.

According to previous literature, the negative effects of adverse conditions at the beginning of working life can last up to ten years. In addition, these sequels are heterogeneous to different groups, usually affecting disadvantaged groups to a greater extent (Rodríguez et al., 2020; Von Wachter, 2020). Generally, these studies used unemployment in the year of entry into the labor market in high-income countries as an indicator of the overall economic conditions. However, labor markets in developing countries such as Mexico tend to have low unemployment rates and are characterized by high informality and transitions from formal employment to inactivity during economic crises (Leyva and Urrutia, 2020). Therefore, in this paper, we study different indicators of the conditions of entry into the labor market.

Previous studies used panel data. This data structure collects information from the same individuals over time. In countries like Mexico, this type of analysis is difficult due to the lack of such data. To solve the problem of the absence of panel data in studies about the incorporation of young people into the labor market, Schwandt and Von Wachter (2019) proposed the use of synthetic panels. This involves creating cohorts of individuals with similar characteristics whose observations come from repeated cross-sectional data. This tool resembles panel data and can be used to conduct studies that ideally require such data structure.

This study builds a synthetic panel from the National Survey of Occupation and Employment (ENOE) in Mexico using surveys from 2005 to 2021. This synthetic panel groups the population into four regions, three educational levels, and year of entry into the labor market from 2005 to 2021. Subsequently, we estimate the effect of initial labor market conditions on the work outcomes of recent graduates. This estimate allows us to control the fixed effects of region, educational level, and year of entry into the labor market. The specification used allows us not only to determine general differences between generations but also to appreciate the evolution of gaps over time.

The labor market entry conditions include unemployment, informality, discouraged population, and underemployment. Informality at the time of graduation has the higher detrimental effects, a percent increase in informality reduces 1.11 per cent income and increase discouragement by 1.40 per cent among young people, with this effect being persistent after graduation and holding even when the shocks in the current year are considered in the case of income. An increase in discouragement or underemployment in the region of residence has a negative effect on the labor insertion of young people, but it is diluted within a shorter period. Moreover, the results indicate that when facing an adverse shock at the time of entry or in the current year, young people become discouraged rather than join informality or actively look for work, even when the shock increases aggregate informality. These results indicate that during economic crises, informality cannot absorb the young population, so mechanisms and programs should be designed to incorporate young people into formal employment.

The rest of the paper is arranged as follows. The next section presents the literature review. The third section discusses the source and limitations of the data. Section 4 presents the descriptive statistics of the labor market entry in the first years after graduation. Section 5 explains the econometric model. The results are presented in Section 6. Finally, Section 7 concludes.

2. Literature review

The first years of working life are decisive, as they are characterized by the highest growth in income and job mobility (Topel and Ward, 1992; Von Wachter, 2020). They are also characterized by higher unemployment rates, which are close to double the overall unemployment rate, and greater volatility in most countries (Kang, 2021; Kawaguchi and Murao, 2012), including Latin American countries (Campos-Vazquez, 2014; Mont'Alvao, 2020).

The greater labor vulnerability of young people during economic crises has made the literature question whether this effect is only temporary or it will be permanent on the work and life trajectory of generations entering the labor market during economic downturns. This issue has been increasingly addressed in the literature, finding negative effects on income, which tend to dilute over the years (Berge, 2018; Rothstein, 2020; Schwandt and Von Wachter, 2019) but can be significant even 15 years into working life (Kahn, 2010), with labor participation also experiencing a permanent decrease (Raaum and Røed, 2006; Rothstein, 2020). There is heterogeneity in the effect, with low-skilled individuals experiencing more persistent negative effects. At the individual level, the effect of facing employment loss on subsequent incomes has been studied, finding permanent effects, especially when employment loss occurs on multiple occasions (Stevens, 1997).

Additionally, in the long term, an economic downturn can affect personal life, as it decreases the likelihood of marriage, fertility, and asset accumulation (Choi et al., 2020). Other variables can also be affected by experiencing unemployment at an early age. For example, episodes of youth unemployment may be associated with diagnoses of mental health problems in subsequent periods, although this effect does not depend on the overall unemployment rate (Thern et al., 2017).

Recessions can have negative effects on long-term job performance via at least two types of mechanisms. The first is associated with job search, where young people would be trapped in bad jobs due to high costs of labor mobility or information imperfections, preventing better matching according to their skills. The second is related to human capital, where the accumulation of skills at work is an essential component for obtaining higher incomes, with economic crises affecting this accumulation in the long term. (Von Wachter, 2020). The heterogeneity of firms can be important in this process. Some firms, typically larger ones, offer greater opportunities for learning, but it is less likely to get a job with such firms during a recession. Thus, mobility between firms is essential for recovering from adverse initial conditions. (Arellano-Bover, 2020; Oreopoulos et al., 2012).

Research on the long-term impact of crises on generations entering the labor market has been conducted using unemployment as an indicator of an economic crisis. In addition, such research has been carried out in countries with high-income levels. In those countries, labor markets have different institutional frameworks that influence the impact of a crisis on youth unemployment (Kang, 2021; Kawaguchi and Murao, 2012). Therefore, differences in institutional frameworks may affect the type of short-term adjustment and the long-term impact of the initial conditions. There is only a recent study for Latin American countries studying the effect of unemployment at the labor market entry, showing that a downturn have detrimental effects on labor force participation for men 10 years later, but increases labor force participation and earnings for women (Berniell et al., 2023); this last positive effect possibly explained by women acting as a secondary worker during downturns. Another study for Mexico shows long lasting negative effects of the Great Recession, but without considering the effects for those entering in the labor market (Campos-Vazquez et al., 2023).

As a country's income level decreases, the most common employments are low-income jobs without social protection, with a high incidence of self-employment and family employment without pay. Moreover, there is a problem of poverty among those who work rather than a problem of unemployment (Fields, 2011). In México, in the last quarter of 2022, 38.5% lived in households unable to finance food consumption with their labor income (Consejo Nacional de Evaluación de la Política de Desarrollo

Social, 2022).

The low coverage of social protection in lower-income countries implies that there is a segment of the market with low entry costs, which is also characterized by low productivity, known as the informal sector. In Argentina and Brazil, salaried informal workers have three times higher probability of being poor than formal workers (International Labor Organization, 2022). It is perceived that during economic crises, informality, rather than unemployment, tends to absorb a greater proportion of the labor force because of the ease of entry into this segment. Although evidence demonstrates that informality has been counter-cyclical, until 2020, a large proportion of flows that happened during a crisis and its recovery occurred between formal employment and inactivity in a country such as Mexico (Leyva and Urrutia, 2020), where more than half of employment occurs in informality. Thus, in this type of country, unemployment may not be the only or the best indicator to establish a downturn in economic activity.

Using data on Argentina and Brazil, Cruces et al. (2012) introduced informality as an indicator of the initial conditions in the labor market, revealing that they have effects that are similar to those of unemployment. They found that an increase in informality at the initial stages of working life has a negative effect on income and further increases informality, with the effects tending to reduce over time, and individuals with less schooling are the most affected. At the individual level, informality has also been found to have long-term negative effects on income in Indonesia. One possible interpretation of these negative effects of informality is that it provides fewer learning opportunities than formal employment and can be used as a sign of low productivity by future employers (Pritadrajati et al., 2021).

Another reason to look for alternative indicators of the overall labor market conditions is the recent crisis of 2020, which has been different from other economic crises because the adjustment in employment happened not only in unemployment but also, more significantly, in labor participation in the United States (Hornstein and Kudlyak, 2022). In addition, globally, most of the destruction of youth employment shifted to inactivity (International Labor Organization, 2021). In Mexico, within the non-labor participation, the discouraged population, that is, those who are not looking for work but would like to work if the opportunity presented itself, increased sharply. Further, within the employed population, underemployment, that is, the population that wants to offer more hours of work, also increased (Instituto Nacional de Estadística y Geografía, 2020).

Thus, our study contributes to the literature by analyzing the impact of the conditions faced by young people who enter the labor market, broadening the set of indicators of initial conditions—unemployment, informality, discouraged population, and underemployment. Further, as outcome variables for the young, we are interested not only in income, labor participation, or informality as in previous studies but also incorporate the discouraged and underemployed population in our analysis.

3. Data

The ideal approach to determining the evolution of the labor variables of an individual over time is to have panel data of the individual throughout his working life. Unfortunately, such extensive panel data do not usually exist in low-income countries. However, there are alternatives—cross-sectional surveys with a relatively large sample of each cohort over many years can be used. With the information from the cohort, a pseudo panel, also known as a synthetic panel, can be generated to observe the evolution of individuals born in a particular period (Schwandt and Von Wachter, 2019; Von Wachter, 2020). In Mexico, ENOE is the main instrument that monitors the labor market, and since the first quarter of 2005, it has been regularly performed quarterly at the national level, with a sample of individuals living in about 132,000 households nationwide (Instituto Nacional Estadística y Geografía, 2020). The sample has a rotating panel structure in which each household is followed for five quarters, so panel data cannot be generated at the individual level over longer periods.

The sample comprises individuals aged 15 and over who are currently not students but graduated in 2005 or later from the three main educational levels—middle school, high school, and university. Those who only obtained a primary academic degree are excluded because it is not legally allowed to join the labor market at the approximate age that this educational level ends. In addition, other types of schooling, such as technical education, are excluded because of the relatively low number of observations. Like other surveys, the limitation of ENOE is that the year of graduation is not asked. To circumvent this problem, we follow (Schwandt and Von Wachter, 2019) and use the year of birth plus years of schooling plus six—the age at which a child typically starts schooling in Mexico—as a proxy for the year of graduation.

We intend to follow the cohorts of a graduation year and type of schooling at the subnational level to determine the differences in regional cycles in employment conditions. Initially, the study aimed to follow the cohorts of the educational level and year of graduation in each of the 32 states. However, the sample size in some years was very small, so we decided to group the states into four regions, following the classification of the Bank of Mexico. Although this has the disadvantage of reducing observation units at the geographical level, the internal migration at this level is relatively low. By comparison, in their study about the United States Schwandt and Von Wachter (2019) find a rate of migration of 20% and no effect of selective migration in their estimations, while in our sample migration between Mexican regions at graduation age is 6%. Thus, migration decisions in response to labor market conditions could have a limited role biasing our estimations. Finally, we derive unbalanced panel data of cohorts that began their working life in 2005–2021, in which, on average, we use 1,283 individual observations to obtain the variables of interest for each cohort of a region, educational level, year of graduation, and current year, forming 1,836 groups in our final unbalanced panel data. Due to the rotative panel nature of ENOE, some individuals were interviewed in more than one quarter of the year.

The variables that are used to study the evolution of the labor market are obtained from the ENOE. “Non-participation” refers to the population without an occupation and not actively seeking to be employed in the week prior to the interview. Within this population, the “discouraged” expressed interest in working and had no social or physical impediment to do so. Among the population participating in the labor market, the “unemployed” did not have any job and were actively looking for a job in the week before the interview. “Income” is the monthly labor income, including observations with valid income and unpaid family workers. “Informality” denotes those who worked in economic units that are constituted from household resources and did not have conventional accounting practices and those who were employed but did not have a written employment contract or health benefits. Within informality, employment can be subordinate or self-employment, although in our analysis, we do not make this differentiation. “Underemployment” refers to the population that required or needed to work longer than what they are already doing and do not have opportunity to do so (Instituto Nacional Estadística y Geografía, 2020). To calculate the initial conditions, we consider only those under 70 years of age because of the lower labor force participation after this age.

4. Insertion of the young into the labor market

Figure 1 presents an overview of labor insertion in the first years after graduation. Here, we include all regions and educational levels and only observe what occurs after the year of graduation. In the unbalanced panel data, for each year after graduation, 12 groups are incorporated by combining four regions and three educational levels. Then, as the years after graduation increase, the averages comprise a smaller number of groups. However, we decide to use all the information ENOE can provide us up to 2021.

Monthly labor income increases about 43% in the first 16 years after graduation. The first years are also characterized by high unemployment, high informality, non-participation, and discouragement.

These conditions consistently decrease in the following years of working life, with the unemployment rate being only close to 20% of unemployment in year zero. Conversely, the population that wants to work longer hours increases as a proportion of the economically active population, but only after eight years since graduation. In general terms, working life implies adverse conditions in the early years.

As the years after graduation increase, young people in our sample have better indicators than the general population. Particularly, we observe greater participation and less informality. It should be noted that the sample of young people excludes those with lower educational levels and those who are studying. In addition, another factor that can explain these differences between young people and the general population may be generational, where women of recent generations have a higher level of labor participation.

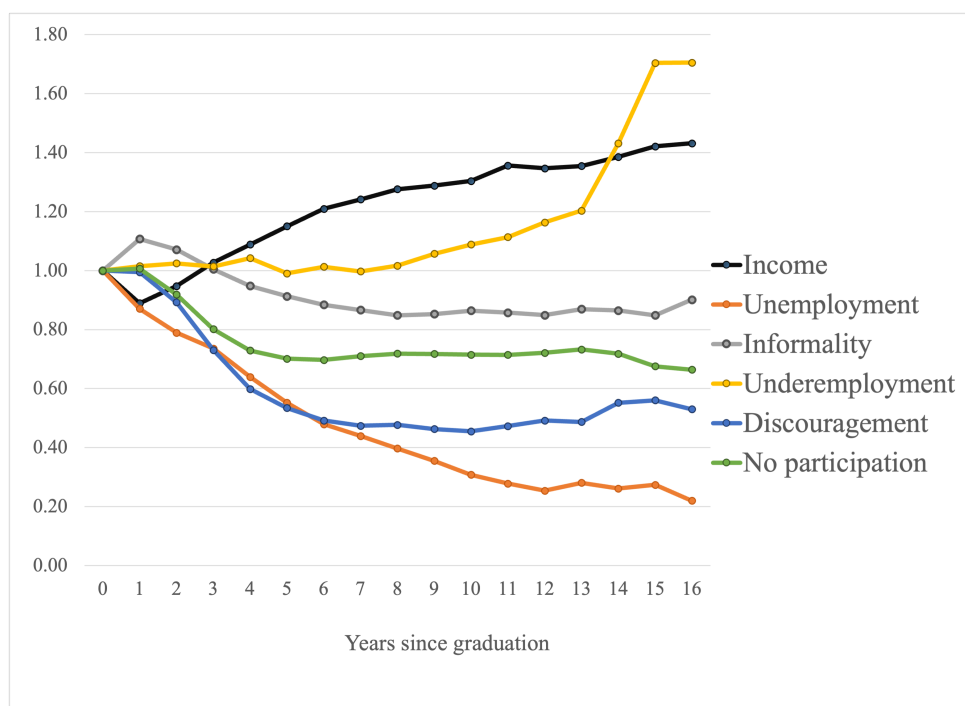


Figure 1: *Labor insertion of the young*

Note: Notes: Each line represent the evolution as proportion with respect to year of graduation. Data in year 0: Income 3996 pesos of 2013, Unemployment: 14.9%, Informality: 50.2%, Underemployment: 6.7%, Discouragement: 8.5% and No participation: 34.6%.

In Table 1, we observe the initial conditions in the year of graduation at the regional level, which are calculated with the entire population from 15 to 70 years. Here, we observe that unemployment evolves at approximately 4%, and its upper values are close to 6%. Labor informality occurs in 58% of the employed population and has wide absolute variations. More people were underemployed than unemployed, and in this period, the maximum underemployed was far above 10%, although its standard deviation was close than that of the unemployed. The case of the discouraged is similar, although its maximum only reached 9.8%. Overall, as presented in Table 3, the other variables proposed as indicators of the difficulties that young people face at the beginning of working life experienced significant variations, and, in some cases, the variations were greater than that of unemployment. The last column shows the correlation of each of the indicators with unemployment. While unemployment is positively associated with underemployment and discouragement, their correlation is not close to one. Moreover, correlation with informality is negative, suggesting that there may be other forms of adjustment to an adverse labor market that are not necessarily reflected in unemployment, by example an increase in informality. Our purpose is to show if variations in these variables uncover some lessons not captured by

unemployment.

Table 1: *Initial conditions in the year of labor market entry*

	Mean	Std. Dev.	Min	Max	Correlation with Unemployment
Unemployment	4.1	1.0	2.4	6.2	-
Informality	58.6	5.4	48.1	67.2	-0.10
Underemployment	7.6	1.2	5.6	14.7	0.34
Discouragement	6.8	0.8	4.7	9.8	0.32

Own elaboration based on ENOE data.

5. Econometric model

Our initial model is as follows:

$$Y_{trgn} = \beta_0 + \beta_1 \delta_{rg} + \pi_t + \alpha_r + \rho_g + \theta_n + \varphi_e + \epsilon_{trgn} \quad (1)$$

This model examines dependent variables, such as income, unemployment, informality, discouragement, labor participation, and underemployment; Y_{trgn} varies according to the period (t), region (r), year of graduation (g) and educational level (n). Our parameter of interest is β_1 , indicating the effect of the initial labor market condition in the year of graduation (δ_{rg}) on the dependent variables. These conditions can be unemployment, informality, discouragement, or underemployment. The initial conditions do not vary with time or educational level but only vary at the regional level. The equation considers various fixed effects: π_t , denoting the period in which the survey was conducted to control for differences over time; α_r , denoting the region where the individual lives to control for the wide regional heterogeneity in the country; ρ_g , denoting the year of graduation to determine the cohort effect; θ_n , denoting the educational level to control for differences in the outcome variables due to the greater accumulation of human capital; and φ_e to control for the expected positive effect of experience. β_0 is the intercept, and ϵ_{trgn} is the error term.

The literature has found that the effect of initial conditions on working life tends to diminish over time. To determine the effect of initial labor market conditions as the years after graduation increase, we closely follow the Mincerian specification of [Schwandt and Von Wachter \(2019\)](#) and estimate the following model:

$$Y_{trgn} = \beta_0 + \beta^e \delta_{rg} + \pi_t + \alpha_r + \rho_g + \theta_n + \varphi_e + \epsilon_{trgn} \quad (2)$$

Here, the initial conditions of the labor market, δ_{rg} , interact with a dummy indicating years after graduation. Then, there is a parameter β^e for each year after graduation, allowing us to determine if the effect is persistent over time or fades away to zero.

A concern in the literature has been that the impact of conditions after graduation is similar to that in other stages of working life. The literature also perceives that the persistence of the effect may be only due to correlation of the initial shock with the present conditions of the labor market. Therefore, in addition to the initial condition at the regional level (δ_{rg}), the value of the same indicator in the current period has been included in a third set of estimations, following previous procedures ([Kahn, 2010](#)).

Table 2: Average effect of the regional initial conditions on the labor market insertion of the young

	Labor market insertion of young people (Y_{trgn})					
	Income	Unemployment	Informality	Underemployment	Discouragement	No participation
Initial regional condition δ_{rg} :						
Unemployment	-0.17 *** (0.05)	0.11 (0.08)	-0.01 (0.05)	0.23 ** (0.09)	0.24 *** (0.09)	-0.01 0.05
Informality	-1.11 *** (0.22)	-0.02 (0.42)	-0.45 ** (0.23)	0.50 (0.43)	1.40 *** (0.39)	0.45 ** 0.23
Discouragement	-0.12 * (0.06)	-0.21 *** (0.06)	-0.10 ** (0.04)	0.13 * (0.07)	0.23 *** (0.08)	0.06 0.04
Underemployment	-0.06 * (0.04)	0.00 (0.07)	0.00 (0.03)	0.14 ** (0.06)	0.18 ** (0.08)	-0.05 0.04

Notes: Own elaboration based on ENOE data. Each entry corresponds to the results of a different estimation with the row variable at the regional level in the graduation year as the initial condition (δ_{rg} in equation 1) and the column variable as the outcome (Y_{trgn} in equation 1), which is measured for each combination of region, educational level, graduation year, and current year. Standard errors are grouped at the region-year of graduation cohort level. * $p < 0.10$; ** $p < 0.05$; ***, $p < 0.01$.

6. Results

6.1. Basic Model

The results of estimating Equation (1) are presented in Table 2. In the table, each line corresponds to an initial condition in the labor market in a region in the year of graduation, and each column corresponds to the variable of interest of the labor market insertion of the young, which varies for region, educational level, year of graduation and year of observation. Thus, each cell corresponds to a different estimate for each possible combination of outcome variables and initial conditions. All variables are in logarithms; by this, the parameters can be interpreted as elasticities. The outcome variables before applying logarithms are measured as a proportion of the total population of the cohort, except for income, which is measured only among employed. The rest of the fixed-effect parameters are not presented due to brevity.

The first estimate reveals that a percentage increase in a region's unemployment at the year of graduation decreases income among the young entering into labor market by -0.17%. In the descriptive statistics of Table 1, the standard deviation of unemployment represents about 25% of the average. Then, a standard deviation of regional unemployment from the average implies a decrease of about 4% of monthly income. The estimates with other outcome variables indicate that a percentage increase in unemployment in the year of graduation increases the underemployed by 0.23% and the discouraged by 0.24%. Interestingly, there is no effect on unemployment, informality, and labor participation in the early years of working life.

When informality is set as the initial condition in the labor market, the estimated elasticities are greater in Table 2. A percentage increase in informality affects monthly income by -1.11%. According to the descriptive statistics in Table 1, an increase of one standard deviation in informality corresponds to a modification of 9.2% from the average. Then, an increase of one standard deviation in informality decreases income by about 10.2%. It is perceived that the existence of informality as a labor segment in which entry is relatively flexible can make it easy for young generations to enter the labor market. However, the results reveal that young people tend to reduce their labor participation, remaining among the discouraged population. In fact, due to the increase in informality among the general population, young people tend to decrease their presence in informality in the first years of their working life.

When there is an increase in regional discouragement, the initial condition tends to have similar effects like those of unemployment on income, underemployment, and discouragement of the young population. Moreover, an increase in regional discouragement in the year of graduation decreases unemployment and informality among the young in subsequent years. In the last row of estimations of Table 2, similar to regional unemployment, an increase in the underemployed in the year of graduation decreases income and increases underemployment and discouragement among young people but with lower elasticities.

In general, the worsening of initial conditions has a negative effect on income. The reaction of young people in their early years of working life to these adverse conditions is to remain discouraged or underemployed rather than unemployed or join informality.

6.2. Extended model

The above effects represent the average effects in the years of observation of each cohort after graduation. However, previous literature has found that adverse effects tend to be concentrated in the early years of working life (Berge, 2018; Rothstein, 2020; Schwandt and Von Wachter, 2019). Therefore, for each of the estimates in Table 2, we make a new estimate using Equation (2), revealing the effect of the initial condition in each year after graduation.

The results are presented graphically in Figures 2 – 5. Figure 2 depicts the effect of regional unemployment on different variables of the labor insertion of young people as the years after graduation increase. The negative effect on income appears in all periods, with significant effects in some periods without a pattern of a fading effect. A similar pattern happens with underemployment and discouragement, but increasing these outcomes and with less periods after graduation being individually significant. Consistent with Table 2, in the rest of the variables, regional unemployment has practically no year with a significant effect, except for an increase in non-labor participation in the year of graduation.

In the case of informality as the initial condition, depicted in Figure 3, there is a pattern of persistence in the effects on income, underemployment and discouragement, with underemployment and discouragement showing a slight tendency to increase over time. The effects on informality and non-participation are consistent with signs in Table 2, but with less significant effects each year.

When regional discouragement is the initial condition, almost all the effects in each year cease to be significant, as presented in Figure 4. In the figure, the significant effect in year zero on income, unemployment and discouragement dissipates in the next period after graduation. Similar patterns occur when an increase in regional underemployment is the initial condition of the labor market, as presented in Figure 5, where almost no significant effect in each year, consistent with this initial condition having the less significant effects in Table 2.



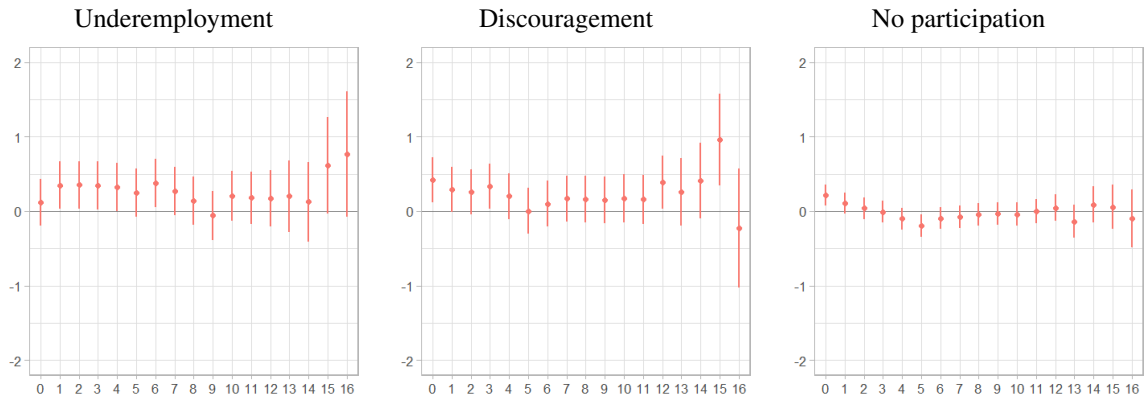


Figure 2: *Effect of the initial regional unemployment on the labor market insertion of the young by year after graduation*

Notes: Each panel represents the effect of regional unemployment in the year of graduation on the performance of the young in the years following graduation. Year zero is the year of graduation. On the vertical axis is the range of elasticities. The confidence interval is 95%.

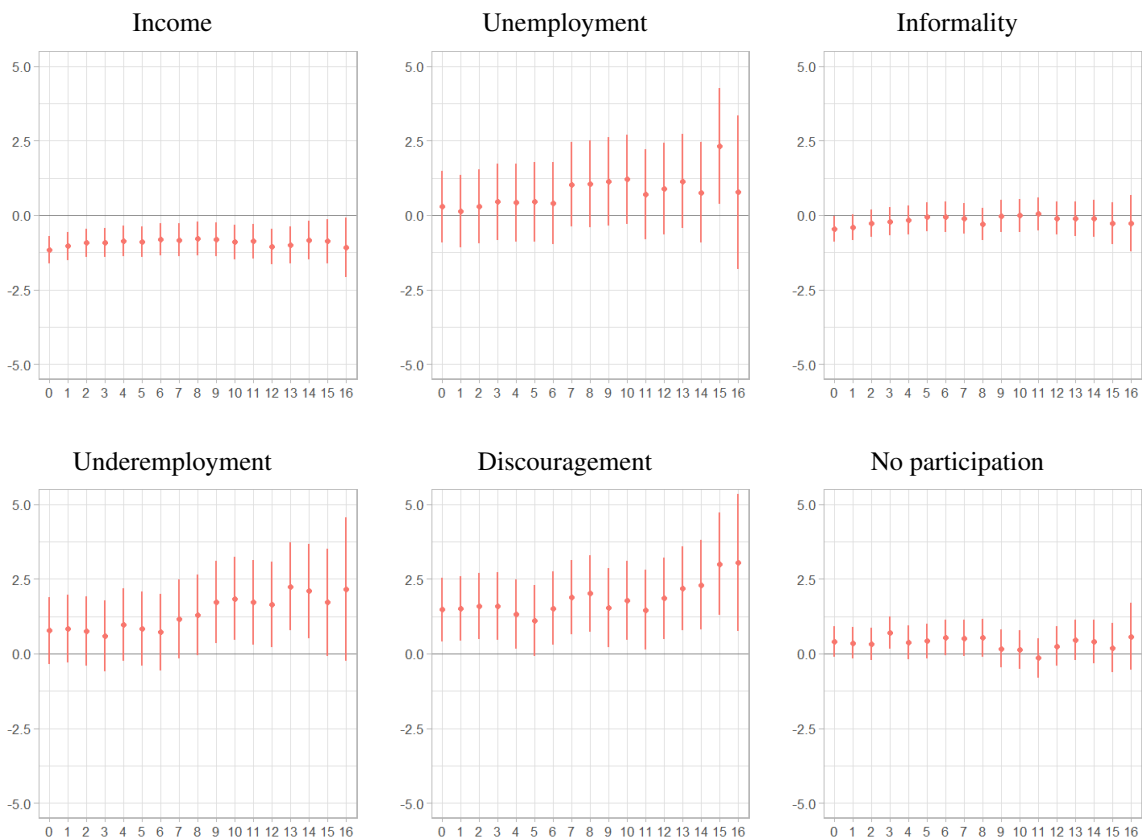


Figure 3: *Effect of the initial regional informality on the labor market insertion of the young after graduation*

Notes: Each panel represents the effect of regional unemployment in the year of graduation on the performance of the young in the years following graduation. Year zero is the year of graduation. On the vertical axis is the range of elasticities. The confidence interval is 95%.

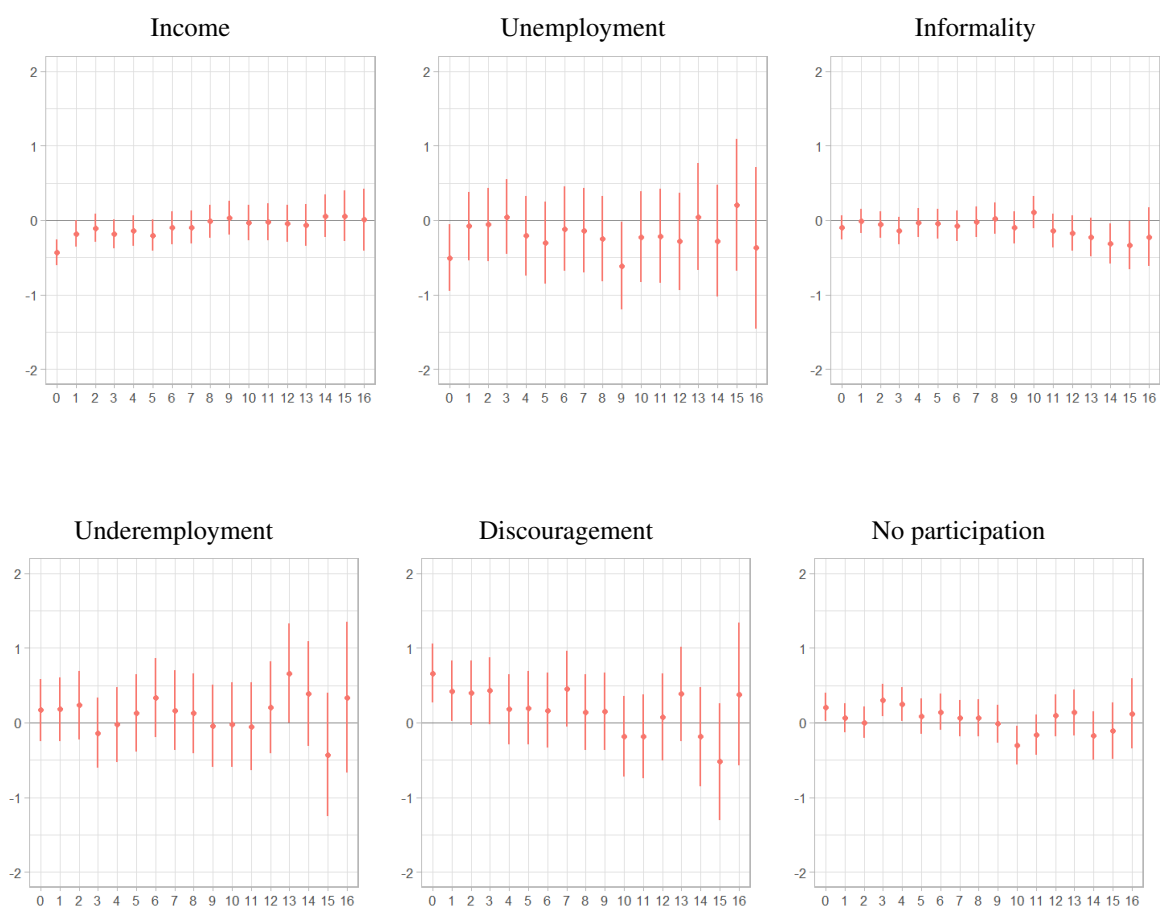


Figure 4: *Effect of initial regional discouragement on the labor market insertion of the young by year after graduation.*

Notes: Each panel represents the effect of regional unemployment in the year of graduation on the performance of the young in the years following graduation. Year zero is the year of graduation. On the vertical axis is the range of elasticities. The confidence interval is 95%.



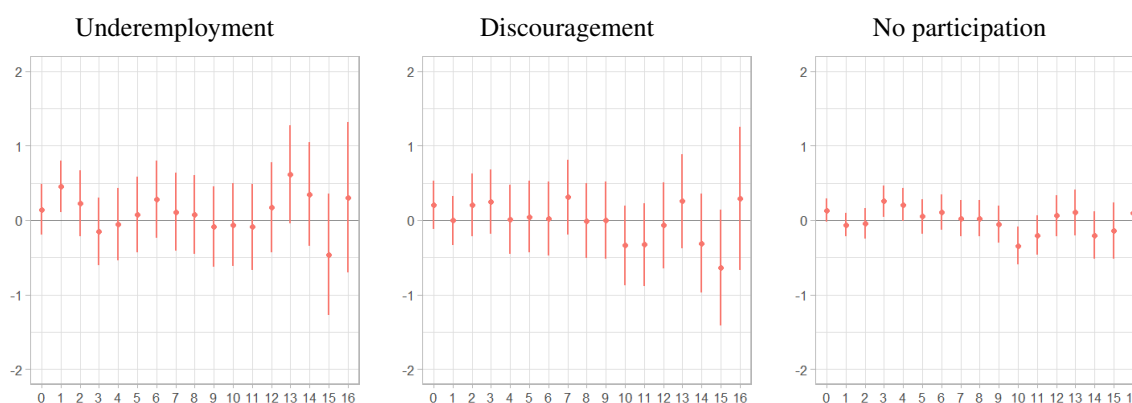


Figure 5: Effect of the initial regional underemployment on the labor market insertion of the young after graduation

Notes: Each panel represents the effect of regional underemployment in the year of graduation on the performance of the young in the years following graduation. Year zero is the year of graduation. On the vertical axis is the range of elasticities. The confidence interval is 95%.

To elucidate if the estimated effects are merely similar to the effect of shocks in other stages of working life or if they capture the persistence of shocks over time, we re-estimate Equation (1) by adding the current value of the variable at the regional level, which is similar to what Kahn (2010) did. The results of these models are presented in Table 3.

Most of the effects estimated in Table 2 decrease, and in some cases, significance is lost in Table 3. However, regional unemployment and informality faced by the young at the time of graduation still have additional negative effects on income in magnitudes similar to those estimated in Table 2. In addition, it is confirmed that an increase in regional informality at the time of graduation does not translate into an entry of the young into this segment nor unemployment, rather the effect is negative. The same happens when there is an increase in regional discouragement. If we do an exercise similar to what is done in Figures 2 – 5 using Equation (2), augmented with the current conditions, the effect of initial regional unemployment and informality on income in the early years of young people's working lives is similar to the previous effect, although the effect of informality tends to be less persistent.

Table 3 also presents the behavior of young people facing the conditions of the current year in their first years of working life. When facing worsening current labor market conditions, unemployment, discouragement, and underemployment increase. The sign is negative for income, but not significant in the case of an increase of informality in the current period. No participation increase, but only in two indicators of labor market conditions the effect is significant. This indicates that after the first year of graduation, unemployment reacts in the expected form because of economic downturns, having also a negative effect on income. Like the effect of a shock in the year of graduation, informality responds little to shocks in the current year, except when it increases in the region, which then has the expected positive effect on the cohort informality. A possibility is that increases in informality during economic downturns noted in previous literature occur among older individuals.

Table 3: Average effect of regional initial and current year conditions on the labor market insertion of the young

	Income	Unemployment	Informality	Underemployment	Discouragement	No participation
<i>A. Regional Unemployment</i>						
Entry year	-0.14 *** (0.05)	-0.06 (0.08)	-0.01 (0.05)	0.04 (0.09)	0.08 (0.08)	-0.06 (0.05)
Current year	-0.13*** (0.05)	0.71 *** (0.08)	0.01 (0.04)	0.85 *** (0.1)	0.67 *** (0.10)	0.20 *** (0.06)
<i>B. Regional Informality</i>						
Entry year	-0.87 *** (0.22)	-0.95 ** (0.43)	-0.91 *** (0.19)	0.1 (0.49)	0.35 (0.5)	0.26 (0.24)
Current year	-0.61 (0.56)	2.41 *** (0.35)	0.91 *** (0.19)	2.58 *** (0.44)	2.70 *** (0.42)	0.48 (0.6)
<i>C. Regional Discouragement</i>						
Entry year	-0.08 (0.06)	-0.30 *** (0.06)	-0.11 ** (0.04)	-0.01 (0.09)	0.03 (0.09)	0.04 (0.04)
Current	-0.20 *** (0.1)	0.46 *** (0.09)	0.07 (0.05)	0.78 *** (0.09)	1.06 *** (0.09)	0.18 (0.22)
<i>D. Regional Underemployment</i>						
Entry year	-0.05 (0.03)	-0.05 (0.06)	0.00 (0.03)	0.05 (0.06)	0.11 (0.08)	-0.06 (0.04)
Current	-0.14*** (0.03)	0.48 *** (0.07)	0.01 (0.03)	0.90 *** (0.08)	0.62 *** (0.09)	0.10** (0.05)

Notes: Own elaboration based on ENOE data. Each panel uses the variable at the regional level in the year of graduation and in the current period to explain the variable of each column as the outcome variable, which is measured for each combination of region, educational level, year of graduation, and current year. Standard errors are grouped at the region–year of graduation cohort level. * $p < 0.10$; ** $p < 0.05$; ***, $p < 0.01$.

7. Conclusions

In this paper, we find that the initial conditions of the labor market have an impact on the labor insertion of young people in Mexico. The most important effect is a decrease in income. Unemployment is not the only indicator of initial conditions that has a negative effect. The results indicate that informality has a greater effect. These long-term effects are sustained even if we include the current working conditions, so they are not only due to the persistence of initial shocks in the regions of residence. The results also indicate that shocks affecting discouragement or underemployment are more transient for young people.

We find that young people tend to react to a negative shock, either at the time of their graduation or in the first years of their working life, which makes them discouraged—an effect not found or analyzed in the previous literature, but according to previous studies on labor transitions in Mexico during economic downturns. The young do not react to shocks by increasing their presence in informality or unemployment due to downturns in the year of graduation. One possible interpretation of this behavior in young people is that informality offers few learning opportunities, or it can be considered a negative signal in their search for future jobs—a topic that requires further research. Another venue of future research is to explore the heterogeneity of the general effects by gender or socioeconomic level as literature suggest that in Latin American countries negative effects could be concentrated among men.

The results suggest that the young have a low preference for informality. Therefore, policies that promote employment among young people should focus on increasing their presence in the formal sector. Further, when monitoring and studying the labor market, the focus on the discouraged population has to be more relevant, especially the labor market insertion of the young. Moreover, given the prevalence of discouragement among the young, an assessment of the questions in ENOE and similar surveys in other countries used to track unemployment and discouragement is necessary to avoid hiding unemployment among the young.

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