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The Labour Market Impact of a Major
Forced Return Migration Shock

Lara Bohnet
Susana Peralta
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Lara Bohnet
New York University

Susana Peralta
Universidade NOVA de Lisboa

João Pereira dos Santos
RWI, ISEG, IZA, REM and UECE

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ABSTRACT

Cousins from Overseas: The Labour Market Impact of a Major Forced Return Migration Shock*

We study the labour market impact of the return of half a million Portuguese due to onset of the colonial war in 1974. Both the size and similarity with the native population (almost 80% were Portuguese-born) make this a unique shock. We use census data from 1960 and 1981 to document a decrease in dependent employment of 15% for native males and 62% for females. The bulk of the effects is driven by Portuguese-born repatriates. We use shit-share IVs based on the repatriates' municipality of birth, and the municipal hotel capacity, exploiting a large-scale resettlement program.

Corresponding author:
João Pereira dos Santos
ISEG - Univesity of Lisbon
Rua do Quelhas 6
1200-781 Lisbon
Portugal
E-mail: joao.santos@iseg.ulisboa.pt

1 Introduction

More citizens than ever live outside their origin countries. International migrants were estimated to be nearly 272 million globally in 2019, 51 million more than in 2010 (World Migration Report, 2010). Large extreme weather phenomena and wars are bound to create massive dislocations of populations (Becker and Ferrara 2019; Verme and Schuettler 2021); a substantial share will return to their home country after some time, often upon earning enough assets or knowledge. Despite the importance of return migration, there is little evidence on its impacts, possibly due to the lack or poor quality of data and the strong selection of those who decide to move (Dustmann and Görlach 2016).

In this paper, we use rich individual-level census data to analyse the labour market impacts of a massive wave of return migration to Portugal, following the civil wars in the former colonies of Angola, Cape Verde, Guinea-Bissau, Mozambique, and São Tomé and Príncipe, that erupted after the Portuguese democratic transition. In 1976, *The New York Times* reported that "the absorption of this mass of colonial refugees is one of the main difficulties facing Western Europe's poorest country".[1] Two years later, *Der Spiegel* states that the hundreds of thousands of refugees had been integrated faster than expected, describing how local employers were more prone to employ repatriates than natives because of their more conservative attitudes, making them less likely to be in labour unions.[2]

The case of these so-called Portuguese *retornados* is particularly interesting for several reasons. First, the inflow was large and concentrated, with close to half a million people arriving in Portugal within less than three years (1974-1976), increasing the workforce by about 3.6% on average, and up to more than 15% in some municipalities. Second, most repatriates were born in Portugal, i.e., these return migrants are close substitutes for the native population. This is opposed to other contexts where incumbents and immigrants are imperfect substitutes due to different language ability or religious preferences (Manacorda, Manning, and Wadsworth 2012; Abramitzky et al. 2021). Relatedly, there was a considerable investment in public policies aimed at easing the integration of the *retornados*, in sharp contrast to the usual restrictive rules

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1. Howe, Marvine. 1976. "Chased From Africa, Adrift and Jobless in Portugal" *The New York Times*, Paragraph 3, March 7. https://www.nytimes.com/1976/03/07/archives/chased-from-africa-adrift-and-jobless-in-portugal-the-excolonizers.html.

2. Der Spiegel. 1978. "Rechnungen bezahlt" *Der Spiegel*, July 24. https://www.spiegel.de/spiegel/print/d-40694112.html.

applying to newcomers (Fasani, Frattini, and Minale 2021). Third, the timing of the inflow was largely unpredictable and hence provides a plausibly exogenous source of variation. Fourth, there was little selection among repatriates, as a large majority of the Portuguese living in the former colonies were forced to return to Portugal, independently of social class, education, and other characteristics. Fifth, the repatriates were considerably more educated than natives (Pires, Delaunay, and Peixoto 2020), in contrast with the usual case studied in the migration literature (Edo 2019).

The main contribution of our paper is the identification of the impact of a massive return migration wave of mostly non-colony born individuals, relying on the end of the Portuguese Colonial War as a natural experiment.[3] Moreover, we use rich census data to disentangle the outcomes for native workers, at the granular geographical scale of more than 300 municipalities, which also allows us to distinguish the impact of Portuguese-born and colony-born repatriates, an important innovation with regards to the previous literature. We propose a novel instrumental variable (IV) approach, to mitigate potential endogeneity concerns in the location of repatriates (Dustmann, Schönberg, and Stuhler 2016), by building municipal shift-share instruments based on birth places of the repatriates (Goldsmith-Pinkham, Sorkin, and Swift 2020), taking advantage of the fact that most repatriates were born in Portugal. We further present an alternative strategy that uses the municipal hospitality capacity as a source of exogenous variation in repatriates' settlement (Steinmayr 2021), especially for the colony-born ones.

We identify gender-specific effects of forced return migration on native workers. For both male and female natives, we find a strong decrease in dependent employment. This effect is stronger for women (62%) than for men (15%). While men (partially) compensate for this loss by moving into low quality entrepreneurship (i.e., self-employment), displaced female natives move mainly to inactivity. Moreover, we exploit the settlement program that relied on hotel capacity to build an additional instrumental variable that allows us to disentangle the impacts of Portuguese-born and colony-born repatriates. We show that the former drive the bulk of the results, indicating that there are cultural traits beyond language and religion that matter for the degree of substitutability amongst workers. Our analysis is robust to changing the geographical unit of analysis, to the alternate removal of municipalities in each NUTS 3 region, and to various

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3. The French repatriation, for instance, increased the workforce by about 1.6%, on average (Edo 2020), with a majority of Algerian-born workers.

sample restrictions.

We discuss possible mechanisms explaining our results, and provide descriptive evidence that is compatible with the following combined effects: *i)* a decrease in real wages, *ii)* the over-representation of *retornados* in high-wage sectors of activity, *iii)* a decline in the gender wage gap, driven by a decline in male wages, and, *iv)* a segmented labour market, with significantly lower wages for women than for men.

Our findings are specially suited to anticipate the consequences of modern population displacements linked to political instability, authoritarian regimes, and wars, which are bound to be followed by sizeable return migration similar to the Portuguese *retornados*, after the democratic transition.[4] The main policy implication of this study is the importance of designing public policies aimed at mitigating the negative labour market impacts not only on refugees (Brell, Dustmann, and Preston 2020), but also on native workers, considering occupational downgrading and the disproportionate burden of adjustment absorbed by women. These effects are likely to arise when immigrants are close substitutes to the incumbents.

Prior studies by Carrington and De Lima (1996) and Mäkelä (2017) have investigated the labour market impact of the Portuguese repatriates. The former provides ambiguous results: a comparison with Spain and France indicates no negative effect of the repatriates while a comparison between districts within Portugal shows a substantial adverse impact on Portuguese wages. The latter employs a synthetic control method and finds significant adverse effects on productivity and wages in the agricultural and construction industries.[5] These papers do not distinguish incumbent from *retornados*' fortunes in a comprehensive set of labour market outcomes, as we do.

Return migration is not a new phenomenon. During the Age of Mass Migration (1850-1913), 30 million people migrated from Europe to the US. Yet one in three of these individuals returned (Bandiera, Rasul, and Viarengo 2013). Abramitzky, L. P. Boustan, and Eriksson (2014) and Abramitzky, L. Boustan, and Eriksson (2019) document negative selection of temporary

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4. Tabellini (2020) shows that even when the backlash against immigrants is unlikely to be explained on economic grounds, cultural distance may play an important role. Edo et al. (2019), Dustmann, Vasiljeva, and Piil Damm (2019), Halla, Wagner, and Zweimüller (2017), and Barone et al. (2016), *inter alia*, argue that recent migration inflows increased the support for Far-Right populist movements in Europe.

5. Both studies use district-level wage data from Statistics Portugal, recording daily wages in the agriculture and construction industries. We do not use this data for two reasons. First, it is only available at the district level, while our main level of analysis are the (smaller) municipalities. A more substantial caveat is that natives' and repatriates' wages are not distinguishable.

migrants who eventually return to Europe. Two papers are closest to our analysis. Lee, Peri, and Yasenov (2022) document unemployment and occupational downgrading of native workers following a campaign repatriating around 400,000 Mexicans in 1929-34. Edo (2020) shows that the repatriation of French citizens following the end of the Algerian war decreased native wages in the short run, and had returned to the pre-shock level 15 years later. Importantly, these individuals were ethnic whites, but the majority was not born in France, contrary to the Portuguese ones. The negative impacts on natives due to return migration stand in contrast with the lack of effects of immigration found by most studies.

Our paper is also related to the literature on migration that exploits natural experiments driving exogenous increases in the supply of immigration (Card 1990; Hunt 1992; Friedberg 2001; Borjas 2017; Clemens and Hunt 2019; Peri and Yasenov 2019; Sarvimäki, Uusitalo, and Jäntti 2022), and negative supply shocks on origin countries following immigration restrictions (Clemens, Lewis, and Postel 2018; Abramitzky et al. 2022; Testa 2021).[6]

The remainder of this paper is organised as follows. Section 2 provides historical background on the Portuguese Colonial War, and the repatriation to Portugal. Section 3 describes the data used, presents descriptive statistics, and information on the spatial distribution of *retornados*. Section 4 introduces the empirical strategy, before section 5 presents the results. Section 5.2 discusses and reconciles these results with prior studies. Section 6 shows various robustness checks implemented, and section 7 concludes.

2 Historical Background

2.1 A Brief Overview of the Portuguese Colonial War

During the 1960s and early 1970s, unrest caused by independence movements in Portugal's largest colonies, Angola and Mozambique, led the authoritarian Portuguese regime to increase the resources spent on colonial administration. In 1973, military expenditures made up close to 50% of government expenditures (Carrington and De Lima 1996). These costs, coupled with a rising number of dead and injured in the Colonial War, and an increasing anti-colonisation

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6. We (non-exhaustively) review the literature on the labour market effects using natural experiments in Table A1 in the Appendix.

sentiment, eventually culminated in the April 1974 military coup, which put an end to the authoritarian regime in Portugal (Kalter 2018). Subsequently, the military withdrew its troops from the colonies and surrendered to the local independence movements. While initially it was expected that the white settler populations would be able to remain in Africa, soon conflicts erupted on the streets of the former colonies (Peralta 2019). The anticipation of civil war caused by divisions among the African nationalists and meddling of foreign powers in Angola and Mozambique led hundreds of thousands of ethnic Portuguese to flee to Portugal as repatriates (Young and Hall 1997), especially through a large airlift organised by Portugal with the assistance of several countries in 1975-76.

2.2 Repatriation to Portugal

The inflow of repatriates to Portugal was large and sudden, due to the unexpected timing of the military coup and subsequent independence of the colonies. According to the 1981 census, close to half a million *retornados* arrived in Portugal between 1974 and 1976, making it the largest migration exodus resulting from decolonization, in relative terms, given that the native population accounted for about nine million people (Peralta 2019).[7] Figure A1, in the Appendix, displays the male and female population growth, with respect to 1970.

Given that many of the repatriates arrived with few resources, the Portuguese government initiated a large-scale settlement program to assist them in their arrival, carried out by the Instituto de Apoio ao Retorno de Nacionais (IARN) (Carrington and De Lima 1996). This support included employing repatriates as public servants and giving cheap credit to small businesses (Peralta 2019).[8] The government rented available tourism lodging facilities (sometimes even luxury hotels), in which some repatriates passed their first years in Portugal.[9] The settlement program amounted to roughly 5% of Portuguese GNP over the 1974-76 period (Carrington and De Lima 1996). As early as 1981, IARN was dissolved, and the repatriates' program was

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7. If before the dissolution of the Portuguese Empire, all those living in overseas territories were considered to be Portuguese (albeit with different decrees of citizenship), that changed with the nationality law of 1975. In fact, this new law was enacted to prevent a mass inflow of Africans determining that only those who could prove an European lineage up to their grandfathers could apply for a Portuguese identity card.

8. The public sector's employment share rose from 13.4% in 1973 to 23.7% in 1976 (Carrington and De Lima 1996).

9. In December 1976, there were 71680 repatriates living in these facilities. One year later, this number decreased by more than half (32584) and, two years later, there were 18087 repatriates in hotels, camping sites, and holiday rentals (Delaunay 2020).

handed over to the social security system (Peralta 2019).

The integration of the *retornados* is often remembered as a success that "may even be considered miraculous" (Peralta 2019, 6). It co-existed with increases in the minimum wage, the nationalization of many industries, and other policies implemented by the post-revolutionary left-wing governments (Amaral, Marques, and Pereira dos Santos 2022). However, the arrival of the repatriates was not without challenges. The political turmoil (the government changed seven times between 1974 and 1975), coupled with a severe economic recession that culminated with a 1978 intervention by the International Monetary Fund, contributed to repatriates being received with hostility, perceived by the native population as foreigners, or even invaders (Peralta 2019). According to Lubkemann (2002), the media at the time contributed to the negative stereotyping of the "internal strangers", as he called them. Press reports of the government assistance program included claims that repatriates were "stealing housing and jobs" from the Portuguese (Mäkelä 2017, 242).[10]

3 Data and Descriptive Statistics

This paper combines data from Portuguese population census, former colonies' statistical yearbooks, and tourism statistical yearbooks.

3.1 Data on Repatriates

Data on the repatriates was retrieved by the sociologist Rui Pena Pires from the Portuguese census of 1981. He defines a repatriate as someone who lived in Portugal in 1981 and had lived in an African country in December 1973. The data set contains individual-level data on 471,427 *retornados*, including demographic information such as gender and age, place of birth, place of residency in 1979 and 1981, as well as educational and employment information.

In our main specifications, we consider 307,034 repatriates, obtained as follows. First, there are 339,868 repatriates between 20 and 69 years old in 1981, which corresponds to individuals

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10. 68% of the respondents of a 1978 survey were in favour of the independence of the colonies, but 59% disagreed with the way the process had been conducted and stated that the Portuguese authorities should have defended more "the rights" of the Portuguese nationals (Oliveira 2017). Figure A2 in the Appendix, retrieved from Lourenço 2018, shows the number of news mentioning the *retornados* in two daily newspapers (1974-1979), which drops considerably by 1979. While most news were neutral, there were more negative than positive news.

of working age (between 15 and 64) when arriving in Portugal. Second, we exclude individuals who migrated to Portugal after 1979, i.e, we restrict the analysis to those who returned in response to an exogenous push-factor, for identification purposes. Third, we exclude those (32,834 repatriates) who change municipality between 1979 and 1981, which allows us to abstract from economic-driven internal migration. The results are robust to including those who changed municipality, and to alternative age ranges.

We also retrieve data on the white resident population in Angola and Mozambique from 1940 to 1970 from the Statistical Yearbooks of Statistics Portugal. There were 443,068 white residents in Angola and Mozambique in 1970, i.e., 94% of the total of repatriates, indicating that almost the entire Portuguese population in these former colonies repatriated. We use this fact to construct the shift in one of the shift-share instruments. Table 1 shows that 94.8% of repatriates in our sample came from Angola or Mozambique.

In some of our specifications, we distinguish between Portuguese-born and colony-born repatriates. We provide some descriptive statistics of these two groups in Table A2 in the Appendix and their geographical distribution in Figure A3. As one would expect, colony-born are younger, and more educated. Moreover, they are more likely to be female. Interestingly, the shares of self-employed and employers are lower than in the Portuguese-born group.

3.2 Data on Portuguese Natives

We use the 1960 census data as the pre-shock period, and the 1981 one as the post-shock period. The 1960 census is the last census before the massive emigration of Portuguese residents in the 1960s.[11] The 1981 census is the first census after the inflow and it takes place after a six-year adjustment period. We also exploit the 1950 census to test for pre-trends.

The censuses contain municipality-level data on demographics and employment for the 303 municipalities.[12] In the 1981 census, we have individual level data for *retornados*, but not for natives. Therefore, we define the native population in each municipality by subtracting the number of repatriates from the total population. We compute native population outcomes likewise: the number of unemployed natives, for instance, is obtained by subtracting the number

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11. In 1970, the census was replaced by a survey covering only 20% of the population, without labour market information.

12. There were 305 municipalities in 1981 but only 303 in 1960.

of unemployed repatriates from the total unemployed population, per municipality.

We focus the analysis on the impact of the *retornados* on Labour Force Participation (LFP), Unemployment Rate, and the Employment Share. The census also provides data on different types of employment, including the number of employees and entrepreneurs. Entrepreneurs are further divided into employers (those who have employees) and self-employed individuals. We investigate these outcomes separately for male natives and female natives.[13]

We further decompose the native and repatriate population into four educational groups, namely no education, primary education, secondary education, and higher education.[14]

3.3 Comparison of Repatriates and Natives

Approximately 77.8% of repatriates were born in Portugal (Pires, Delaunay, and Peixoto 2020). This is in sharp contrast with the majority of decolonization migrants to France or the Netherlands, who were born in the colonies (Lubkemann 2002).

Working-age repatriates in our sample account for 4.5% of the native population, with 3.8% for females, and 5.3% for males.[15] Overall, the inflow of *retornados* not only changed the size, but also the composition of the Portuguese labour force. As shown in Table 1, repatriates were more educated, and more likely to be male, employees or employers. Compared with natives, repatriates were more likely to be of working age, as shown in Figure A4 in the Appendix.

Table 2 shows descriptive statistics for changes in native labour market outcomes between 1960 and 1981, natives' and repatriates' outcomes in 1981, and the difference between them, for both males and females. Labour force participation, as well as the shares of employment, employee, entrepreneur, employer and self-employed, are all computed as shares of the working age population. The unemployment rate is the share of the labour force who is unemployed. The outcomes exhibit an increasing degree of granularity as one moves from the top to the bottom of the Table. The labour force encompasses all those who are unemployed and employed. Those employed encompass employees (i.e., on dependent employment) and entrepreneurs. Entrepreneurs, in turn, include self-employed individuals, with no employees, which we consider

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13. Wages are not available at the municipality level during our sample period.

14. Primary education includes those with Primário elementar or Preparatório. Secondary education includes those with Secundário unificado, Secundário complementar or Propedêutico ou 12.º ano. Higher education includes those with Curso de índole profissional e artístico, Curso médio, enfermagem, profissional, or Curso superior.

15. Calculated as 307,034/6,824,225, and analogously for males and females, as per Table 1.

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Table 1: Comparison Repatriates and Natives

	Natives (Sample)		Repatriates (Sample)		Repatriates (Above 15)	
	N	%	N	%	N	%
Gender						
Male	3,189,679	46.7%	167,490	54.6%	188,096	53.8%
Female	3,634,546	53.3%	139,544	45.5%	161,461	46.2%
Total	6,824,225	100.0%	307,034	100.0%	349,557	100.0%
Education						
None	2,612,630	38.3%	38,730	12.6%	44,423	12.7%
Primary	3,341,173	49.0%	179,9276	58.6%	203,933	58.3%
Secondary	657,780	9.6%	62,414	20.3%	74,756	21.4%
Higher	212,642	3.1%	25,963	8.5%	26,445	7.6%
Total	6,824,225	100.0%	307,034	100.0%	349,557	100.0%
Profession						
Employee	2,837,804	76.9%	167,455	81.1%	174,403	81.4%
Self-employed	604,716	16.4%	25,346	12.3%	25,656	12.0%
Employer	119,936	3.2%	10,040	4.9%	10,138	4.7%
Stay-home parent	98,526	2.7%	1,639	0.8%	1,953	0.9%
Cooperative	16,577	0.4%	527	0.3%	550	0.3%
Other	13,530	0.4%	1,403	0.7%	1,454	0.7%
Total	3,691,089	100.0%	206,410	100.0%	214,154	100.0%
Unemployed/Inactive	3,166,212		100,624	100.0%	135,403	
Residence in 1973						
Angola			189,057	61.6%	215,528	61.7%
Mozambique			102,010	33.2%	116,803	33.4%
Other			15,967	5.2%	17,2261	4.9%
Total			307,034	100.0%	3349,557	100.0%

Notes: The native sample is comprised of all non-repatriates above the age of 15. The statistics for repatriates exclude those repatriates who migrated to Portugal after 1979 and those who changed municipalities between 1979 and 1981. The sample of repatriates is comprised of all repatriates between 20 and 69 years old in 1981. For comparison, statistics for repatriates above 15 are displayed. The total number of natives is calculated as the sum of all educational groups. The number of unemployed/inactive natives and repatriates is calculated as the difference between the total repatriates or natives in the sample and those with a profession specified. Shares may not add up to 100% due to rounding. Source: census of 1981, Statistics Portugal, computations by the author.

low-quality entrepreneurship, and employers, i.e., high-quality entrepreneurs.

The LFP of male natives decreased between 1960 and 1981, while female native LFP increased. We observe an increase in the male native unemployment rate, and a large drop in the male employment share. The share of employers decreases, while that of self-employed individuals increase. For female natives, the positive changes in all the outcomes indicate an increasing integration of women in the labour market.

In 1981, the LFP of both native and repatriate men is significantly higher than that of women. Compared to natives, male and female *retornados* are more likely to be unemployed, indicating

Table 2: Descriptive Statistics

	Males				Females			
	Natives		Repatriates	Difference	Natives		Repatriates	Difference
Variable	Δ_{60-81}	m_{81}	m_{81}	m_{81}	Δ_{81-60}	m_{81}	m_{81}	m_{81}
LFP	-0.097	0.892	0.889	0.036	0.213	0.361	0.446	0.018***
	(0.064)	(0.042)	(0.058)	(0.004)	(0.099)	(0.121)	(0.119)	(0.006)
Unemployment rate	0.011	0.037	0.076	-0.022***	0.130	0.137	0.259	-0.205***
	(0.019)	(0.017)	(0.047)	(0.002)	(0.089)	(0.089)	(0.138)	(0.009)
Employment share	-0.102	0.858	0.824	0.055***	0.163	0.310	0.349	0.104***
	(0.066)	(0.047)	(0.064)	(0.003)	(0.099)	(0.116)	(0.097)	(0.006)
Share Employee	-0.134	0.564	0.616	-0.061***	0.077	0.204	0.286	0.016***
	(0.124)	(0.110)	(0.099)	(0.005)	(0.068)	(0.097)	(0.098)	(0.005)
Share Entrepreneur	-0.004	0.251	0.200	0.055***	0.075	0.093	0.058	0.064***
	(0.093)	(0.108)	(0.071)	(0.005)	(0.083)	(0.088)	(0.047)	(0.004)
Share Employer	-0.038	0.027	0.042	0.007***	-0.000	0.004	0.006	0.002***
	(0.029)	(0.013)	(0.022)	(0.001)	(0.004)	(0.003)	(0.009)	(0.000)
Share Self-employed	0.033	0.224	0.158	0.048***	0.075	0.089	0.051	0.062***
	(0.094)	(0.114)	(0.069)	(0.005)	(0.084)	(0.089)	(0.046)	(0.003)

Notes: Standard deviations in parentheses. Δ_{81-60} refer to the change in each outcome between 1960 and 1981. m_{81} refers to the mean level in 1981 across the 303 municipalites. LFP stands for labour force participation. The column *Difference* shows the difference between mean levels of natives and repatriates in 1981. The stars indicate significance of an unpaired t-test of the differences. All indicators expect for the unemployment rate are calculated as shares over the total population of working age. We compute the unemployment rate as the share of the labour force that is unemployed. Source: census of 1981, computations by the author. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

that they may face higher frictions in the Portuguese labour market. Female repatriates exhibit a higher unemployment rate and a higher employment share than native women, that is, they are more likely to either be employed or unemployed, and less likely to be stay-home parents. For male repatriates, the LFP is lower than for natives; they are more likely to be unemployed and less likely to be employed. As indicated in Table 1, both groups of repatriates are less likely to be self-employed, but more likely than natives to be employers.

3.4 Spatial distribution of repatriates

The average shock of 4.7% of the working-age natives in 1981 entails considerable spatial variation between municipalities, as shown in Figure 1. While there is no major clustering across municipalities, the highest density is in the North East of the country and around Lisbon.

As discussed above, the Portuguese government rented hotels and other touristic lodging facilities in order to accommodate the *retornados* upon arrival. We retrieved data from Statistics
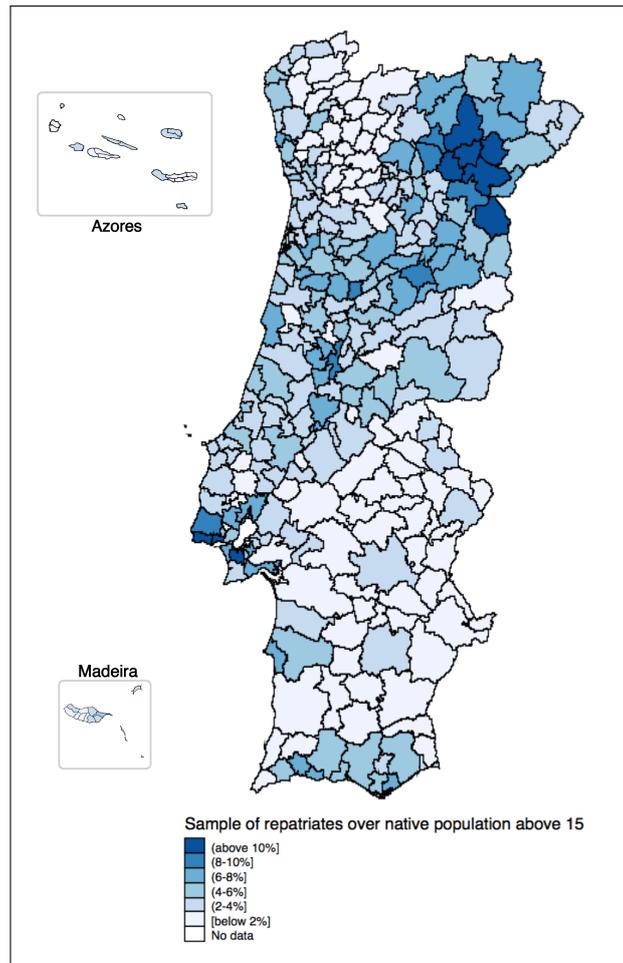
Figure 1 Repatriate settlement across municipalities in 1981.
　　　　Source: census of 1981, Statistics Portugal, own construction.

Portugal on the pre-shock (1973) hospitality sector, and use it to build an instrumental variable. More specifically, we collected data on the capacity to host by municipality, i.e. the sum of the number of people that all the facilities (hotels, camping sites, and others) can accommodate. In 1973, the total capacity amounts to 208 places in the hospitality industry, on average, per municipality, varying from 0 to 15034.

4   Methodology

4.1   Empirical strategy and identification challenge

Our identification strategy is based on the differential municipal concentration of the repatriates. We investigate the effect of the overall immigration shock on labour market outcomes, using

the following specification:[16]

$$\Delta Y_{rn} = \alpha_n + \beta\, m_{rn} + \gamma X_{rn}^{1960} + \varepsilon_{rn} \qquad (1)$$

where r stands for municipality, n for NUTS 2 region, and ΔY_{rn} denotes the change in the outcome Y from 1960 (the pre-shock period) to 1981 (the post-shock period) in each region.[17] We investigate labour force participation, the unemployment rate, overall employment, and employment as an employee or entrepreneur. Outcome variables are first-differenced to account for omitted time-invariant characteristics of the municipalities. The treatment variable, m_{rn}, is the ratio of working-age repatriates to working-age natives in 1981, in municipality r from NUTS 2 n, and thus β is our coefficient of interest.[18] The vector of controls X_{rn}^{1960} comprises the shares of unemployed, inactive, young, highly educated, entrepreneurs, and per capita emigration in 1960 (i.e., individuals who moved to foreign countries, excluding Portuguese colonies). This last control mitigates the concern that unobservable characteristics of the municipalities may have driven the high levels of emigration in the 1960s (Cardoso and Morin 2018).[19] We further include dummies for the seven NUTS 2 regions (α_n), hence our identification is based on within-NUTS 2 variation. Standard errors are clustered at the municipality level.

There are a number of possible confounding contemporaneous economic shocks, namely, the oil crises of 1973 and 1979, the end of the Portuguese Colonial War, which caused a reduction in military employment of about 200,000 people, the revolution and democratisation of the country, and the end of emigration to France and West Germany. The returning soldiers are unlikely to asymmetrically affect regions within Portugal, as drafting was spread across the country, and the options for opting out were severely limited (Card and Cardoso 2012). Note also that the war had a relatively low death toll of 8,290 soldiers (Cardoso and Morin 2018), hence differential death rates are unlikely to cause a major impact. Still, we cannot rule out that the other shocks cause differential municipal impacts. We show in Section 6 that our results are

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16. This is preferable to using variation across both education groups and regions, which relies on the assumption that immigrants and natives with the same education and experience are competitors, at odds with the evidence that immigrants "downgrade" upon their arrival. Moreover, the effect of the total inflow is easier to interpret and estimates a parameter with direct policy relevance (Dustmann, Schönberg, and Stuhler 2016).

17. The NUTS classification (Nomenclature of territorial units for statistics) is a hierarchical system for dividing up the economic territory of the EU. Figure A5 in the Appendix shows a map with these regions in Portugal, and their respective population and labour force is displayed in Table A4.

18. Hunt (1992), Borjas (2003) and Edo (2020) likewise use this post-shock denominator.

19. Removing this control does not change our results.

13

robust to several exercises.

The aim of this analysis is to compare the economic outcomes of certain regions after return immigration with the counterfactual outcome that would have been observed had repatriation not taken place (Dustmann, Fabbri, and Preston 2005). The extent to which repatriates could actively base their location decision on economic considerations was limited by the unexpected timing of the end of the Portuguese Colonial War. Note that we are already controlling for unobservable time invariant characteristics (through first-differencing and NUTS 2 fixed effects), and for an extensive set of observables in the pre-shock period. However, if endogenous sorting does occur, or if natives move in response to the inflow of repatriates, OLS may be biased. For instance, if immigration increased unemployment in certain areas, leading natives to move to areas with lower migrant density, the impact of immigration would be dispersed through the national economy, thus biasing OLS coefficients downwards. We tackle these concerns with two alternative instrumental variable strategies.

4.2   Shift-Share Instruments

To address the potential endogeneity in the location of repatriates, we propose three novel shift-share instruments exploiting the fact that we have access to rigorous and detailed individual level census data. A shift-share instrument is a weighted average of some shock, with weights reflecting heterogeneous shock exposure (Bartik 1991). In other words, the spatial distribution of a certain shock (i.e. the shift) is instrumented by predicting regional shock exposure from some regional, exogenous characteristic (i.e. the share).

According to Table A2 in the Appendix, 77.8% of the repatriates were born in Portugal.[20] Therefore, a suitable parameter to predict settlement patterns is the predetermined share of Portuguese-born repatriates born in each municipality, since many of them returned to their region of birth.[21] We first present the three IVs and we then discuss them in light of the recent contributions on the validity of shift-share instruments (Goldsmith-Pinkham, Sorkin, and Swift 2020; Borusyak, Hull, and Jaravel 2022; Jaeger, Ruist, and Stuhler 2018; Clemens and Hunt

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20. In Figure A6 of the Appendix we show that a large share of Portuguese-born repatriates return to the their NUTS 3 region of birth. In 1981, on average, about 40% of Portuguese-born repatriates lived in their birth municipality.

21. Note that we depart from Edo (2020), who uses past settlements as shares and showed that arriving migrants are more likely to settle in areas with higher previous migrant densities.

2019; Adao, Kolesár, and Morales 2019).

For the first shift-share IV, we decompose the sample of *retornados* across four educational levels to construct the instrument, assuming that network effects with other repatriates are stronger between individuals with the same education. We then use the share of Portuguese-born repatriates of each education group born in each region to build the shift-share instrument. We compute the imputed number of repatriates as follows:

$$\widehat{Repatriates}_{rn} = \sum_i \frac{Portuguese-born_{i,rn}}{Portuguese-born_i} \times Repatriates_i \quad (2)$$

where *i* stands for one of four education groups (None, Primary, Secondary, and Higher), and *r* stands for one of the 303 municipalities, while *n* is the corresponding NUTS 2 regions.

In our second shift-share IV, *i* is refers to the place the repatriates lived in before returning to Portugal. The three origin groups are Angola, Mozambique, and other colonies. This instrument assumes that network effects are stronger between repatriates from the same colonies, which might be a reasonable assumption for repatriates, as many *retornados* flew back together with part of their families, friends, and coworkers.

Lastly, we construct a simple Bartik instrument (Bartik 1991) to predict employment growth. We interact the share of repatriates born in each region with another proxy for the total inflow of repatriates, namely, the number of white residents in Angola and Mozambique in 1970, using the following equation:

$$\widehat{Repatriates}_{rn} = \frac{Portuguese-born_{rn}}{Portuguese-born} \times White\,residents\,in\,colonies_{1970} \quad (3)$$

Note that this instrument does not rely on network effects between certain education or origin groups, and uses an alternative measure as a shift.

As mentioned before, natives could also have moved in response to the shock. Inspired by Edo (2020), we address this potential endogeneity by likewise predicting the number of pre-existing natives in 1981, i.e., those that do not move in response to the repatriate shock, in each region, according to:

$$\widehat{Natives}_{rn}^{1981} = \sum_i \frac{Natives_{i,rn}(1960)}{Natives_i(1960)} \times Natives_i(1981) \quad (4)$$

where i again stands for education group and r stands for municipality, and n for the corresponding NUTS 2 region.

Importantly, the two shift-share IVs and the simple Bartik one differ only in the way we predict repatriates; natives are always predicted according to (4). After predicting the number of repatriates per region from (2), or from (3), and the number of natives from (4), we compute the three different instruments as follows:

$$m_{rn}^{IV} = \frac{\widehat{Repatriates}_{rn}}{\widehat{Natives}_{rn}^{1981}} \tag{5}$$

The first stage estimation is therefore given by:

$$m_{rn} = \kappa_n + \lambda_1 m_{rn}^{IV} + \lambda_2 X_r^{1960} + \varepsilon_{rn} \tag{6}$$

And the second stage is

$$\Delta Y_{rn} = \alpha_n + \beta \hat{m}_{rn} + \gamma X_{rn}^{1960} + \varepsilon_{rn}, \tag{7}$$

where $\hat{m}_{rn}$ is predicted from (6).

Baseline standard errors are clustered per municipality, consistently with the OLS estimates. For robustness, we show results with standard errors clustered per NUTS 3 in the appendix. In addition, we consider the recent developments related to inference in shift-share designs, following Adao, Kolesár, and Morales (2019), who provide a correction for the fact that correlated shocks might generate a spurious correlation across municipalities that need not be geographically proximate, yet feature similar characteristics. Accordingly, we also report standard errors accounting for the shift-share correlation structure, as proposed by these authors, in Section 6.[22]

As argued by Goldsmith-Pinkham, Sorkin, and Swift (2020), since our strategy relies on the differential exposure of municipalities to the return migration shock, it yields unbiased estimates if the (predetermined) share of repatriates born in each region is exogenous to *changes* in labour market outcomes between 1960 and 1981, after controlling for a rich set of pre-shock

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22. The alternative is to model the correlation in the error term as in the spatial econometrics literature; however, in that case, inference is influenced by the modelling of the correlation structure Adao, Kolesár, and Morales (2019).

characteristics and regional dummies.[23]

Because our IV strategies exploit a natural experiment, they are arguably more exogenous than the shift-share IVs which use the national increase in immigrants as shocks. Nevertheless, there could still persist possible threats to identification.

The main identification assumption is that the composition of the *retornados* born in each municipality does not drive the labour market outcomes for reasons other than the return migration in the end of the seventies. This could be questioned if there is strong selection in departure from Portugal, which would question the exclusion restriction of the shares. This concern is mitigated for the case of the *retornados*. In fact, they were a socially diverse population (Peralta 2019): some had migrated because they resided in impoverished regions and wanted to escape poverty, others were affluent settler families with affinities to colonial power. This diversity indicates that a systematic relationship between the places of birth and changes in labour market outcomes between 1960 and 1981 is unlikely. In addition, this is a sufficiently long time lag to predict the regional distribution of migrants (Borjas 1999; Dustmann, Fabbri, and Preston 2005).

Note also that we construct two shift-share IVs: one is based on the educational composition of the *retornados*, while the second uses their place of origin in the former colonies. Importantly, there is no systematic selection of the migrants into the former colonies based on their education levels, as shown in Table A3 in the Appendix. The fact that the two IVs give comparable results despite this is a further reassurance that the skill composition of out-migration is not driving the results.

A related concern is that past migration shocks can be correlated with current outcomes if the dynamic adjustment process is not complete (Jaeger, Ruist, and Stuhler 2018). This problem, however, is relatively more important in contexts where migration movements are stable over time. Their critique is thus less relevant in our setting. Moreover, we do not use past settlement patterns, but repatriate's places of birth. Biases can also arise if natives move in response to the shock (Clemens and Hunt 2019). To mitigate this concern, on top of following the approach proposed by Edo et al. (2019), and predict the spatial distribution of natives according

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23. In contrast, Borusyak, Hull, and Jaravel (2022) exploit random variation coming from the shocks, which in this setting would imply differential shocks across education or origin categories. In our case of many regions, but few migrant categories (and time periods), we follow Goldsmith-Pinkham, Sorkin, and Swift (2020) and focus on the share approach.

to their pre-determined (1960) education shares, we also show that our results are robust to the specification correction of Kronmal (1993) in Section 6.

We now argue that it is unlikely that our results are driven by omitted variable bias. In other words, municipalities could be experiencing different trajectories in their labour markets for reasons unrelated to the repatriates. In order to rule out this possibility, we report a falsification exercise using data for the pre-treatment period in Section 6.[24] Moreover, to discard the importance of influential observations, we show in Section 6 that our results are robust to the sequential removal of all municipalities from each NUTS 3 regions from the sample.

Trade with the former colonies is likewise unlikely to play an important role because of the nature of the products that were traded with the colonies and the respective market structure. In 1973, African colonial trade accounted for 14.6% of Portuguese exports, and 9.6% of Portuguese imports (Ferreira 1994). One third of the imports were mineral products, such as oil, and precious metals, such as diamonds. Moreover, the firms in charge of colonial trade in these natural resources were controlled by the state (Amaral, Marques, and Pereira dos Santos 2022), i.e., it is unlikely that small entrepreneurs were setting up small firms to trade with their municipalities of birth.[25]

4.3 Hospitality Sector Instrument

We further develop a complementary two-stage least-squares (2SLS) strategy that exploits an important feature of the returnees settlement: the fact that the government had to use existing hotels (including luxury ones), camping sites, and holiday rentals to accommodate them in short notice. Naturally, it seems likely that the option to stay in hotels would have been accepted more easily by the repatriates who did not have strong ties to family or friends in Portugal, i.e., the colony-born ones.

We retrieve data on the hospitality sector capacity, i.e., the number of people that can be accommodated in hotels and similar properties, per municipality, $hotels_r$ in 1973 (before the

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24. Goldsmith-Pinkham, Sorkin, and Swift (2020) advocate for tests of pre-trends of the instruments to support the exogeneity of the shares. However, we note that, in this setting, since we rely on a natural experiment, there is no pre-period for the repatriates' places of birth.

25. During the Estado Novo regime, entrepreneurship was constrained by a complex system of economic regulation. In the 1970s, the State was the largest shareholder in the country and, in several industries (e.g. oil, petrochemicals, diamonds), its presence was based on joint ventures with large business groups.

revolution). As such, our first stage regression is capturing an intent-to-treat, given that we are not measuring where the repatriates were hosted, but where there was enough capacity to welcome them. This reinforces the exogeneity of the excluded instrument.[26]

Our first stage regression for the ratio of the number of repatriates in each municipality to its native population is presented below. Importantly, we distinguish between repatriates born in Portugal (m_{rn}^p) and in the former colonies (m_{rn}^c):

$$m_{rn}^p = \delta_n + \eta_1 \, hotels_{rn} + \eta_2 \, m_{rn}^{IV} + \eta_3 X_r^{1960} + \mu_{rn}$$
$$m_{rn}^c = \psi_n + \omega_1 \, hotels_{rn} + \omega_2 \, m_{rn}^{IV} + \omega_3 X_r^{1960} + \nu_{rn} \tag{8}$$

where m_r^{IV} is the first shift-share IV and X_r^{1960} is the vector of controls defined before. We then estimate the following 2SLS second stage equation:

$$\Delta Y_{rn} = \alpha_n + \beta_1 \hat{m}_{rn}^p + \beta_2 \hat{m}_{rn}^c + \gamma X_{rn}^{1960} + \varepsilon_{rn}$$

where Y_{rn} are the outcome variables presented before and $\hat{m}_{rn}^p$ and $\hat{m}_{rn}^c$ are the fitted values from the first stage regressions (8).

5 Results and discussion

We investigate the effect of the repatriate supply shock on the male and the female labour markets separately, considering that the characteristics of female and male natives shown in Table 2 differ substantially and that female labour supply is more elastic to shocks.

5.1 Main results

Tables 3 and 4) present the estimated effects of the supply shock induced by the repatriates on the change in labour force participation, unemployment rate, employment, and entrepreneurship, for male and female natives, respectively. Specification (1) and (2) are OLS regressions

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26. Steinmayr (2021) also uses an instrumental variable strategy using the number of group accommodation as an instrument for the opening of refugee centres.

Table 3: Labour market effects of repatriates on male natives - Baseline

	OLS		IV		
Outcomes for male natives	(1)	(2)	(3)	(4)	(5)
Δ LFP	-0.053	-0.070	-0.420*	-0.382	-0.406***
	(0.110)	(0.110)	(0.246)	(0.261)	(0.153)
Δ Unemployment rate	-0.069*	0.029	0.138**	0.145*	0.137***
	(0.040)	(0.035)	(0.069)	(0.075)	(0.051)
Δ Employment share	0.015	-0.107	-0.549**	-0.517*	-0.535***
	(0.114)	(0.116)	(0.258)	(0.272)	(0.163)
Δ Share Employee	-0.595***	-1.194***	-2.770***	-2.824***	-2.151***
	(0.227)	(0.182)	(0.417)	(0.443)	(0.244)
Δ Share Entrepreneur	-0.030	0.398**	1.604***	1.704***	0.987***
	(0.174)	(0.173)	(0.361)	(0.403)	(0.213)
Δ Share Employer	-0.188***	-0.136**	-0.110	-0.077	-0.166**
	(0.060)	(0.060)	(0.112)	(0.121)	(0.068)
Δ Share Self-employed	0.159	0.534***	1.714***	1.781***	1.153***
	(0.173)	(0.186)	(0.371)	(0.406)	(0.228)
Controls	NO	YES	YES	YES	YES
Instrument	-	-	IV1	IV2	IV3
First-stage coefficient	-	-	0.326	0.308	0.377
First-stage F-statistic	-	-	50.234	40.115	584.277
Observations	303	303	303	303	303

Notes: Robust standard errors in parentheses. The independent variable is the sample of repatriates over the native population above 15. All outcomes refer to changes between 1960 and 1981. LFP, Employment share, Share Employee, Share Entrepreneurship, Share Employer and Share Self-employed are calculated as shares over the native working age population. The unemployment rate refers to the share of unemployed over the native labour force. All regression contain dummies for NUTS 2 regions. Controls contain the following parameters in 1960: unemployed and entrepreneurs as share of working age population, inactive and population below 15 as share of total population, those with higher education as share of those above 15, and per capita emigration in 1960. IV1 is the instrument based on educational network effects, IV2 is the instrument based on network effects according to the colony lived in and IV3 is the basic Bartik instrument. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

of equation (1), without and with pre-shock controls. The following columns refer to the shift-share IV regressions estimated according to equation (7): column (3) uses educational network effects, (4) uses origin network effects, and (5) is the simple Bartik instrument.

All first-stage coefficients of the instruments are large in magnitude, and the first-stage F-statistics are above 10 (Stock, Wright, and Yogo 2002), indicating that the instruments are relevant predictors of repatriate density, and the IV estimates are unlikely to be subject to weak instrument bias. The estimated second-stage effects using the three instruments are all very

Table 4: Labour market effects of repatriates on female natives - Baseline

	OLS		IV		
Outcomes for male natives	(1)	(2)	(3)	(4)	(5)
Δ LFP	-0.231	-0.491**	-2.200***	-2.416***	-1.128***
	(0.222)	(0.199)	(0.497)	(0.561)	(0.263)
Δ Unemployment rate	-0.724***	-0.071	0.669**	0.736**	0.311*
	(0.198)	(0.162)	(0.262)	(0.290)	(0.167)
Δ Employment share	0.068	-0.378*	-2.096***	-2.307***	-1.061***
	(0.227)	(0.199)	(0.481)	(0.538)	(0.257)
Δ Share Employee	-0.252	-0.554***	-2.175***	-2.326***	-1.240***
	(0.165)	(0.138)	(0.443)	(0.491)	(0.204)
Δ Share Entrepreneur	0.100	-0.024	-0.008	-0.060	0.048
	(0.158)	(0.163)	(0.315)	(0.323)	(0.241)
Δ Share Employer	-0.009	-0.019**	-0.060***	-0.061***	-0.045***
	(0.010)	(0.009)	(0.019)	(0.020)	(0.011)
Δ Share Self-employed	0.110	-0.005	0.052	0.001	0.092
	(0.159)	(0.162)	(0.315)	(0.323)	(0.242)
Controls	NO	YES	YES	YES	YES
Instrument	-	-	IV1	IV2	IV3
First-stage coefficient	-	-	0.326	0.308	0.377
First-stage F-statistic	-	-	50.234	40.115	584.277
Observations	303	303	303	303	303

Notes: See notes in table 3 * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

similar in magnitude and significance.

Our results are as follows. Males decrease their participation in the labour force. At the same time, unemployment increases and employment decreases. Therefore, we observe that male natives respond to the shock both through the inactivity and the unemployment margins. A 1 pp increase in the share of repatriates leads to roughly a 0.14 pp increase in unemployment among male natives. As the supply shock accounts for a 3.6 pp change in the share of repatriates, the average increase in unemployment caused by the shock amounts to 0.5 pp.

The (negative) effect on employment hides substantial heterogeneity between different types of employment: male natives are less likely to be employees, and more likely to be entrepreneurs, of the low quality (i.e., without employees) type. A 1 pp increase in the share of repatriates will lead to roughly a 2-3 pp reduction in the share of the labour force working as employees, on average. The total supply shock thereby reduced the share of employees by 7-11 pp. This cor-

responds to an average reduction of about 10-16%, compared to the pre-shock level of 69.8% in 1960. On the other hand, we observe a substantial increase in the share of male entrepreneurs. The supply shock increased the share of entrepreneurs by about 6 pp.[27] This corresponds to a rise of about 24% compared to the pre-shock level of 25.5%. An increase in self-employed individuals drives this increase: in the presence of relatively more repatriates, natives are more likely to be self-employed, but less likely to work as employers.

We now turn to the outcomes for female natives. Similarly to males, we also observe a decrease in labour force participation, higher unemployment and lower employment. However, the magnitude of the impact is four to five times higher than that of males. Moreover, females do not circumvent the shock by becoming (low-quality) entrepreneurs, contrary to males. Notice that we cannot discard that females are working in informal family-based businesses instead (Verme and Schuettler 2021). We observe a slight decrease in the share of employers, but no impact on (overall) entrepreneurship or self-employment. These gender-specific differences are consistent with the findings of Edo's (2020) for the French repatriation.

On average, the shock introduced roughly a 7 pp reduction in the share of employed women and a 8 pp reduction in the share on dependent employment. Given the low pre-shock level of 12.7% of women on dependent employment, the latter indicates a larger relative change than for men, corresponding to a decrease of about 62% (compared to 10-16% for men). It is important to highlight that, during this period, the labour force participation of women increased substantially, i.e., by 21.3%, as shown in Table 2. The negative effect implies that in municipalities with more repatriates, female labour market outcomes increased by less than they would have increased in the absence of the repatriates.

Contrary to men, women do not (partially) compensate for this loss with an increase in self-employment. While we observe a slight, statistically significant drop in the share of employers, the overall effect on entrepreneurship is non-significant. Most females seem to move to inactivity, as reflected in the large, negative effect on female LFP.

When compared to the IV results, the OLS ones (the comparable ones with controls, in column (2)) are biased towards zero, for both females and males. This indicates that *retornados* seem to settle in regions with better *a priori* labour market prospects and economic fundamen-

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27. Calculated as 3.6*1.7, i.e the average shock multiplied by the point estimate of the coefficient.

tals, suggesting positive selection. The IVs mitigate this endogeneity, and show that the true (negative) impact on the labour market prospects of the natives was actually stronger.

5.2 Discussion

Before discussing our results, it is important to point out that native African migration to Portugal after the Revolution was marginal and unlikely to have an impact on the labour market. Under the 1975 law, only the individuals who were born in Portugal and those who had Portuguese-born ancestors were entitled to Portuguese nationality. This explicitly excludes the great majority of the black population and those who could not prove their ancestry.

We now turn to the possible mechanisms of adjustment. The supply shock was accompanied by a real wage decrease after 1975, as shown by Carrington and De Lima (1996), who document a sizeable decrease in real earnings, related to the inflow of repatriates in each of the country's 20 districts. Aggregated data from Statistics Portugal confirms that after an initial increase immediately after the revolution, real wages started to decrease, coinciding with the arrival of the repatriates (Pereirinha 1980). Mäkelä (2017) finds that in 1977, actual average annual wages per worker were about 8% lower compared to the synthetic counterfactual, with a larger negative effect of -25% in 1970 and -55% in 1985, respectively. The wage decrease indicates that the demand side of the market could not, at least in the short run, fully absorb the supply shock.

Moreover, the sectorial distribution of natives and *retornados* is not symmetric. Figure 2 depicts odds ratios in each industry (i.e., the ratio between the share of natives working in industry *i* and the share of repatriates working in the same industry) against the average wage bill of the industry in 1981, as reported in the official Firm Statistics Yearbook (*Estatísticas das Sociedades, INE)*. Accordingly, an odds ratio greater than one means that natives are relatively over-represented in that sector. The Figure displays a clear negative correlation, implying that natives sort into sectors with lower wages. Hence, they are over-represented in lower wage sectors, such as agriculture and forestry, textile and shoes, and domestic services. Conversely, repatriates are over-represented in the banking and insurance industry, transportation, and wholesalers.

The figure suggests that natives decreased their position in the earnings ranking, which,
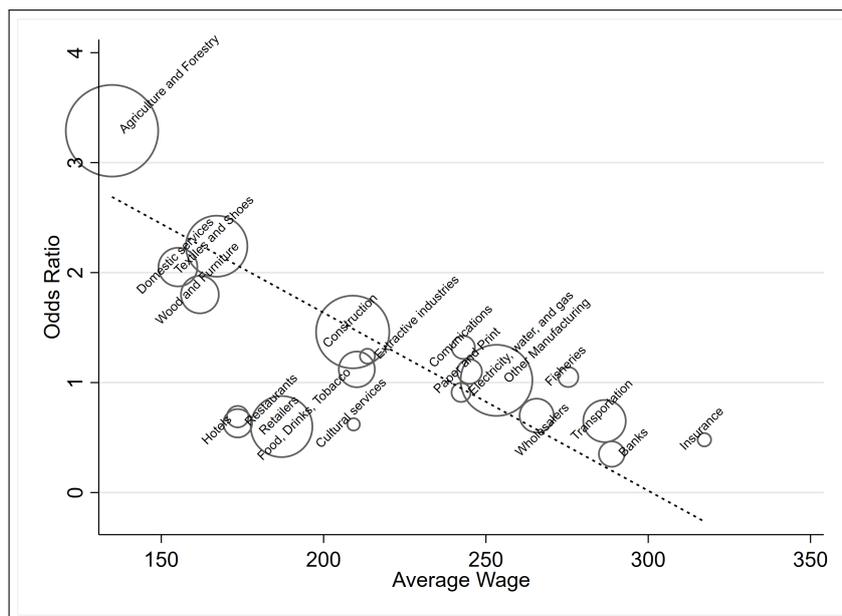
Figure 2 Sectors of activity and the distribution of natives and repatriates.
   Source: Census in 1981, 1960, and *Estatísticas das Sociedades* in 1981. Notes: The last source does not include information on public-sector wages. Relative sizes represent the total number of workers employed in each sector of activity.

combined with the real wage decrease, may explain part of the negative sentiment described in Section 2. Moreover, repatriates drive natives out of occupations in which repatriates are more prevalent, namely, payed employment (see Table 2), a reflection of the so-called *margins of adjustment* (Peri 2016). In contrast with what is usually found in the literature (Lee, Peri, and Yasenov 2022), our analysis suggests that, in this case, the natives bear the downgrading effect of migration, instead of the incomers.

   We now turn to gender-specific effects. It is reasonable to assume that the wage decrease is driven by male wages; as of 1960, 69.8% of working age males worked as employees, compared to 12.7% of females. Since male and female populations were approximately the same, there were more than five times as many male employees *vis-à-vis* female employees. We also know, from Carvalho (1980), that the gender wage gap was 64% in 1974, and 75% in 1978, a sharp change in just four years, which is compatible with a decrease in male wages. If employers had a preference for male employees, and hired women because they were relatively cheaper, the decrease in the gender wage gap may have led to female layoffs. Indeed, Cardoso and Morin (2018) show that the relative scarcity of men in the Portuguese economy resulting from military drafting and emigration in the 1960s and early 1970s led to a demand-driven sharp increase in

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female LFP, followed by a slowdown in the 1980s, coinciding with the arrival of the repatriates.

6 Robustness

This section provides a number of exercises relating to the robustness of our results.

6.1 Falsification test and correlation of the error term

We begin by providing a falsification test, using the changes from 1950 to 1960 as outcome variables, in the spirit of the pre-trends tests suggested by Goldsmith-Pinkham, Sorkin, and Swift (2020). Due to data limitations in the 1950 census, we only report results for two (gender-specific) outcome variables, namely the employment share and the share of employees. Tables A9 and A6 in the Appendix show that the municipal distribution of the repatriates in the 1970s is not systematically related with past differences in outcomes. These provides further evidence that our results are not driven by unobservable differences in the municipalities and are indeed capturing the impact of the repatriate shock.

Moreover, Tables A7 and A8 in the Appendix report two alternative specifications of the standard errors: clustered by NUTS 3 (presented between parentheses), and specified according to Adao, Kolesár, and Morales (2019), i.e., taking into account potential autocorrelation structure across municipalities (presented between squared brackets). As can be seen, the results are unchanged.

6.2 Regional characteristics, repatriate mobility, and gender specific shocks

In Tables 5 and 6, we display a battery of robustness tests, using the education networks specification of the IV. In column (1), we replace the instrumental variable according to Kronmal 1993. In column (2) and (3), we exclude particular regions from the sample, while, in columns (4) and (5), we change and remove the regional fixed effects. Column (6) includes the subsample of repatriates who changed municipalities within Portugal before 1981. Lastly, in columns (7) we use a pre-shock denominator, while in (8), we consider gender-specific shocks.

Table 5: Labour market effects of repatriates on male natives - robustness

Outcomes for male natives	IV 1 - based on educational network effect							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
ΔLFP	-0.020*	-0.422*	-0.358	-0.465*	-0.566**	-0.413*	-0.753	-0.211*
	(0.010)	(0.242)	(0.232)	(0.277)	(0.254)	(0.242)	(0.463)	(0.244)
Δ Unemployment rate	0.013***	0.129*	0.129*	0.234***	0.171**	0.135**	0.247*	0.069**
	(0.003)	(0.067)	(0.063)	(0.089)	(0.075)	(0.068)	(0.133)	(0.034)
Δ Employment share	-0.032***	-0.543**	-0.480**	-0.678**	-0.715***	-0.539***	-0.984**	-0.275***
	(0.011)	(0.253)	(0.241)	(0.299)	(0.268)	(0.254)	(0.498)	(0.127)
Δ Share Employee	-0.130***	-2.590***	-2.704***	-3.156***	-2.900***	-2.723***	-4.967***	-1.313***
	(0.018)	(0.381)	(0.391)	(0.576)	(0.478)	(0.417)	(1.106)	((0.203)
ΔShare Entrepreneur	0.076***	1.421***	1.586***	1.858***	1.589***	1.577***	2.876***	0.749***
	(0.017)	(0.331)	(0.346)	(0.473)	(0.382)	(0.359)	(0.825)	(0.177)
Δ Share Employer	-0.013***	-0.100	-0.124	-0.084	-0.218**	-0.108	-0.197	-0.039
	(0.005)	(0.110)	(0.106)	(0.122)	(0.103)	(0.110)	(0.199)	(0.057)
Δ Share Self-employed	0.090***	1.520***	1.710***	1.942***	1.806***	1.685***	3.074***	1.685***
	(0.019)	(0.342)	(0.357)	(0.479)	(0.399)	(0.369)	(0.847)	(0.181)
Controls	YES	YES	YES	YES	YES	YES	YES	YES
First-stage coefficient	0.724	0.337	0.357	0.278	0.307	0.332	0.182	1.235
First-stage F-statistic	78.526	54.824	58.313	32.769	41.873	47.828	19.332	45.902
Observations	303	270	246	303	303	303	303	303

Notes: Robust standard error in parentheses. For a description of outcomes, controls and instruments see Table 3. (1) uses the Kronmal specification, that is, the independent variable is the log of repatriates, with the controls including the log of natives above 15 in 1981. (2) - (6) use the share of repatriates over natives as independent variable. (2) excludes Lisbon, Setúbal and Algarve from the regression. (3) excludes the Alentejo regions, (4) includes only three regional dummies (5) includes no regional fixed effects (6) includes those repatriates who changed municipalities in the sample (7) uses the pre-existing workforce rather than the post-shock denominator (8) uses a gender-specific shock. Controls contain the following parameters in 1960: unemployed and entrepreneurs as share of working age population, inactive and population below 15 as share of total population, those with higher education as share of those above 15 and per capita emigration in 1960. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table 6: Labour market effects of repatriates on female natives - robustness

Outcomes for female natives	IV 1 - based on educational network effect							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
ΔLFP	-0.066***	-2.163***	-1.951***	-2.696***	-2.422***	-2.163***	-3.945***	-1.020***
	(0.020)	(0.483)	(0.432)	(0.674)	(0.575)	(0.493)	(1.167)	(0.499)
Δ Unemployment rate	0.027**	0.600**	0.600**	1.161***	0.677**	0.657**	1.199**	0.278**
	(0.013)	(0.254)	(0.207)	(0.388)	(0.329)	(0.259)	(0.509)	(0.116)
Δ Employment share	-0.067***	-2.039***	-1.792***	-2.722***	-2.343***	-2.061***	-3.759***	-0.959***
	(0.020)	(0.466)	(0.413)	(0.680)	(0.562)	(0.477)	(1.120)	(0.205)
Δ Share Employee	-0.078***	-2.052***	-1.853***	-2.569***	-2.393***	-2.138***	-3.900***	-0.985***
	(0.013)	(0.414)	(0.362)	(0.613)	(0.524)	(0.442)	(1.095)	((0.187)
ΔShare Entrepreneur	0.007	-0.067	-0.055	-0.213	-0.014	-0.008	-0.014	-0.024
	(0.016)	(0.308)	(0.300)	(0.383)	(0.332)	(0.309)	(0.564)	(0.145)
Δ Share Employer	-0.002***	-0.059***	-0.051***	-0.074***	-0.074***	-0.059***	-0.108***	-0.028***
	(0.001)	(0.019)	(0.018)	(0.023)	(0.020)	(0.019)	(0.039)	(0.008)
Δ Share Self-employed	0.009	-0.008	-0.004	-0.139	0.059	0.052	0.094	0.052
	(0.016)	(0.309)	(0.301)	(0.383)	(0.332)	(0.310)	(0.567)	(0.146)
Controls	YES	YES	YES	YES	YES	YES	YES	YES
First-stage coefficient	0.724	0.337	0.357	0.278	0.307	0.332	0.182	1.594
First-stage F-statistic	78.526	54.824	58.313	32.769	41.873	47.828	19.332	76.812
Observations	303	270	246	303	303	303	303	303

Notes: See notes in table 5. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Specification (1) in Table 5 and Table 6 shows the specification of Kronmal (Tables A10 and A11 in the Appendix). It is important to rule out that the correlation between the shift-share instrument and the endogenous variable (actual repatriate settlements) is driven by the common denominator (Clemens and Hunt 2019). In our case, the denominators are related, but not exactly coincident; still, we apply the correction of Kronmal (1993), i.e., we instrument the log of repatriates with the log of the predicted repatriates based on places of birth, including the log of the native population in 1981 as a control. The results are in line with the main specification.

Next, we deal with the possibility that results are driven by differential regional impacts. On top of including dummy variables for NUTS 2 regions in our baseline specification, the use of (shift-share) IVs should further reduce the concern for bias by confounding factors. We nevertheless demonstrate that the results are robust to excluding regions that could be more prone to such factors.

As explained by Carrington and De Lima (1996), Lisbon and Setúbal were the centre of the most dramatic political and economic conflicts following the democratization of Portugal, with communist-led unions effectively promulgating compulsory unionization in these areas, whereas there was a large drop in tourism in the Algarve after 1975. Moreover, as described by Pires de Almeida (2016), the Alentejo region was subject to a profound agrarian reform following the military coup in Portugal, which altered many aspects of the region's political, economic, and social reality. Specification (2) in Table 5 and Table 6 shows that the results are robust to excluding Lisbon, Setúbal, and Algarve, while specification (3) excludes Alentejo (refer to Appendix Tables A12 – A15 for complete results).

We also show that our results remain consistent if we systematically remove all municipalities of each Nuts 3 in turn in Figures A7 for employment, A8 for employees, and A9 for entrepreneurship in the Appendix.

Specifications (4) and (5) in Tables 5 and 6 confirm that the results are robust to including a less demanding set of regional fixed effects, or removing them altogether (complete results in Tables A16– A19).[28]

We then change the subsample of *retornados*. In specification (6) in Tables 5 and 6 we

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28. The regional dummies are constructed as follows: NUTS 3 regions Centre and North; Alentejo, Algarve, and Lisbon; the islands of Azores and Madeira.

include the repatriates who changed municipality between 1979 and 1981. Moreover, Table A20 and Table A21 in the Appendix show that the findings hold if we exclude students, change the age range of repatriates (15 to 64, and 25 to 59), exclude all inactive repatriates, and include only Portuguese-born repatriates.[29] Column (7) uses the preexisting workforce instead of the instrumented post-shock values as denominator (Card and Peri 2016). The results are slightly more negative than baseline (complete results in Tables A22 and A23).

Finally, specification (8) takes into account that men and women may be imperfect substitutes in production (Edo and Toubal 2017) (for overall results, see Tables A24 and A25 in the Appendix). We replace the ratio of repatriates m_r by a gender-specific repatriate share (i.e.,we compute m_r in the sample of males when estimating its impact on the employment of native men, and compute m_r in the sample of females when estimating its impact on the employment of native women). According to the results, the impacts of the gender-specific shocks are smaller in magnitude, suggesting that the market segmentation across gender is not perfect. If segmentation were perfect, the full effect on the incumbent workers of each gender would be fully explained by the same gender incomers, which is not the case.

6.3 Hotels, camping sites, and holiday rentals

We now show the results of the alternative 2SLS specification that uses the pre-treatment location of hotels and other lodging facilities, according to (8). As mentioned in Section 2, the process of repatriation was completely chaotic as the State did not correctly anticipate the issue of their accommodation (Pires 2003). As explicitly recognized in IARN's final report (*Relatório de atividades do IARN*): "There was, at the outset, a basic mistake: admitting that each *retornado* would have a family and a home waiting for them." (p.32). The results are presented in Tables 7 and 8 for males and females, respectively.

The first stage regression for the Portuguese-born *retornados* shows that the only IV that is statistically significant is the shift-share. However, for the colony-born repatriates, both IVs have statistical power, which renders credibility to this alternative specification, given that these individuals are less likely to rely on relatives' networks for resettlement. Importantly, the F-stats for the two first-stage regressions are above 10.

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29. Results for other IVs are likewise robust and available upon request from the authors.

Table 7: Labour market effects of repatriates on male natives - 2SLS

Outcomes for male natives	OLS		2SLS	
	Portuguese-born	Colony-born	Portuguese-born	Colony-born
Δ LFP	-0.140	0.355	-0.573**	3.381
	(0.133)	(0.536)	(0.287)	(2.419)
Δ Unemployment rate	0.106**	-0.439***	0.141*	0.059
	(0.053)	(0.166)	(0.076)	(0.498)
Δ Employment share	-0.245*	0.737	-0.702**	3.253
	(0.141)	(0.558)	(0.297)	(2.510)
Δ Share Employee	-1.651***	1.586	-3.126***	6.053
	(0.228)	(1.035)	(0.429)	(3.683)
Δ Share Entrepreneur	0.800***	-2.049**	1.848***	-4.442
	(0.227)	(0.920)	(0.377)	(2.802)
Δ Share Employer	-0.156*	-0.014	-0.177	1.560
	(0.081)	(0.368)	(0.139)	(1.372)
Δ Share Self-employed	0.956***	-2.035*	2.025***	-6.002*
	(0.243)	(1.040)	(0.397)	(3.552)
Controls	YES		YES	
Instrument	-		Hotels & IV1	
First-stage coefficient IV1	-		0.315***	0.015**
First-stage coefficient Hotel IV	-		0.051	0.080**
First-stage F-statistic	-		78.218	11.479
Observations	303		303	

Notes: Robust standard errors in parentheses. The independent variable is the sample of repatriates over the native population above 15. All outcomes refer to changes between 1960 and 1981. LFP, Employment share, Share Employee, Share Entrepreneurship, Share Employer and Share Self-employed are calculated as shares over the native working age population. The unemployment rate refers to the share of unemployed over the native labour force. All regression contain dummies for NUTS 2 regions. Controls contain the following parameters in 1960: unemployed and entrepreneurs as share of working age population, inactive and population below 15 as share of total population, those with higher education as share of those above 15 and per capita emigration in 1960. Column (1) and (2) show the results from the same OLS regression, regressing each outcome against the share of Portuguese-born and Colony-born repatriates, with column (1) showing the former and column (2) the latter. Column (3) and (4) show results of the same 2SLS estimation using both IV1 and the hotel instrument for two subgroups of repatriates: in column (3), the results for Portuguese born repatriates are shown. Column (4) shows the results for foreign born repatriates. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

We highlight three facts from the results. Firstly, the magnitudes of impacts of the Portuguese-born are aligned with the overall impact, which is consistent with the fact that these represent the bulk of the newcomers: the colony-born represent only 22% of the repatriates. Secondly, most results for the colony-born are non-significant, which may result either from their comparatively lower number or from the fact that they are less substitutes to the incumbent labour

Table 8: Labour market effects of repatriates on female natives - 2SLS

Outcomes for female natives	OLS		2SLS	
	Portuguese-born	Colony-born	Portuguese-born	Colony-born
Δ LFP	-1.015***	2.701***	-2.526***	5.879
	(0.259)	(1.040)	(0.533)	(3.847)
Δ Unemployment rate	0.446**	-3.217***	0.711**	-0.385
	(0.195)	(0.778)	(0.289)	(2.080)
Δ Employment share	-0.985***	3.319***	-2.346***	4.093
	(0.252)	(1.003)	(0.518)	(3.853)
Δ Share Employee	-1.063***	2.544***	-2.508***	6.088**
	(0.180)	(0.928)	(0.456)	(3.096)
Δ Share Entrepreneur	-0.008	-0.120	0.105	-2.822
	(0.240)	(0.629)	(0.341)	(2.119)
Δ Share Employer	-0.038***	0.095**	-0.083***	0.506***
	(0.011)	(0.046)	(0.023)	(0.184)
Δ Share Self-employed	0.030	-0.215	0.189	-3.328
	(0.240)	(0.633)	(0.342)	(2.169)
Controls	YES		YES	
Instrument	-		Hotels & IV1	
First-stage coefficient IV1	-		0.315***	0.015**
First-stage coefficient Hotel IV	-		0.051	0.080**
First-stage F-statistic	-		78.218	11.479
Observations	303		303	

Notes: Robust standard errors in parentheses. The independent variable is the sample of repatriates over the native population above 15. All outcomes refer to changes between 1960 and 1981. LFP, Employment share, Share Employee, Share Entrepreneurship, Share Employer and Share Self-employed are calculated as shares over the native working age population. The unemployment rate refers to the share of unemployed over the native labour force. All regression contain dummies for NUTS 2 regions. Controls contain the following parameters in 1960: unemployed and entrepreneurs as share of working age population, inactive and population below 15 as share of total population, those with higher education as share of those above 15 and per capita emigration in 1960. Column (1) and (2) show the results from the same OLS regression, regressing each outcome against the share of Portuguese-born and Colony-born repatriates, with column (1) showing the former and column (2) the latter. Column (3) and (4) show results of the same 2SLS estimation using both IV1 and the hotel instrument for two subgroups of repatriates: in column (3), the results for Portuguese born repatriates are shown. Column (4) shows the results for foreign born repatriates. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

force than the Portuguese-born ones. Thirdly, the sign of the coefficient changes, with respect to the overall impact, for most outcomes. This shows that the downgrading effect of migration is borne by natives when return migrants are close substitutes, namely, born in the same country. Having the same nationality but a different birth place does not seem to cause the same impacts, suggesting that there are cultural traits beyond language and religion that matter for

this outcome.

6.4 Regional aggregation

We now deal with the concern that municipalities might be too small to correspond to local labour markets. [30] We present results at the NUTS 3 level, with 30 observations, in Table 9 and Table 10 (in the Appendix). The number of repatriates in the NUTS 3 regression is larger, as we exclude all repatriates who moved NUTS 3 (rather than municipalities) from the sample.

Note that if *retornados* cause internal migration among natives, NUTS 3 results should be more negative than municipal ones, as the latter would be contaminated by spatial spillovers due to inter-municipal migration. If anything, we observe the opposite: our results for the employment effects at the municipality level are more negative than those at NUTS 3-level, especially for males. We can therefore conclude that inter-municipal migration within the same NUTS 3 region is unlikely to threat the validity of our identification strategy.

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30. Braun et al. (2020) point out that the choice of spatial units can have an important impact on the estimated coefficients.

Table 9: Labour market effects of repatriates on male natives - NUTS III

Outcomes for male natives	OLS		IV		
	(1)	(2)	(3)	(4)	(5)
Δ LFP	0.228	0.526	-0.107	-0.111	-0.082
	(0.366)	(0.458)	(0.293)	(0.306)	(0.296)
Δ Unemployment rate	-0.186	-0.044	0.214	0.216	0.210
	(0.137)	(0.185)	(0.119)	(0.118)	(0.117)
Δ Employment share	0.397	0.527	-0.328	-0.334	-0.300
	(0.399)	(0.542)	(0.319)	(0.334)	(0.321)
Δ Share Employee	-0.490	-1.865	-3.912***	-3.902***	-3.779***
	(0.936)	(1.085)	(0.905)	(0.931)	(0.886)
Δ Share Entrepreneur	0.318	1.764*	3.079***	3.059***	2.967***
	(0.573)	(0.809)	(0.766)	(0.774)	(0.744)
Δ Share Employer	-0.396	-0.624***	-0.677***	-0.685***	-0.686***
	(0.204)	(0.152)	(0.158)	(0.159)	(0.154)
Δ Share Self-employed	0.714	2.388**	3.756***	3.744***	3.653***
	(0.566)	(0.854)	(0.851)	(0.860)	(0.826)
Controls	NO	YES	YES	YES	YES
Instrument	-	-	IV1	IV2	IV3
First-stage coefficient	-	-	0.528	0.510	0.375
First-stage F-statistic	-	-	55.05	50.94	63.64
Observations	30	30	30	30	30

Notes: Robust standard errors in parentheses. The independent variable is the sample of repatriates over the native population above 15. All outcomes refer to changes between 1960 and 1981. LFP, Employment share, Share Employee, Share Entrepreneurship, Share Employer and Share Self-employed are calculated as shares over the native working age population. The unemployment rate refers to the share of unemployed over the native labour force. All regression contain dummies for NUTS 2 regions. Controls contain the following parameters in 1960: unemployed and entrepreneurs as share of working age population, inactive and population below 15 as share of total population, those with higher education as share of those above 15. IV1 is the instrument based on educational network effects, IV2 is the instrument based on network effects according to the colony lived in and IV3 is the basic Bartik instrument. The regressions are run at the NUTS 3 level. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table 10: Labour market effects of repatriates on female natives - NUTS III

Outcomes for female natives	OLS		IV		
	(1)	(2)	(3)	(4)	(5)
Δ LFP	-0.512	-1.082	-1.871**	-1.845**	-1.835**
	(0.581)	(0.892)	(0.691)	(0.698)	(0.690)
Δ Unemployment rate	-1.426	-0.655	0.069	0.073	0.084
	(0.733)	(0.916)	(0.519)	(0.513)	(0.509)
Δ Employment share	0.087	-0.680	-1.587*	-1.568*	-1.562*
	(0.596)	(0.906)	(0.661)	(0.663)	(0.654)
Δ Share Employee	-0.771	-1.059	-1.919***	-1.900**	-1.886***
	(0.558)	(0.731)	(0.573)	(0.586)	(0.573)
Δ Share Entrepreneur	0.604	0.122	0.139	0.136	0.128
	(0.500)	(0.497)	(0.458)	(0.459)	(0.452)
Δ Share Employer	-0.014	-0.050	-0.072*	-0.071*	-0.071*
	(0.031)	(0.039)	(0.034)	(0.034)	(0.034)
Δ Share Self-employed	0.618	0.171	0.211	0.207	0.199
	(0.514)	(0.489)	(0.448)	(0.449)	(0.441)
Controls	NO	YES	YES	YES	YES
Instrument	-	-	IV1	IV2	IV3
First-stage coefficient	-	-	0.528	0.510	0.375
First-stage F-statistic	-	-	55.05	50.94	63.64
Observations	30	30	30	30	30

Notes: See notes in table 9. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

7 Conclusion

This paper uses detailed census data to investigate the impact on labour force participation, unemployment, dependent employment, and entrepreneurship, for both male and female natives, of a sharp return migration shock. We exploit the end of the Portuguese Colonial War and subsequent repatriation of close to half a million ethnic Portuguese. We rely on novel shift-share instruments that use the fact that around 80% of the repatriates were born in Portugal, and many of them returned to their municipality of birth. We also propose an instrument based on the hospitality sector capacity in each municipality, exploiting a resettlement scheme, to disentangle the impact of Portuguese-born and colony-born repatriates.

We find robust evidence of adjustment in the labour market following the arrival of the *retornados*, with a negative impact on payed employment, and male natives becoming entrepreneurs of the low quality (i.e., without employees) type. Females bear a higher cost, with lower labour force participation, higher unemployment, and lower employment. Moreover, females do not circumvent the shock by moving to self-employment. Our analysis is robust to changing the geographical unit of analysis, and to various sample restrictions. Furthermore, the bulk of the effects are driven by Portuguese-born repatriates. This suggests that are cultural traits beyond language and religion that matter for the degree of substitutability amongst workers. Finally, we show that the effects are compatible with (i) a decrease in real wages, (ii) sorting of repatriates into higher-wage sectors, (iii) a decline in the gender wage gap, driven by a decline in male wages, and, (iv) labour market segmented along gender.

Our analysis is particularly suited to anticipate the consequences of (forced) massive return migration waves that follow contemporaneous population displacements linked to political instability, authoritarian regimes, and wars. It highlights the importance of implementing policies to mitigate the negative labour market impacts, including the occupational downgrading, on native workers, especially when the returnees were born in the origin country and are highly educated.

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A   Appendix

A.1   Figures
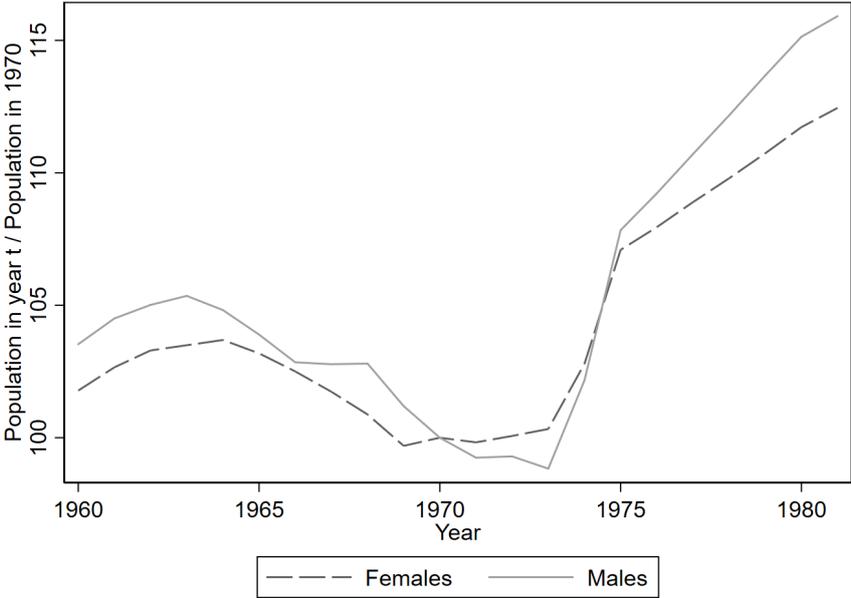
Figure A1 Relative Population.
   Notes: Female population in 1970: 4,546 millions. Male population in 1970: 4,078
   millions.
   Source: Statistics Portugal, own construction.
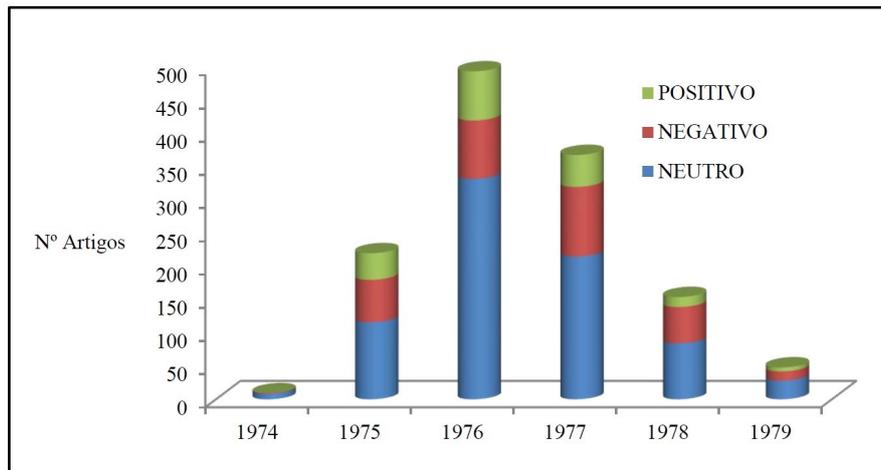
Figure A2 Number of references to repatriates in two Portuguese daily newspapers.
Notes: This figure is retrieved from Lourenço 2018. News are collected from two
newspapers: Primeiro de Janeiro (from Porto) and Diário de Notícias (from Lisbon).

(a) Portuguese-born   (b) Colony-born
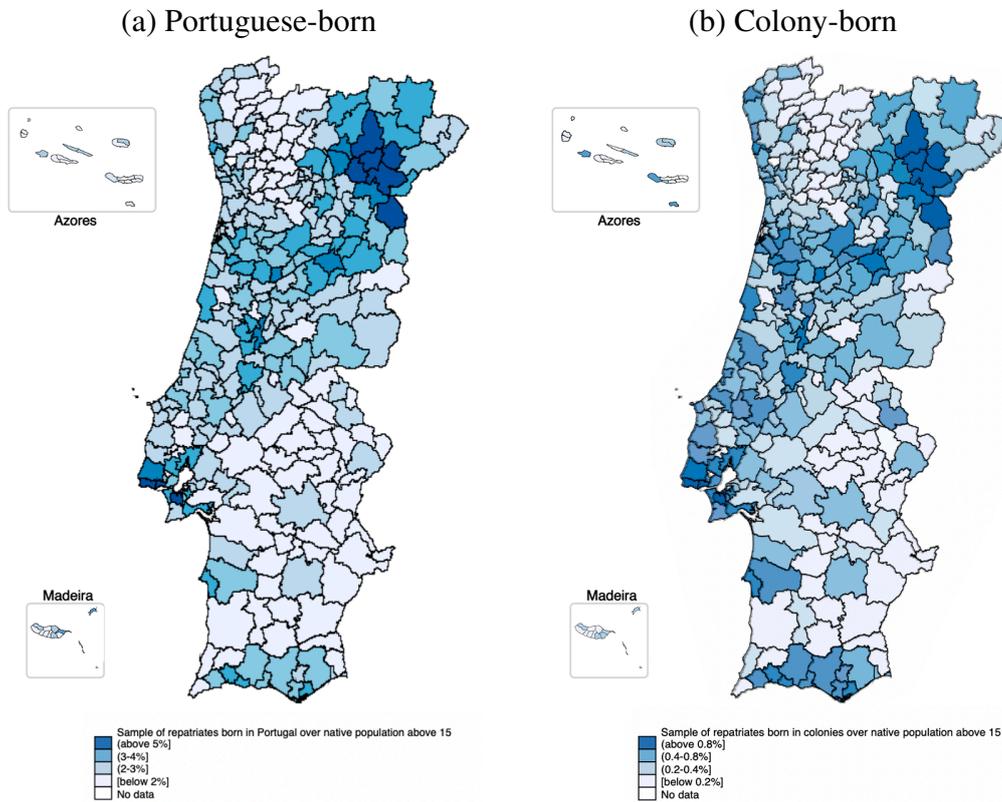
Figure A3 Portuguese-born and Colony-born settlement across municipalities in 1981
Source: census of 1981, Statistics Portugal, own construction.

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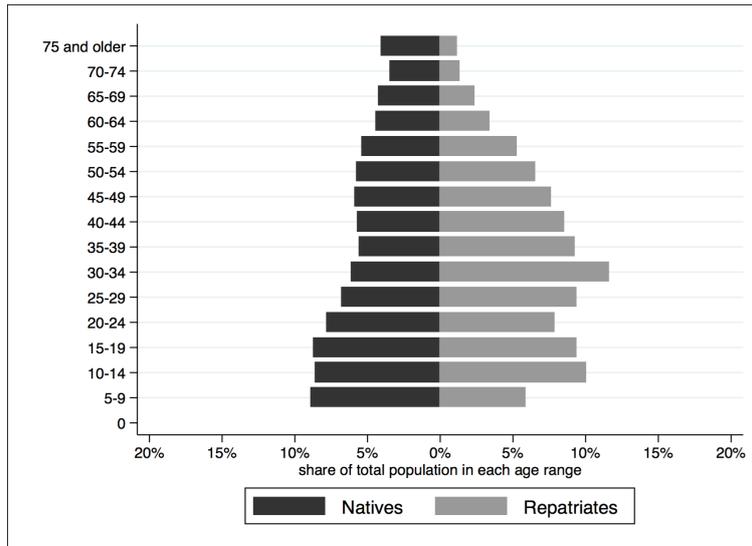
Figure A4 Age pyramid natives vs repatriates in 1981.
    Notes: The age range below five is not displayed as the data set on repatriates only
    contains repatriates above the age of seven.
    Source: census of 1981, Statistics Portugal, own construction.
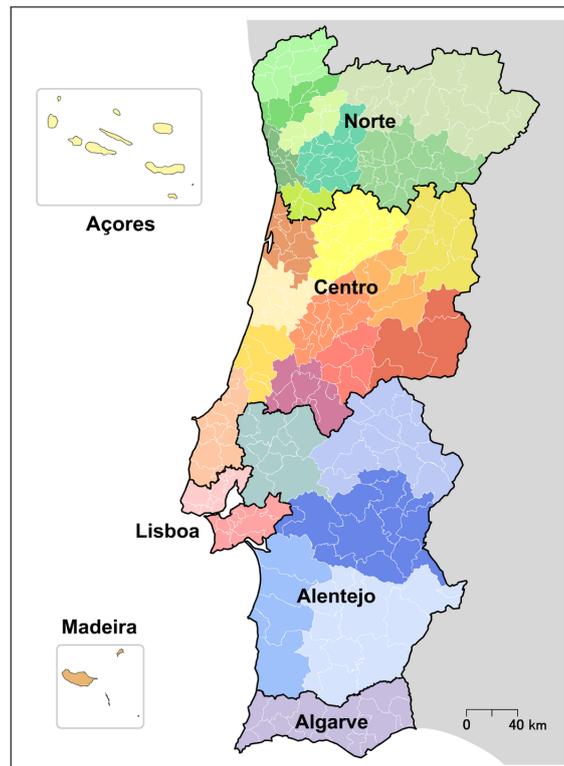
Figure A5 NUTS 3, NUTS 2 regions and municipalities according to the 2002 definition.
    Notes: Different colors indicate different NUTS 3 regions, while the black outlines
    show NUTS 2 regions.White outlines show municipalities
    Source: Statistics Portugal.
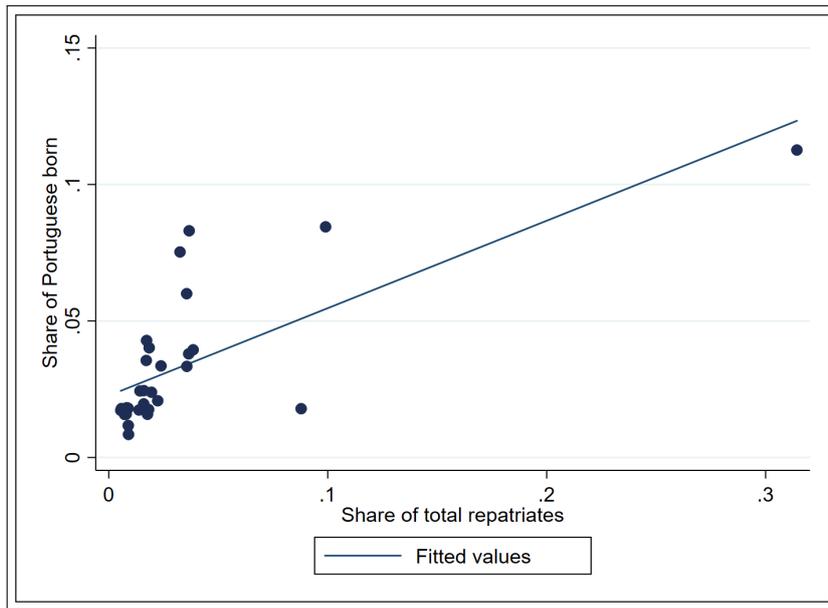
Figure A6 Are repatriates returning to their place of birth?
Notes: The share of Portuguese born is measured, for each NUTS 3 region, from those that migrated to Africa and are in Portugal in 1981. The most prominent outlier is Grande Lisboa.
Source: census of 1981, Statistics Portugal.
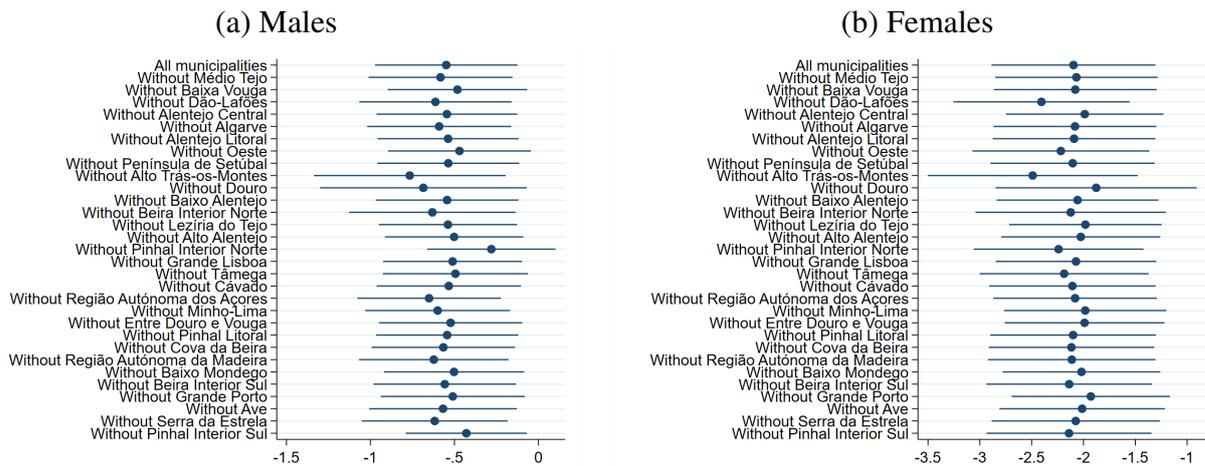
Figure A7 Employment share by gender: Leave one out Nuts 3 exercises
Source: own construction.

(a) Males (b) Females
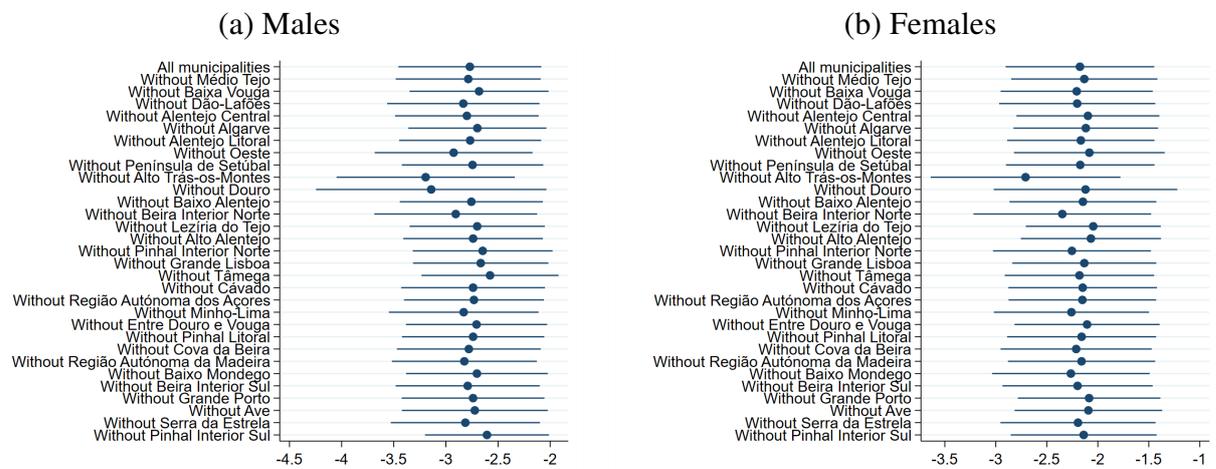
Figure A8 Employed share by gender: Leave one out Nuts 3 exercises
Source: own construction.

(a) Males (b) Females
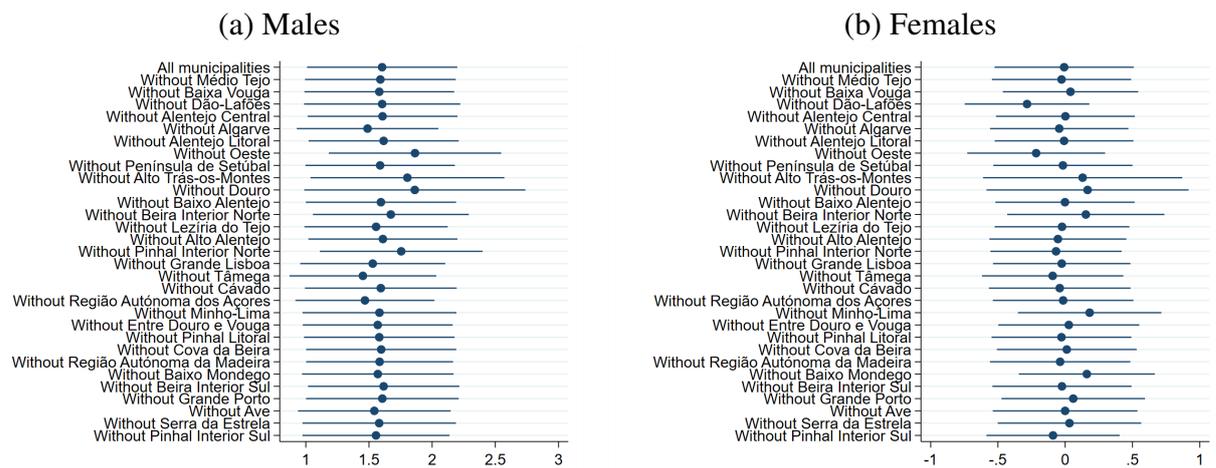
Figure A9 Entrepreneurship share by gender: Leave one out Nuts 3 exercises
Source: own construction.

A.2 Tables

Table A1: Survey on the labour market consequences for natives in receiving countries using natural experiments

Authors	Event	Period	Origin	Destination	Main Results
Angrist and Kugler (2003)	Balkan Wars	1973–1991	Former Yoguslavia	West. Europe	Employment (-)
Beerli et al. (2021)	Cross-border reform	1999–2013	European Union	Switzerland	Wages of highly educated (+)
Braun and Mahmoud (2014); Braun and Weber (2021)	Expulsion of Germans after World War II	1944–1946	Eastern Europe	Germany (West)	Employment (-); Employment and wages (-), regional migration (+)
Calderón-Mejia and Ibáñez (2016)	Internal conflict	1998–2013	Colombia	Colombia	Wages (-) for low-skilled and in informal sector
Cohen-Goldner and Paserman (2011)	Migration restriction lifted in the former U.S.S.R.	1990–1999	Former U.S.S.R.	Israel	Employment (0), wages (-)
Dustmann, Schönberg, and Stuhler (2017)	Commuting policy reform	1944–1946	Czech Republic	Germany	Employment (-) sharply; Wages (-)
Edo (2020)	Algerian War	1962–1976	Algeria	France	Employment (-), especially for females, wages (-) in the short-run but recover in 15 years
Foged and Peri (2016)	Wars	1994–2008	Bosnia, Afghanistan, Somalia, and Iraq	Denmark	Employment and Wages of low-skilled (+)
Friedberg (2001)	Migration restriction lifted	1990–1994	Former U.S.S.R.	Israel	Employment and wages (0)
Glitz (2012)	Fall of the Berlin Wall	1996–2001	East. Europe and former U.S.S.R.	Germany	Employment (-), wages (0)
Hunt (1992)	Algerian War	1962–1968	Algeria	France	Employment (-), wages (-)
Labanca (2020)	Arab Spring	2011	Egypt, Libya, Tunisia and Yemen	Italy	Employment (0), but considerable heterogeneity per sector
Monras (2020)	Mexican Peso Crisis	1994–1999	Mexico	U.S.A.	Native low-skilled wages (-)
Morales (2018)	Internal conflict	1960s–2008	Colombia	Colombia	Wages (-) in short-run, wages in long-run for men (0) and women (-), outmigration (+)
Ruiz and Vargas-Silva (2016)	Hutu-Tutsi conflict	1990s	Burundi and Rwanda	Tanzania	Employment (-)
Schumann (2014)	Expulsion of Germans	1944–1946	Eastern Europe	Germany	Industry employment (+)
Tabellini (2020)	WWI, Immigration Acts	1910-1930	Europe	U.S.A	Employment (+)
Tumen (2016)	Syrian civil war	2012–2014	Syria	Turkey	Informal employment (-), long-term unemployment (+), wages (0)

Table A2: Comparison repatriates - born in Portugal or born in Colonies

	Born in Portugal		Born in Colonies	
	N	%	N	%
Gender				
Male	136,552	57.16%	30,938	45.40%
Female	102,330	42.84%	37,214	54.60%
Total	238,882	100%	68,152	100%
Education				
None	34,388	14.40%	4,342	6.37%
Primary	149,201	62.46%	30,726	45.08%
Secondary	36,865	15.43%	25,549	37.49%
Higher	18,428	7.71%	7,535	11.06%
Total	238,882	100%	68,152	100%
Profession				
Employee	127,053	78.69%	40,402	89.88%
Self-employed	22,997	14.24%	2,349	5.23%
Employer	8,599	5.33%	1,441	3.21%
Stay-home parent	1,348	0.83%	291	0.65%
Cooperative	414	0.26%	113	0.25%
Other	1,048	0.65%	355	0.79%
Total	161,459	100%	44,951	100%
Unemployed/Inactive	77,423		23,201	
Age Groups				
Below 29	38,181	15.98%	32,692	47.97%
30 to 44	106,681	44.66%	19,548	28.68%
45 and older	94,020	39.36%	15,912	23.35%
Total	238,882	100%	68,152	100%

Notes: The statistics exclude those repatriates who migrated to Portugal after 1979 and those who changed municipalities between 1979 and 1981. The sample of repatriates is comprised of all repatriates between 20 and 69 years old in 1981. The number of unemployed/inactive repatriates is calculated as the difference between the total repatriates in the sample and those with a profession specified. Shares may not add up to 100% due to rounding. Source: census of 1981, Statistics Portugal, computations by the author.

Table A3: Comparison repatriates by origin from Africa

	from Angola		from Mozambique	
	N	%	N	%
Gender				
Male	100,534	53.18 %	54,891	53.81%
Female	88,523	46.82%	47,119	46.19 %
Total	189,057	100%	102,010	100%
Education				
None	26,267	13.89 %	10,927	10.71 %
Primary	112,405	59.46%	57,734	56.60 %
Secondary	35,626	18.84 %	23,722	23.25 %
Higher	14,759	7.81%	9,627	9.44 %
Total	189,057	100%	102,010	100%
Age				
Average	189,057	40.21	102,010	40.69
Birthplace				
Portugal	147,457	78.00%	78,498	76.95%
Colonies	39,951	21.13%	21,045	20.63%
Other	1,649	0.87%	2,467	2.42%
Total	189,057	100%	102,010	100%
Other Indicators				
% Catholics	158,929	84.06%	84,719	83.05%
% Married	153,412	81.15%	81,715	80.10%

Notes: Origin from other Portuguese-speaking countries is not included in this table. The statistics exclude those repatriates who migrated to Portugal after 1979 and those who changed municipalities between 1979 and 1981. The sample of repatriates is comprised of all repatriates between 20 and 69 years old in 1981. Shares may not add up to 100% due to rounding. Source: census of 1981, Statistics Portugal, computations by the author.

Table A4: Population and Labour Force in 1981 by NUTS 3 and NUTS 2 regions

Region	Native Population above 15	Native Labour Force
Grande Porto	773,788	480,728
Tâmega	328,242	175,560
Ave	289,346	190,280
Cávado	212,680	122,738
Alto Trás-os-Montes	181,544	80,195
Minho-Lima	179,634	87,503
Douro	172,304	81,556
Entre Douro e Vouga	161,565	101,354
Região do Norte	2,299,103	1,319,914
Grande Lisboa	1,299,030	798,476
Península de Setúbal	394,596	230,053
Região de Lisboa	1,693,626	1,028,529
Baixo Mondego	235,406	126,627
Baixa Vouga	229,908	133,111
Oeste	226,672	118,855
Dão-Lafões	199,922	104,982
Médio Tejo	164,753	80,345
Pinhal Litoral	150,897	83,332
Pinhal Interior Norte	110,555	49,663
Beira Interior Norte	93,514	42,640
Cova da Beira	74,185	37,953
Beira Interior Sul	66,234	28,063
Pinhal Interior Sul	45,798	19,751
Serra da Estrela	39,473	19,688
Região do Centro	1,637,317	845,010
Lezíria do Tejo	173,980	95,960
Alentejo Central	138,687	76,565
Baixo Alentejo	122,216	58,792
Alto Alentejo	111,167	54,377
Alentejo Litoral	77,280	41,502
Alentejo	623,330	327,196
Algarve	244,654	123,987
Algarve	244,654	123,987
Região Autónoma da Madeira	170,975	93,907
Região Autónoma da Madeira	170,975	93,907
Região Autónoma dos Açores	155,220	71,728
Região Autónoma dos Açores	155,220	71,728
Portugal	6,824,225	3,810,271

Notes: The regions in bold are NUTS 2 regions. The Labour Force is defined as all those who are employed (i.e. in paid employment) and unemployed. Source: census of 1981, computations by the author.

Table A5: Labour market effects of repatriates on male natives - Falsification test

Outcomes for male natives	OLS		IV		
	(1)	(2)	(3)	(4)	(5)
Δ Employment share	-3.375	-2.330	0.224	0.639	-0.065
	(3.418)	(3.071)	(1.398)	(1.631)	(1.383)
Δ Share Employee	-1.811	-1.385	0.048	0.236	0.098
	(2.104)	(1.888)	(1.058)	(1.220)	(0.925)
Controls	NO	YES	YES	YES	YES
Instrument	-	-	IV1	IV2	IV3
First-stage coefficient	-	-	0.326	0.308	0.377
First-stage F-statistic	-	-	50.234	40.115	584.277
Observations	303	303	303	303	303

Notes: Robust standard errors in parentheses. The independent variable is the sample of repatriates over the native population above 15. The outcomes refer to changes between 1950 and 1960 and are calculated as shares over the working age population. All regression contain dummies for NUTS 2 regions. Controls contain the following parameters in 1960: unemployed and entrepreneurs as share of working age population, inactive and population below 15 as share of total population, those with higher education as share of those above 15. IV1 is the instrument based on educational network effects, IV2 is the instrument based on network effects according to the colony lived in and IV3 is the basic Bartik instrument. * $p < 0.05$,
** $p < 0.01$, *** $p < 0.001$.

Table A6: Labour market effects of repatriates on female natives - Falsification test

	OLS		IV		
Outcomes for male natives	(1)	(2)	(3)	(4)	(5)
Δ Employment share	0.592***	0.131	-0.314	-0.444	0.074
	(0.164)	(0.172)	(0.486)	(0.550)	(0.228)
Δ Share Employee	0.562***	0.073	-0.436	-0.548	-0.061
	(0.165)	(0.160)	(0.454)	(0.517)	(0.197)
Controls	NO	YES	YES	YES	YES
Instrument	-	-	IV1	IV2	IV3
First-stage coefficient	-	-	0.326	0.308	0.377
First-stage F-statistic	-	-	50.234	40.115	584.277
Observations	303	303	303	303	303

Notes: Robust standard errors in parentheses. The independent variable is the sample of repatriates over the native population above 15. The outcomes refer to changes between 1950 and 1960 and are calculated as shares over the working age population. All regression contain dummies for NUTS 2 regions. Controls contain the following parameters in 1960: unemployed and entrepreneurs as share of working age population, inactive and population below 15 as share of total population, those with higher education as share of those above 15. IV1 is the instrument based on educational network effects, IV2 is the instrument based on network effects according to the colony lived in and IV3 is the basic Bartik instrument. * $p < 0.05$,
** $p < 0.01$, *** $p < 0.001$.

Table A7: Labour market effects of repatriates on natives - robustness to different standard error specifications

	OLS		IV		
Outcomes for male natives	(1)	(2)	(3)	(4)	(5)
Δ LFP	-0.053	-0.070	-0.420	-0.382	-0.406
	(0.208)	(0.105)	(0.348)	(0.373)	*(0.212)
			***[0.045]	***[0.136]	
Δ Unemployment rate	-0.069	0.029	0.138	0.145	0.137
	(0.087)	(0.046)	**(0.056)	**(0.061)	***(0.039)
			*[0.074]	[0.090]	
Δ Employment share	0.015	-0.107	-0.549	-0.517	-0.535
	(0.231)	(0.123)	(0.363)	(0.388)	**(0.215)
			***[0.054]	***[0.189]	
Δ Share Employee	-0.595	-1.194	-2.770	-2.824	-2.151
	(0.497)	***(0.222)	***(0.543)	***(0.593)	***(0.281)
			***[0.0111]	***[0.426]	
Δ Share Entrepreneur	-0.030	0.398	1.604	1.704	0.987
	(0.331)	*(0.196)	***(0.421)	***(0.492)	***(0.196)
			***[0.074]	***[0.277]	
Δ Share Employer	-0.188	-0.136	-0.110	-0.077	-0.166
	**(0.091)	**(0.058)	(0.145)	(0.156)	**(0.085)
			[0.102]	[0.094]	
Δ Share Self-employed	0.159	0.534	1.714	1.781	1.153
	(0.312)	**(0.224)	***(0.437)	***(0.503)	***(0.234)
			***[0.138]	***[0.339]	
Controls	NO	YES	YES	YES	YES
Instrument	-	-	IV1	IV2	IV3
First-stage coefficient	-	-	0.326	0.308	0.377
First-stage F-statistic	-	-	40.121	31.523	574.379
Observations	303	303	303	303	303

Notes: Standard errors clustered at NUTS3 level (presented between parentheses), and specified according to Adao, Kolesár, and Morales (2019), i.e., taking into account potential autocorrelation structure across municipalities (presented between squared brackets). The independent variable is the sample of male repatriates over the native male population above 15. All outcomes refer to changes between 1960 and 1981. LFP, Employment share, Share Employee, Share Entrepreneurship, Share Employer and Share Self-employed are calculated as shares over the native working age population. The unemployment rate refers to the share of unemployed over the native labour force. All regression contain dummies for NUTS 2 regions. Controls contain the following parameters in 1960: unemployed and entrepreneurs as share of working age population, inactive and population below 15 as share of total population, those with higher education as share of those above 15. IV1 is the instrument based on educational network effects, IV2 is the instrument based on network effects according to the colony lived in and IV3 is the basic Bartik instrument. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A8: Labour market effects of repatriates on natives - robustness to different standard error specifications

	OLS		IV		
Outcomes for female natives	(1)	(2)	(3)	(4)	(5)
Δ LFP	-0.231	-0.491	-2.200	-2.416	-1.128
	(0.432)	(0.291)	***(0.509)	***(0.551)	***(0.325)
			***[0.277]	***[0.322]	
Δ Unemployment rate	-0.724	-0.071	0.669	0.736	0.311
	(0.479)	(0.250)	**(0.298)	**(0.343)	*(0.180)
			***[0.055]	***[0.157]	
Δ Employment share	0.068	-0.378	-2.096	-2.307	-1.061
	(0.450)	(0.297)	***(0.514)	***(0.556)	***(0.326)
			***[0.241]	***[0.314]	
Δ Share Employee	-0.252	-0.554	-2.175	-2.326	-1.240
	(0.297)	***(0.163)	***(0.486)	***(0.532)	***(0.216)
			***[0.256]	***[0.336]	
Δ Share Entrepreneur	0.100	-0.024	-0.008	-0.060	0.048
	(0.286)	(0.224)	(0.427)	(0.422)	(0.347)
			[0.016]	[0.055]	
Δ Share Employer	-0.009	-0.019	-0.060	-0.061	-0.045
	(0.018)	*(0.011)	***(0.022)	***(0.023)	***(0.012)
			***[0.003]	***[0.011]	
Δ Share Self-employed	0.110	-0.005	0.052	0.001	0.092
	(0.285)	(0.220)	(0.423)	(0.418)	(0.344)
			***[0.018]	[0.065]	
Controls	NO	YES	YES	YES	YES
Instrument	-	-	IV1	IV2	IV3
First-stage coefficient	-	-	0.326	0.308	0.377
First-stage F-statistic	-	-	40.121	31.523	574.379
Observations	303	303	303	303	303

Notes: Standard errors clustered at NUTS3 level (presented between parentheses), and specified according to Adao, Kolesár, and Morales (2019), i.e., taking into account potential autocorrelation structure across municipalities (presented between squared brackets). The independent variable is the sample of female repatriates over the native female population above 15. All outcomes refer to changes between 1960 and 1981. LFP, Employment share, Share Employee, Share Entrepreneurship, Share Employer and Share Self-employed are calculated as shares over the native working age population. The unemployment rate refers to the share of unemployed over the native labour force. All regression contain dummies for NUTS 2 regions. Controls contain the following parameters in 1960: unemployed and entrepreneurs as share of working age population, inactive and population below 15 as share of total population, those with higher education as share of those above 15. IV1 is the instrument based on educational network effects, IV2 is the instrument based on network effects according to the colony lived in and IV3 is the basic Bartik instrument. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A9: Labour market effects of repatriates on male natives - Falsification test

| | OLS | | IV | | |
Outcomes for male natives	(1)	(2)	(3)	(4)	(5)
Δ Employment share	-3.375	-2.330	0.224	0.639	-0.065
	(3.418)	(3.071)	(1.398)	(1.631)	(1.383)
Δ Share Employee	-1.811	-1.385	0.048	0.236	0.098
	(2.104)	(1.888)	(1.058)	(1.220)	(0.925)
Controls	NO	YES	YES	YES	YES
Instrument	-	-	IV1	IV2	IV3
First-stage coefficient	-	-	0.326	0.308	0.377
First-stage F-statistic	-	-	50.234	40.115	584.277
Observations	303	303	303	303	303

Notes: Robust standard errors in parentheses. The independent variable is the sample of repatriates over the native population above 15. The outcomes refer to changes between 1950 and 1960 and are calculated as shares over the working age population. All regression contain dummies for NUTS 2 regions. Controls contain the following parameters in 1960: unemployed and entrepreneurs as share of working age population, inactive and population below 15 as share of total population, those with higher education as share of those above 15. IV1 is the instrument based on educational network effects, IV2 is the instrument based on network effects according to the colony lived in and IV3 is the basic Bartik instrument. * $p < 0.05$,
** $p < 0.01$, *** $p < 0.001$.

Table A10: Labour market effects of repatriates on male natives - Kronmal

Outcomes for male natives	OLS		IV		
	(1)	(2)	(3)	(4)	(5)
Δ LFP	-0.007	-0.004	-0.020*	-0.019*	-0.022***
	(0.005)	(0.005)	(0.010)	(0.011)	(0.009)
Δ Unemployment rate	-0.004***	0.001	0.013***	0.014***	0.010***
	(0.002)	(0.001)	(0.003)	(0.004)	(0.003)
Δ Employment share	-0.002	-0.005	-0.032***	-0.031***	-0.031***
	(0.005)	(0.005)	(0.011)	(0.011)	(0.009)
Δ Share Employee	-0.022**	-0.040***	-0.130***	-0.131***	-0.110***
	(0.010)	(0.008)	0.018	(0.020)	(0.014)
Δ Share Entrepreneur	0.000	0.012	0.076***	0.080***	0.057***
	(0.007)	(0.008)	(0.017)	(0.019)	(0.013)
Δ Share Employer	-0.010***	-0.006**	-0.013***	-0.013**	-0.011***
	(0.002)	(0.003)	(0.005)	(0.005)	(0.004)
Δ Share Self-employed	0.010	0.018**	0.090***	0.092***	0.068***
	(0.007)	(0.008)	(0.019)	(0.021)	(0.014)
Controls	NO	YES	YES	YES	YES
Instrument	-	-	IV1	IV2	IV3
First-stage coefficient	-	-	0.724	0.718	0.621
First-stage F-statistic	-	-	78.526	67.870	162.853
Observations	303	303	303	303	303

Notes: Robust standard errors in parentheses. The independent variable is the log of repatriates. All outcomes refer to changes between 1960 and 1981. LFP, Employment share, Share Employee, Share Entrepreneurship, Share Employer and Share Self-employed are calculated as shares over the native working age population. The unemployment rate refers to the share of unemployed over the native labour force. All regression contain dummies for NUTS 2 regions. Controls contain the following parameters in 1960: log of natives in 1981, unemployed and entrepreneurs as share of working age population, inactive and population below 15 as share of total population, those with higher education as share of those above 15 and per capita emigration in 1960. IV1 is the instrument based on educational network effects, IV2 is the instrument based on network effects according to the colony lived in and IV3 is the basic Bartik instrument. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A11: Labour market effects of repatriates on female natives - Kronmal

Outcomes for female natives	OLS		IV		
	(1)	(2)	(3)	(4)	(5)
Δ LFP	-0.008	-0.016*	-0.066***	-0.069***	-0.054***
	(0.009)	(0.008)	(0.020)	(0.021)	(0.015)
Δ Unemployment rate	-0.031***	-0.009	0.027**	0.027*	0.018*
	(0.008)	(0.007)	(0.013)	(0.014)	(0.010)
Δ Employment share	0.006	-0.010	-0.067***	-0.069***	-0.052***
	(0.009)	(0.008)	(0.020)	(0.020	(0.014)
Δ Share Employee	-0.017***	-0.018***	-0.078***	-0.078***	-0.063***
	(0.006)	(0.006)	(0.013)	(0.014)	(0.010)
Δ Share Entrepreneur	0.017**	0.002	0.007	0.006	0.007
	(0.007)	(0.006)	(0.016)	(0.016)	(0.012)
Δ Share Employer	0.000	0.000	-0.002***	-0.002***	-0.002***
	(0.000)	(0.000)	(0.001	(0.001)	(0.001)
Δ Share Self-employed	0.018***	0.002	0.009	0.008	0.008
	(0.007)	(0.006)	(0.016	(0.016)	(0.012)
Controls	NO	YES	YES	YES	YES
Instrument	-	-	IV1	IV2	IV3
First-stage coefficient	-	-	0.724	0.718	0.621
First-stage F-statistic	-	-	78.526	67.870	162.853
Observations	303	303	303	303	303

Notes: See notes in table A10 * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A12: Labour market effects of repatriates on male natives - without Lisbon, Setúbal and Algarve

	OLS		IV		
Outcomes for male natives	(1)	(2)	(3)	(4)	(5)
Δ LFP	-0.008	-0.086	-0.422*	-0.398	-0.399**
	(0.130)	(0.122)	(0.242)	(0.254)	(0.155)
Δ Unemployment rate	-0.042	0.052	0.129*	0.132*	0.140***
	(0.046)	(0.040)	(0.067)	(0.072)	(0.052)
Δ Employment share	0.037	-0.145	-0.543**	-0.523**	-0.531***
	(0.137)	(0.129)	(0.253)	(0.264)	(0.165)
Δ Share Employee	-0.459*	-1.388***	-2.590***	-2.599***	-2.150***
	(0.268)	(0.184)	(0.381)	(0.393)	(0.246)
Δ Share Entrepreneur	-0.064	0.597***	1.421***	1.457***	1.006***
	(0.200)	(0.176)	(0.331)	(0.357)	(0.215)
Δ Share Employer	-0.317***	-0.189***	-0.100	-0.064	-0.172**
	(0.062)	(0.067)	(0.110)	(0.119)	(0.069)
Δ Share Self-employed	0.253	0.786***	1.520***	1.521***	1.178***
	(0.193)	(0.186)	(0.342)	(0.362)	(0.229)
Controls	NO	YES	YES	YES	YES
Instrument	-	-	IV1	IV2	IV3
First-stage coefficient	-	-	0.337	0.322	0.377
First-stage F-statistic	-	-	54.824	44.663	573.818
Observations	270	270	270	270	270

Notes: Robust standard errors in parentheses. The independent variable is the sample of repatriates over the native population above 15. All outcomes refer to changes between 1960 and 1981. LFP, Employment share, Share Employee, Share Entrepreneurship, Share Employer and Share Self-employed are calculated as shares over the native working age population. The unemployment rate refers to the share of unemployed over the native labour force. All regression contain dummies for NUTS 2 regions. Controls contain the following parameters in 1960: unemployed and entrepreneurs as share of working age population, inactive and population below 15 as share of total population, those with higher education as share of those above 15 and per capita emigration in 1960. IV1 is the instrument based on educational network effects, IV2 is the instrument based on network effects according to the colony lived in and IV3 is the basic Bartik instrument. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A13: Labour market effects of repatriates on female natives - without Lisbon, Setúbal and Algarve

	OLS		IV		
Outcomes for female natives	(1)	(2)	(3)	(4)	(5)
Δ LFP	-0.344	-0.641***	-2.163***	-2.352***	-1.113***
	(0.231)	(0.204)	(0.483)	(0.535)	(0.268)
Δ Unemployment rate	-0.731***	0.040	0.600**	0.641**	0.329*
	(0.234)	(0.179)	(0.254)	(0.275)	(0.172)
Δ Employment share	0.018	-0.520**	-2.039***	-2.222***	-1.029***
	(0.242)	(0.202)	(0.466)	(0.513	(0.261)
Δ Share Employee	-0.445***	-0.621***	-2.052***	-2.168***	-1.162***
	(0.136)	(0.127)	(0.414)	(0.449)	(0.197)
Δ Share Entrepreneur	0.322	-0.053	-0.067	-0.127	0.011
	(0.201)	(0.187)	(0.308)	(0.315)	(0.246)
Δ Share Employer	-0.027***	-0.025**	-0.059***	-0.059***	-0.045***
	(0.009)	(0.010)	(0.019	(0.020)	(0.011)
Δ Share Self-employed	0.349*	-0.028	-0.008	-0.068	0.056
	(0.199)	(0.186)	(0.309	(0.315)	(0.246)
Controls	NO	YES	YES	YES	YES
Instrument	-	-	IV1	IV2	IV3
First-stage coefficient	-	-	0.337	0.322	0.377
First-stage F-statistic	-	-	54.824	44.663	573.818
Observations	270	270	270	270	270

Notes: See notes in table A12 * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A14: Labour market effects of repatriates on male natives - without Alentejo

	OLS		IV		
Outcomes for male natives	(1)	(2)	(3)	(4)	(5)
Δ LFP	-0.391***	-0.076	-0.358	-0.325	-0.376**
	(0.123)	(0.113)	(0.232)	(0.247)	(0.151)
Δ Unemployment rate	0.002	0.041	0.129**	0.138**	0.121**
	(0.042)	(0.037)	(0.063)	(0.068)	(0.050)
Δ Employment share	-0.394***	-0.122	-0.480**	-0.456*	-0.492***
	(0.120)	(0.119)	(0.241)	(0.254)	(0.160)
Δ Share Employee	-1.514***	-1.276***	-2.704***	-2.763***	-2.123***
	(0.234)	(0.187)	(0.391)	(0.416)	(0.243)
Δ Share Entrepreneur	0.313	0.438**	1.586***	1.677***	0.984***
	(0.210)	(0.183)	(0.346)	(0.383)	(0.214)
Δ Share Employer	-0.127*	-0.118*	-0.124	-0.099	-0.166**
	(0.067)	(0.062)	(0.106)	(0.114)	(0.068)
Δ Share Self-employed	0.440**	0.556***	1.710***	1.775***	1.150***
	(0.210)	(0.197)	(0.357	(0.388)	(0.229)
Controls	NO	YES	YES	YES	YES
Instrument	-	-	IV1	IV2	IV3
First-stage coefficient	-	-	0.357	0.340	0.380
First-stage F-statistic	-	-	58.313	46.354	595.883
Observations	246	246	246	246	246

Notes: Robust standard errors in parentheses. The independent variable is the sample of repatriates over the native population above 15. All outcomes refer to changes between 1960 and 1981. LFP, Employment share, Share Employee, Share Entrepreneurship, Share Employer and Share Self-employed are calculated as shares over the native working age population. The unemployment rate refers to the share of unemployed over the native labour force. All regression contain dummies for NUTS 2 regions. Controls contain the following parameters in 1960: unemployed and entrepreneurs as share of working age population, inactive and population below 15 as share of total population, those with higher education as share of those above 15 and per capita emigration in 1960. IV1 is the instrument based on educational network effects, IV2 is the instrument based on network effects according to the colony lived in and IV3 is the basic Bartik instrument. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A15: Labour market effects of repatriates on female natives - without Alentejo

	OLS		IV		
Outcomes for female natives	(1)	(2)	(3)	(4)	(5)
Δ LFP	-0.188	-0.491**	-1.951***	-2.140***	-1.040***
	(0.239)	(0.206)	(0.432)	(0.483)	(0.252)
Δ Unemployment rate	0.201	0.150	0.391*	0.429*	0.271*
	(0.135)	(0.140)	(0.207)	(0.223)	(0.165)
Δ Employment share	-0.257	-0.457**	-1.792***	-1.966***	-0.974***
	(0.237)	(0.203)	(0.413)	(0.457	(0.248)
Δ Share Employee	-0.413**	-0.665***	-1.853***	-1.972***	-1.168***
	(0.181)	(0.145)	(0.362)	(0.398)	(0.193)
Δ Share Entrepreneur	-0.117	-0.003	-0.055	-0.104	0.049
	(0.171)	(0.175)	(0.300)	(0.309)	(0.241)
Δ Share Employer	-0.002	-0.020**	-0.051***	-0.052***	-0.043***
	(0.011)	(0.009)	(0.018	(0.019)	(0.011)
Δ Share Self-employed	-0.115	0.017	-0.004	-0.052	0.092
	(0.172)	(0.175)	(0.301	(0.309)	(0.242)
Controls	NO	YES	YES	YES	YES
Instrument	-	-	IV1	IV2	IV3
First-stage coefficient	-	-	0.357	0.340	0.380
First-stage F-statistic	-	-	58.313	46.354	595.883
Observations	246	246	246	246	246

Notes: See notes table A14 * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A16: Labour market effects of repatriates on male natives - different regional FE

	OLS		IV		
Outcomes for male natives	(1)	(2)	(3)	(4)	(5)
Δ LFP	-0.053	0.006	-0.465*	-0.429	-0.392**
	(0.110)	(0.105)	(0.277)	(0.299)	(0.153)
Δ Unemployment rate	-0.069*	-0.013	0.234***	0.256**	0.155***
	(0.040)	(0.038)	(0.089)	(0.100)	(0.053)
Δ Employment share	0.015	0.007	-0.678**	-0.661**	-0.537***
	(0.114)	(0.116)	(0.299)	(0.321)	(0.161)
Δ Share Employee	-0.595***	-0.986***	-3.156***	-3.269***	-2.216***
	(0.227)	(0.190)	(0.576)	(0.636)	(0.253)
Δ Share Entrepreneur	-0.030	0.345**	1.858***	2.000***	1.070***
	(0.174)	(0.158)	(0.473)	(0.540)	(0.219)
Δ Share Employer	-0.188***	-0.115**	-0.084	-0.042	-0.156**
	(0.060)	(0.054)	(0.122)	(0.136)	(0.070)
Δ Share Self-employed	0.159	0.460***	1.942***	2.042***	1.225***
	(0.173)	(0.172)	(0.479	(0.536)	(0.235)
Controls	NO	YES	YES	YES	YES
Instrument	-	-	IV1	IV2	IV3
First-stage coefficient	-	-	0.278	0.257	0.368
First-stage F-statistic	-	-	32.769	25.233	517.466
Observations	303	303	303	303	303

Notes: Robust standard errors in parentheses. The independent variable is the sample of repatriates over the native population above 15. All outcomes refer to changes between 1960 and 1981. LFP, Employment share, Share Employee, Share Entrepreneurship, Share Employer and Share Self-employed are calculated as shares over the native working age population. The unemployment rate refers to the share of unemployed over the native labour force. All regressions contain three regional dummies: a dummy containing the NUTS 3 regions Centre and North, a dummy comprising Alentejo, Algarve, and Lisbon, and a dummy for the islands Azores and Madeira. Controls contain the following parameters in 1960: unemployed and entrepreneurs as share of working age population, inactive and population below 15 as share of total population, those with higher education as share of those above 15 and per capita emigration in 1960. IV1 is the instrument based on educational network effects, IV2 is the instrument based on network effects according to the colony lived in and IV3 is the basic Bartik instrument. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A17: Labour market effects of repatriates on female natives - different regional FE

	OLS		IV		
Outcomes for female natives	(1)	(2)	(3)	(4)	(5)
Δ LFP	-0.231	-0.289	-2.696***	-3.013***	-1.166***
	(0.222)	(0.231)	(0.674)	(0.793)	(0.289)
Δ Unemployment rate	-0.724***	-0.431**	1.161***	1.318***	0.339*
	(0.198)	(0.193)	(0.388)	(0.447)	(0.184)
Δ Employment share	0.068	-0.054	-2.722***	-3.054***	-1.102***
	(0.227)	(0.244)	(0.680)	(0.799	(0.284)
Δ Share Employee	-0.252	-0.270*	-2.569***	-2.811***	-1.205***
	(0.165)	(0.156)	(0.613)	(0.711)	(0.204)
Δ Share Entrepreneur	0.100	0.007	-0.213	-0.290	-0.026
	(0.158)	(0.163)	(0.383)	(0.401)	(0.262)
Δ Share Employer	-0.009	-0.013	-0.074***	-0.077***	-0.045***
	(0.010)	(0.009)	(0.023	(0.026)	(0.012)
Δ Share Self-employed	0.110	0.021	-0.139	-0.213	0.019
	(0.159)	(0.161)	(0.383	(0.401)	(0.262)
Controls	NO	YES	YES	YES	YES
Instrument	-	-	IV1	IV2	IV3
First-stage coefficient	-	-	0.278	0.257	0.368
First-stage F-statistic	-	-	32.769	25.233	517.466
Observations	303	303	303	303	303

Notes: See notes in table A16 * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A18: Labour market effects of repatriates on male natives - no regional FE

	OLS		IV		
Outcomes for male natives	(1)	(2)	(3)	(4)	(5)
Δ LFP	-0.053	-0.100	-0.566**	-0.541**	-0.491***
	(0.110)	(0.103)	(0.254)	(0.270)	(0.150)
Δ Unemployment rate	-0.069*	-0.038	0.171**	0.188**	0.097**
	(0.040)	(0.039)	(0.075)	(0.083)	(0.050)
Δ Employment share	0.015	-0.073	-0.715***	-0.705**	-0.579***
	(0.114)	(0.114)	(0.268)	(0.283)	(0.154)
Δ Share Employee	-0.595***	-1.010***	-2.900***	-2.986***	-2.088***
	(0.227)	(0.179)	(0.478)	(0.521)	(0.218)
Δ Share Entrepreneur	-0.030	0.309**	1.589***	1.695***	0.924***
	(0.174)	(0.145)	(0.382)	(0.429)	(0.187)
Δ Share Employer	-0.188***	-0.191***	-0.218**	-0.191*	-0.257***
	(0.060)	(0.053)	(0.103)	(0.111)	(0.066)
Δ Share Self-employed	0.159	0.500***	1.806***	1.885***	1.181***
	(0.173)	(0.160)	(0.399	(0.439)	(0.206)
Controls	NO	YES	YES	YES	YES
Instrument	-	-	IV1	IV2	IV3
First-stage coefficient	-	-	0.307	0.288	0.376
First-stage F-statistic	-	-	41.873	32.640	550.862
Observations	303	303	303	303	303

 Notes: Robust standard errors in parentheses. The independent variable is the sample of repatriates over the native population above 15. All outcomes refer to changes between 1960 and 1981. LFP, Employment share, Share Employee, Share Entrepreneurship, Share Employer and Share Self-employed are calculated as shares over the native working age population. The unemployment rate refers to the share of unemployed over the native labour force. Controls contain the following parameters in 1960: unemployed and entrepreneurs as share of working age population, inactive and population below 15 as share of total population, those with higher education as share of those above 15 and per capita emigration in 1960. IV1 is the instrument based on educational network effects, IV2 is the instrument based on network effects according to the colony lived in and IV3 is the basic Bartik instrument. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A19: Labour market effects of repatriates on female natives - no regional FE

Outcomes for female natives	OLS		IV		
	(1)	(2)	(3)	(4)	(5)
Δ LFP	-0.231	-0.357	-2.422***	-2.668***	-1.154***
	(0.222)	(0.221)	(0.575)	(0.659)	(0.279)
Δ Unemployment rate	-0.724***	-0.614***	0.677**	0.791**	-0.029
	(0.198)	(0.200)	(0.329)	(0.370)	(0.204)
Δ Employment share	0.068	-0.066	-2.343***	-2.601***	-0.984***
	(0.227)	(0.232)	(0.562)	(0.644	(0.274)
Δ Share Employee	-0.252	-0.357**	-2.393***	-2.590***	-1.203***
	(0.165)	(0.141)	(0.524)	(0.596)	(0.187)
Δ Share Entrepreneur	0.100	0.096	-0.014	-0.066	0.101
	(0.158)	(0.163)	(0.332)	(0.343)	(0.252)
Δ Share Employer	-0.009	-0.018**	-0.074***	-0.076***	-0.047***
	(0.010)	(0.008)	(0.020	(0.022)	(0.011)
Δ Share Self-employed	0.110	0.114	0.059	0.010	0.148
	(0.159)	(0.161)	(0.332	(0.343	(0.251)
Controls	NO	YES	YES	YES	YES
Instrument	-	-	IV1	IV2	IV3
First-stage coefficient	-	-	0.307	0.288	0.376
First-stage F-statistic	-	-	41.873	32.640	550.862
Observations	303	303	303	303	303

Notes: See notes in table A18. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A20: Labour market effects of repatriates on male natives - sample robustness

Outcomes for male natives	IV 1 - based on educational network effect				
	(1)	(2)	(3)	(4)	(5)
ΔLFP	-0.542**	-0.488**	-0.685**	-1.055**	-0.551**
	(0.255)	(0.231)	(0.324)	(0.506)	(0.259)
Δ Unemployment rate	0.144*	0.130*	0.182*	0.283*	0.145*
	(0.074)	(0.067)	(0.095)	(0.150)	(0.075)
Δ Employment share	-0.542**	-0.488**	-0.685**	-1.055**	-0.551**
	(0.255)	(0.231)	(0.324)	(0.506)	(0.259)
Δ Share Employee	-2.738***	-2.463***	-3.457***	-5.330***	-2.785***
	(0.419)	(0.391)	(0.537)	(0.909)	(0.410)
ΔShare Entrepreneur	1.585***	1.426***	2.002***	3.086***	1.613***
	(0.361)	(0.332)	(0.458)	(0.747)	(0.357)
Δ Share Employer	-0.109	-0.098	-0.137	-0.212	-0.111
	(0.110)	(0.099)	(0.139)	(0.214)	(0.112)
Δ Share Self-employed	1.694***	1.524***	2.139***	3.298***	1.723***
	(0.371)	(0.340)	(0.470)	(0.767)	(0.367)
Controls	YES	YES	YES	YES	YES
First-stage coefficient	0.331***	0.368***	0.262***	0.170***	0.325***
First-stage F-statistic	46.724	42.952	44.949	35.438	51.884
Observations	303	303	303	303	303
First-stage coefficient	0.330	0.367	0.261	0.169	0.324

Notes: Robust standard error in parentheses. The independent variable is the sample of repatriates over the native population above 15. All outcomes refer to changes between 1960 and 1981. LFP, Employment share, Share Employee, Share Entrepreneurship, Share Employer and Share Self-employed are calculated as shares over the native working age population. The unemployment rate refers to the share of unemployed over the native labour force. All regression contain dummies for NUTS 2 regions. Controls contain the following parameters in 1960: unemployed and entrepreneurs as share of working age population, inactive and population below 15 as share of total population, those with higher education as share of those above 15 and per capita emigration in 1960. IV1 is the instrument based on educational network effects, IV2 is the instrument based on network effects according to the colony lived in and IV3 is the basic Bartik instrument. (1) excludes students from the sample of repatriates, (2) uses an age range of 15-64 years, (3) uses as age range 25-59 years (4) excludes all inactive repatriates, (5) includes only Portuguese-born repatriates. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A21: Labour market effects of repatriates on female natives - sample robustness

Outcomes for female natives	IV 1 - based on educational network effect				
	(1)	(2)	(3)	(4)	(5)
ΔLFP	-2.072***	-1.864***	-2.616***	-4.033***	-2.108***
	(0.482)	(0.443)	(0.615)	(1.028)	(0.480)
Δ Unemployment rate	0.729**	0.657**	0.923**	1.437**	0.736**
	(0.288)	(0.261)	(0.368)	(0.591)	(0.288)
Δ Employment share	-2.072***	-1.864***	-2.616***	-4.033***	-2.108***
	(0.482)	(0.443)	(0.615)	(1.028)	(0.480)
Δ Share Employee	-2.150***	-1.934***	-2.714***	-4.185***	-2.187***
	(0.446)	(0.414)	(0.568)	(0.956)	(0.439)
ΔShare Entrepreneur	-0.008	-0.007	-0.010	-0.016	-0.008
	(0.311)	(0.280)	(0.393)	(0.605)	(0.316)
Δ Share Employer	-0.060***	-0.054***	-0.075***	-0.116***	-0.061***
	(0.019)	(0.017)	(0.024)	(0.038)	(0.019)
Δ Share Self-employed	0.052	0.047	0.065	0.101	0.053
	(0.312)	(0.281)	(0.394)	(0.606)	(0.317)
Controls	YES	YES	YES	YES	YES
First-stage coefficient	0.331***	0.368***	0.262***	0.170***	0.325***
First-stage F-statistic	46.724	42.952	44.949	35.438	51.884
Observations	303	303	303	303	303
First-stage coefficient	0.330	0.367	0.261	0.169	0.324

Notes: See notes in table A20 * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A22: Labour market effects of repatriates on male natives - using pre-existing workforce as shock denominator

	OLS		IV		
Outcomes for male natives	(1)	(2)	(3)	(4)	(5)
Δ LFP	0.013	0.121	-0.753	-0.708	-0.596**
	(0.056)	(0.075)	(0.463)	(0.506)	(0.232)
Δ Unemployment rate	-0.062***	-0.023	0.247*	0.269*	0.200***
	(0.023)	(0.020)	(0.133)	(0.152)	(0.075)
Δ Employment share	0.067	0.135*	-0.984**	-0.959*	-0.785***
	(0.062)	(0.079)	(0.498)	(0.542)	(0.249)
Δ Share Employee	-0.246**	-0.249	-4.967***	-5.242***	-3.155***
	(0.122)	(0.171)	(1.106)	(1.272)	(0.437)
Δ Share Entrepreneur	-0.112	-0.073	2.876***	3.163***	1.448***
	(0.100)	(0.113)	(0.825)	(0.983)	(0.339)
Δ Share Employer	-0.018	-0.052	-0.197	-0.143	-0.243**
	(0.042)	(0.044)	(0.199)	(0.223)	(0.100)
Δ Share Self-employed	-0.094	-0.021	3.074***	3.305***	1.692***
	(0.090)	(0.131)	(0.847	(0.988)	(0.365)
Controls	NO	YES	YES	YES	YES
Instrument	-	-	IV1	IV2	IV3
First-stage coefficient	-	-	0.182	0.166	0.257
First-stage F-statistic	-	-	19.332	14.886	162.392
Observations	303	303	303	303	303

Notes: Robust standard errors in parentheses. The independent variable is the sample of repatriates over the native population above 15 in 1960. All outcomes refer to changes between 1960 and 1981. LFP, Employment share, Share Employee, Share Entrepreneurship, Share Employer and Share Self-employed are calculated as shares over the native working age population. The unemployment rate refers to the share of unemployed over the native labour force. All regression contain dummies for NUTS 2 regions. Controls contain the following parameters in 1960: unemployed and entrepreneurs as share of working age population, inactive and population below 15 as share of total population, those with higher education as share of those above 15 and per capita emigration in 1960. IV1 is the instrument based on educational network effects, IV2 is the instrument based on network effects according to the colony lived in and IV3 is the basic Bartik instrument. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A23: Labour market effects of repatriates on female natives - using pre-existing workforce as shock denominator

	OLS		IV		
Outcomes for female natives	(1)	(2)	(3)	(4)	(5)
Δ LFP	-0.001	-0.088	-3.945***	-4.484***	-1.655***
	(0.175)	(0.171)	(1.167)	(1.422)	(0.412)
Δ Unemployment rate	-0.391***	-0.150	1.199**	1.366**	0.456*
	(0.144)	(0.101)	(0.509)	(0.597)	(0.243)
Δ Employment share	0.101	-0.025	-3.759***	-4.281***	-1.557***
	(0.197)	(0.175)	(1.120)	(1.359	(0.397)
Δ Share Employee	0.109	-0.173	-3.900***	-4.316***	-1.819***
	(0.173)	(0.158)	(1.095)	(1.311)	(0.337)
Δ Share Entrepreneur	-0.185***	-0.008	-0.014	-0.111	0.070
	(0.068)	(0.086)	(0.564)	(0.599)	(0.355)
Δ Share Employer	0.010*	-0.002	-0.108***	-0.113***	-0.066***
	(0.005)	(0.006)	(0.039	(0.043)	(0.016)
Δ Share Self-employed	-0.195***	-0.006	0.094	0.002	0.136
	(0.069)	(0.086)	(0.567	(0.600)	(0.356)
Controls	NO	YES	YES	YES	YES
Instrument	-	-	IV1	IV2	IV3
First-stage coefficient	-	-	0.182	0.166	0.257
First-stage F-statistic	-	-	19.332	14.886	162.392
Observations	303	303	303	303	303

Notes: See notes in table A22. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A24: Labour market effects of repatriates on male natives - gender-specific shock

	OLS		IV		
Outcomes for male natives	(1)	(2)	(3)	(4)	(5)
Δ LFP	-0.027	-0.036	-0.202*	-0.205*	-0.218***
	0.053	0.052	0.117	0.122	0.082
Δ Unemployment rate	-0.037**	0.010	0.066*	0.074**	0.065**
	0.019	0.017	0.034	0.036	0.025
Δ Employment share	0.009	-0.050	-0.264**	-0.273**	-0.278***
	0.055	0.055	0.126	0.131	0.089
Δ Share Employee	-0.268**	-0.596***	-1.334***	-1.382***	-1.055***
	0.108	0.087	0.199	0.210	0.122
Δ Share Entrepreneur	-0.023	0.220***	0.783***	0.830***	0.479***
	0.080	0.083	0.173	0.186	0.103
Δ Share Employer	-0.088***	-0.062**	-0.039	-0.032	-0.078**
	0.029	0.029	0.056	0.059	0.034
Δ Share Self-employed	0.065	0.281***	0.822***	0.862***	0.557***
	0.080	0.091	0.177	0.188	0.112
Controls	NO	YES	YES	YES	YES
Instrument	-	-	IV1	IV2	IV3
First-stage coefficient	-	-	1.240	1.194	0.827
First-stage F-statistic	-	-	45.539	39.914	447.084
Observations	303	303	303	303	303

Notes: Robust standard errors in parentheses. The independent variable is the sample of male repatriates over the native male population above 15. All outcomes refer to changes between 1960 and 1981. LFP, Employment share, Share Employee, Share Entrepreneurship, Share Employer and Share Self-employed are calculated as shares over the native working age population. The unemployment rate refers to the share of unemployed over the native labour force. All regression contain dummies for NUTS 2 regions. Controls contain the following parameters in 1960: unemployed and entrepreneurs as share of working age population, inactive and population below 15 as share of total population, those with higher education as share of those above 15 and per capita emigration in 1960. IV1 is the instrument based on educational network effects, IV2 is the instrument based on network effects according to the colony lived in and IV3 is the basic Bartik instrument. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A25: Labour market effects of repatriates on female natives - gender-specific shock

	OLS		IV		
Outcomes for female natives	(1)	(2)	(3)	(4)	(5)
Δ LFP	-0.153	-0.279***	-1.020***	-1.112***	-0.600***
	(0.116)	(0.101)	(0.214)	(0.238)	(0.130)
Δ Unemployment rate	-0.358***	-0.028	0.278**	0.313**	0.155*
	(0.104)	(0.085)	(0.116)	(0.125)	(0.086)
Δ Employment share	-0.001	-0.219**	-0.959***	-1.046***	-0.561***
	(0.119)	(0.101)	(0.205)	(0.226	(0.126)
Δ Share Employee	-0.138	-0.287***	-0.985***	-1.046***	-0.615***
	(0.087)	(0.072)	(0.187)	(0.204)	(0.101)
Δ Share Entrepreneur	0.020	-0.035	-0.024	-0.049	-0.018
	(0.081)	(0.082)	(0.145)	(0.150)	(0.114)
Δ Share Employer	-0.005	-0.011**	-0.028***	-0.029***	-0.022***
	(0.005)	(0.005)	(0.008	(0.009)	(0.005)
Δ Share Self-employed	0.026	-0.025	0.004	-0.019	0.004
	(0.081)	(0.081)	(0.146	(0.151)	(0.115)
Controls	NO	YES	YES	YES	YES
Instrument	-	-	IV1	IV2	IV3
First-stage coefficient	-	-	1.594	1.496	0.711
First-stage F-statistic	-	-	76.812	60.088	578.691
Observations	303	303	303	303	303

 Notes: Robust standard errors in parentheses. The independent variable is the sample of female repatriates over the native female population above 15. All outcomes refer to changes between 1960 and 1981. LFP, Employment share, Share Employee, Share Entrepreneurship, Share Employer and Share Self-employed are calculated as shares over the native working age population. The unemployment rate refers to the share of unemployed over the native labour force. All regression contain dummies for NUTS 2 regions. Controls contain the following parameters in 1960: unemployed and entrepreneurs as share of working age population, inactive and population below 15 as share of total population, those with higher education as share of those above 15 and per capita emigration in 1960. IV1 is the instrument based on educational network effects, IV2 is the instrument based on network effects according to the colony lived in and IV3 is the basic Bartik instrument. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.