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## The heterogeneous impact of labor market shifts on household mortgage-taking

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The heterogeneous impact of labor market shifts on household mortgage-taking

No 3109

## Abstract

This paper examines how structural change in labor markets affects household credit outcomes. Using a Shift-Share instrumental variable approach, we find that occupational shifts negatively influence mortgage holding for households facing favorable job market conditions, such as stable employment and income growth. Our results, robust to alternative specifications, suggest that when both individual and economy-wide career prospects are favorable, the opportunity costs of settling down grow accordingly.

**JEL codes:** G51, J24, D84, O15

**Keywords:** *Structural change, Job security, Household credit*

## Non-technical summary

This paper investigates how structural changes in the labor market influence households' mortgage-taking. By analyzing data from the European Union Labour Force Survey (EU-LFS) and the European Union Statistics on Income and Living Conditions (EU-SILC), we aim to understand the relationship between job market conditions and mortgage-taking. The EU-LFS provides detailed information on occupational growth, while the EU-SILC offers a rich set of variables at both the individual and household levels.

The research reveals that households holding favorable positions in the job market are less likely to hold mortgages if their occupation has also been growing at an economy-wide level. This effect is particularly noticeable over a five-year period compared to a one-year period. The study highlights that while permanent job contracts and longer job tenure generally increase the likelihood of having a mortgage (about 2.7% and 0.4% more likely), the positive impact of job permanency on mortgage-taking diminishes if the occupation is growing (about -3.5%). Additionally, past and future income changes influence mortgage-taking behavior (about 1.5% and 2.3%). However, households experiencing and, most importantly, expecting positive income changes are less likely to take on mortgages if their occupation is also growing (about -2.2% and -4.3%).

We propose a general model to measure mortgage-taking for individuals in various occupations across different years and countries. This model includes variables such as job tenure, job permanency, and past and future income changes. By interacting these variables with occupational growth, the study aims to capture the heterogeneous effects of labor market shifts on mortgage-taking. The model also controls for individual and household characteristics, including gender, age, education, income, household size, and degree of urbanization.

To address endogeneity concerns, we use a Shift-Share instrumental variable strategy. This involves instrumenting occupation-level growth with the inner product of industry-occupation shares and industry growth. The underlying assumption is that technological shocks are exogenous and that industries differentially exposed to these shocks will shift labor demand away from medium-skilled jobs. To further ensure robustness, we employ additional approaches, such as controlling for equalized housing costs, using a leave-one-out approach to purge local demand housing shocks, and measuring variations in labor supply at the intensive margin through overtime hours.

Our findings suggest that while job security and income growth typically facilitate mortgage-taking, the broader economic context and occupational growth can alter this relationship. Policymakers should consider these dynamics when designing interventions to support household credit access.

# 1 Introduction

The past few decades have witnessed profound structural changes in labor markets, marked by the polarization of employment opportunities (Autor and Dorn, 2013). While existing research has explored the causes and consequences of these changes, much less attention has been paid to how these changes affect a household's long-term decisions and, in more detail, mortgage-taking.

This omission is surprising because job polarization and access to housing have, respectively, been both identified as key drivers of income (Goos et al., 2009) and wealth inequality (Kuhn et al., 2020). Understanding whether (and for whom) shifts in the demand for skills impede or facilitate mortgage access is therefore essential for both distributional and macro-prudential policy.

This impact might in fact be highly non-uniform. Job polarization is usually studied as an economy-wide phenomenon, but in fact, it also has a personal dimension: an individual's job security does not always move in step with the overall fortunes of their occupation. As a result, we cannot assume that mortgage-taking responds in the same way when macro-level occupational growth and micro-level job prospects diverge. One could imagine that strong aggregate growth combined with personal stability would boost the likelihood of taking a mortgage, but the opposite might occur if workers expect new opportunities that require geographic mobility. Similarly, a household whose own position is secure may choose to lock in housing costs by purchasing a home precisely when the wider outlook for its occupation is deteriorating.

This paper examines the impact of occupational shifts, reflecting trends in job market polarization, on the likelihood of holding a mortgage for the household's main residence. Using a shift-share instrumental variable approach, we address endogeneity concerns and provide robust estimates of the relationship between occupational shifts and household credit access. Combining data from a set of comprehensive surveys on the labor force and housing situation of European households, we study credit access over a large window of time, leveraging information from over a million individuals with active labor force status.

Our work provides new evidence on the consequences of labor market polarization, revealing how the effects of structural change are not uniform across households. Instead, they are concentrated among households that face favorable employment prospects, such as higher job stability and tenure, and who experience or expect income growth. Most importantly, we find that these households are more likely *not* have a mortgage if their occupations are also growing: job permanency, and past and future income growth are connected with a 3.5%, 2.2%, and 4.0% decrease in mortgage-taking for every point-percentage increase in economy-wide occupation-specific employment growth. These counterintuitive results suggest that individual and economy-wide job opportunities, when both are favorable, deter individuals from settling down.

The remainder of the paper is organized as follows: Section 2 provides a brief overview of the literature, and Section 3 presents our data sources. Section 4 describes our empirical

strategy and, while our results are presented in Section 5. Section 6 concludes by discussing our results and their policy implications.

## 2 Literature Review

The relationship between individual-level job prospects and credit access is well established in the literature. Changes in employment status and job prospects are connected to increased access to household credit (Keys, 2018), since adverse occupational shocks figure prominently in whether households default on mortgage loans (Gerardi et al., 2018).

Economy-wide changes are, however, more elusive. Wage and labor share are associated with credit access Favilukis et al. (2020), and labor protection laws have been shown to increase mortgage debt (Shang and Saffar, 2023). In contrast, Barrot et al. (2022) reported increases in household debt in regions exposed to import competition, suggesting that exposed households extract equity from their dwellings in response to occupational shocks. The ambiguity of this effect may be confounded by self-selection into growing occupations and by the increase in housing costs connected with local labor shocks. Fewer papers have touched on the direct relationship between economy-wide occupational changes and mortgages. Using cross-sectional data, Gabriel and Rosenthal (1991) find that aggregate employment *levels* affect the likelihood of receiving credit, and similarly, Cantarella and Kavonius (2024) find that *changes* in employment levels improve credit access for households. Both studies, however, cannot fully address the aforementioned self-selection and endogeneity issues due to data limitations.

Empirical issues aside, how the relationship between individual-level and economy-wide prospects affects mortgage-taking remains mostly unexplored. Nonetheless, the scarce existing literature suggests that the interaction between higher and lower-level changes plays an important role in credit access, as Coibion et al. (2020) shows that lower-income households face reduced credit access in higher inequality regions, while Cantarella and Kavonius (2024) find that subjective job stability has a stronger effect for mortgage demand than its economy-wide counterpart.

## 3 Data

We combine data from two sources. The European Union Labour Force Survey (EU-LFS) is used to capture occupational growth. Occupations are aggregated at the ISCO-08 two-digit occupation groups, providing 43 detailed occupational categories.<sup>1</sup> The two-digit code strikes the best balance between detail and statistical power: it is granular enough to approximate the underlying tasks performed in each job, yet coarse enough to maintain adequate cell sizes across countries and years. This task-based interpretation is central to the job-polarization literature, which argues that labor-demand shifts are driven by the

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<sup>1</sup>For instance, ISCO-08 code 23 corresponds to Teaching Professionals, which belong to major group 2 (Professionals).

routineness and offshorability of tasks rather than by broad skill categories (Autor, 2013; Goos et al., 2014). Using occupations as proxies for task bundles, therefore, allows us to map aggregate labor market changes onto household credit outcomes in a manner that is both theoretically grounded and empirically tractable.

After applying LFS survey weights, Individual level observations are then aggregated by occupation, year, and country cells, and occupational shifts are measured as the change in the total hours of work within these cells between the year of observation and an arbitrary lag,<sup>2</sup> which we set at 1 and 5 years, following Cantarella and Kavonius (2024). This approach allows us to measure occupational growth within each occupation and is distinct from measuring occupational shares, which are instead bounded between 0 and 1 and do not grow when the size of the economy is also growing.

To account for zero-value occupation cells, we measure these changes as arc percentage changes, which approximate log changes and restrict market entry (shifts from zero employment levels) and exit (shifts to zero employment levels) at 2 and -2, respectively (as in Davis et al., 1996). Shift-share instruments are similarly created by aggregating hours of work by occupation, NACE-Rev2 industry, year, and country.

The European Union Statistics on Income and Living Conditions (EU-SILC) is our estimation sample and provides us with a rich set of variables at both the individual and household levels. We use the repeating EU-SILC cross-sections from 2010 to 2023 and filter the sample to retain only individuals in the labor force, leaving us with a total of around 1,600,000 observations.

While we cannot track the same households over time, the use of EU-SILC cross-sections is preferable to the panel for our estimation purposes. First, the panel version provides only a narrow subset of variables, omitting several key covariates (such as detailed mortgage terms, expectations, and vulnerability indicators) that are essential for our empirical strategy. Second, the panel, which would allow us to absorb time-invariant household characteristics, would add nearly no incremental value to our estimation approach. Since the first-house mortgage is an event that generally occurs only once in a household's life, the household fixed effect would entirely absorb mortgage-taking behavior.

Since two-digit ISCO information is unavailable for some specific country-year combinations,<sup>3</sup> observations with one-digit information have been removed from the sample. Furthermore, the variables for past and future income changes have only been available for specific EU-SILC waves from 2019 onwards.

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<sup>2</sup>Since the EU LFS is a rotational panel, only households in their first rotation are used to produce the occupational growth estimate so as to measure only the between-variation among households of the same rotation.

<sup>3</sup>More specifically, Germany only offers two-digit occupational classifications from 2020 onwards, while Slovenia and Montenegro only offer one-digit classifications for the whole duration of our estimation window.

## 4 Methodology

### 4.1 General approach

We propose the following general model:

$$Mortgage_{ht,ijc} = \alpha_{jc} + \theta_{tc} + Growth_{jtc}\delta + JobProspect_{\{i,h\}}\gamma + Growth_{jtc} \times JobProspect_{\{i,h\}}\zeta + Controls'_{if}\beta + \eta_i \quad (1)$$

where  $Mortgage_{ht,ijc}$  indicates whether household  $h$  holds a mortgage on the main dwelling at time  $t$ , for each individual  $i$ , in occupation  $j$ , in country  $c$ .  $Growth_{jtc}$  indicates the growth of occupation  $j$  between  $t$  and  $t - k$  in country  $c$ . We set  $k$  at 1 and 5 years and switch the terms between specifications.

The  $JobProspect_{i,h}$  term denotes our set of occupational prospects: individual-level job tenure and permanency, and household-level past and (expected) future income changes. We interact these terms with the occupational change term to obtain heterogeneous effects.

$\alpha_{jc}$  and  $\theta_{tc}$  capture occupation-country and year-country fixed effects, which are the only dimensions along which longitudinal variation can be absorbed. Since occupational levels vary within these cells, this fixed effects strategy ensures that only the effect of *changes* in levels is estimated, holding *levels* fixed. The *Controls* vector captures individual and household-level characteristics. These include gender, age and its squared term, education, labor and household income (in log terms), household size, and the degree of urbanization.

The standard errors are clustered by family and by each occupation-country-year cell. This approach aligns with the recommendations of Abadie et al. (2022), as these are the higher-order levels along which the explanatory variables and the outcome can vary.

### 4.2 Identification strategy

Even though a single household's choices may seem unlikely to shape aggregate occupation-level employment, endogeneity may arise through the aggregation of many individuals' behavior or selection mechanisms. Higher-order changes may also be correlated with unobserved supply-side factors that also affect mortgage-taking at the individual level, which can occur if demand for mortgages affects the industry-wide supply of labor through increases in housing prices at a local level. For this reason, regular OLS estimates might suffer from unobserved bias and should be treated as exploratory.

As our main approach, we then use a Shift-Share instrumental variable strategy, instrumenting occupation-level growth with the inner product of  $kj$ -industry-occupation shares and  $k$ -industry growth:  $Bartik_j = \sum_k Share_{jk} Growth_k$ . The underlying assumption, which builds on the *skill-biased technological change* hypothesis (first presented in Autor et al., 2003), is that technological shocks are exogenous and that industries differentially

exposed to these shocks will shift labor demand away from medium-skilled jobs. However, this approach alone cannot ensure that industry supply is independent of the demand for mortgages.

To address this issue, we control for equalized housing costs. We do so by predicting these costs through a simple regression model.<sup>4</sup> We then retain the residual, yielding housing costs net of observables, which we include in our main model as a control. This approach relies on the assumption that the residual is uncorrelated with tenure status.

For our robustness checks, we relax this assumption, drop the equalized housing costs variable, and use a leave-one-out approach that computes national industry growth rates, excluding region  $r$ , to purge local demand shocks.<sup>5</sup> Additionally, we present alternative estimates using a different occupational growth measure that is less prone to supply shocks. Rather than capturing the extensive margin of labor supply, we measure changes in the intensive margin through variation in overtime hours. If the labor supply in an occupation is relatively fixed in the short run, then overtime variation between two periods arises largely from a mismatch between labor demand and a stable pool of workers, offering a more exogenous proxy for demand-driven fluctuations within an occupation.

Under the shift-share design, if the estimated growth term becomes exogenous, then it will also be independent of the potentially endogenous job prospects variables, allowing for the valid estimation of the interaction effects. This phenomenon is well-documented in the literature (Bun and Harrison, 2018), which underlines that these estimates are valid as long as the endogenous variable and the outcome are not simultaneously determined. This is hardly a concern in our setting as there is abundant evidence in the literature establishing the channel from employment to credit, whereas the reverse causal pathway—from credit to employment—is not supported (Dobbie et al., 2020).

## 5 Results

### 5.1 OLS Results

In Tables 1 and 2, we show our main OLS results for one-year and five-year occupational shifts. Short-term shifts have muted impacts on mortgage-taking, while the five-year changes are more strongly significant. In column (1), Table 2, a 1 percent five-year occupational growth is associated with a 3.2 percentage point increase in mortgage likelihood, while in Table 1 a 1 percent one-year occupational growth is only associated with a 1.7 percentage point increase.

In both cases, this growth is accompanied by a reduction in mortgage-taking for permanent-contract employees (3.3% in the five-year occupational change window, and 2.4% in the one-year window), surpassing the baseline positive impact of both occupa-

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<sup>4</sup>Fitted by tenure status and its interactions with dwelling type, degree of urbanization, dwelling size, and household size, with year  $\times$  country fixed effects.

<sup>5</sup>This approach comes at the cost of reduced sample size, as some of the countries in our sample do not offer a sufficient level of NUTS-1 regional variation to allow for the production of these estimates.

Table 1: One-year occupational growth and mortgage access, OLS estimates

|                            | Mortgage owner |           |           |          |          |          |
|----------------------------|----------------|-----------|-----------|----------|----------|----------|
|                            | (1)            | (2)       | (3)       | (4)      | (5)      | (6)      |
| Occupational Growth (1-yr) | 0.017*         | -0.018*   | -0.001    | 0.004    | 0.015    | 0.023    |
|                            | (0.007)        | (0.007)   | (0.009)   | (0.016)  | (0.023)  | (0.029)  |
| Permanent contract         | 0.023***       |           | 0.018***  |          |          |          |
|                            | (0.002)        |           | (0.002)   |          |          |          |
| × Growth (1-yr)            | -0.024**       |           | -0.024**  |          |          |          |
|                            | (0.008)        |           | (0.008)   |          |          |          |
| Job tenure (yrs)           |                | 0.004***  | 0.004***  |          |          |          |
|                            |                | (0.000)   | (0.000)   |          |          |          |
| × Growth (1-yr)            |                | 0.001**   | 0.001**   |          |          |          |
|                            |                | (0.000)   | (0.000)   |          |          |          |
| Income Change, past        |                |           |           | 0.011*** |          | 0.010*** |
|                            |                |           |           | (0.002)  |          | (0.002)  |
| × Growth (1-yr)            |                |           |           | -0.010   |          | -0.006   |
|                            |                |           |           | (0.007)  |          | (0.007)  |
| Income Change, expected    |                |           |           |          | 0.013*** | 0.011*** |
|                            |                |           |           |          | (0.002)  | (0.002)  |
| × Growth (1-yr)            |                |           |           |          | -0.015   | -0.013   |
|                            |                |           |           |          | (0.011)  | (0.011)  |
| Years                      | 2010-23        | 2010-23   | 2010-23   | 2019-23  | 2019-23  | 2019-23  |
| Year-Country FE            | Yes            | Yes       | Yes       | Yes      | Yes      | Yes      |
| Year-Occupation FE         | Yes            | Yes       | Yes       | Yes      | Yes      | Yes      |
| Adjusted R-Squared         | 0.207          | 0.200     | 0.200     | 0.191    | 0.196    | 0.197    |
| Observations               | 1,397,875      | 1,286,748 | 1,286,748 | 308,137  | 284,857  | 284,484  |

Notes: SE clustered by year-occupation cells in parentheses.

\*p<.05, \*\*p<.01, \*\*\*p<.001

Table 2: Five-years occupational growth and mortgage access, OLS estimates

|                             | Mortgage owner       |                     |                      |                      |                      |                      |
|-----------------------------|----------------------|---------------------|----------------------|----------------------|----------------------|----------------------|
|                             | (1)                  | (2)                 | (3)                  | (4)                  | (5)                  | (6)                  |
| Occupational Growth (5-yrs) | 0.032***<br>(0.005)  | -0.016**<br>(0.005) | 0.004<br>(0.006)     | 0.022<br>(0.013)     | 0.065***<br>(0.015)  | 0.081***<br>(0.017)  |
| Permanent contract          | 0.027***<br>(0.002)  |                     | 0.021***<br>(0.002)  |                      |                      |                      |
| × Growth (5-yrs)            | -0.033***<br>(0.005) |                     | -0.027***<br>(0.005) |                      |                      |                      |
| Job tenure (yrs)            |                      | 0.004***<br>(0.000) | 0.003***<br>(0.000)  |                      |                      |                      |
| × Growth (5-yrs)            |                      | 0.001***<br>(0.000) | 0.001***<br>(0.000)  |                      |                      |                      |
| Income Change, past         |                      |                     |                      | 0.014***<br>(0.002)  |                      | 0.012***<br>(0.002)  |
| × Growth (5-yrs)            |                      |                     |                      | -0.017***<br>(0.004) |                      | -0.010*<br>(0.004)   |
| Income Change, expected     |                      |                     |                      |                      | 0.022***<br>(0.002)  | 0.020***<br>(0.002)  |
| × Growth (5-yrs)            |                      |                     |                      |                      | -0.039***<br>(0.005) | -0.036***<br>(0.005) |
| Years                       | 2010-23              | 2010-23             | 2010-23              | 2019-23              | 2019-23              | 2019-23              |
| Year-Country FE             | Yes                  | Yes                 | Yes                  | Yes                  | Yes                  | Yes                  |
| Year-Occupation FE          | Yes                  | Yes                 | Yes                  | Yes                  | Yes                  | Yes                  |
| Adjusted R-Squared          | 0.208                | 0.201               | 0.201                | 0.193                | 0.199                | 0.199                |
| Observations                | 1,405,180            | 1,290,333           | 1,290,333            | 311,917              | 288,637              | 288,264              |

Notes: SE clustered by year-occupation cells in parentheses.

\*p<.05, \*\*p<.01, \*\*\*p<.001

tional growth and permanency (the latter estimated between 2.7% and 2.3%).

Once we account for job tenure (column 2), the baseline coefficient changes sign in both models, turning to -1.6 and -1.8%, with a job tenure effect estimated at around 0.4% per year. The growth interactions reveal that individuals who have spent a longer time in a given occupation are also 0.1% more likely to have a mortgage for every year their occupation has been growing over the last one and five years. When taken together in column 3, the base effect of growth disappears from both tables, suggesting that the aggregate occupational variation was spuriously correlated with individual occupational permanence. The interaction effects persist.

Moving to the 2019-2023 subsample (columns 4-6), we study the effect of past and future income growth which, by itself, increases the probability of holding a mortgage by around 1.2 and 2.0% receptively. The base levels effects of growth are also positive, if not larger than in the previous specifications, but only significant for the five-years model. The interaction effects, significant only in the five-year model, suggest that past income increases reduce the probability of applying for loans by around 1.7 percent when a job has been growing over the last five years (column 4) and that income changes expected in the future also reduce this probability by around 3.9 percent (column 5). When taken jointly (column 6), the interaction effect of past income changes is greatly reduced in statistical significance, suggesting that the expectation channel fully mediated this effect.

## 5.2 IV Results and robustness checks

As these estimates suggest, the effect of growth might be spurious. We move to the IV estimates in Table 3. These estimates correspond to the main shift-share estimates discussed in Section 4. Since the OLS results for one-year shifts align with the five-year estimates but are only statistically weaker, we focus exclusively on the five-year occupational shifts for our IV estimates, as showing additional models for the one-year shift would be largely redundant.

Moving to our results, in all specifications, the five-year occupational growth term is now statistically insignificant. The interaction effects are instead nearly unaffected by the IV strategy and point to a 3.6-point decrease in mortgage-taking if the respondent has a permanent job (column 3) and to a 1.6- and 4-point decrease if the respondent has experienced or is expecting income growth in the future (column 6). The base effect for permanent contracts and job tenure (around 2.1% and 0.4%), and for past and future income changes (around 1.3% and 2.1%) remain unchanged from the OLS estimates from Table 3. The first stages are rather low for the base effect but are much more robust for the interactions, often abundantly surpassing the significance level  $F > 104.7$  recommended by Lee et al. (2022).

Table 3: Five-years occupational growth and mortgage access, IV estimates

|                             | Mortgage owner      |                     |                     |                      |                      |                      |
|-----------------------------|---------------------|---------------------|---------------------|----------------------|----------------------|----------------------|
|                             | (1)                 | (2)                 | (3)                 | (4)                  | (5)                  | (6)                  |
| Occupational Growth (5-yrs) | 0.015<br>(0.032)    | 0.017<br>(0.037)    | 0.041<br>(0.036)    | -0.320<br>(0.237)    | -0.211<br>(0.203)    | -0.197<br>(0.207)    |
| Permanent contract          | 0.027***<br>(0.002) |                     | 0.021***<br>(0.002) |                      |                      |                      |
| × Growth (5-yrs)            | -0.035**<br>(0.013) |                     | -0.036**<br>(0.011) |                      |                      |                      |
| Job tenure (yrs)            |                     | 0.004***<br>(0.000) | 0.004***<br>(0.000) |                      |                      |                      |
| × Growth (5-yrs)            |                     | -0.000<br>(0.001)   | -0.000<br>(0.001)   |                      |                      |                      |
| Income Change, past         |                     |                     |                     | 0.015***<br>(0.002)  |                      | 0.013***<br>(0.002)  |
| × Growth (5-yrs)            |                     |                     |                     | -0.022***<br>(0.005) |                      | -0.016**<br>(0.006)  |
| Income Change, expected     |                     |                     |                     |                      | 0.023***<br>(0.003)  | 0.021***<br>(0.003)  |
| × Growth (5-yrs)            |                     |                     |                     |                      | -0.043***<br>(0.006) | -0.040***<br>(0.006) |
| Years                       | 2010-23             | 2010-23             | 2010-23             | 2019-23              | 2019-23              | 2019-23              |
| Year-Country FE             | Yes                 | Yes                 | Yes                 | Yes                  | Yes                  | Yes                  |
| Year-Occupation FE          | Yes                 | Yes                 | Yes                 | Yes                  | Yes                  | Yes                  |
| F-Test - Main effect        | 39.466              | 33.788              | 45.259              | 4.278                | 7.630                | 8.912                |
| F-Test - 1st Interaction    | 183.352             | 198.621             | 175.513             | 171.157              | 130.511              | 135.619              |
| F-Test - 2nd Interaction    |                     |                     | 207.099             |                      |                      | 173.572              |
| Adjusted R-Squared          | 0.041               | 0.043               | 0.043               | 0.045                | 0.045                | 0.045                |
| Observations                | 1,405,180           | 1,290,333           | 1,290,333           | 311,917              | 288,637              | 288,264              |

Notes: SE clustered by year-occupation cells in parentheses.

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

Table 4: Robustness check; Five-years l.o.o. occupational growth and mortgage access, IV estimates

|                           | Mortgage owner      |                      |                     |                      |                      |                      |
|---------------------------|---------------------|----------------------|---------------------|----------------------|----------------------|----------------------|
|                           | (1)                 | (2)                  | (3)                 | (4)                  | (5)                  | (6)                  |
| L-O-O Occ. Growth (5-yrs) | -0.026<br>(0.021)   | -0.065***<br>(0.019) | -0.051*<br>(0.022)  | -0.436<br>(0.245)    | -0.394<br>(0.234)    | -0.359<br>(0.229)    |
| Permanent contract        | 0.023***<br>(0.002) |                      | 0.019***<br>(0.002) |                      |                      |                      |
| × Growth (5-yrs)          | -0.027*<br>(0.011)  |                      | -0.021*<br>(0.011)  |                      |                      |                      |
| Job tenure (yrs)          |                     | 0.003***<br>(0.000)  | 0.003***<br>(0.000) |                      |                      |                      |
| × Growth (5-yrs)          |                     | 0.001***<br>(0.000)  | 0.001***<br>(0.000) |                      |                      |                      |
| Income Change, past       |                     |                      |                     | 0.016***<br>(0.003)  |                      | 0.014***<br>(0.003)  |
| × Growth (5-yrs)          |                     |                      |                     | -0.024***<br>(0.006) |                      | -0.019**<br>(0.006)  |
| Income Change, expected   |                     |                      |                     |                      | 0.022***<br>(0.004)  | 0.020***<br>(0.004)  |
| × Growth (5-yrs)          |                     |                      |                     |                      | -0.040***<br>(0.007) | -0.037***<br>(0.007) |
| Years                     | 2010-23             | 2010-23              | 2010-23             | 2019-23              | 2019-23              | 2019-23              |
| Year-Country FE           | Yes                 | Yes                  | Yes                 | Yes                  | Yes                  | Yes                  |
| Year-Occupation FE        | Yes                 | Yes                  | Yes                 | Yes                  | Yes                  | Yes                  |
| F-Test - Main effect      | 165.219             | 108.636              | 217.578             | 10.931               | 12.579               | 18.297               |
| F-Test - 1st Interaction  | 278.540             | 201.039              | 260.474             | 124.798              | 106.969              | 239.944              |
| F-Test - 2nd Interaction  |                     |                      | 248.457             |                      |                      | 241.688              |
| Adjusted R-Squared        | 0.043               | 0.043                | 0.044               | 0.038                | 0.039                | 0.039                |
| Observations              | 807,090             | 729,456              | 729,456             | 211,374              | 194,818              | 194,500              |

Notes: SE clustered by year-occupation cells in parentheses.

\*p<.05, \*\*p<.01, \*\*\*p<.001

Table 5: Robustness check; Five-years overtime growth and mortgage access, IV estimates

|                          | Mortgage owner      |                     |                     |                      |                      |                      |
|--------------------------|---------------------|---------------------|---------------------|----------------------|----------------------|----------------------|
|                          | (1)                 | (2)                 | (3)                 | (4)                  | (5)                  | (6)                  |
| Overtime Growth (5-yrs)  | 0.012<br>(0.013)    | 0.012<br>(0.014)    | 0.035*<br>(0.015)   | -0.007<br>(0.028)    | 0.035<br>(0.030)     | 0.061<br>(0.032)     |
| Permanent contract       | 0.027***<br>(0.002) |                     | 0.021***<br>(0.002) |                      |                      |                      |
| × Growth (5-yrs)         | -0.028*<br>(0.011)  |                     | -0.030**<br>(0.010) |                      |                      |                      |
| Job tenure (yrs)         |                     | 0.004***<br>(0.000) | 0.004***<br>(0.000) |                      |                      |                      |
| × Growth (5-yrs)         |                     | -0.001<br>(0.000)   | -0.001<br>(0.000)   |                      |                      |                      |
| Income Change, past      |                     |                     |                     | 0.016***<br>(0.002)  |                      | 0.014***<br>(0.002)  |
| × Growth (5-yrs)         |                     |                     |                     | -0.023***<br>(0.005) |                      | -0.016**<br>(0.006)  |
| Income Change, expected  |                     |                     |                     |                      | 0.023***<br>(0.003)  | 0.021***<br>(0.003)  |
| × Growth (5-yrs)         |                     |                     |                     |                      | -0.040***<br>(0.006) | -0.037***<br>(0.006) |
| Years                    | 2010-23             | 2010-23             | 2010-23             | 2019-23              | 2019-23              | 2019-23              |
| Year-Country FE          | Yes                 | Yes                 | Yes                 | Yes                  | Yes                  | Yes                  |
| Year-Occupation FE       | Yes                 | Yes                 | Yes                 | Yes                  | Yes                  | Yes                  |
| F-Test - Main effect     | 214.679             | 220.029             | 231.035             | 75.137               | 137.659              | 146.522              |
| F-Test - 1st Interaction | 279.819             | 228.559             | 298.606             | 314.124              | 229.825              | 240.647              |
| F-Test - 2nd Interaction |                     |                     | 236.706             |                      |                      | 337.960              |
| Adjusted R-Squared       | 0.041               | 0.043               | 0.043               | 0.046                | 0.046                | 0.046                |
| Observations             | 1,404,044           | 1,289,219           | 1,289,219           | 311,809              | 288,532              | 288,159              |

Notes: SE clustered by year-occupation cells in parentheses.

\*p<.05, \*\*p<.01, \*\*\*p<.001

As a first robustness check, leave-one-out IV estimates are offered in Table 4, and the results are virtually unchanged from our main results in Table 3. For our second robustness check, in Table 5, we offer IV estimates for the effect of five-year changes in aggregate overtime hours on mortgage-taking. The interactions of job permanence and income changes all remain negative and statistically significant. The null base effect of overtime growth, whose first stages now nearly universally pass the  $F > 104.7$  significance level, suggests that OLS estimates were indeed spurious.

## 6 Conclusions

In summary, we find that workers who have permanent contracts or are expecting their income to grow are less likely to have a mortgage (3.5% and 4.0% less likely, respectively) if their occupation has also been growing on an economy-wide scale. We find that these effects are stronger when we take into account five-year occupational shifts rather than one-year shifts. It is plausible that five-year changes are perceived as less transitory and more strongly factored into expectations.

These effects cannot be explained by the increasing demand – and cost – of housing that may be connected with employment growth in local industries, as confirmed by our sensitivity and robustness checks. In fact, these effects emerge *only* when studying the effects at the intersection of aggregate-level job changes and individual-level characteristics, while the base effect of occupational growth appears to be muted.

Why does growth dampen mortgage-taking among economically secure workers? At first glance, one might expect expanding occupations to raise, not lower, mortgage-taking. Our findings suggest a different mechanism. When an occupation grows rapidly, workers with secure positions and positive income prospects face a higher option value of mobility: promotion opportunities or lucrative job offers in other cities become more likely and the fixed costs of home-ownership (due to illiquid housing equity, and to relocation and transaction costs) may deter these workers from locking themselves into a mortgage.

A complementary explanation looks at the other side of the mechanism. When an occupation is declining, new job opportunities may be perceived as scarcer. Workers who find themselves in a subjectively stable position might then perceive a lower chance of relocating and be more willing to “settle down,” making home ownership comparatively more attractive.

In short, our results underline how misalignment between subjective job security and economy-wide job growth reverberates over the housing market. By highlighting the tension between labor market dynamism and the long-term stability assumed by mortgage contracts, our findings carry clear policy implications, suggesting that labor flexibility measures can have a counter-cyclical use for housing markets. While workers will not take advantage of increased job security when their occupation is growing, higher job security can support first-home ownership and reduce rent demand when the occupational growth reverses or stagnates.

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