# BACKGROUND NOTE

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# Poverty and Labor Transitions in El Salvador 2018-2022[1]

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## Abstract

Using panel data from the Multipurpose Household Survey (EHPM) for the period 2018-2022, this note analyzes the dynamics of poverty and labor transitions in El Salvador. We compute transition matrices and identify the key associated factors to these transitions. Labor transitions, more specifically the incorporation of new household members into the labor market, are key determinants of the dynamics of poverty. In a typical year in our sample, about one third of poor households leave poverty and about one half of extremely poor households leave extreme poverty. Initial income status is key to defining transitions since the probability of moving out of or into poverty increases the closer the income is to the poverty line.

JEL Classification: I32, J01

Keywords: Poverty, Transition matrices, Income, Labor market

# I.

## Introduction

The poverty rate in El Salvador has remained stable between 2018 (26.3 percent) and 2022 (26.6 percent). It is remarkable that poverty did not change despite the impact of the COVID-19 pandemic. Nonetheless, some open questions about the dynamics within such apparent stability remain: How many households fell into poverty and how many escaped from it during this period? Have the characteristics of poor households remained the same or changed? These questions acquire special relevance for extreme poverty as its rate substantially increased from 5.7 percent to 8.6 percent in the same period. What explains this increase? What characterizes those households who fell into extreme poverty? In this report, we will explore those questions.

An analysis of the dynamics of poverty allows an understanding that goes beyond its incidence, intensity, composition, and associated characteristics; it explores the processes that are central to its persistence and, of course, its elimination by focusing on how long families have been poor or when and how they became impoverished or escaped impoverishment.[2]

Poverty is essentially a dynamic phenomenon, not only because changes are observed (in one direction or another) in total magnitude over time, but because it is made up of flows of households that move in opposite directions, some leaving poverty and others entering it. Furthermore, poverty dynamic analysis also allows the identification of households that do not move between one state and another, whether they remain in poverty.[3] In this sense, the introduction of dynamic analysis moves from the 'symptoms' of poverty to the 'processes' that lead households to remain, enter, or exit poverty,[4] which is a key element to the design of differentiated public policies.

A useful concept to get into the dynamic analysis of poverty is the 'poverty trap': when income is not enough to acquire the assets the household needs to generate additional income in the future, the household is in a 'poverty trap'.[5] Being in a poverty trap means remaining poor over time, a phenomenon known as chronic poverty. Then, in practice chronic poverty can be defined with flexibility levels, characterized as chronic poor, in the extreme, those households that were 'always poor', experiencing poverty in all the periods analyzed, and those that were 'usually poor', living in poverty in more periods than some predetermined threshold.[6] If a household suffers periods of po verty below that threshold, the household is 'transient poor' but could be classified as 'oscillating' and 'occasional': the first category includes those households whose income fluctuates over time around the poverty line, usually in correspondence with seasonal cycles linked to agriculture, and the latter category includes households whose income is usually above the poverty line but occasionally falls below it because of a short-term shock.[7]

One of the fundamental questions that the dynamic analysis of poverty seeks to answer is what factors explain the transitions or the immobility between different statuses. In conceptual terms, the factors that explain the transitions from poverty to non-poverty are known as 'interrupters', those that explain the reverse transition are termed 'drivers', and those

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2. Addison et al. (2009); Bhide and Mehta (2018); Cantó et al. (2012)
3. Ayllón (2013)
4. Jenkins (2011)
5. Banerjee and Duflo (2015)
6. Cantó et al. (2012)
7. Hulme et al. (2001); Jallan and Ravallion (2000)

that are related to the immobility of poverty are termed 'maintainers'.[8] Evidently, transitions between poverty statuses are explained by changes in per capita income, and these can be caused by changes in (i) the employment status of household members (getting/losing a job, moving to formal/informal employment, receiving a wage increase/reduction, and so on); (ii) non-labor income (entering/leaving a social program, receiving an increase/reduction in retirement pensions, receiving/losing remittances, and so on); (iii) the demographic structure of the household (a member entering/leaving the household). Two or more of these changes can occur simultaneously, causing either a neutralizing or a dynamic effect.

To empirically analyze the dynamics of poverty, panel databases are required, but their scarcity has limited the analysis of welfare dynamics in many developing countries.[9] Even so, there are some studies that analyze the dynamics of poverty in Latin American countries, either using the information obtained because of improvements in the availability of surveys with panel data or using statistical analysis techniques that use repeated cross-sections data to build synthetic panels.

For Argentina, Brazil, Costa Rica, Ecuador and Peru poverty transition matrices have been presented using panel data subsamples of national household surveys, showing that between 33 percent and 45 percent of households that were poor in the initial year were no longer in that situation one year later and that around 10–25 percent of households that were initially not poor fell into poverty during the following year.[10] On the other hand, synthetic panels have also been used for 15 Latin American countries found that between 2013 and 2015 in El Salvador only 9 percent of the population experienced any kind of social mobility in any direction.[11]

This note aims to contribute to filling the gap in the analysis of the dynamics of poverty in El Salvador by taking advantage of the availability of a panel database that is reconstructed using the panel subsamples of EHPM, limited to 2018–2022, a choice that is directly related to the impossibility of building a broader panel backward and forward given that census blocks are updated every five years. The analysis of poverty dynamics presented in this document mainly includes two elements: the calculation of interannual transition matrices and a statistical-econometric analysis to identify the factors that explain the entry and exit transitions.

# II.

## Methodological issues

### Data

The main data source is EHPM. This is a yearly survey which has been conducted in El Salvador since 1975. Until December 2022, it was managed by the General Directorate of Statistics and Census (DIGESTYC), and since then it has been the responsibility of ONEC, a new dependence

of BCR. The objective of the survey is to obtain information related to the socioeconomic status of Salvadoran households, including data about the household structure, the educational and labor characteristics of its members, the housing conditions and access to basic services, and the public and private transfers (remittances) that they receive, among others.

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8.  Hulme et al. (2001)

9.  Dang and Lanjouw (2023)

10. Beccaria et al. (2011)

11. PNUD (2017)

The survey uses a sample framework based on the cartographic information of the last Population Census (2007), although a national cartographic update process is being done as part of the Statistical Modernization Program. The survey is conducted between January and December of each year and has national coverage, including urban and rural areas of the 14 departments of the country. The distribution of the sample allows statistical inference for the national level, for the urban and the rural area, for each department, for the Metropolitan Area of San Salvador, and for each of the 50 self-represented municipalities. This is not a typical survey with repeated cross sections, because the repeated cross sections have embedded a rotating panel of dwellings.

During 2018–2022, the proportion of revisited dwellings varied approximately between 20 percent and 40 percent, but these extreme values are related to the reduction of the total survey sample in 2020 caused by the COVID-19 pandemic. In some circumstances, the household is still living there and can be re-interviewed; in others, a new household occupies the site. We use a matching algorithm to identify a rotating panel of individuals and households. Since EHPM databases do not have a key variable to identify panel dwellings, it is necessary to apply an algorithm to identify not only repeated dwellings but panel households. The mechanism first finds panel individuals and then identifies their households, following this procedure:

1. Use EHPM_t and EHPM_t+1 to generate a variable (age) equal to age in years (r106) in period 't' and equal to age in years minus one in period 't+1'.

2. Generate an individual identifier (*idi*) in periods 't' and 't+1', concatenating geographical location variables (*lote, tipo, folio*, and *vivienda*), sex (*r104*), and age.

3. Generate a binary variable (*ipanel*) equal to 1 if the individual belongs to the panel subsample and 0 otherwise, keep only panel individuals, and save as '*ipanel_t_t+1*'.

4. Create two new databases: '*boleta_t*' and '*boleta_t+1*', containing only the original household identifier *(idboleta)* of panel individuals.

5. Use EHPM_t and EHPM_t+1, collapse them independently at the household level, and append both databases.

6. Generate a household identifier variable *(idh)* different from the EHPM identifier *(idboleta)*, concatenating geographical location variables *(lote, tipo, folio*, and *vivienda)*.

7. Generate a binary variable *(hpanel)* equal to 1 if the dwelling belongs to the panel subsample and 0 otherwise, and keep only panel dwellings.

8. Merge independently with '*boleta_t*' and '*boleta_t+1*' and in both cases keep only the repeated observations. These observations are panel households.

After this procedure, it is observed that during 2018-2022 period, the percentage of panel households with respect to the total sample varies from year to year, reaching a minimum of 12.0 percent in 2021 (2020-2021) and a maximum of 31.8 percent in 2022 (2021–2022); moreover, the relative importance of the panel subsample is lower in the periods indirectly related to the pandemic (2019 in panel 19–20 and 2021 in panel 20–21).

**TABLE 2.1.** DISTRIBUTION OF THE EHPM SAMPLE (2018–2022) BETWEEN PANEL AND NO-PANEL HOUSEHOLDS

| 2018–2019 | | | | 2019–2020 | | | |
|---|---|---|---|---|---|---|---|
| Year | No panel | Panel | Total | Year | No panel | Panel | Total |
| 2018 | 15,689 | 5,151 | 20,840 | 2019 | 18,060 | 3,271 | 21,331 |
| 2019 | 16,180 | 5,151 | 21,331 | 2020 | 7,629 | 3,271 | 10,900 |

| 2020–2021 | | | | 2021–2022 | | | |
|---|---|---|---|---|---|---|---|
| Year | No panel | Panel | Total | Year | No panel | Panel | Total |
| 2020 | 8,539 | 2,361 | 10,900 | 2021 | 13,669 | 5,958 | 19,627 |
| 2021 | 17,266 | 2,361 | 19,627 | 2022 | 12,783 | 5,958 | 18,741 |

*Source: EHPM 2018–2022.*

To prove the statistical representativeness of the panel subsample, we performed means difference tests in five variables (urbanity rate, household size, per capita income, extreme poverty rate, and relative poverty rate), comparing the results of the panel subsample with those of the non-panel subsample. Households of the panel subsample have a lower urbanity rate, a higher number of members, and a lower per capita income. In cases where the differences are statistically significant, the extreme poverty rate and the relative poverty rate are higher in the subsample of panel households, allowing us a more detailed analysis of that segment of the population.

**TABLE 2.2.**     EHPM INDICATORS (2018–2022) AT HOUSEHOLD LEVEL
(PANEL AND NO PANEL HOUSEHOLDS)

| | 2018–2019 | | | | | | | 2019–2020 | | | | | |
| | 2018 | | | 2019 | | | | 2019 | | | 2020 | | |
| | Panel | No Panel | | Panel | No Panel | | | Panel | No Panel | | Panel | No Panel | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Urbanity rate (%) | 60.6 | 64.2 | *** | 61 | 63.6 | ** | | 59.1 | 63.7 | *** | 58.7 | 63.8 | *** |
| Household size | 3.9 | 3.4 | *** | 3.9 | 3.3 | *** | | 3.8 | 3.4 | *** | 3.7 | 3.2 | *** |
| Per capita income | 173.8 | 189.8 | *** | 185.8 | 207.3 | *** | | 182.4 | 205.5 | *** | 182.4 | 209.8 | *** |
| Extreme poverty rate (%) | 6.7 | 5.4 | *** | 5.2 | 4.3 | ** | | 4.5 | 4.5 | | 8.3 | 8.6 | |
| Relative poverty rate (%) | 20.9 | 20.4 | | 19.5 | 17.9 | * | | 20.6 | 17.8 | ** | 17.8 | 17.6 | |

| | 2020–2021 | | | | | | | 2021–2022 | | | | | |
| | 2020 | | | 2021 | | | | 2021 | | | 2022 | | |
| | Panel | No Panel | | Panel | No Panel | | | Panel | No Panel | | Panel | No Panel | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Urbanity rate (%) | 63.4 | 62.1 | | 60.6 | 62.3 | | | 58.5 | 64.1 | *** | 60.6 | 63.6 | *** |
| Household size | 3.7 | 3.3 | *** | 3.7 | 3.2 | *** | | 3.5 | 3.1 | *** | 3.5 | 3.1 | *** |
| Per capita income | 190.2 | 205.2 | ** | 194.2 | 206.8 | *** | | 188.5 | 214.4 | *** | 202 | 229.2 | *** |
| Extreme poverty rate (%) | 8.8 | 8.5 | | 7.7 | 7.8 | | | 8.7 | 7.3 | *** | 9.2 | 8.3 | * |
| Relative poverty rate (%) | 17.7 | 17.6 | | 16.6 | 16.8 | | | 18.2 | 16.1 | *** | 20.4 | 17 | *** |

*Source: EHPM 2018–2022.*

*Note: Statistically significant difference at 90 percent (*), 95 percent (**), and 99 percent (***).*

## Transition matrices

Transition matrices, also known as Markov matrices or state change matrices, are tools used in longitudinal analysis to study transitions between different states or categories over time. They are particularly useful in studies on economic, social or demographic mobility, such as the analysis of poverty, labor mobility, or residential mobility. Poverty transition matrices are an analytical tool used to examine the dynamics of poverty, helping to understand how individuals or households change their poverty or non-poverty status over time, including transitions into poverty, exits from poverty, or movements within poverty (for example, from extreme poverty to moderate poverty).

In this document, we construct the matrix of poverty transitions at the household level in El Salvador. For this, the country's official monetary poverty categories are used, which classify as 'extremely poor' those households whose income is not enough to cover the cost of the basic basket, as 'relatively poor' those who do manage to cover the cost of the basic basket but not the cost of two, and as 'non-poor' those who have sufficient income to buy more than two basic baskets. Once households have been classified under one of these categories, their status is analyzed the following year. So, the transition matrix is made up of three rows and three columns: the first row shows what percentage of the households that were extremely poor in period 't' continue to be so in period 't+1', what percentage became relatively poor, and what percentage stopped being poor; this is replicated analogously in the second and third rows, so the diagonal reports the percentage of households that remain in the same condition as they were in the previous period.

A more simplified version of the matrix is constructed using only the categories 'poor' and 'non-poor', grouping 'extremely poor' and 'relatively poor' households. Thus, the poverty transition matrix is a 2 x 2 matrix that on the main diagonal shows the percentage of households that remained in the same status, while the secondary diagonal shows the percentage of poor households that left poverty the following year (poverty exit rate) and the percentage of non-poor households that became poor the following year (poverty entry rate).

## Linear Probability Model

Although poverty transition matrices allow us to quantify short-term changes in household status, they are not useful to explain the factors underlying these changes, which is why we estimate an econometric model that allows us to know which are the independent variables that explain the transitions 'poverty – non-poverty' and vice versa. A linear probability model (LPM), also known as a linear regression model for binary data, is a type of statistical model used to analyze the relationship between independent variables and a binary dependent variable (a binary variable is coded with 0 and 1, and sometimes outcomes are thought of as 'success' or 'failure.'). LPM uses a normal ordinary least squares linear regression, and the coefficients refer to the probability that an outcome occurs (an LPM can sometimes estimate probabilities greater than 1). The basic equation set up for an LPM is

- $P(Y_i=1|X_i) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + ... + \beta_k X_k + \epsilon$

where

- $P(Y_i=1|X_i)$ is the probability that the outcome is present

- $(X_1,... X_k)$ is the vector of independent variables

- $(\beta_0, \beta_1,... \beta_k)$ is the vector of coefficients

$\epsilon$ is the error term (the difference between the predicted probability and the actual outcome).

In practice, two different models are estimated, changing only the dependent variable, but keeping constant the independent variables in both. In the first model, the dependent variable takes a value of 1 if the household was poor and exited poverty the following year and takes a value of 0 if the household was poor and continues to be so, so the model estimates the probability of getting out of poverty. In the second model, the dependent variable takes a value of 1 if the household was not poor but falls into poverty the following year and takes a value of 0 if the household was not poor and remains in that condition, so the model estimates the probability of entering poverty.

# III.

# Results

In this document, 'chronic poverty' is the poverty condition that does not change from one annual period to the immediately following one and 'transient poverty' is the poverty condition that does change, whether in one direction or another. The data show that in El Salvador between 12.0 percent and 15.3 percent of households are 'chronic poor', between 58.4 percent and 63.0 percent are 'never poor', and between 23.7 percent and 26.3 percent are 'transient poor', moving between poverty and non-poverty, or vice versa (see Figure 2.1). These figures show the dynamic nature of poverty.

**FIGURE 2.1**   TYPES OF HOUSEHOLDS ACCORDING TO THEIR POVERTY TRANSITION IN EL SALVADOR (2018–2022)
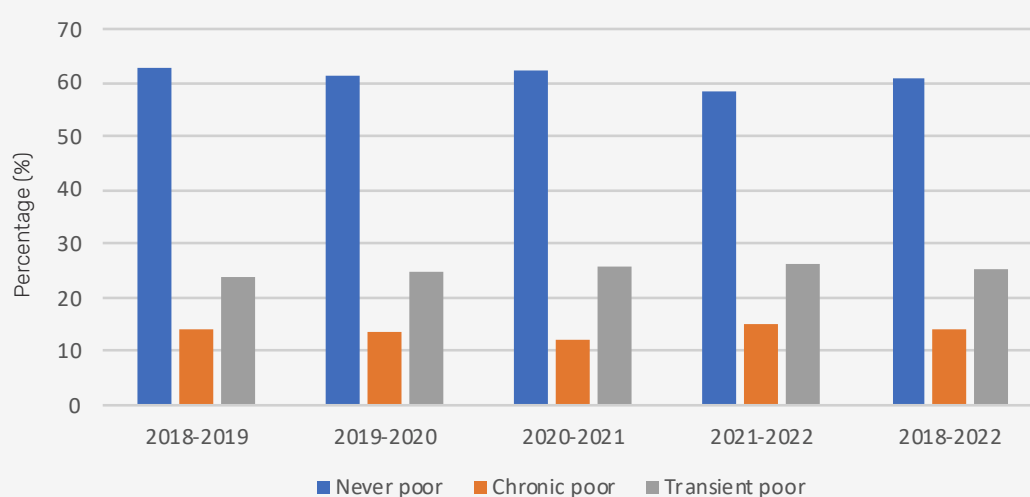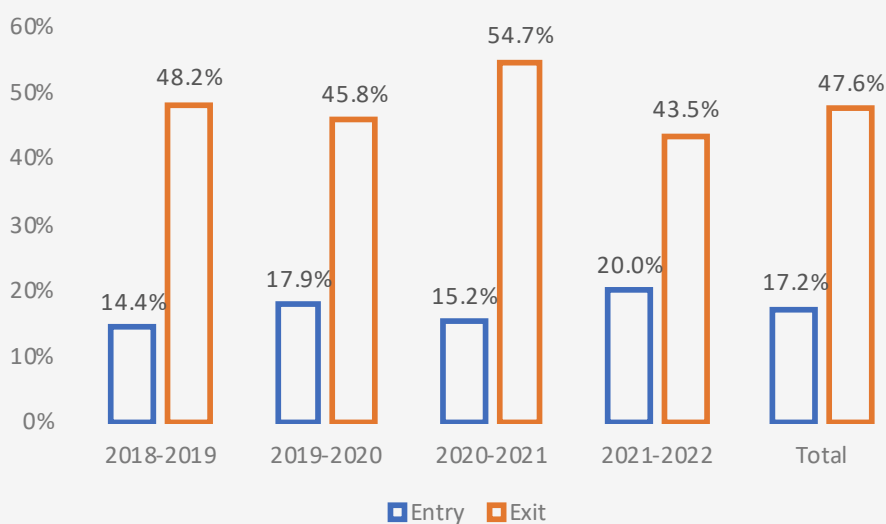


*Source: EHPM 2018–2022.*

To better understand transitions, it is necessary to calculate the annual rate of entry into poverty and the annual rate of exit from poverty, which can be interpreted as the conditional probability that a household changes its poverty status given its initial situation. In El Salvador, in the interannual periods between 2018 and 2022, the entry rate ranged between 14.4 percent and 20.0 percent, while the exit rate ranged between 43.5 percent and 54.7 percent (see Figure 2.2). A more detailed analysis shows that the rate of entry into poverty was higher in 2019–2020 and 2021–2022 than in 2018–2019 and 2020–2022. The first period coincides with the occurrence of the COVID-19 pandemic and the consequent restrictions on mobility and economic activity, which caused a temporary drop in employment and remittances. The second period coincides with the global inflationary crisis, so the increase in transitions toward poverty could be explained by the increase in the prices of the basic food basket. This analysis can be carried out in an analogous way to understand the lowest level of poverty exit rates observed in the same periods.

**FIGURE 2.2**      POVERTY ENTRY RATE AND POVERTY EXIT RATE IN EL SALVADOR (2018–2022)



*Source: EHPM 2018–2022.*

It is also possible to analyze the dynamics of poverty using the categories 'extremely poor', 'relatively poor', and 'non-poor', using transition matrices. In this document, the transition matrices show the probability of remaining in a poverty status or moving to another the following year, conditional on the initial status. In 2018–2022, the probability of remaining in the same status the following year is 27.6 percent if the household was extremely poor, 36.3 percent if the household was relatively poor, and 82.9 percent if the household was non-poor (see Table 2.3); these data reflect that there is a certain dependence on the initial status of origin for non-poor households, contrary to households in conditions of extreme or relative poverty.

On the other hand, the probability of moving toward extreme poverty is 13.4 percent if the household was relatively poor, while the probability of moving to relative poverty from non-poverty is 12.9 percent; these data show that the probability of descending from a status to the one immediately below it is very similar, regardless of the initial status. Finally, it is observed that the probability of moving to the next higher status is 31.9 percent if the household was extremely poor and 50.3 percent if the household was relatively poor; although this seems to indicate that it is more likely to improve status if a household is relatively poor, the truth is that 40.5 percent of households that were extremely poor managed to exit poverty in the next period, which means that 72.4 percent of these households improve their status from one year to the other.

**TABLE 2.3**    MATRIX OF INTERANNUAL POVERTY TRANSITIONS IN EL SALVADOR (2018–2022) FOR THE TOTAL PANEL SUBSAMPLE

|  |  | Year t+1 | | |
| --- | --- | --- | --- | --- |
|  |  | **Extremely poor** | **Relatively poor** | **Non-poor** |
| **Year t** | **Extremely poor** | 27.6 | 31.9 | 40.5 |
|  | **Relatively poor** | 13.4 | 36.3 | 50.3 |
|  | **Non-poor** | 4.2 | 12.9 | 82.9 |

*Source: EHPM 2018–2022.*

The analysis of year-to-year transitions shows that the patterns observed at the aggregate level are repeated, but with some particularities. In 2019–2020, which coincides with the crisis caused by the COVID-19 pandemic, and in 2021–2022, in which a global inflationary crisis was unleashed, it is observed that there is a higher probability of worsening the poverty status compared to the other two periods (2018–2019 and 2020–2021), and consequently, a lower probability of improving that status is also observed. This evidence suggests, as indicated earlier, that employment, remittances, and the price level are key variables to explain households' transitions toward poverty.

**TABLE 2.4**  MATRIX OF INTERANNUAL POVERTY TRANSITIONS IN EL SALVADOR (2018–2022), BY BIENNIUM

| | | 2019 | | | | | | 2020 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Extremely poor | Relatively poor | Non-poor | | | | Extremely poor | Relatively poor | Non-poor |
| 2018 | Extremely poor | 25.4 | 40.8 | 33.8 | | 2019 | Extremely poor | 32.6 | 35.1 | 32.3 |
| | Relatively poor | 9.4 | 37.8 | 52.8 | | | Relatively poor | 14.7 | 36.5 | 48.8 |
| | Non-poor | 1.9 | 12.5 | 85.6 | | | Non-poor | 5.5 | 12.4 | 82.1 |
| | | 2021 | | | | | | 2022 | | |
| | | Extremely poor | Relatively poor | Non-poor | | | | Extremely poor | Relatively poor | Non-pPoor |
| 2020 | Extremely poor | 22.7 | 25.9 | 51.4 | | 2021 | Extremely poor | 30.6 | 30.3 | 39.1 |
| | Relatively poor | 14.5 | 29.2 | 56.3 | | | Relatively poor | 15.2 | 39.2 | 45.6 |
| | Non-poor | 4.2 | 10.9 | 84.9 | | | Non-poor | 5.3 | 14.7 | 80 |

*Source: EHPM 2018–2022.*

## IV.

# What is behind these poverty transitions?

To better understand the transitions and show that the probability of moving between poverty and non-poverty (or vice versa) is not distributed equally in all households, we analyze the differences according to more structural and more changing variables. Among more structural variables, initial household income level, area of residence, and sex of the head of household are considered, while among more changing variables we selected the number of household members working (formally and informally), the labor income per worker, the remittances received, and the number of household members under 2 years old.

### Initial income level

To show the importance of the initial income level of households, poor households are divided into quintiles of per capita income, and the same is done with non-poor households. Figure 2.3 shows that, among poor households, the exit rate is higher when the starting level of per capita income is higher; conversely, among non-poor households, the entry rate is lower when the starting per capita income is higher. In other words, it is more likely to exit poverty if the household was not 'so poor' and it is more probable to enter into poverty if the household was near the poverty line.

**FIGURE 2.3**   POVERTY ENTRY RATE AND POVERTY EXIT RATE IN EL SALVADOR (2018–2022), BY INTRA-QUINTILES OF INITIAL PER CAPITA INCOME
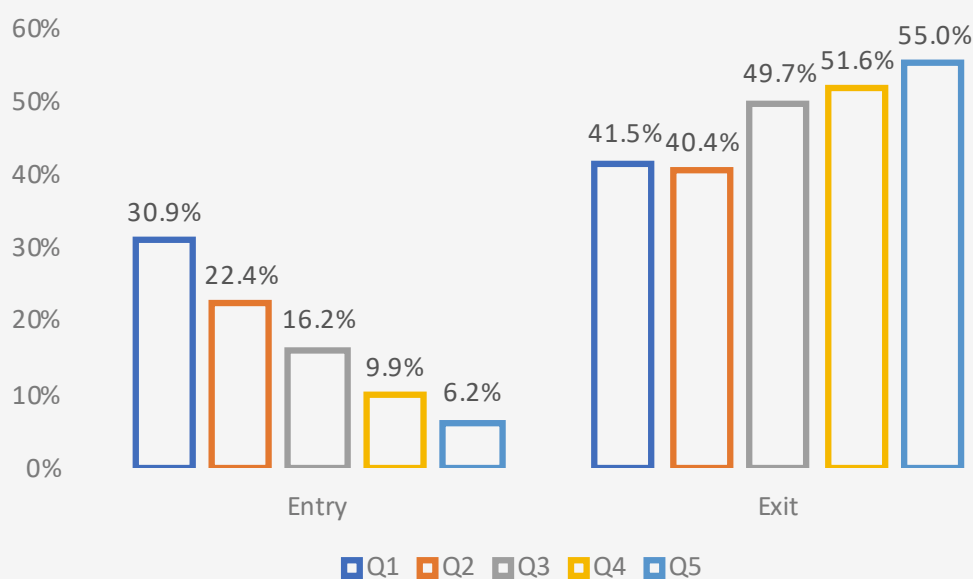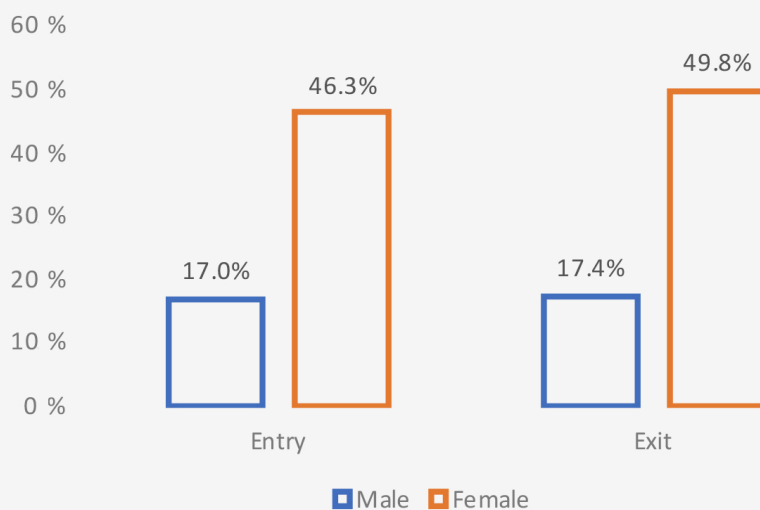


*Source: EHPM 2018–2022.*

The sex of the head of the household seems to have less to do with exit and entry rates. In fact, as shown in Figure 2.4, the entry rate is around 17 percent for both male- and female-headed households; in the case of households in poverty, the exit rate is slightly higher for households headed by women, which means that a household is slightly more likely to escape poverty if the head of household is a woman, which could be related to the different patterns of incorporation of men and women into the labor market.

**FIGURE 2.4**   POVERTY ENTRY RATE AND POVERTY EXIT RATE IN EL SALVADOR (2018–2022), BY SEX OF THE HEAD OF HOUSEHOLD.
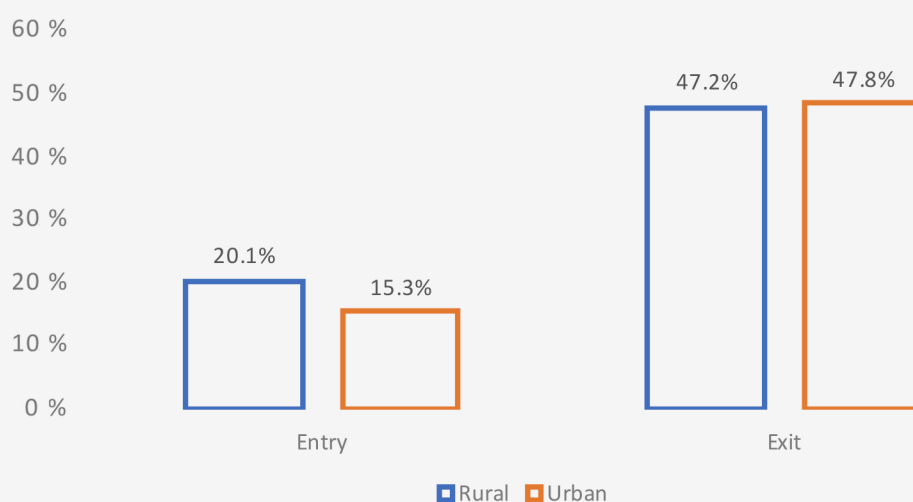


*Source: EHPM 2018–2022.*

## Area of residence

The probability that a poor household moves to non-poverty is the same regardless of whether the household lives in the urban area or in the rural area; however, the probability that a non-poor household enters poverty is slightly higher for those households living in the rural area (see Figure 2.5). This could indicate that rural conditions in relation to access to markets (labor, credit, insurance, and so on) limit the consolidation of households that were able to escape from poverty in the short run.

**FIGURE 2.5** POVERTY ENTRY RATE AND POVERTY EXIT RATE IN EL SALVADOR (2018–2022), BY AREA OF RESIDENCE.
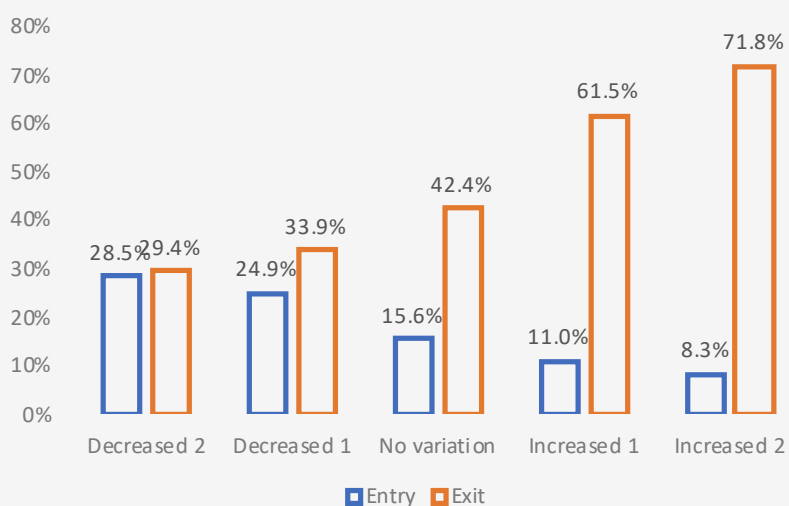


*Source: EHPM 2018–2022.*

## Number of household members working

The variation in the number of household members working is correlated with poverty transitions. On the one hand, the exit from poverty is positively correlated with the change in the number of household members working, while the entry rate into poverty is negatively correlated with this variable. Figure 2.6 shows that approximately 72 percent of households that were poor and next year added two more members into the labor market escaped from poverty, almost doubling the exit rate of households that decreased their number of employed members; it is also observed that the entry rate is approximately 3.5 times higher among those households that reduced two members in the labor market than among those that added two members. According to the data presented, employment appears to be a key variable to explain entry and exit transitions.

**FIGURE 2.6**     POVERTY ENTRY RATE AND POVERTY EXIT RATE IN EL SALVADOR (2018–2022), BY VARIATION IN THE NUMBER OF HOUSEHOLD MEMBERS WORKING
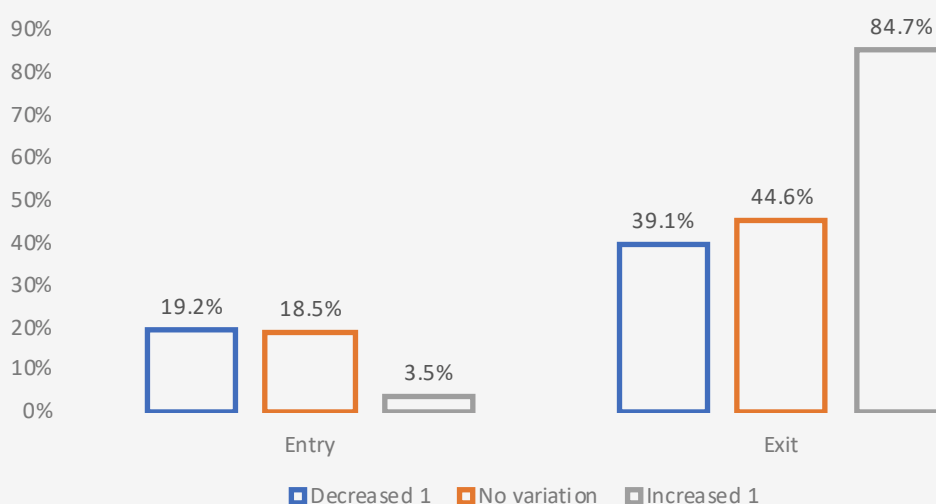


*Source: EHPM 2018–2022.*

## Number of formal workers

The variation in the number of household members that work formally (contributing to the pension system and social security) is correlated positively with the poverty exit rate and negatively with the poverty entry rate. Figure 2.7 shows that 85 percent of poor households that added one member working formally moved from this situation into the following year, compared with the 39 percent exit rate of households that lost one formal worker; it is also observed that the poverty entry rate is around 3 percent for those households that increased one member working formally, against 19 percent among those that lost one formal worker.

**FIGURE 2.7**    POVERTY ENTRY RATE AND POVERTY EXIT RATE IN EL SALVADOR (2018–2022), BY VARIATION IN THE NUMBER OF FORMAL WORKERS
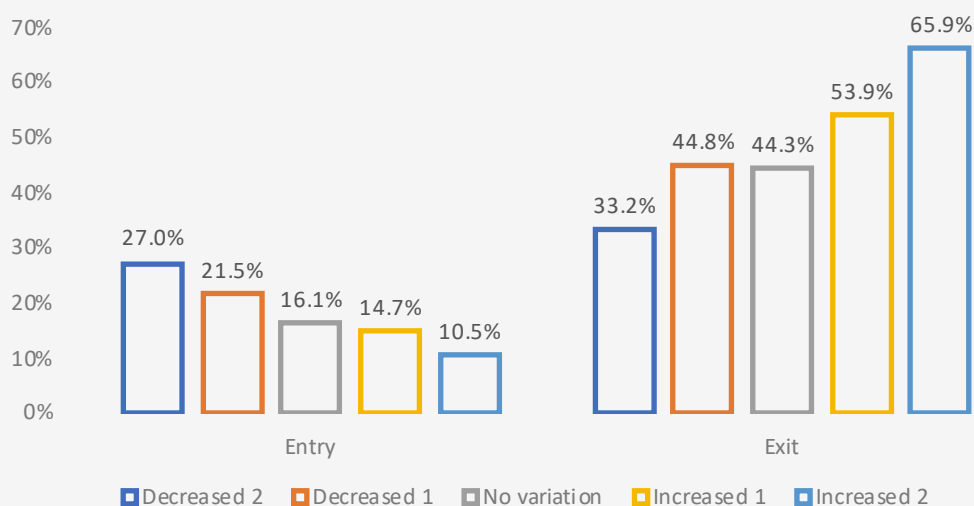


*Source: Based on EHPM 2018–2022 microdata.*

## Number of informal workers

The variation in the number of household members working informally is positively associated with the poverty exit rate and negatively with the poverty entry rate. Figure 2.8 reveals that 66 percent of poor households that added two members working informally moved from this situation into the following year, doubling the exit rate of households that lost two informal workers; on the other hand, the poverty entry rate is around 10 percent for those households that increased two members working informally, against 27 percent among those that lost two informal workers.

**FIGURE 2.8**   POVERTY ENTRY RATE AND POVERTY EXIT RATE IN EL SALVADOR (2018–2022), BY VARIATION IN THE NUMBER OF INFORMAL WORKERS



□ Decreased 2  □ Decreased 1  □ No variation  □ Increased 1  □ Increased 2

*Source: Based on EHPM 2018–2022 microdata.*

## Labor income

The poverty entry and exit rates are correlated with changes in the labor income per worker: the exit rate of households that increased their labor income per worker is higher than the exit rate of households in which this income fell, while the entry rate of households that increased their labor income per worker is lower than that of households that experienced a drop in this variable. Figure 2.9 shows that the exit rate is almost triple in households that improved their labor income per worker by more than 50 percent compared to those that worsened in the same range, while the entry rate is five times higher among households that worsened their labor income per worker compared to those that improved.

**FIGURE 2.9**    POVERTY ENTRY RATE AND POVERTY EXIT RATE IN EL SALVADOR (2018–2022), BY VARIATION IN THE LABOR INCOME PER WORKER
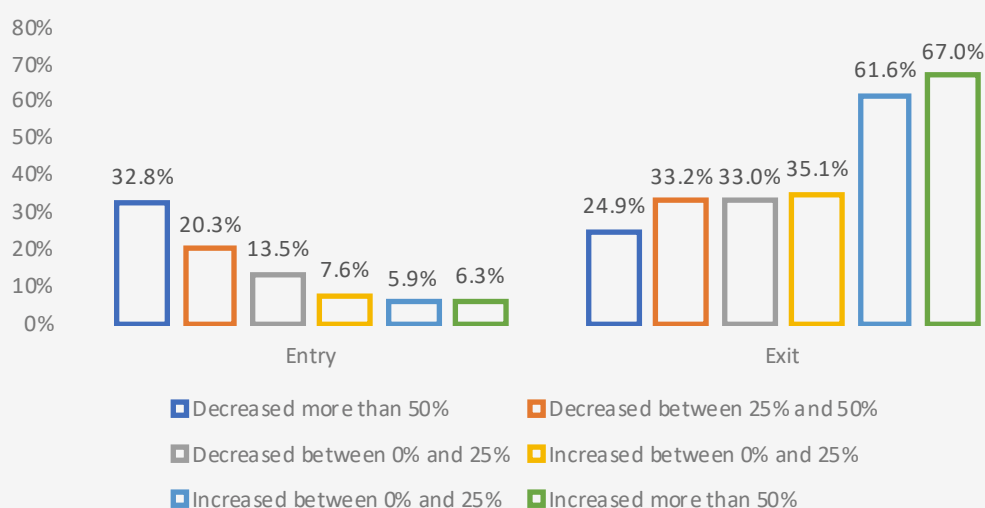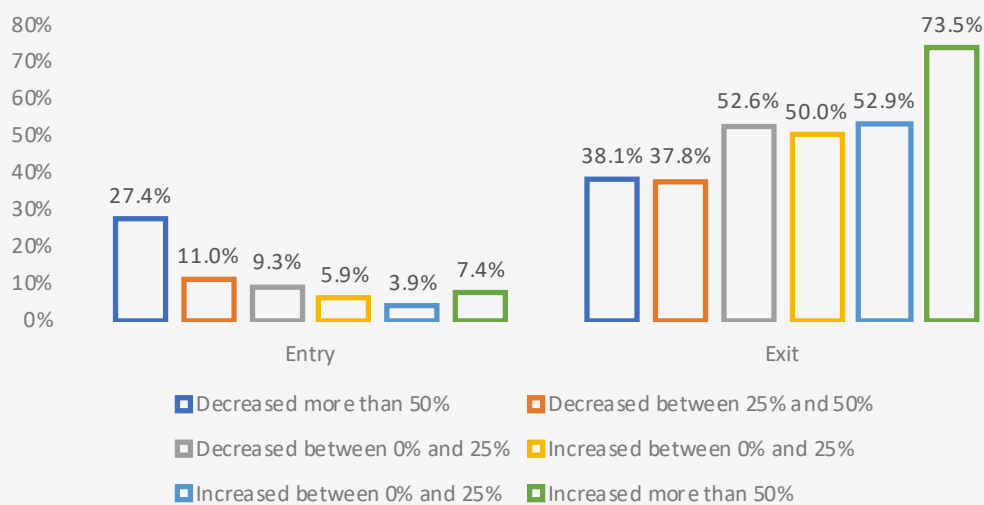


*Source: EHPM 2018–2022.*

## Remittances

The change in the amount of money that families receive as remittances from abroad is positively correlated with the rate of exit from poverty and negatively correlated with the rate of entry into poverty. Figure 2.10 shows that the exit rate in households that increased their remittances received by more than 50 percent almost doubles compared with households that lost more than 50 percent of the amount received; inversely, these households show an entry rate into poverty of 27 percent, compared with 7 percent observed in households that increased remittances by more than 50 percent. According to these data, it seems that a substantive change in the amount received in remittances could affect the household's poverty condition, either removing it from it or pushing it toward it.

**FIGURE 2.10**    POVERTY ENTRY RATE AND POVERTY EXIT RATE IN EL SALVADOR (2018–2022), BY VARIATION IN THE REMITTANCES RECEIVED



Legend:
- Decreased more than 50%
- Decreased between 25% and 50%
- Decreased between 0% and 25%
- Increased between 0% and 25%
- Increased between 0% and 25%
- Increased more than 50%

*Source: EHPM 2018–2022.*

## Number of children under 2 years old

The variation in the number of children under 2 years old, especially when the household incorporates a member with these characteristics, is associated with a decrease in the exit rate and an increase in the entry rate. Figure 2.11 reveals that only 28 percent of poor households that modified their structure with one more member under 2 years old managed to get out of poverty, compared with an exit rate higher than 44 percent in other households; it is also observed that the entry rate into poverty is around 32 percent among households that increased their number of children under 2 years old, compared with an entry rate lower than 19 percent in other households. The poverty entry rate is around 3 percent for those households that increased one member working formally, against 19 percent among those that lost one formal worker.

**FIGURE 2.11**    POVERTY ENTRY RATE AND POVERTY EXIT RATE IN EL SALVADOR (2018–2022), BY VARIATION IN THE NUMBER OF CHILDREN UNDER 2 YEARS OLD
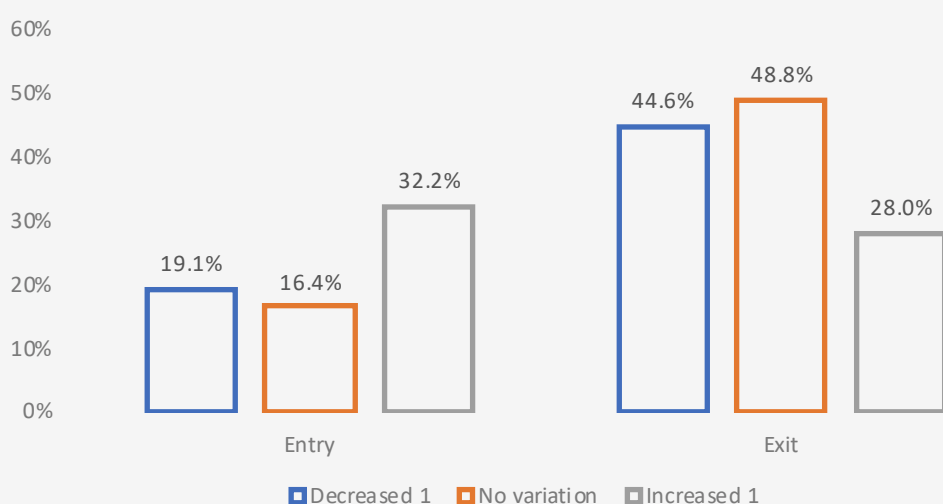


*Source: EHPM 2018–2022.*

The correlations that have been shown in this section offer clues about the factors behind the transitions between poverty and non-poverty (and vice versa): (i) changes in the link and the form of link between the household and the labor market (participation, level of formality, and remuneration); (ii) variations in the amount of private transfers (remittances) received; and (iii) reconfigurations of the household structure, especially the incorporation of members with a high demand for care.

## Combining all correlations

As indicated in the methodological section, two linear probability models were estimated separately: one to explain the exit from poverty and another to explain the entry into poverty. The following independent variables are introduced into the models: (i) the quintile of per capita income in baseline; (ii) the sex of the head of household (1 = man; 0 = woman); (iii) the area where the household is living (1 = urban; 0 = rural); (iv) the variation in the number of formal and informal workers; (v) the variation in labor income per worker; (vi) the variation in the amount of remittances received; (vii) the variation in the number of subsidized services (gas, electricity, and water) and public transfers received (*Comunidades Solidarias Urbanas, Pensión Básica Universal*, and *Paquete Agrícola*); and (viii) the variation in the number of children under 2 and 5 years of age and those over 75 years of age. The idea behind the introduction of these independent variables is to identify which of the changes experienced by households in variables related to the labor market, non-labor income, and household composition have effects on the probability of leaving or entering poverty. The results of these estimations are shown in Table 2.5.

**TABLE 2.5**      PROBABILITY OF POVERTY EXIT AND POVERTY ENTRY IN EL SALVADOR (2018–2022)

| Independent variable | Probability of exit | | Probability of poverty entry | |
|---|---|---|---|---|
| | Estimated coefficient | Statistical significance | Estimated coefficient | Statistical significance |
| Sex of the head of household (1 = Male) | −0.0732611 | *** | 0.016458 | ** |
| Area of residence (1 = Urban) | −0.1563756 | *** | 0.0570654 | *** |
| Change in number of formal workers | 0.2771078 | *** | −0.0965004 | *** |
| Change in number of informal workers | 0.1071045 | *** | −0.0557625 | *** |
| Change in labor income per worker (US$) | 0.0008536 | *** | −0.0001913 | *** |
| Change in remittances (US$) | 0.0012125 | *** | −0.0003699 | *** |
| Change in number of subsidies received | −0.000773 | | 0.000951 | |
| Change in number of public transfers received | 0.0191952 | | 0.0020368 | |
| Change in number of individuals between 0 and 2 years | −0.036785 | * | 0.0928694 | *** |
| Change in number of individuals between 3 and 5 years | −0.0191108 | | 0.0451571 | *** |
| Change in number of individuals of 75 years or older | −0.0558427 | | 0.0241805 | |

*Source: World Bank's LAC Equity Lab estimations, 2000–23 SEDLAC data and El Salvador Multipurpose Household Survey (EHPM) data (ONEC).*

According to the results of the estimated models: (i) the probability of poverty exit increases the closer the per capita income is to the poverty line and (ii) the probability of poverty entry increases the higher the household income. This means that a 'poor but not so poor' household is more likely to escape poverty than an 'extremely poor' household, while a 'vulnerable non-poor' household is more likely to become poor than a 'high-income non-poor' household. This way, the initial status related to income is a key variable to explain poverty transitions.

The probability of poverty exit is 7.3 percent lower if the head of the household is a man, while the probability of becoming poor is 1.6 percent higher for households headed by men. These results seem to show that households led by women adopt more efficient strategies both to escape poverty and to avoid falling into it. These strategies could be related to different patterns of incorporation of men and women into the labor market, or with a better ability of women to manage resources, including money and the use of time of the other members of the household.

A key result is that incorporating household members into the labor market is useful for the household to escape poverty, given the new income that these incorporations generate; however, it should be noted that the probability of escaping poverty increases more when household members get a formal job (27.7 percent) than when they get an informal job (10.7 percent). Incorporating new members into the labor market is also key to not falling into poverty, since adding a formal worker to the household structure reduces the probability of becoming poor by 9.6 percent, while adding an informal worker reduces it by 5.5 percent.

Incorporating new members into the labor market is not the only way to increase household income, as this can also be achieved with improvements in salaries and in the amount of remittances that the household receives. The effect of the change in the amount of remittances received stands out, since every additional 100 dollars increases the probability of poor households escaping poverty by 1.2 percent, a greater effect than that generated by a salary increase of the same amount. Transfers and subsidies do not affect transitions, a result that is explained by the low coverage of transfer programs and the small amount of subsidies.

Related to household structure, an increase in the number of young children in the household is negatively associated with the likelihood of escaping poverty, maybe because households with young children may face additional financial burdens, making it more challenging for them to improve their economic circumstances and transition out of poverty; conversely, an increase in the number of young children increases the likelihood of falling into poverty by 9.2 percent (an effect of the same magnitude but opposite in sign to that of incorporating a member of the household into the formal labor market), an effect potentially due to increased expenses related to childcare, health care, and other associated costs.

# V.

# What is behind labor transitions?

As previously indicated, incorporating or withdrawing household members from the labor market is a key element to explain the exit or entry into poverty, respectively. For this reason, it is essential to quantify the magnitude of the labor transitions and identify the factors that underlie them. To achieve the first objective, labor transition matrices are built (in an analogous way to poverty transition matrices), showing the probability of remaining in a labor status (inactive/unemployed and employed) or moving to another the following year, conditional on the initial status. According to EHPM data, between 2018 and 2022, the probability of remaining in the same status as the previous year is between 75 percent and 77 percent, while the most frequent transitions are from inactivity/unemployment to informal employment (20.2 percent) and vice versa (19.4 percent). These facts are key because they reveal, on the one hand, that those who join the labor market usually do so in conditions of lack of protection, and on the other, that those who have informal employment have a high vulnerability to unemployment. Another key fact is that it is unlikely to get a formal job, whether being unemployed or working informally.

**TABLE 2.6**     MATRIX OF INTERANNUAL LABOR TRANSITIONS IN EL SALVADOR (2018–2022) FOR THE TOTAL PANEL SUBSAMPLE

| | | Year t+1 | | |
|---|---|---|---|---|
| | | Inactive/unemployed | Informal employed | Formal employed |
| **Year t** | Inactive/unemployed | 76.8 | 20.2 | 3 |
| | Informal employed | 19.4 | 75.2 | 5.5 |
| | Formal employed | 7.6 | 15.2 | 77.2 |

*Source: EHPM 2018–2022.*

The analysis of year-to-year labor transitions shows that the probability of moving from inactivity/unemployment to employment is increasingly higher (going from 21.4 percent between 2018 and 2019 to 25.0 percent between 2021 and 2022), while there is no such clear pattern in the case of transitions from employment to unemployment, although attention should be paid to the fact that the highest probability of moving from formal employment to unemployment (9.6 percent) occurred between 2020 and 2021, a period that coincides with the rise of the COVID-19 pandemic.

**TABLE 2.7**  MATRIX OF INTERANNUAL LABOR TRANSITIONS IN EL SALVADOR (2018–2022), BY BIENNIUM

| | | 2019 | | |
|---|---|---|---|---|
| | | Inactive/unemployed | Informal employed | Formal employed |
| **2018** | Inactive/unemployed | 78.6 | 18.2 | 3.2 |
| | Informal employed | 17.8 | 77.3 | 4.9 |
| | Formal employed | 7.6 | 11.9 | 80.5 |

| | | 2020 | | |
|---|---|---|---|---|
| | | Inactive/unemployed | Informal employed | Formal employed |
| **2019** | Inactive/unemployed | 78.7 | 19.6 | 1.7 |
| | Informal employed | 20.4 | 75 | 4.6 |
| | Formal employed | 7.1 | 15.6 | 77.4 |

| | | 2021 | | |
|---|---|---|---|---|
| | | Inactive/Unemployed | Informal Employed | Formal Employed |
| **2020** | Inactive/unemployed | 76.3 | 20.8 | 2.9 |
| | Informal employed | 20.8 | 72.2 | 7.1 |
| | Formal employed | 9.6 | 16.1 | 74.2 |

| | | 2022 | | |
|---|---|---|---|---|
| | | Inactive/unemployed | Informal employed | Formal employed |
| **2021** | Inactive/unemployed | 75 | 21.6 | 3.4 |
| | Informal employed | 19.2 | 75.6 | 5.2 |
| | Formal employed | 6.5 | 16.7 | 76.8 |

*Source: EHPM 2018–2022.*

To better understand the factors behind these job transitions, two other linear probability models were estimated: one to explain the transition from employment to unemployment/inactivity and another to explain the reverse movement. The following independent variables are introduced into the models: (i) the area of residence (1 = urban; 0 = rural); (ii) the sex of the individual (1 = man; 0 = woman); (iii) the variation in the number of children under 2 and 5 years old; (iv) the variation in the marital status (1 = from single to married; 0 = other); (v) the variation in the educational level; (vi) the variation in the amount of remittances received; and (vii) the variation in the number of subsidized services (gas, electricity, and water) and public transfers received (*Comunidades Solidarias Urbanas, Pensión Básica Universal*, and *Paquete Agrícola*). Additionally, both models include the interactions between the change in the number of children under 2 years of age and sex and between the change in marital status and sex, with the aim of identifying gender-differentiated effects. Finally, the transition model from employment to unemployment includes the employment status (1 = formal; 0 = informal). The results of these estimations are shown in Table 2.8.

**TABLE 2.8**   PROBABILITY OF MOVING FROM EMPLOYMENT TO UNEMPLOYMENT/INACTIVITY AND FROM UNEMPLOYMENT/INACTIVITY TO EMPLOYMENT IN EL SALVADOR (2018–2022)

| Independent variable | Probability of moving from employment to unemployment/inactivity | | Probability of moving from unemployment/inactivity to employment | |
|---|---|---|---|---|
| | Estimated coefficient | Statistical significance | Estimated coefficient | Statistical significance |
| Area of residence (1 = Urban) | −0.0003139 | | −0.002102 | *** |
| Sex (1 = Female) | 0.130684 | *** | −0.1484014 | ** |
| Change in number of children between 0 and 2 years | −0.0382093 | | −0.0045785 | *** |
| Interaction between sex and change in number of children between 0 and 2 years | 0.0481961 | ** | −0.0117712 | *** |
| Change in marital status (1 = From single to married) | −0.184743 | *** | 0.4313173 | *** |
| Interaction between sex and change in marital status | 0.1368885 | *** | −0.1942223 | *** |
| Employment status (1 = Formal) | −0.1059676 | *** | | |
| Change in educational level | −0.0039087 | *** | 0.0042638 | *** |
| Change in number of individuals between 3 and 5 years | −0.0023172 | | 0.0325166 | *** |
| Change in remittances (US$) | 0.001717 | *** | −0.000649 | *** |
| Change in number of subsidies received | −0.0046077 | | 0.000591 | |
| Change in number of public transfers received | −0.0377616 | | 0.0193597 | |

According to the estimated results, the sex of the individual seems to be a key variable to explain job transitions. Being a woman increases the probability of moving from employment to unemployment by 13.8 percent and reduces the probability of moving from unemployment to employment by 14.4 percent, which reflects, on the one hand, the relative instability of female employment and, on the other, the existence of disincentives in the demand for women's work. This fact is even more relevant if we take into account that (i) the presence of children under 2 years old in the household increases the probability of women to moving from employment to unemployment by 4.8 percent and reduces their probability of moving from unemployment to employment by 1.1 percent compared with men and (ii) women who marry are 13.6 percent more likely than men who marry to move from employment to unemployment and 19.4 percent less likely to move from unemployment to employment, facts that reveal the persistence of gender roles in which care responsibilities are assigned mainly to women.

As expected, the increase in the educational level, measured through years of schooling, influences job transitions, although it does not seem to be too relevant in terms of its magnitude: one year of additional schooling reduces the probability of transitioning from employment to unemployment by 0.4 percent and increases the probability of the reverse transition by 0.4 percent. In this way, it is possible to affirm that the accumulation of human capital through the acquisition of skills in the formal educational system has a reward, although modest, in the labor market, in terms of both the probability of getting a job and the probability of keeping it.

Although it has been previously pointed out that an increase in the amount of remittances received by the household has a positive effect on the probability of escaping poverty and a negative effect on the probability of entering poverty, it also seems to be true that remittances generate disincentives to employment, since an increase of US$100 in remittances received increases the probability of moving from employment to unemployment/inactivity by 1.7 percent and reduces the probability of moving in the opposite direction by 0.6 percent. Thus, there seems to be some substitution between income from work and remittances.

Finally, it is important to note that formal employment status is a key variable to reduce the probability of transition from employment to unemployment. The benefits of formal employment are reflected not only in better salaries and access to social benefits but also in the rights to job stability that formality grants. This explains why formal workers are 10.6 percent less likely to lose their job compared to informal workers. This fact introduces an additional element in relation to transitions out of poverty discussed previously: joining the formal labor market not only helps households to escape poverty but allows them to do it in a more sustainable way.

# VI.

# Conclusions

Poverty is a dynamic phenomenon. Year after year some households manage to escape poverty, while others fall into it. This document explored some key factors to understanding why households move between one state and another. A first element is that proximity to the poverty line, on one side or the other, is related to the probability of leaving or entering poverty. In terms of public policies, this means that it is necessary to overcome the 'poor'/'non-poor' categories and introduce classifications related to the severity of poverty and the vulnerability of non-poor households, so that differentiated interventions are designed to generate conditions so that the poorest can get out of the poverty trap and the households that managed to get out of poverty do not fall again into it.

The incorporation of new members into the labor market emerges as a pivotal factor in facilitating poverty alleviation and preventing its onset within households. However, what is particularly noteworthy is the differential impact of formal and informal employment on poverty transitions. While both formal and informal employment contribute to household income and potentially mitigate poverty, the analysis reveals that formal employment exhibits a more pronounced effect in reducing the likelihood of poverty entry compared to informal employment, making a compelling case for policies that incentivize the formalization of employment. Such policies could include measures to reduce costs associated with formalizing businesses, efforts to enhance

enforcement of labor laws and regulations, targeted initiatives aimed at improving the skills and employability of workers to promote the transition to formal employment, and so on

Given the centrality of changes in employment status in explaining household poverty transitions, the factors influencing entry into and exit from the labor market were also analyzed. The most significant finding is that the probabilities of entering and exiting the labor market are largely explained by gender: women in El Salvador, compared to men, are more likely to exit the labor market and less likely to enter it, with the situation worsening if women marry or have children under two years old. The explanation for this phenomenon seems to lie in the relative precarity of female employment, the existence of disincentives to hiring female labor, and the persistence of gender roles that assign women to caregiving and reproductive work. Public policy should be oriented to promote gender equality in the labor market through regulations and incentives to reduce gender-based biases in hiring practices, but it is also necessary to design social protection policies that address the specific needs and vulnerabilities of women in the labor market, such as providing income support for women who are disproportionately affected by job loss or unemployment and expanding social safety nets ensuring that social assistance programs and childcare systems are accessible and gender responsive.

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