Lisbon School of Economics & Management
Universidade de Lisboa

MASTER'S IN ECONOMICS

MASTER´S FINAL WORK

DISSERTATION

NONSTANDARD EMPLOYMENT AND LABOUR MARKET INEQUALITIES: THE CASE OF PORTUGAL

PAULO EDUARDO DA ROCHA MAIA FERNANDES

SUPERVISION:
ALEXANDRE JOSÉ GERMANO DE ABREU

OCTOBER-2021

ABSTRACT, KEYWORDS AND JEL CODES

This dissertation aims at contributing to the debate on the changing nature of work in Portugal, using a multidimensional approach to answer our central question: how does nonstandard employment relate to inequality? We carry out a literature review on nonstandard employment and an empirical analysis of the Portuguese labour market. The former investigates the main determinants of nonstandard employment and its potential benefits and risks for society in general. Using the Eurostat database and the Portuguese micro database of wages "Quadros de Pessoal", the latter seeks to ascertain the evolution of nonstandard employment according to workers' characteristics and how it relates to labour market inequalities in terms of opportunities and outcomes. In this respect, we study the relationship between nonstandard employment and activity rates and differences in labour market transitions between standard and nonstandard workers to understand whether nonstandard employment can create sustainable opportunities in the labour market. Regarding outcomes, we detail the earnings inequality between standard and nonstandard workers. We estimate and compare the earnings distribution and median earnings by type of worker, analyse the in-work-at-risk-of-poverty rate, and estimate the standard workers' wage premium (controlling for individual and job characteristics).

Moreover, our results indicate that nonstandard employment has resulted in a segmented labour market in Portugal. One could argue that nonstandard employment can provide new opportunities for specific socioeconomic groups. However, most of it followed a cyclical pattern, offered worse labour market transitions, and many nonstandard workers were involuntary. Also, we show that nonstandard workers are more likely to be worse off along the earnings distribution, have lower and more volatile earnings, face in-work poverty, and bear a wage penalty relative to standard workers. In this scenario, we discuss the role that labour market institutions need to play to mitigate these inequalities and ensure nonstandard employment accomplishes its goals. The concern should be to allow workers to freely choose their career paths, providing decent work for all.

Keywords: nonstandard employment; labour market; Portugal; inequality; earnings; opportunities; institutions.

JEL codes: D63, J01, J08, J31, J41, J42, O1.

TABLE OF CONTENTS

List of Figures

List of Tables

ACKNOWLEDGEMENTS

"In order to understand inequality, we need to study all aspects of our societies, both today and how they developed in the past."

(Atkinson, 2015, page 302)

I am extremely grateful to my father, mother, and brother, who have always supported me on all occasions. Also, I would like to thank Professor Alexandre Abreu for being my supervisor.

NONSTANDARD EMPLOYMENT AND LABOUR MARKET INEQUALITIES: THE CASE OF PORTUGAL

By Paulo Eduardo da Rocha Maia Fernandes

1. INTRODUCTION

Throughout the past decades, there have been significant changes in the nature of work. Nonstandard forms of employment, such as temporary contracts, part-time work, self-employment, and temporary agency work, have been growing at a fast pace worldwide. These changes, which are often associated with globalisation, technological changes, and decisions taken by governments, firms, and individuals, represent opportunities and risks for society in general. Their central idea is to create a flexible labour market that can adapt to a constantly changing environment while providing opportunities for those excluded from it and improving individuals' work-life balance. Yet, they can also harm individuals' living and working conditions, firms' productivity, and economic stability through a segmented labour market, in which standard workers benefit from higher earnings and better working habits and career prospects than nonstandard workers.

Thus, it is not surprising that the rise of nonstandard employment creates a puzzle for policymakers and researchers. Often, one of the main arguments for seeking policies to increase employment is that employment is the best path to improve welfare, reduce inequality, and eliminate extreme poverty. This argument is associated with the European Employment Strategy in the late 1990s that incentivised nonstandard employment as an inclusive mechanism that cooperates with innovation and competitiveness. However, evidence suggests that the use of nonstandard employment has not been sustainable in many European countries. In this sense, this dissertation seeks to ascertain nonstandard employment evolution to answer our central question: how does nonstandard employment relate to inequality? We carry out a detailed literature review on the topic and an empirical analysis of the Portuguese labour market.

A critical point we need to consider answering our question is measuring inequality, particularly for nonstandard workers. In our empirical analysis, we detail the inequality of outcomes between standard and nonstandard workers. Using the Eurostat database and the Portuguese micro database "Quadros de Pessoal", we estimate and compare the earnings distribution and median earnings by type of worker, analyse the in-work-at-risk-of-poverty rate, and estimate the standard workers' wage premium. However, nonstandard employment may not be strongly related to earnings inequality. Nowadays, many workers

can find new ways to maintain or increase their income through a "portfolio" of activities. Thus, our concern should also be on individuals' living and working conditions, their whole interactions in the labour market. For this, we briefly analyse the correlation between nonstandard work and activity rates, and labour market transitions to assess whether nonstandard employment can provide sustainable opportunities in the labour market.

Our results indicate that nonstandard employment has resulted in a segmented labour market in Portugal. One could argue that nonstandard employment can provide new opportunities for specific socioeconomic groups. However, most of it followed a cyclical pattern, offered worse labour market transitions, and many nonstandard workers were involuntary. Also, we show that nonstandard workers are more likely to be worse off along the earnings distribution, have lower and more volatile earnings, face in-work poverty, and bear a wage penalty relative to standard workers. Lastly, we demonstrate that labour market institutions play a significant role in mitigating these inequalities. These results contribute to the growing literature on the changing nature of work and its impact on inequality in Portugal, using a multidimensional approach by analysing several types of work arrangements simultaneously in terms of opportunities and outcomes.

The rest of this paper is organised as follows. Section two is a literature review on nonstandard employment, explaining its concept, emphasising its importance, reviewing some of its determinants, discussing its costs and benefits, and identifying a set of strategies to mitigate its risks. Then, sections three and four take the case of Portugal for analysis. Section three provides nonstandard employment evolution according to workers' characteristics. In turn, section four analyses how nonstandard employment relates to inequality. We divide this analysis into two types of inequality: opportunities and outcomes. In addition, we discuss the role of labour market institutions as mediators of inequality to complete this section. Finally, section five presents the concluding remarks of this paper.

2. Literature Review on Nonstandard Employment

2.1 What does Nonstandard Employment mean?

There is no legal or official definition of standard and nonstandard employment. Researchers often associate nonstandard employment with other terms, such as atypical (Buschoff & Protsch, 2008), alternative (Katz & Krueger, 2018), or flexible work (Van Eyck, 2003). Besides, it often overlaps with informality and precariousness due to a lack

of labour legislation and protection (ILO 2016). Thus, we start the literature review by clarifying what nonstandard employment means.

According to ILO (2016), the concept of standard employment arose during the twentieth century as part of remarkable transformations in world economies and business. These transformations brought an understanding that if employment could satisfy a person's fundamental needs for decent work, it could benefit all parties involved. In this sense, work should provide employment and income security, safe and healthy workplaces, productivity improvements, economic stability, voice to people, fair treatment, equality of access, and social protection. The outcome was that most developed countries adopted the full-time, permanent, and subordinate employer-employee relationship to correspond to these fundamental needs, becoming known as "standard" employment.

From this description, one may conclude that all other forms of employment that are not in a full-time, permanent, and subordinate employer-employee relationship are nonstandard work arrangements. Thus, ILO (2016) defines nonstandard employment as an umbrella term that gathers distinct work contracts that deviate from the standard employment relationship. Table I in Annexe I presents the definition for the main types of nonstandard employment.[1]

As we can see, each type of nonstandard employment deviates from the standard form in at least one sense. That does not mean these forms of employment never respect the fundamental needs for decent work, nor is it the case that standard employment always respects them. Neither are they strictly related to informality, as ILO (2016) remarks that nonstandard employment can be formal or informal, with informality understood as workers' economic activities and units that are not covered or insufficiently covered by formal arrangements.

2.2 The Rise of Nonstandard Employment

In recent decades, the nature of employment has been changing very quickly. Atkinson (2015) argues that the regular full-time job is increasingly being replaced by many forms of nonstandard employment and by people engaged in a "portfolio" of activities. That is indeed what has been happening in many labour markets worldwide, including Europe, in which different forms of nonstandard work have been increasing in countries with very different employment systems like the UK and Portugal (Schmid, 2011). In this respect,

[1] We apologize to the readers, but we put all figures and tables in the Annexe due to space and format restrictions.

Schmid & Wagner (2017) put together part-time, fixed-term, and self-employment in one indicator to measure the extent of nonstandard work in Europe between 1998 and 2014. They show that nonstandard employment increased in most European countries during this period (see figure 1 in Annexe I), and part-time work is the most prominent form of nonstandard employment in most of these countries. However, most studies on this topic point out that the extent of nonstandard employment varies between countries regarding the types of work arrangements, gender, age, and citizenship or ethnicity (Schmid, 2011; Schmid & Wagner, 2017; Katz & Krueger, 2018).

Even though the rise of nonstandard employment is a current phenomenon and needs more detailed investigation, researchers from different fields have presented studies related to the topic for some time (see Rodgers & Rodgers, 1989; Houseman & Osawa, 2003). Besides, since the beginning of the twenty-first century, the topic has increasingly gained attention and researchers, due to greater data availability, were able to relate it to relevant socioeconomic issues, such as unemployment (Katz & Krueger, 2017), wages (da Silva & Turrini, 2015), social protection (Buschoff & Protsch, 2008), labour productivity (Lisi, 2013), labour force participation (Schmid & Wagner, 2017), labour market institutions (Auer, 2007), and others.

Lately, several international organisations have also started to look into the topic in greater detail to ascertain its impacts on society and how policymakers should deal with it. For example, ILO (2016) presents a long and precise report on nonstandard employment's economic and legal aspects in many countries and regions worldwide and its impacts on workers, firms, and society. European Commission (2020) provides an annual overview of employment and social impacts, including indicators on some forms of nonstandard employment in European countries, and the World Bank (2019) also warns about the changing nature of work, emphasising the role of technology, the primacy of human capital and innovation, and governments' challenges to adapt to these changes.

The general idea we can filter from these studies and reports is that the rise of nonstandard employment creates opportunities and risks for workers, firms and society in general. Thus, in order to support decent work and economic development, we need to fully understand its causes and consequences.

2.3 The Determinants of Nonstandard Employment

The rise of nonstandard employment is the result of multiple forces. First, many researchers emphasise the role of globalisation in this process. The main argument is that

the creation of global supply chains and production systems increases competitiveness for firms and workers, requiring them to adapt to increasing fluctuations in demand. In other words, the "production sharing" system puts pressure on firms to ensure in-time production, while workers may face greater risks of losing their jobs to lower-wage countries (Feenstra & Hanson, 2003, chapter 6; Smith & Ehrenberg, 2017, chapter 16). Thus, nonstandard employment that allows firms to quickly adjust their labour force to the demand for their products or services becomes a proper response to globalisation, intending to reduce unemployment and increase productivity (Van Eyck, 2003).

Another significant force used to explain the rise of nonstandard employment is technological change. Here, a consensual argument is that technology changes the organisation of work. The papers of Acemoglu & Autor (2011) and Acemoglu & Restrepo (2017) estimate how technology can generate skill-biased demand shifts, changing employment and tasks distribution ("job polarisation"), and how it negatively impacts employment in specific industries ("displacement effect"), while also creating employment in other industries ("productivity effect"). Moreover, one of the main effects of technological changes in employment was the creation of the "gig economy", which has increasingly gained the researchers' attention in the past decade (Katz & Krueger, 2018; Abraham et al., 2018). Therefore, similar to globalisation, these transformations in the world of work tend to require more and more nonstandard work arrangements, especially in the "gig economy", which transforms many employees into self-employed workers who compete intensively and are not part of an employment hierarchy (Caldas & Teles, 2019).

Often, researchers consider both forces mentioned above as exogenous shocks on labour markets. However, we should also consider that globalisation and technological changes directly relate to endogenous forces, decisions of governments, firms, and individuals as workers and consumers (Atkinson, 2015). Van Eyck (2003) argues that many countries during the 1980s and 1990s chose the "flexibilisation" of national labour legislation to introduce technological innovations and face new competitive pressures. She goes on to say that changes in labour legislation in terms of flexibility concerns the ability to deviate from contracts for standard employment. Similarly, Freeman (2010) argues that in the 1990s, policymakers were influenced by the theory that blames unemployment and sluggish growth on labour market inflexibility. Thus, according to this theory, if labour markets were as flexible as capital markets, they would better adapt to economic change and drive greater efficiency. In this sense, we can find many examples of labour market

policy and regulation changes that helped introduce nonstandard employment. For instance, since the late 1990s, the European Employment Strategy has mainly focused on "flexicurity" to boost employment to achieve social justice alongside economic innovation and competitiveness (Bekker, 2017). This orientation incentivised policymakers to use nonstandard employment, such as the rise of fixed-term contracts in Portugal, the "honeymoon" reforms in Italy, the mini-jobs in Germany, and others (ILO, 2016).

Firms' organisational transformations are another significant force that may contribute to the rise of nonstandard employment. Several factors influence a firm organisational structure, such as its size, industry context, workforce's skill level, proprietary knowledge, competing enterprises' practices, and country's regulatory framework (ILO 2016). Acemoglu (1999) builds a search and matching model of endogenous job composition, in which firms decide on what types of jobs to create according to the skill level of their labour force or the technologies available. The primary idea is that firms would have an incentive to split their workforce if the proportion of skilled workers rises (or if there is a skill-biased technical change for skilled workers). We can relate it with the core competency theory of management, which increased during the 1980s and 1990s with the argument that firms should focus on their core competencies that produce value for investors and consumers, creating a dual labour force with standard (core jobs) and nonstandard (peripheral jobs) work (Weil, 2014). ILO (2016) gives the example of Nike, which decided to focus on its pre-production (R&D) and post-production activities (marketing, distribution, and sales) while outsourcing its shoe manufacturing. Moreover, other approaches can also explain this phenomenon, such as the efficiency wage literature (see Shapiro & Stiglitz, 1984).

Sectoral structural change is another potential force underlying the rise of nonstandard employment. Studies on this topic seek to understand how structural transformations impact the allocation and development of labour between and within economic sectors (see Islam & Kucera, 2013; Herrendorf, Rogerson & Valentinyi, 2014). For example, ILO (2016) shows that employment in the services sector has considerably expanded in most parts of the world in the last three decades, which we can associate with the deindustrialisation process in developed economies (Ramaswamy & Rowthorn, 1997) and the "premature" deindustrialisation in developing countries (Rodrik, 2015). In this respect, one may expect that structural transformations move labour demand from manufacturing to the services sector, and since the latter is more volatile than the former, we should expect

an increase and a concentration of nonstandard work arrangements in the services sector (Schmid & Wagner, 2017).

Relatedly, sociodemographic structural changes also play a significant role in the rise of nonstandard employment. Women, young, and migrants are most likely to engage in nonstandard employment (ILO, 2016). In women's case, a significant part of their increase in the labour force participation occurred through part-time employment (Goldin, 2006; Booth & Van Ours, 2012; Schmid & Wagner, 2017). Regarding young workers, many European countries have been encouraging nonstandard work (mainly through temporary contracts) to combat youth unemployment and help young students' transition to their first job (Caliendo, Kün & Schmidl, 2011; Garcia-Pérez, Marinescu, & Castello, 2018). We find a more complex context in the case of migrant workers due to the migrants' variety of motivations to move from one place to another. However, we need to consider that international cooperation improvements can ease labour migration (ILO, 2016) and that migrants may face a dual labour market in the host country (Gordon, 1995; Felbo-Kolding, Leschke & Spreckelsen, 2018) and are often recruited by temporary agencies (Sporton, 2012; Maroukis, 2016).

Workers' preferences are also crucial to determine nonstandard employment. Akerlof & Kranton (2011) argue that preferences derive from norms, which they define as the social rules regarding how people should behave in different situations. Taking the rise of women's participation in the labour market as an example, we can associate it with several changes in countries' social norms in the past decades. An informal example would be the rising opposition to the idea that women should only perform specific jobs and behave in a "feminine" way at work (Akerlof & Kranton, 2011). A formal example is Sweden, which implemented policies to increase women's labour market participation by promoting tax systems favouring second earners, supporting childcare services and paid parental leave policies, and promoting good quality part-time work (ILO, 2016).

Furthermore, the set of labour market institutions can influence (positively and negatively) the composition of jobs in a country (Acemoglu, 2001). For example, Denmark appears in many studies as a positive example of increasingly using flexible labour and ensuring workers' security simultaneously through low employment protection, generous unemployment benefits, and active employment policies (Lang, 2006; Schmid, 2011). By contrast, some countries like Portugal present a high share of involuntary nonstandard workers (Green & Livanos, 2015; Schmid & Wagner, 2017). Thus, an often-used argument

is that such countries have inadequate labour market institutions, mainly employment protection and unemployment insurance, generating labour market segmentation (Centeno & Novo, 2012).

2.4 The Benefits of Nonstandard Employment

Looking at the previous section, one may think that nonstandard employment may benefit workers, firms, and society when properly used. For example, Van Eyck (2003) suggests that nonstandard work could be the proper response to reduce unemployment, increase productivity, and lower labour costs in a highly competitive and changing environment. However, she points out that employment flexibility alone does not offer a magic bullet for decent work. In another paper, Auer (2007) analyses a cluster of OECD countries that favour "numerical" flexibility. He finds that, in those countries, employment rates were higher, and unemployment rates were lower than in most countries with less flexible labour markets. However, he also argues that countries need an adequate set of institutions, harmonising employment protection, social protection, and social dialogue, for productivity to be high.

Both arguments mentioned above stem from the "flexicurity" point of view, a crucial element in the European Employment Strategy as described in Bekker (2017). The "flexicurity" model aims to use nonstandard work arrangements and provide employment and income security at the same time. Schmid (2011) highlights the Danish labour market model, which combines low employment protection (flexibility), high-income security (generous unemployment benefits), and high employment security (active labour market policies). Researchers often mention Denmark's case due to its success in fighting unemployment, which decreased from 9.6% in 1993 to 4.3% in 2001 (Lang, 2006).

It is also plausible that nonstandard employment, mainly through "flexicurity", could make labour markets more inclusive. In this respect, Schmid & Wagner (2017) tested the correlation between nonstandard employment and labour force participation in European countries. They found that part-time work can be a consistent driving force of labour market inclusion in terms of variability and level. However, Schmid (2018) argues that it is voluntary part-time work that can boost a more inclusive labour market. Furthermore, Booth & Van Ours (2012) exemplifies that if it were not for part-time work, women's participation in the labour force would be much lower in the Netherlands.

Regarding productivity, there is no precise observation on this issue. Schmid & Wagner (2017) tested the correlation between nonstandard employment and GDP per capita (wealth

indicator) and GDP per hour (productivity indicator). Their results show strong positive correlations, but they argue that correlations cannot be interpreted as causal relations. In another paper, Auer, Berg & Coulibaly (2005) suggest that some flexibility may increase productivity, arguing that job tenure positively affects productivity for an intermediate length of tenure and decreases afterwards. However, they mention that the observation needs additional research.

At the firm level, nonstandard employment allows firms to adjust their labour force to their core competencies and the business cycle. Katz & Krueger (2018) argue that, due to technological changes and higher competitiveness, large organisations may obtain efficiency gains and cost savings from outsourcing non-core activities. Regarding the business cycle, firms can use nonstandard work arrangements during a downturn to save jobs through collective agreements (Van Eyck, 2003), work-sharing (Messenger, 2009), or other similar strategies. Moreover, firms can use nonstandard employment to replace workers temporarily, meet short-term increases in demand, cover night and weekend shifts, or evaluate new employees before offering them a standard contract (ILO, 2016).

For workers, nonstandard employment could serve as a "stepping stone" to standard contracts (Van Eyck, 2003), particularly for highly educated individuals (Schmid & Wagner, 2017). In this respect, nonstandard work allows workers to gain experience in the labour market and develop general and specific skills, and offer new opportunities for those excluded from the labour market or who have lost their jobs (ILO, 2016). Besides, one may also expect that nonstandard employment, mainly part-time work, can help workers achieve an adequate work-life balance and a smooth transition to retirement, provided the job is of good quality (Schmid & Wagner, 2017; Schmid, 2018).

2.5 The Risks of Nonstandard Employment

Despite the potential benefits identified above, nonstandard employment often fails to meet decent work's fundamental needs, meaning that it increases workers' risks of falling into precarious jobs. That happens mainly because "flexibilisation" strategies have social costs that cause working conditions to deteriorate (Van Eyck, 2003). Researchers have increasingly presented studies to demonstrate such risks.

We start by looking at labour market transitions. Katz & Krueger (2017) show that workers who suffered a spell of unemployment are more likely to engage in nonstandard employment in the US. Leschke (2008) analyses four European countries (Denmark, Germany, Spain, and the UK), showing that workers in nonstandard employment are more

likely to transition from employment to unemployment and inactivity, besides having lower access to unemployment insurance. Schmid & Wagner (2017) argue that these features imply a higher risk of low and volatile pay, poverty, and unemployment, aggravating the likelihood of precarious employment careers over their life course.

Relatedly, workers in nonstandard employment may fall into "dead-end" jobs, transitioning from one nonstandard work arrangement to another, which contrasts with the "stepping stone" idea (Autor & Houseman, 2010; Garibaldi & Taddei, 2013). In this sense, workers find themselves in segmented labour markets, in which a primary sector involves regular working habits, skills acquired on the job, high wages, and job ladders, alongside a secondary sector that does not require and often discourages regular working habits, wages are low, turnover is high, and job ladders barely exists (Reich, Gordon & Edwards, 1973).

Moreover, one could argue that nonstandard workers should receive higher wages than standard workers, following the compensating wage differentials theory (Smith & Ehrenberg, 2017, chapter 8). However, studies suggest that workers in nonstandard employment may face wage penalties compared to workers in standard employment with similar individual and job characteristics (Blanchard & Landier 2002; Comi & Grasseni 2012; da Silva & Turrini 2015). It is essential to mention that wage penalties or premiums vary according to the type of work arrangement and sociodemographic groups (ILO 2016 and Katz & Krueger, 2018).

We also need to consider the number of hours worked. As described in ILO (2016), workers in nonstandard employment may face too few, too many, or unpredictable hours depending on the type of work arrangement, which can have severe consequences on workers' income, security, and health. As a possible outcome, Atkinson (2015) argues that more and more people hold a "portfolio of activities" in many European countries to increase their income or have a steady income flow, and Bosch (1999) suggests that this quest to increase the work time is more common in countries where inequality has increased, and average and lower incomes have stagnated or fallen.

Furthermore, whether the number of hours worked is a voluntary decision or not also matters. Studies indicate that, in many countries, there is a large share of involuntary part-time and temporary employment (Green & Livanos 2015, ILO 2016, Schmid & Wagner 2017, Katz & Krueger 2018). This may have adverse spillover effects, such as increasing moral hazard (Akerlof & Kranton, 2011), underemployment (Atkinson, 2015), and "necessity entrepreneurship" (OECD/European Union, 2019).

Another risk for nonstandard workers is the design of social protection. Atkinson (2015) argues that developed countries need to come to terms with a changing labour market, which requires changes in a social insurance system that was designed on the basis of people holding single, full-time jobs. Leschke (2008) considers the risks of labour market transitions mentioned above and shows that nonstandard workers in Denmark, Germany, Spain, and the UK have lower access to unemployment insurance. In another study, Buschoff & Protsch (2008) seek to analyse the extent of health, pension, and unemployment insurance in several European countries, arguing that most social protection systems exclude or insufficiently cover a significant part of nonstandard workers. This increases the risks of workers not having adequate occupational health and safety provisions, falling into poverty (particularly at old age), and transitioning to precarious jobs due to low bargaining power.

Labour market deregulation may also create gaps in the regulatory system that limit the rights of nonstandard workers to join trade unions or collective bargaining (OECD, 2015; Campos Lima, 2016) and create "incentives" for employers to disguise workers, as in the case of "false green receipts" (disguised self-employment) in Portugal (Braga, 2019; Almeida et al., 2020). Another critical point is the flexibilisation (or strictness) of employment protection, which can create asymmetries between permanent and temporary contracts, generating labour market segmentation (Van Eyck 2003, Centeno & Novo 2012, Garibaldi & Taddei 2013; Schmid & Wagner 2017). Thus, deregulation can have significant adverse effects in the labour market, lowering workers' bargaining power and employment security.

Nonstandard employment not only has risks for workers but also for firms and society in general. For example, Weil (2014) argues that firms have been fissuring the workplace, overusing nonstandard employment even for "core" jobs. This may lead to several negative implications, such as the erosion of firms' specific skills, underinvestment in training, in productivity-enhancing technologies and in innovation, more significant need to identify the right set of skills needed from external markets, and higher costs in the long run (ILO, 2016). It may also result in a decrease in labour productivity (Lisi 2013), in which the excessive use of nonstandard work arrangements turns most employees into "outsiders" (Akerlof & Kranton, 2011). One practical example is Ford Motor Company, which in 1996 reversed its policy to limit nonstandard employment to no more than 15 per cent of its workforce (Van Eyck, 2003).

At the aggregate level, nonstandard employment may also have severe adverse effects. For example, Garibaldi & Taddei (2013) describe the "honeymoon" effect, in which employers take advantage of hiring workers through temporary contracts during economic upturns, but there is sizeable job destruction during downturns due to non-renewal of temporary contracts and layoffs. Moreover, other effects would be an increase of wage and income inequalities through segmented labour markets (Centeno & Novo, 2013; da Silva & Turrini, 2015), economic instability linked to financialisation (Freeman, 2010), lack of access to credit and housing (Bertolini & Moiso, 2020), postponement of social decisions (Rica & Iza, 2005), and creation of societies-within-societies (ILO 2016).

In sum, nonstandard employment can harm individuals' living and working conditions, firms' productivity, and economic stability through a segmented labour market. In this respect, what can policymakers do to mitigate such risks? Table II in Annexe I presents some strategies found in the literature review.

3. NSE Evolution and Workers' Characteristics in Portugal

To seek a proper answer to our primary question, we now turn to the specific case of Portugal. Before going through the main subject of our question (inequality), we need to ask ourselves how nonstandard employment has evolved, who are the workers most likely to engage in these forms of work, what sectors these workers are, what are their occupations, and why they are in this type of work arrangements. Therefore, this section discusses how nonstandard employment has evolved regarding workers' characteristics in the Portuguese labour market.

3.1 Data

We use two databases to analyse nonstandard employment evolution by workers' characteristics in Portugal. First, we use data from Eurostat regarding self-employed persons, temporary employees, and part-time workers from 1995 to 2019. Then, we use data from "Quadros de Pessoal" (a detailed Portuguese micro database) to integrate temporary agency workers in the analysis from 2002 (start of availability) to 2019. In this respect, we detail each type of nonstandard work by individual and job characteristics: gender, age, citizenship, education level, economic activity, and occupations. We also characterise workers' main reasons to engage in nonstandard employment. However, in this latter respect, we only have data from Eurostat for temporary employees and part-time workers. Besides, it is essential to mention that self-employed persons and part-time workers are presented as a percentage of total employment (self-employment + total

employees), while temporary employees and temporary agency workers appear as a percentage of total employees.

The workers in this analysis are divided into three age groups: young workers aged between 15 and 24, core workers aged between 25 and 54, and mature workers aged between 55 and 64. Education level considers the International Standard Classification of Education (ISCED), which divides workers into three groups: less than primary, primary and lower secondary education (levels 0-2), upper secondary and post-secondary non-tertiary education (levels 3 and 4), and tertiary education (levels 5-8). Regarding economic activity, workers are divided into four general economic sectors according to the Statistical Classification of Economic Activities (NACE): agriculture, construction, industry, and services. For occupations, we use the International Standard Classification of Occupation (ISCO), which is divided as follows: managers, professionals, technicians and associate professionals, clerical support workers, service and sales workers, skilled agriculture, forestry, and fishery workers, craft and related trade workers, plant and machine operators and assemblers, elementary occupations, and armed forces occupations. Lastly, we draw on the European Labour Force Survey for information regarding the main reasons for engaging in part-time and fixed-term contracts.

3.2 Evolution & Workers' Characteristics

We present all figures and tables regarding nonstandard employment evolution and workers' characteristics in Annexe I. Figure 2 illustrates the evolution of the four main groups of nonstandard employment in Portugal over 1995-2019. A significant increase in temporary employees became the most prominent form of nonstandard work in the country, exemplifying the strategy to make its labour market more flexible. It also shows the underdevelopment of part-time work, which increased in specific periods (the late 1990s and during 2010-2012) but decreased since 2014, and a slight increase for temporary agency workers. Another significant feature is the sizable decrease in self-employed persons. However, we do not have data to distinguish disguised and dependent self-employment.

Moving on to the share of nonstandard workers by gender, figure 3 shows that women are more likely to work part-time than men. This is often associated with women's lower bargaining power in the labour market since they usually have greater domestic and care responsibilities that influence their choice of work. Another interesting observation is the sharp increase in part-time work for women during the 1990s and men during the debt crisis

(2010-2012). By contrast, temporary workers (FTC and TAW) exhibit a cyclical pattern for both sexes. This illustrates that part-time work may play a role in integrating specific groups into the labour force and preserving jobs during a downturn, while temporary workers may face the "honeymoon" effect.

As one might expect, figure 4 shows the considerable rise of young workers in temporary (FTC and TAW) and part-time work. We can associate it with a higher likelihood of this group combining work with education and training, lower bargaining power due to lack of professional experience, and policies (such as the IEFP professional internship) that incentivise fixed-term contracts for this group. In the case of self-employment, mature workers are more likely to engage in this type of work arrangement, which may be associated with their significant share in employment in the agriculture sector. Another expected result is the higher likelihood of immigrants engaging in nonstandard employment presented in figure 5, which can be related to their constraints in bargaining power due to lack of information, pressures to find work quickly, language barriers, legal status, temporary stay, recruited by temporary agencies, and other reasons.

Figure 6 shows a more complex scenario, in which temporary employees and part-time workers have increased at all education levels. In this respect, the concern should be with the quality of part-time work and the transition from temporary to permanent contracts (stepping stone effect) that may differ across education levels. Moreover, less-skilled individuals are still more likely to engage in part-time jobs, self-employment and temporary agency work, which can be associated with their low bargaining power due to limited job opportunities.

Regarding nonstandard employment by economic activities, figure 7 shows a significant increase in the share of temporary employees in all sectors, alongside a decrease in the share of self-employed persons in most of them (except construction). Moreover, nonstandard employment is intensively present in the agriculture sector, especially self-employment, representing around 50% of total employment in 2019. A critical remark is that temporary agency workers are all classified as support service activities.

Similar to sectoral transformations, temporary employees increased for all selected occupations, as presented in Table III. The same table also shows that self-employment decreased in most occupations, mainly in the case of "managers". Moreover, there is an increasing prevalence of temporary agency and part-time workers in most selected

occupations, with higher relevance for less-skilled occupations, such as "skilled agricultural, forestry and fishery workers" and "elementary occupations".

Finally, Table IV presents the main reasons for engaging in part-time and fixed-term contracts. As discussed earlier in this paper, a large share of part-time and temporary workers are in these types of work arrangements because they could not find a full-time or permanent position. We call them involuntary part-time and temporary workers, adversely affecting labour productivity and increasing labour market slack. Another curious fact is that the share of part-time workers in education and training and the share of temporary employees who did not want a permanent contract both increased.

4. NONSTANDARD EMPLOYMENT AND INEQUALITY IN PORTUGAL

The central question in our analysis concerns how nonstandard employment relates to inequality. In this respect, our first step in conducting this type of analysis is to differentiate inequality of opportunities from inequality of outcomes. The former term is an ex-ante concept, in which the goal should be to provide an equal starting point for all individuals. The latter term follows an ex-post concept, which focuses on outcome differentials and redistributional issues. In this sense, this section briefly analyses nonstandard employment dynamics, mainly if it can constitute an inclusive mechanism. Then, we detail the outcome differentials between standard and nonstandard workers. Lastly, we discuss the role of labour market institutions as mediators of inequalities.

4.1 Inequality of Opportunities

Often, inequality of opportunities is at the centre of the debate concerning inequality. The economic literature associates it with the circumstances in which individuals' effort is made, and those circumstances are often beyond individuals' control. Also, inequality of opportunities may explain a significant share of inequality of outcomes. However, due to the complexity of describing circumstances in the particular case of nonstandard workers, we briefly analyse their dynamics in the labour market. The main idea is to examine whether nonstandard employment can integrate individuals in the labour market by increasing the labour force participation and whether nonstandard workers receive similar opportunities as standard workers by looking at their labour market transitions.

4.1.1 Methodology and Data

First, we analyse whether nonstandard employment provides opportunities to integrate the labour market by looking at the correlation between activity rates and nonstandard employment for three groups: total (all individuals), men, and women. For this analysis,

we use data from Eurostat regarding activity rates, self-employed persons, temporary employees, and part-time workers. For TAW, we use data from "Quadros de Pessoal". As before, self-employed persons and part-time workers are a percentage of total employment, while temporary work (FTC and TAW) are a percentage of total employees. Then, we compare labour market transitions of standard and nonstandard workers to analyse the differences in labour market dynamics for each group. We use data regarding the transition dynamics of permanent/temporary and full-/part-time workers available at Eurostat.

4.1.2 Labour Force Participation

Table V in Annexe I illustrates the correlation coefficients between activity rates and the main types of nonstandard employment. The strong positive correlation of temporary work (FTC and TAW) suggests the "honeymoon" effect in the Portuguese labour market. By contrast, the strong negative correlation of self-employment indicates it has not been a driver of labour force participation. Regarding the positive correlation of part-time work, one may suggest that it could be a driver of labour force participation, but its underdevelopment and high share of involuntary workers in the Portuguese labour market do not allow us to make this conclusion. Moreover, the negative correlation of female part-time work underestimates its importance for this group, which has decreased in recent years but positively affected them during the 1990s. Lastly, the irregular correlation coefficients for men are mainly because their activity rate did not change much over 1995-2019.

It is essential to mention that those correlations may exhibit some patterns, but we need a much more detailed analysis to ascertain whether nonstandard employment can provide opportunities and become an inclusive mechanism in the labour market.

4.1.3 Labour Market Transitions

We now look at the differences in the dynamics of standard and nonstandard workers. Figures 8 and 9 in Annexe I shows the higher risk of temporary employees falling into "dead-end" jobs and part-time workers transitioning to unemployment and inactivity. These are features of a segmented labour market, which directly affects nonstandard workers' habits, career prospects, and life course earnings. Besides, we need to be careful when looking at the transition from part- to full-time jobs since a higher rate could be related to the poor quality of part-time jobs (in countries that provide part-time jobs of good quality, this rate may be lower). It would also be interesting to separate these transitions by education levels to check if the "stepping stone" effect applies to highly skilled workers.

Looking at both analyses of nonstandard employment dynamics and workers' characteristics, we find a controversial scenario. On the one hand, one could argue that it can be a driver of labour force participation in the Portuguese labour market, integrating specific socioeconomic groups. On the other hand, most of it followed a cyclical pattern (which may affect workers' instability), offered worse labour market transitions, and many nonstandard workers were involuntary.

4.2 Inequality of Outcomes

After a brief review of nonstandard employment dynamics, this sub-section seeks to detail the inequality of outcomes between standard and nonstandard workers. We look at the earnings distribution, the median earnings, the in-work-at-risk-of-poverty rate, and the estimated wage premium of standard workers by type of worker. This is vital to find a proper response to our central question. Although many consider that inequality of opportunities should be the primary concern, analysing inequality of outcomes is crucial for understanding the unequal distribution of rewards, which can generate current socioeconomic instability and impact the inequality of opportunities of the next generation.

4.2.1 Methodology and Data

We used the Portuguese micro database "Quadros de Pessoal", which provides detailed information regarding Portuguese workers' earnings. This micro database allowed us to divide workers' monthly earnings into deciles of the earnings distribution. Also, we created a categorical variable to separate workers by seven types of work contracts: permanent and full-time (standard), permanent and part-time, temporary and full-time, temporary and part-time, temporary agency workers and full-time, temporary agency workers and part-time, and other types (all types that deviated from the standard form in at least one sense were considered nonstandard employment). Then, with these pieces of information, we were able to separate each decile of the earnings distribution by type of worker for 2002 (start of data availability) and 2019. Moreover, we performed two analyses to assess inequality in the earnings distribution for the same years. First, we looked at how much each decile gets from total remuneration (in perfectly equal distribution, all deciles would have the same share). Next, we estimated the absolute difference in outcome shares between the standard and nonstandard workers' earnings distribution, considering standard workers have higher earnings on average than nonstandard workers.

Using this same database and categorical variable, we estimated the median hourly earnings of the whole distribution and by type of worker from 2002 to 2019. The hourly

earnings were calculated by dividing workers' monthly earnings over total monthly hours worked (regular + extra). Then, we compared the median hourly earnings of each type of worker to the overall median hourly earnings. We also used data from Eurostat regarding the in-work-at-risk-of-poverty rate by type of contract (permanent/temporary) and worktime (full-/part-time). This data allowed us to compare which type of worker is more likely to face in-work poverty. Although inequality and poverty are different (albeit interrelated), we consider this a significant indicator since it directly impacts individuals' living and working conditions.

Lastly, using "Quadros de Pessoal" once more, we estimated four robust regressions to study standard workers' wage premium for 2019. First, we estimated the "unadjusted" wage premium of standard workers:

$$\ln w = \beta_1 + \beta_2 \times SE + \varepsilon_i \quad (1)$$

The dependent variable is hourly earnings in logarithm and ε_i is an error term reflecting unobservable and measurement errors. The variable "SE" is a dummy variable that is one if the individual is a standard worker and zero otherwise. The β_2 coefficient provides the wage premium for engaging in standard employment. Then, in our second regression, we controlled for individual characteristics. For this, we used the Mincer earnings function:

$$\ln w = \beta_1 + \beta_2 \times SE + \beta_3 X'_i + \varepsilon_i \quad (2)$$

The difference from equation (1) is that we add the vector X'_i, which represents the control variables, including gender (a dummy variable that is zero for male and one for female), age group (with the omitted category being the core age group - 25 to 54), citizenship (another dummy variable that is zero for foreign and one for nationals), and education level (with the omitted category being middle-skilled workers - 3-4). As before, the dummy variable "SE" represents whether a worker is in standard employment or not, and β_2 provides standard workers' wage premium. Our third step was to estimate an augmented Mincer regression, adding to equation (2) dummies to control 20 economic activities and ten occupations (according to NACE and ISCO). Finally, we estimated standard workers' "adjusted" wage premium in our fourth regression, considering all control variables mentioned above plus job tenure as a continuous variable. We repeated the same methodology for the same year to estimate the standard employment wage premium (penalty) relative to each type of nonstandard employment (using the categorical variable mentioned above):

$$\ln w = \beta_1 + \beta_2 \times Type\ of\ work\ contract + \varepsilon_i \quad (3)$$

$$\ln w = \beta_1 + \beta_2 \times Type\ of\ work\ contract + \beta_3 X'_i + \varepsilon_i \quad (4)$$

Our last analysis in this sub-section used equations (2) and (4) to estimate standard workers' wage premium for every year from 2002 to 2019, so we could study its evolution.

In this context, it is essential to mention that we did not have information about self-employed persons' earnings to include them in these analyses. Also, the reliance on the micro database "Quadros de Pessoal" did not enable us to identify those workers who have two or more jobs simultaneously (portfolio of activities), which can play a role in diminishing earnings inequality between standard and nonstandard workers.

4.2.2 Results

All figures and tables are in Annexe I. We start by showing the share of each type of worker within deciles of the earnings distribution in Portugal in figure 10. There is a clear pattern that nonstandard employment has generally been more common at the bottom of the earnings distribution. This prevalence of nonstandard employment in lower earnings is more significant in 2019 than in 2002. Figure 10 also shows that TAW and part-time workers are more present at the lower two deciles, full-time temporary employees are clustered at the middle of the distribution, and standard workers increase across deciles and are the majority at the top of the distribution. Besides, the top of figure 11 illustrates how unequal the earnings distribution is, in which the top centile gets almost seven times the average, while the first decile gets about one-tenth of the average. We can also see that about 70% of the distribution receive below-average earnings. The bottom of this exact figure emphasises that standard workers are absolutely (in euros) better off at each decile of the distribution, especially at the top end, and this contrast increased from 2002 to 2019. In this respect, one could argue that standard workers' earnings distribution is strictly preferable over the nonstandard workers' earnings distribution.

These preliminary results indicate that there is a significant difference between standard and nonstandard workers' earnings. In this respect, figure 12 compares the median hourly earnings of the whole distribution to the median hourly earnings of each type of worker. It shows that nonstandard workers' earnings have been lower and more volatile than those of standard workers, suggesting these work arrangements are more likely to bear the social costs of adjustments. Furthermore, figure 13 presents the higher likelihood of part-time and temporary employees facing in-work poverty in Portugal. These two features are also typical of the case of a segmented labour market, in which full-time and permanent workers

benefit from higher and stable earnings, lowering the risk of in-work poverty, while nonstandard workers face higher risks of in-work poverty due to low and unstable earnings. However, we need a more detailed investigation to make more precise observations, separating it by individual and job characteristics.

To detail the earnings inequality between standard and nonstandard workers, Tables VI and VII present standard workers' wage premium in Portugal for 2019. Model (1) in table VI shows the unadjusted wage premium of standard workers, which is 26.2 log points. When we insert individual and job characteristics in the model, this wage gap decreases significantly. In model (2), after controlling for individual characteristics (gender, age group, education level, and citizenship), the wage premium decreases to 19.4 log points, which we expected since young, less-skilled, and female (in the case of part-time jobs) workers are more likely to engage in nonstandard employment. Then, in model (3), after controlling for economic activities and occupations, it decreases to 12.7 log points. This decrease can be associated with the large share of nonstandard workers in the agriculture sector and less-skilled occupations. Lastly, after inserting job tenure in model (4), the wage premium shrinks to 4.3 log points, which can be associated with the use of nonstandard employment to new workers and the worse labour market transitions shown above.

When we further expand the analysis above to detail standard workers' wage premium relative to each type of nonstandard employment, as shown in Table VII, we find a similar pattern for all contract types. In the case of full-time temporary agency workers, we see that standard workers' wage premium vanishes when we insert all individual and job characteristics mentioned above (actually, it becomes a wage penalty).

Additionally, we thought it was essential to verify the evolution of standard workers' wage premium (penalty), presented in figure 14. We find that standard employment wage premium has been persistent in the last two decades (mainly relative to full-time temporary employees), with deterioration during the years of the debt crisis. Also, we see a shift in the wage premium relative to part-time (permanent and temporary) workers in 2010, which may be associated with the formalisation of part-time work in the Portuguese Labour Code in 2009. Lastly, the wage premium relative to temporary agency workers have generally been high, except for full-time temporary agency workers since 2018, which became a wage penalty for standard workers.

In sum, this sub-section illustrated that nonstandard workers in Portugal are more likely to be worse off along the earnings distribution, have lower and more volatile earnings, face

in-work poverty, and bear a wage penalty compared to standard workers. Even though a significant share of nonstandard workers' wage penalty can be explained by individual and job characteristics, it is crucial to look deeper into this wage difference between standard and nonstandard workers. This is what we will do in the following and last sub-section, look into how labour market institutions can explain and reduce these inequalities.

4.3 Labour Market Institutions as Mediators of Inequality

At this point, we have some clearer elements to help us answer our central question. In our literature review, we find that nonstandard employment may have ambiguous effects. Then, looking at the evidence from the Portuguese labour market, we have seen that it may have provided opportunities for some socioeconomic groups. However, most of it seems not to have been sustainable, in the sense that nonstandard workers are more likely to face inadequate living and working conditions. Therefore, this section briefly discusses some of the leading labour market institutions that can countervail the power in the Portuguese labour market, contributing to explain and reduce the inequalities we saw above.

The design and orientation of labour market institutions directly impact the rise of nonstandard employment as well as the quality of jobs in a country, region, and economic sector. In this sense, institutions like employment protection, minimum wage, unemployment insurance, employment services, trade unions and collective bargaining, and others can determine the direction of inequality in a country (this may not be their unique or primary purpose, but it is our main concern here). Below, we focus on employment protection and minimum wage. Then, we also discuss the case of social protection and employment services.

4.3.1 Employment Protection

Figure 15 shows the OECD indicator of strictness of employment protection legislation (see in Annexe I). It shows the recent decreasing pattern of employment protection of regular contracts in Portugal, which we can associate with the view that strong employment protection of permanent (standard) contracts induces employers to use temporary contracts, inciting a segmented labour market. Centeno & Novo (2013) also argue that it generates a wage premium favouring current standard workers. In other words, new standard and nonstandard workers end up paying the current standard workers' protection. This could help explain the significant share of standard workers' wage premium that is related to job tenure. Also, this explanation fits the persistent wage premium relative to full-time temporary employees over the past two decades.

Therefore, one may argue that narrowing the difference in employment protection between standard and nonstandard work arrangements can help solve this segmentation. However, an important question arises: should this gap in employment protection be closed only by lowering permanent contracts' protection? We also need to consider that employment protection may affect workers' identity and bargaining power, increasing their productivity and generating positive spillover effects that may solve this segmentation. Besides, the interaction with other labour market institutions also matters. For example, on the one side, strong employment protection and very generous unemployment insurance may only benefit those in current standard work. On the other side, low protection and strict unemployment insurance can increase workers' vulnerability and economic instability.

4.3.2 Minimum Wage

There has been a considerable debate in the economics literature on the effect of the minimum wage on employment levels. Here, we focus on its effectiveness in reducing the wage gap between standard and nonstandard workers. We use figures 16 and 17 (in Annexe I) to study if the minimum wage can play this role in the Portuguese labour market.

Figure 16 shows two graphs that use data from "Quadros de Pessoal" for individuals' earnings and INE/PORDATA for minimum wages. First, we calculate the "bite" of the minimum hourly wage in the median hourly earnings from 2010 to 2019. This first graph shows that, from 2010 to 2014, there was no (very slight) change in the minimum hourly wage relative to the median hourly earnings. Then, from 2015 to 2018, it increased relative to the median hourly earnings. In turn, the second graph shows that nonstandard workers are more likely to be secured by the minimum wage level, and their share of workers receiving the minimum wage increased significantly over 2010-2019.

We estimate standard workers' wage premium by economic activity for 2019 using equation (2) to complete this analysis. Figure 17 illustrates the results, in which we put 19 economic activities into three sectors according to their average earnings: low, middle, and high earnings. We find that the standard workers' wage premium is lower in the low and middle earnings sectors, in which more workers receive the minimum wage. Although we cannot conclusively prove the existence of a causal link between the minimum wage and the standard workers' wage premium, this analysis suggests that the minimum wage can narrow the wage gap between standard and nonstandard workers. However, we should not expect a significant impact in high earnings sectors, where the share of workers receiving the minimum wage is low. Moreover, these results are consistent with a similar analysis

undertaken by Campos Lima et al. (2021) regarding the impact of the minimum wage on wage outcomes.

Similar to employment protection, another important question arises: what should the minimum wage level be? In the economics literature, arguments vary, saying that its target should be set according to market, living, and efficiency wages. Nevertheless, we need to consider the side effects it may have and how it relates to other labour market institutions. That is, the minimum wage can reduce inequality of outcomes, but it cannot do all the job on its own.

4.3.3 Social Protection

There are scarce data regarding social protection coverage of nonstandard workers in Portugal. However, as discussed in the literature review, nonstandard workers are more likely to face constraints in receiving social protection, especially for self-employed workers who have significant statutory differences (Almeida et al., 2020). Besides, we expect lower social protection coverage for nonstandard workers due to several requirements that workers need to fit in order to receive the benefits. For example, temporary employees may not be eligible for unemployment insurance because of the minimum contribution period, and part-time workers may not meet the hours and earnings thresholds to receive it. In this respect, considering that part-time and temporary workers are more likely to transition to unemployment (see figures 8 and 9), they are more likely to accept lower wages and fall into poverty due to inadequate social protection.

Therefore, one may propose rethinking how social protection systems work, as exemplified by the debate on a European Employment and Social Fund (Schmid, 2020). Also, there is a growing debate in Portugal (and worldwide) on implementing a universal basic income or a participation income. These exciting ideas need further discussion and testing to ascertain how they could be implemented and whether they are complements or substitutes to other current institutions.

4.3.4 Employment Services

The last labour market institution we discuss is vital to the sustainability of nonstandard employment, particularly to labour market transitions. The central idea is that employment services should provide information about the labour market, education and training opportunities and assist individuals in searching for jobs. This can raise mobility and provide better transitions in the labour market (the stepping stone effect), which would reduce inequality of opportunities and impact inequality of outcomes by reducing the

"monopoly" of current standard workers, as discussed above. Studies like Cardoso & Branco (2018) analyse the case of active employment policies in Portugal more generally, showing its evolution as part of the European Employment Strategy. However, we do not have significant data to analyse whether there is a difference in treatment between standard and nonstandard workers regarding public employment services in Portugal.

5. CONCLUSION

In this dissertation, we studied how nonstandard employment relates to inequality. We started with a literature review on nonstandard employment, explaining the concept used in this paper, highlighting its growing importance, reviewing some of its leading determinants, discussing its potential costs and benefits, and identifying strategies to mitigate its risks. We reviewed how globalisation and technologies can change the organisation of work between countries, regions, and sectors. We also emphasised that these changes are associated with decisions taken by governments, firms, and individuals as workers and consumers. Then, we discussed the controversial points of nonstandard employment. On the one hand, it could be an inclusive mechanism to reduce unemployment, lower labour costs, and increase productivity in a constantly changing environment. On the other hand, it can deteriorate individuals' living and working conditions, firms' productivity, and economic stability through a segmented labour market.

In search of a proper response to our central question, we took the case of Portugal for analysis. Using data available at Eurostat and the Portuguese micro database "Quadros de Pessoal", we looked at nonstandard employment evolution by workers' characteristics. There was a significant increase in temporary employees, a relatively low prevalence of part-time work, a slight increase in temporary agency workers, and a sizable decrease in self-employed persons over 1995-2019. Moreover, females (in the case of part-time work), young, less-skilled, and foreign workers are more likely to engage in nonstandard employment, and nonstandard workers are more present in the agriculture sector and less-skilled occupations.

Our second step was to study the inequalities between standard and nonstandard workers in Portugal. We divided it into two types of inequality: opportunities and outcomes. For inequality of opportunities, we analysed the correlation between nonstandard employment and activity rates and the differences between labour market transitions of standard and nonstandard workers. On the one hand, we found evidence to support the idea that nonstandard employment could be a driver of labour force

participation in the Portuguese labour market, integrating specific socioeconomic groups. On the other hand, we say that most of it followed a cyclical pattern, offered worse labour market transitions, and many nonstandard workers were involuntary. Then, we detailed the inequality of outcomes between standard and nonstandard workers by looking at the earnings distribution, the median earnings, the in-work-at-risk-of-poverty rate, and the standard workers' wage premium by type of worker. We concluded that nonstandard workers are more likely to be worse off along the earnings distribution, have lower and more volatile earnings, face in-work poverty, and bear a wage penalty relative to standard workers. Moreover, individual and job characteristics can explain a significant share of the standard workers' wage premium, mainly job tenure.

Finally, we closed our analysis by looking at how labour market institutions can explain and reduce the inequalities between standard and nonstandard employment in Portugal. We concluded that significant differences in employment protection between standard and nonstandard work adversely affects labour market segmentation, deteriorating the wage penalty of nonstandard workers. Therefore, narrowing this gap could be a possible solution, but the process of doing it would depend on other labour market institutions as well. Regarding the minimum wage, we found evidence that it can reduce the wage gap between standard and nonstandard workers, mainly in sectors with a high share of workers receiving it. In this sense, the discussion should be about at which level should the minimum wage be set and how it relates to other institutions. We also briefly discussed the need to rethink the social protection system and the importance of employment services to provide mobility in the labour market. Many other important labour market institutions not discussed here need to be considered, including trade unions and collective bargaining, public employment, and taxes on wages. The challenge is to design adequately balanced labour market institutions, which requires a subtle and in-depth understanding of their interactions.

To sum up, nonstandard employment has resulted in a segmented labour market in Portugal, in which temporary work (FTC and TAW) has been increasing but not in a sustainable way for everyone, and part-time work seems to be underdeveloped and (mostly) of poor quality. We discussed some labour market institutions to explain this situation, but structural transformations are also vital in this process. Moreover, a critical point concerning inequalities between standard and nonstandard workers is that, nowadays, the latter may find new ways to increase their income through a portfolio of activities

(something we could not measure in this dissertation). In this sense, we need to develop new methods to measure inequality, especially inequality as society perceives it. In other words, inequality between standard and nonstandard workers may not be strictly associated with earnings or income but with the whole process that nonstandard workers need to go through to get to their income.

In conclusion, we should not see nonstandard employment only as a risk. In certain circumstances, it can be an effective mechanism to adapt to constant changes in the labour market. The concern should be to allow workers to freely choose their career paths, providing decent work for all. Thus, provided that there is a proper environment in place for implementing nonstandard employment, it can function as well as the standard form.

REFERENCES

Abraham, K., Haltiwanger, J., Sandusky, K., & Spletzer, J. (2018). Measuring the Gig Economy: Current Knowledge and Open Issues. National Bureau of Economic Research. https://doi.org/10.3386/w24950

Acemoglu, D. (1999). Changes in Unemployment and Wage Inequality: An Alternative Theory and Some Evidence. American Economic Review, 89(5), 1259–1278. https://doi.org/10.1257/aer.89.5.1259

Acemoglu, D. (2001). Good Jobs versus Bad Jobs. Journal of Labor Economics, 19(1), 1–21. https://doi.org/10.1086/209978

Acemoglu, D., & Autor, D. (2011). Skills, Tasks and Technologies: Implications for Employment and Earnings. Handbook of Labor Economics, 1043–1171. https://doi.org/10.1016/s0169-7218(11)02410-5

Acemoglu, D., & Restrepo, P. (2017). Robots and Jobs: Evidence from US Labor Markets. SSRN Electronic Journal. https://doi.org/10.2139/ssrn.2940245

Akerlof, G. A., & Kranton, R. E. (2011). Identity Economics: How Our Identities Shape Our Work, Wages, and Well-Being. Princeton University Press.

Almeida, J. R., da Silva, A. A., & Caldas, J. C. (2020). Na periferia do emprego: o desemprego e o imperativo da proteção sociolaboral. In Como reorganizar um país vulnerável (pp. 175–226). Almedina.

Atkinson, A. B. (2015). Inequality: What Can Be Done? Harvard University Press.

Auer, P. (2007). In search of optimal labour market institutions. International Labour Organisation. http://www.ilo.int/wcmsp5/groups/public/---ed_emp/---emp_elm/---analysis/documents/publication/wcms_113902.pdf

Auer, P., Berg, J., & Coulibaly, I. (2005). Is a stable workforce good for productivity? International Labour Review, 144(3), 319–343. https://doi.org/10.1111/j.1564-913x.2005.tb00571.x

Autor, D. H., & Houseman, S. N. (2010). Do Temporary-Help Jobs Improve Labor Market Outcomes for Low-Skilled Workers? Evidence from "Work First." American Economic Journal: Applied Economics, 2(3), 96–128. https://doi.org/10.1257/app.2.3.96

Bekker, S. (2017). Flexicurity in the European Semester: still a relevant policy concept? Journal of European Public Policy, 25(2), 175–192. https://doi.org/10.1080/13501763.2017.1363272

Bertolini, S., & Moiso, V. (2020). The synchrony of temporary young workers: Employment discontinuity, income discontinuity and new social inequalities in Italy. In Italian Youth in International Context: Belonging, Constraints and Opportunities (pp. 112–128). Routledge.

Blanchard, O., & Landier, A. (2002). The Perverse Effects of Partial Labour Market Reform: Fixed-Term Contracts in France. The Economic Journal, 112(480), F214–F244. https://doi.org/10.1111/1468-0297.00047

Booth, A. L., & van Ours, J. C. (2012). Part-time jobs: what women want? Journal of Population Economics, 26(1), 263–283. https://doi.org/10.1007/s00148-012-0417-9

Bosch, G. (1999). Working time: Tendencies and emerging issues. International Labour Review, 138(2), 131–149. https://doi.org/10.1111/j.1564-913x.1999.tb00063.x

Braga, R. (2019). A Return of Class Struggle without Class? Moral Economy and Popular Resistance in Brasil, South Africa and Portugal. Sociologia & Antropologia, 9(2), 469–493. https://doi.org/10.1590/2238-38752019v926

Buschoff, K. S., & Protsch, P. (2008). (A-)typical and (in-)secure? Social protection and "nonstandard" forms of employment in Europe. International Social Security Review, 61(4), 51–73. https://doi.org/10.1111/j.1468-246x.2008.00323.x

Caldas, J. C., & Teles, N. (2019). Tecnologia e Trabalho no século XXI: uma proposta de abordagem. Centro de Estudos Sociais - Laboratório Associado Universidade de Coimbra, 1–35. https://www.ces.uc.pt/observatorios/crisalt/documentos/cadernos/Caderno_12_Tecnologia_e_Trabalho_no_seculo_XXI_08032019.pdf

Caliendo, M., Künn, S., & Schmidl, R. (2011). Fighting Youth Unemployment: The Effects of Active Labor Market Policies. The Institute for the Study of Labor (IZA), 1–54. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1977808

Campos Lima, M. P. (2016). O desmantelamento do regime de negociação coletiva em Portugal, os desafios e as alternativas. Centro de Estudos Sociais - Laboratório Associado Universidade de Coimbra. https://www.ces.uc.pt/observatorios/crisalt/documentos/cadernos/CadernoObserv_VIII_N8_VERSAO_REFORMULADA.pdf

Campos Lima, M. D. P., Martins, D., Costa, A. C., & Velez, A. (2021). Internal devaluation and economic inequality in Portugal: challenges to industrial relations in times of crisis and recovery. Transfer: European Review of Labour and Research, 102425892199500. https://doi.org/10.1177/1024258921995006

Cardoso, D., & Branco, R. (2018). Liberalised dualisation. Labour market reforms and the crisis in Portugal. European Journal of Social Security, 20(1), 31–48. https://doi.org/10.1177/1388262718763668

Centeno, M., & Novo, A. (2012). Segmentação. Banco de Portugal. https://www.bportugal.pt/sites/default/files/anexos/papers/ab201200_p.pdf

Centeno, M., & Novo, A. (2013). Segmenting Wages. *Banco de Portugal*, 51–59. https://www.bportugal.pt/sites/default/files/anexos/papers/ab201316_e.pdf

Comi, S., & Grasseni, M. (2012). Are Temporary Workers Discriminated Against? Evidence from Europe*. The Manchester School, 80(1), 28–50. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1975644

da Silva, A. D., & Turrini, A. (2015). Precarious and Less Well Paid? Wage Differences between Permanent and Fixed-term Contracts across the EU (No. 105). IZA – Institute of Labor Economics. https://www.econstor.eu/bitstream/10419/121332/1/834741040.pdf

European Commission. (2020). Employment and Social Developments in Europe 2020. Publications Office of the European Union. https://ec.europa.eu/social/main.jsp?catId=738&langId=en&pubId=8342&furtherPubs=yes

Felbo-Kolding, J., Leschke, J., & F. Spreckelsen, T. (2018). A division of labour? Labour market segmentation by region of origin: the case of intra-EU migrants in the UK, Germany and Denmark. Journal of Ethnic and Migration Studies, 45(15), 2820–2843. https://doi.org/10.1080/1369183x.2018.1518709

Feenstra, R. C., & Hanson, G. H. (2003). Global Production Sharing and Rising Inequality: A Survey of Trade and Wages. In *Handbook of International Trade* (pp. 146–185). Blackwell Handbooks in Economics.

Freeman, R. B. (2010). It's financialisation! International Labour Review, 149(2), 163–183. https://doi.org/10.1111/j.1564-913x.2010.00082.x

García-Pérez, J. I., Marinescu, I., & Vall Castello, J. (2018). Can Fixed-term Contracts Put Low Skilled Youth on a Better Career Path? Evidence from Spain. The Economic Journal, 129(620), 1693–1730. https://doi.org/10.1111/ecoj.12621

Garibaldi, P., & Taddei, F. (2013). Italy: A dual labour market in transition (No. 144). International Labour Organisation. https://ideas.repec.org/p/ilo/ilowps/994816943402676.html

Goldin, C. (2006). The Quiet Revolution That Transformed Women's Employment, Education, and Family. American Economic Review, 96(2), 1–21. https://doi.org/10.1257/000282806777212350

Gordon, I. (1995). Migration in a Segmented Labour Market. Transactions of the Institute of British Geographers, 20(2), 139. https://doi.org/10.2307/622428

Green, A., & Livanos, I. (2015). Involuntary nonstandard employment in Europe. European Urban and Regional Studies, 24(2), 175–192. https://doi.org/10.1177/0969776415622257

Herrendorf, B., Rogerson, R., & Valentinyi, K. (2014). Growth and Structural Transformation. *Handbook of Economic Growth*, 855–941. https://doi.org/10.1016/b978-0-444-53540-5.00006-9

Houseman, S. N., & Osawa, M. (2003). Nonstandard Work in Developed Economies: Causes and Consequences. W E Upjohn Inst for. https://research.upjohn.org/cgi/viewcontent.cgi?article=1174&context=up_press

International Labour Organisation. (2016). Nonstandard Employment around the World. https://www.ilo.org/infostories/Stories/Employment/Non-Standard-Employment#plugging-regulatory-gaps

Islam, I., & Kucera, D. (2013). Beyond Macroeconomic Stability: Structural Transformation and Inclusive Development (Advances in Labour Studies) (2013th ed.). Palgrave Macmillan.

Katz, L. F., & Krueger, A. B. (2017). The Role of Unemployment in the Rise in Alternative Work Arrangements. American Economic Review, 107(5), 388–392. https://doi.org/10.1257/aer.p20171092

Katz, L. F., & Krueger, A. B. (2018). The Rise and Nature of Alternative Work Arrangements in the United States, 1995–2015. ILR Review. https://doi.org/10.1177/0019793918820008

Lang, D. (2006). Can the Danish model of "flexicurity" be a matrix for the reform of European labour markets? Groupement de Recherches Economiques et Sociales - ReDE Université Montesquieu-Bordeaux 4 & LEREPS Université des Sciences Sociales Toulouse 1. https://d1wqtxts1xzle7.cloudfront.net

Leschke, J. (2008). Unemployment Insurance and Non-Standard Employment: Four European Countries in Comparison (2008th ed.). VS Verlag für Sozialwissenschaften.

Lisi, D. (2013). The impact of temporary employment and employment protection on labour productivity: evidence from an industry-level panel of EU countries. Journal for Labour Market Research, 46(2), 119–144. https://doi.org/10.1007/s12651-013-0127-0

Maroukis, T. (2016). Temporary agency work, migration and the crisis in Greece: labour market segmentation intensified. Transfer: European Review of Labour and Research, 22(2), 179–192. https://doi.org/10.1177/1024258916634620

Messenger, J. C. (2009). Work sharing: A strategy to preserve jobs during the global jobs crisis. International Labour Organisation. https://www.ilo.org/travail/info/publications/WCMS_120705/lang--en/index.htm

OECD/European Union. (2019). The Missing Entrepreneurs 2019: Policies for Inclusive Entrepreneurship. OECD Publishing, Paris, 1–323. https://doi.org/10.1787/43c2f41c-en

Organisation for Economic Co-operation and Development (OECD). 2015. "Nonstandard Work, Job Polarisation and Inequality," In It Together: Why Less Inequality Benefits All, Paris, OECD Publishing.

Piketty, T. (2020). Capital e Ideologia. Temas e Debates.

Ramaswamy, R., & Rowthorn, B. (1997). Deindustrialisation: Causes and Implications. IMF Working Papers, 97(42), 1. https://doi.org/10.5089/9781451975826.001

Reich, M., Gordon, D., & Edwards, R. (1973). A Theory of Labor Market Segmentation. The American Economic Review, 63(2), 359-365. Retrieved April 2, 2021, from http://www.jstor.org/stable/1817097

Rica, S. D. L., & Iza, A. (2005). Career Planning in Spain: Do Fixed-term Contracts Delay Marriage and Parenthood? Review of Economics of the Household, 3(1), 49–73. https://doi.org/10.1007/s11150-004-0979-8

Rodgers, G., & Rodgers, J. (1989). Precarious jobs in labour market regulation: The growth of atypical employment in Western Europe. International Labour Organisation. https://www.researchgate.net/publication/43604402_Precarious_Jobs_in_Labour_Market_Regulation_The_Growth_of_Atypical_Employment_in_Western_Europe

Rodrik, D. (2015). Premature deindustrialisation. Journal of Economic Growth, 21(1), 1–33. https://doi.org/10.1007/s10887-015-9122-3

Schmid, G. (2011). Nonstandard Employment in Europe: Its Development and Consequences for the European Employment Strategy. German Policy Studies, 7(1), 171–219. http://www.guentherschmid.eu/pdf/aufsaetze/GPS-Beitrag-2011.pdf

Schmid, G. (2018). Inclusive Growth: The Case of Germany (No. 139). IZA - Institute of Labor Economics.

Schmid, G. (2020). Beyond European unemployment insurance. Less moral hazard, more moral assurance? Transfer: European Review of Labour and Research, 26(4), 465–480. https://doi.org/10.1177/1024258920952666

Schmid, G., & Wagner, J. (2017). Managing social risks of non-standard employment in Europe (Conditions of Work and Employment Series No. 91). International Labour Organisation. https://ideas.repec.org/p/ilo/ilowps/994969691902676.html

Shapiro, C., & Stiglitz, J. (1984). Equilibrium Unemployment as a Worker Discipline Device. The American Economic Review, 74(3), 433-444. Retrieved April 2, 2021, from http://www.jstor.org/stable/1804018

Smith, R., & Ehrenberg, R. G. (2017). Modern Labor Economics: Theory and Public Policy (13th ed.). Routledge.

Sporton, D. (2012). 'They Control My Life': the Role of Local Recruitment Agencies in East European Migration to the UK. Population, Space and Place, 19(5), 443–458. https://doi.org/10.1002/psp.1732

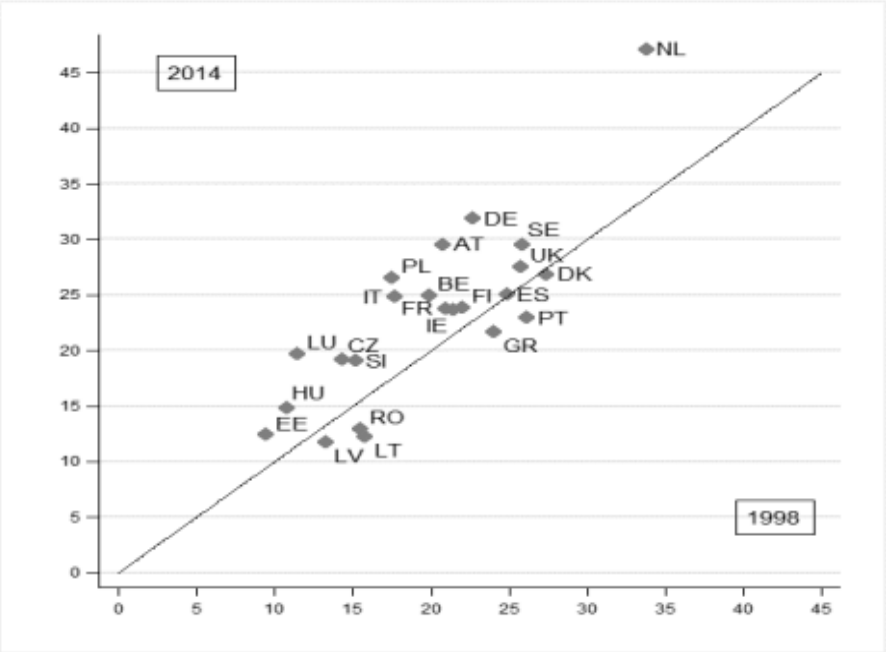
The World Bank. (2019). The Changing Nature of Work. https://www.worldbank.org/en/publication/wdr2019

Van Eyck, K. (2003). Flexibilizing Employment: An Overview. International Labour Organisation. https://ideas.repec.org/p/ilo/ilowps/993597573402676.html

Weil, D. (2014). The Fissured Workplace: Why Work Became So Bad for So Many and What Can Be Done to Improve It. Harvard University Press.

Wilthagen, T., & Tros, F. (2004). The concept of 'flexicurity': a new approach to regulating employment and labour markets. Transfer: European Review of Labour and Research, 10(2), 166–186. https://doi.org/10.1177/102425890401000204

ANNEXE I



Source: Eurostat, ELFS; own calculations: The non-standard employment rate includes part-time, fixed-term, and self-employment, controlled for overlaps

FIGURE 1 - NSE RATES IN THE EU28 MEMBER STATES, 1998 AND 2014

SOURCE: SCHMID AND WAGNER (2017)

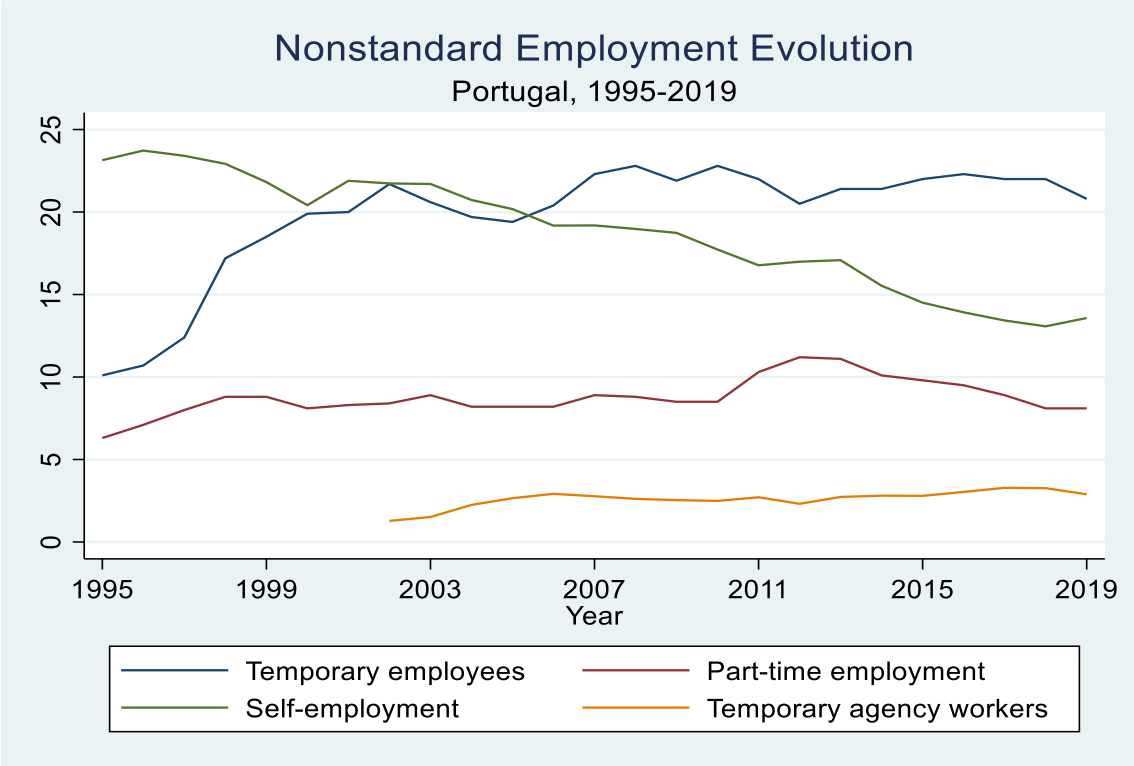


FIGURE 2 – NSE EVOLUTION IN PORTUGAL, 1995-2019

SOURCE: EUROSTAT (EU-LFS) AND QUADROS DE PESSOAL.

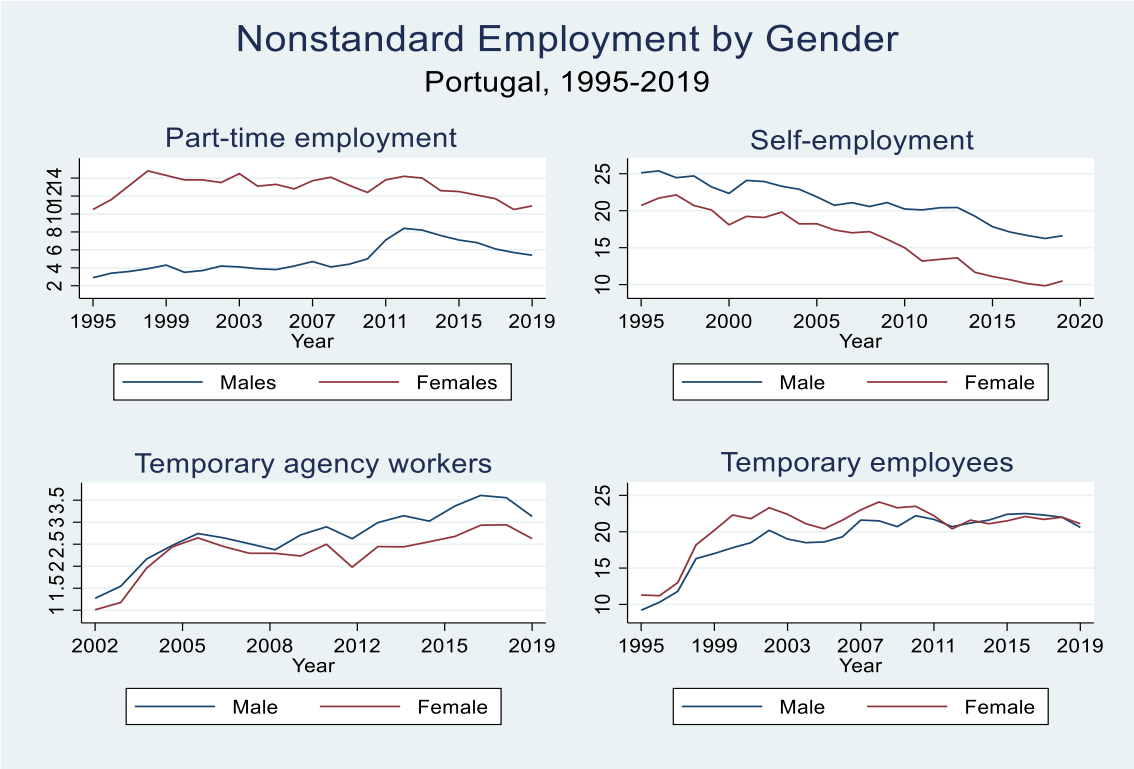


FIGURE 3 - NSE BY GENDER IN PORTUGAL, 1995-2019

SOURCE: EUROSTAT (EU-LFS) AND QUADROS DE PESSOAL.

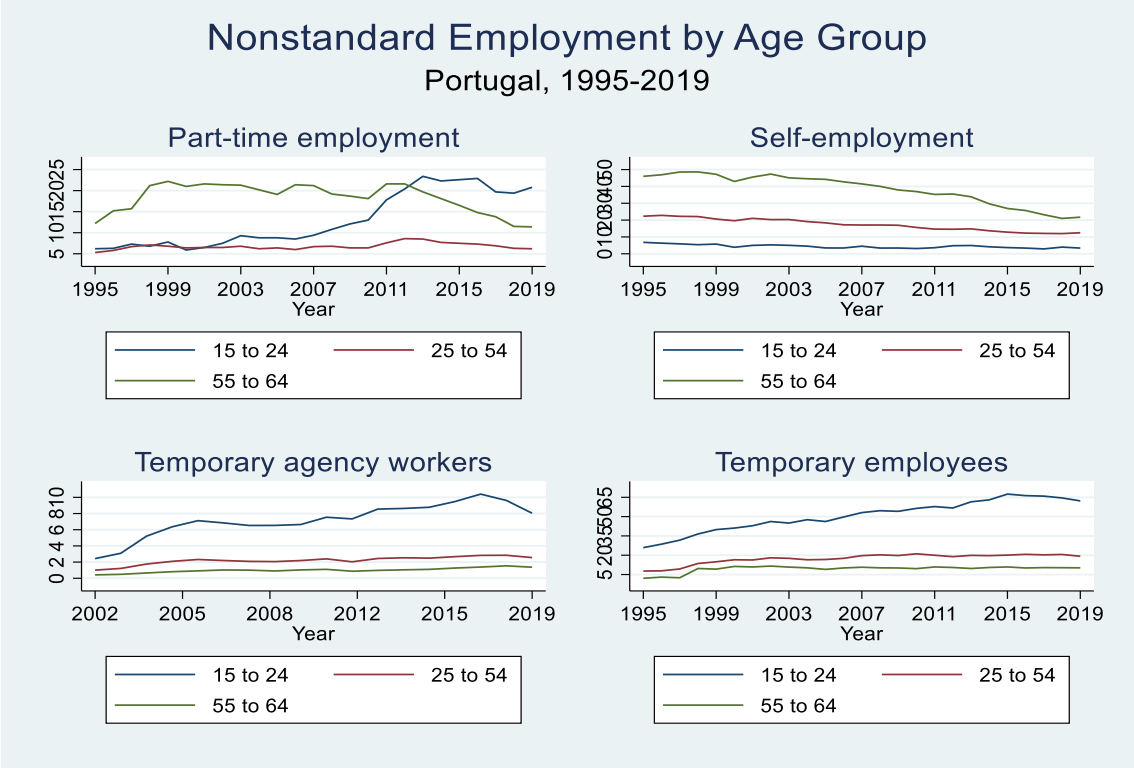


FIGURE 4 - NSE BY AGE GROUP IN PORTUGAL, 1995-2019

SOURCE: EUROSTAT (EU-LFS) AND QUADROS DE PESSOAL.

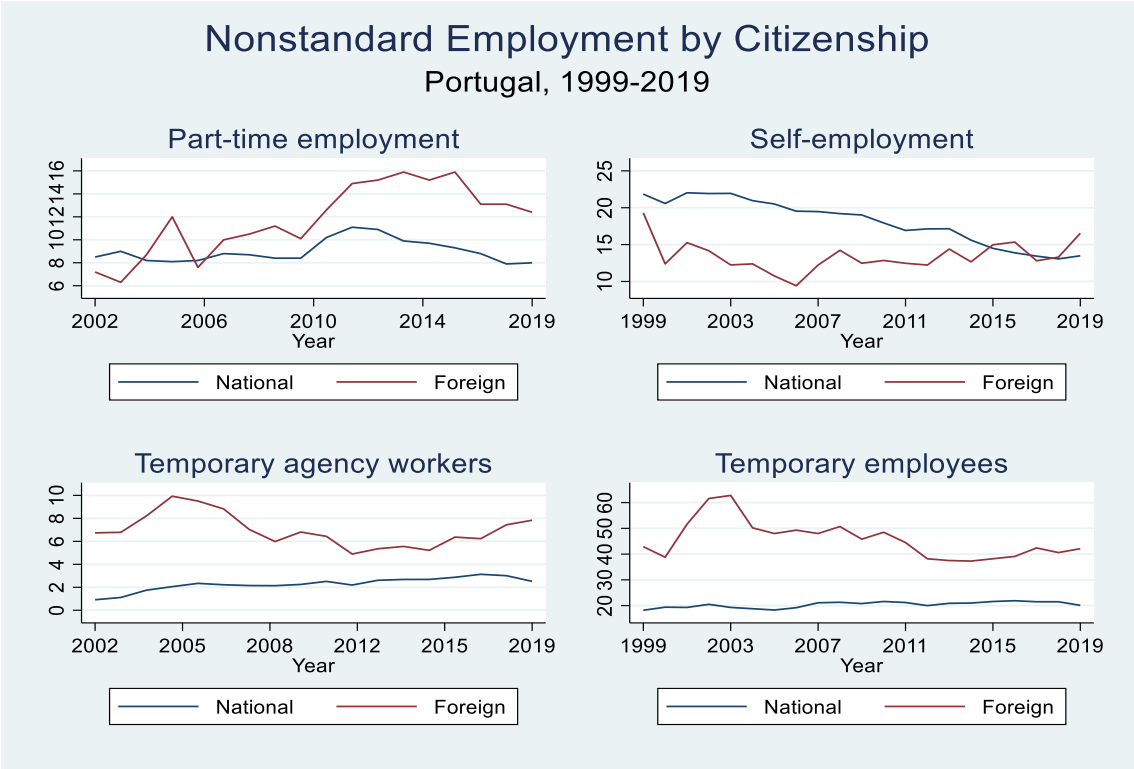


FIGURE 5 - NSE BY CITIZENSHIP IN PORTUGAL, 1999-2019

SOURCE: EUROSTAT (EU-LFS) AND QUADROS DE PESSOAL.

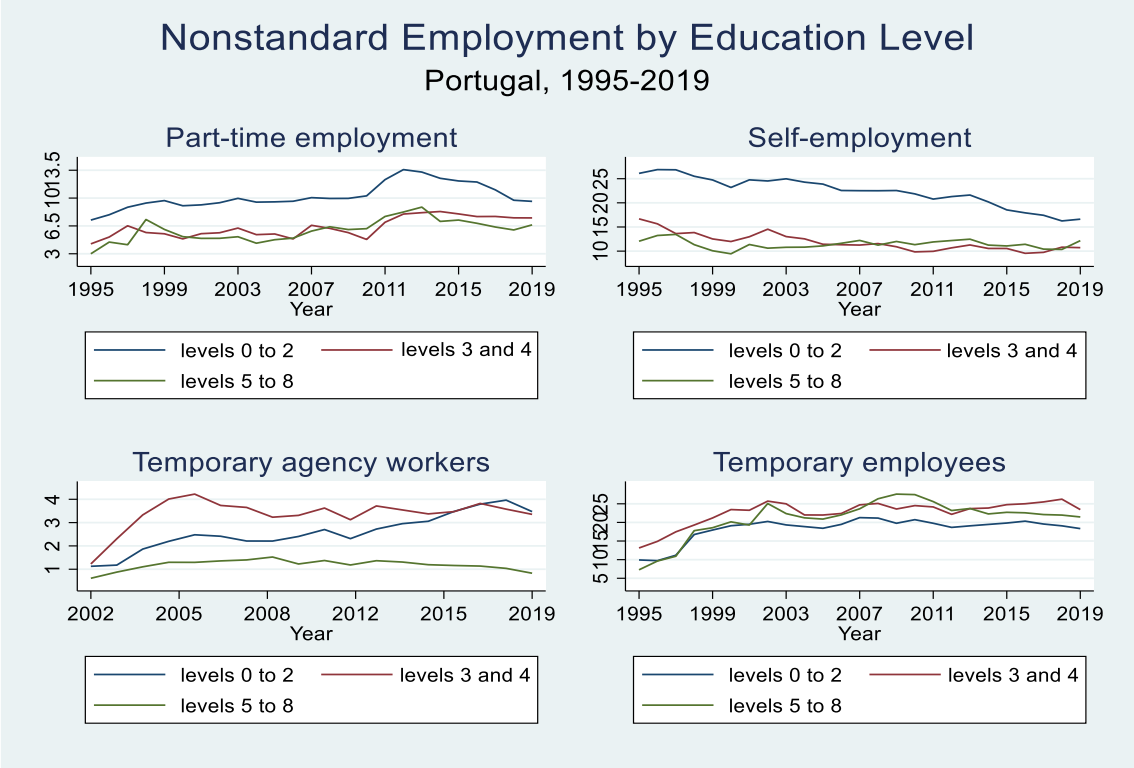


FIGURE 6 - NSE BY EDUCATION LEVEL IN PORTUGAL, 1995-2019

SOURCE: EUROSTAT (EU-LFS) AND QUADROS DE PESSOAL.

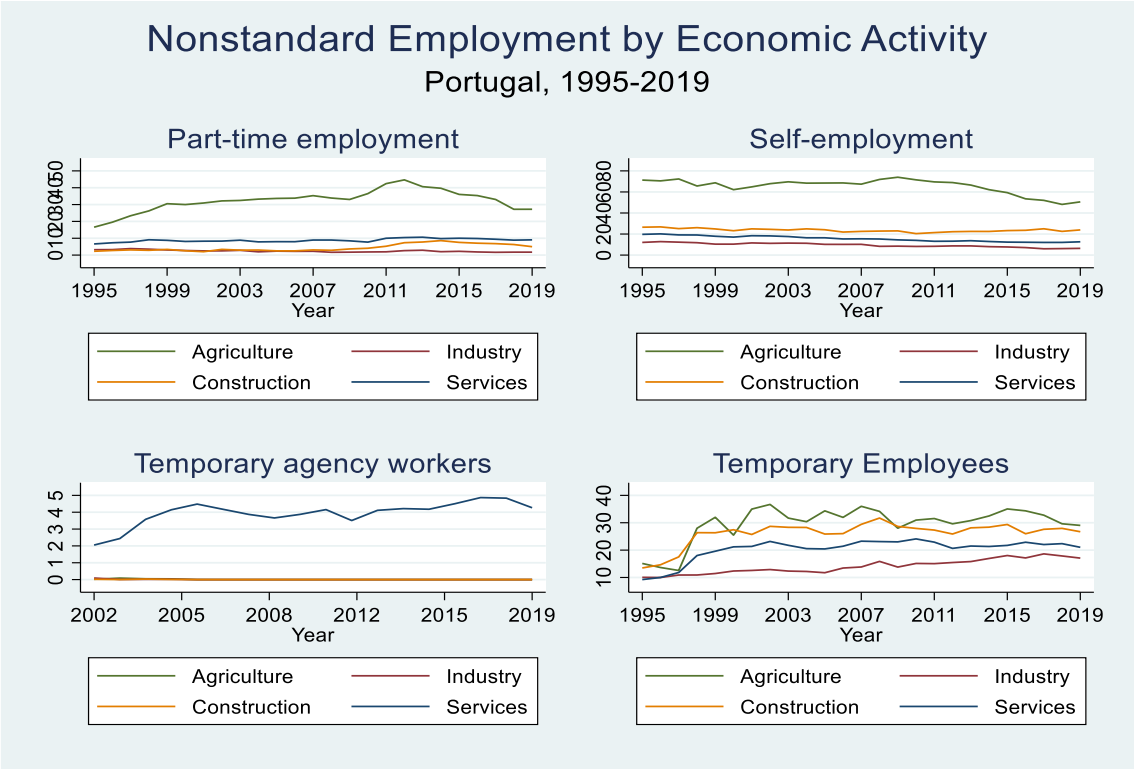


FIGURE 7 – NSE BY ECONOMIC ACTIVITY IN PORTUGAL, 1995-2019

SOURCE: EUROSTAT (EU-LFS) AND QUADROS DE PESSOAL.

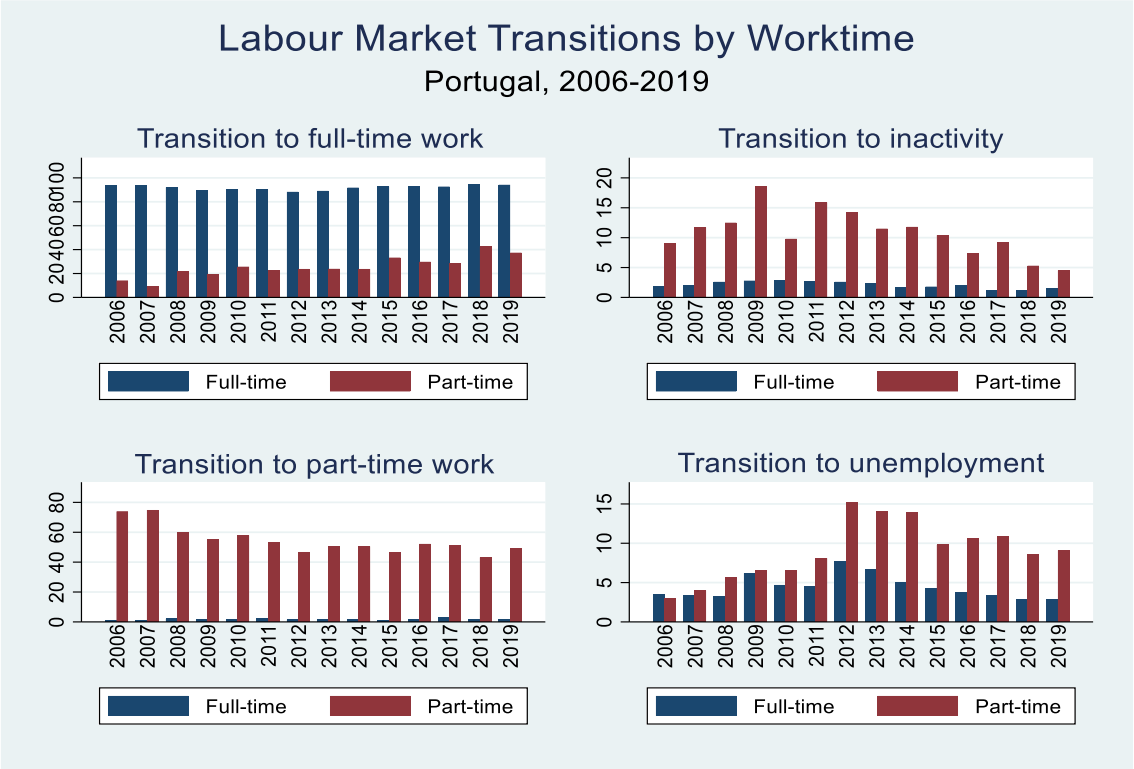


FIGURE 8 - LABOUR MARKET TRANSITIONS BY WORKTIME IN PORTUGAL, 2006-2019

SOURCE: EUROSTAT (EU-ILC)

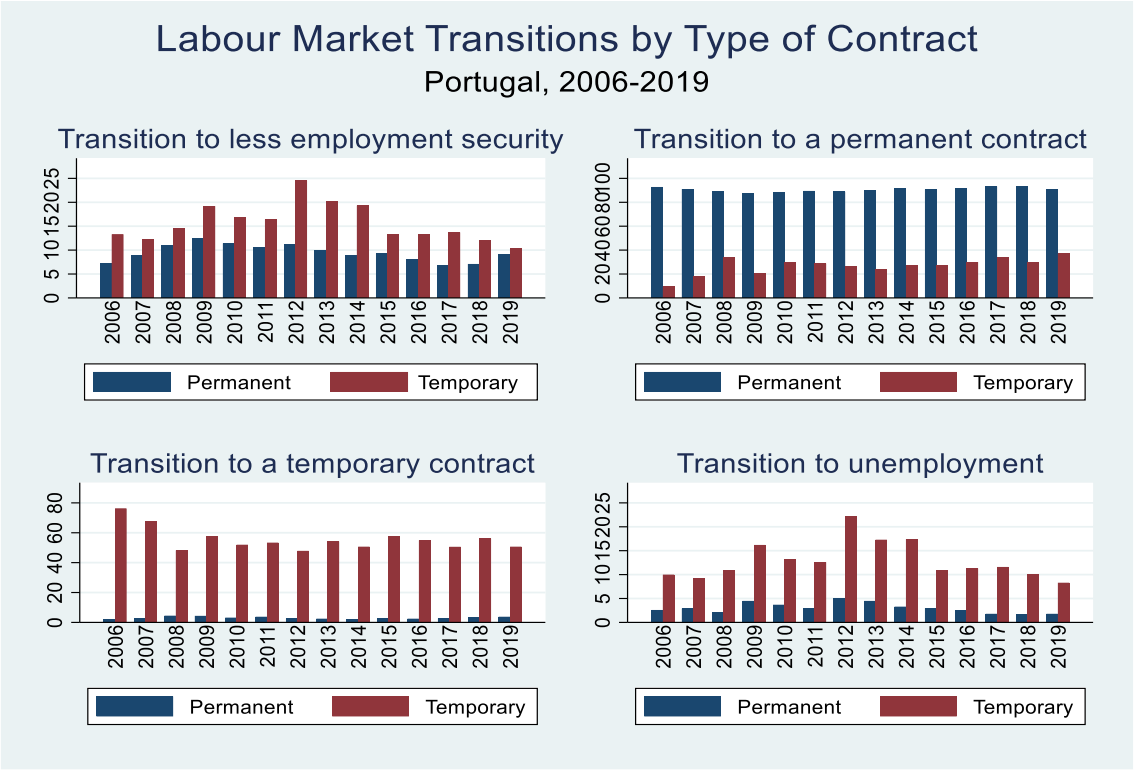


FIGURE 9 - LABOUR MARKET TRANSITIONS BY TYPE OF CONTRACT IN PORTUGAL, 2006-2019

SOURCE: EUROSTAT (EU-ILC)

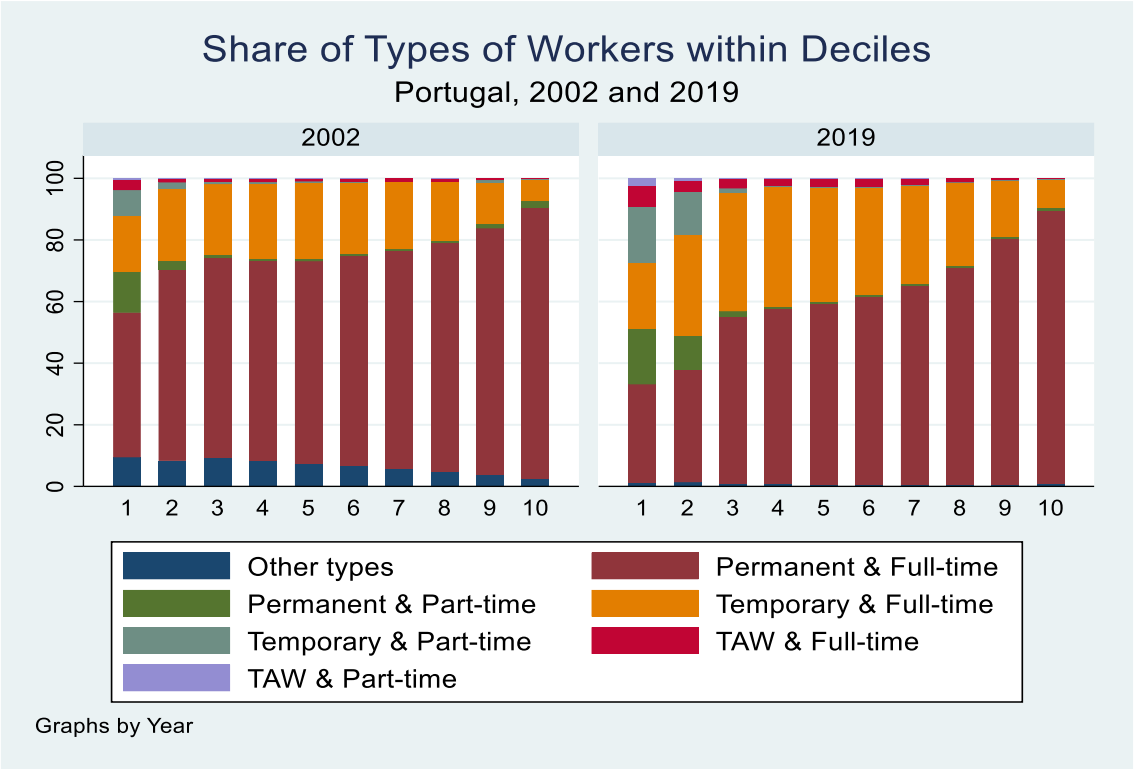


FIGURE 10 – SHARE OF TYPES OF WORKERS WITHIN DECILES IN PORTUGAL, 2002 AND 2019

SOURCE: QUADROS DE PESSOAL AND OWN CALCULATIONS

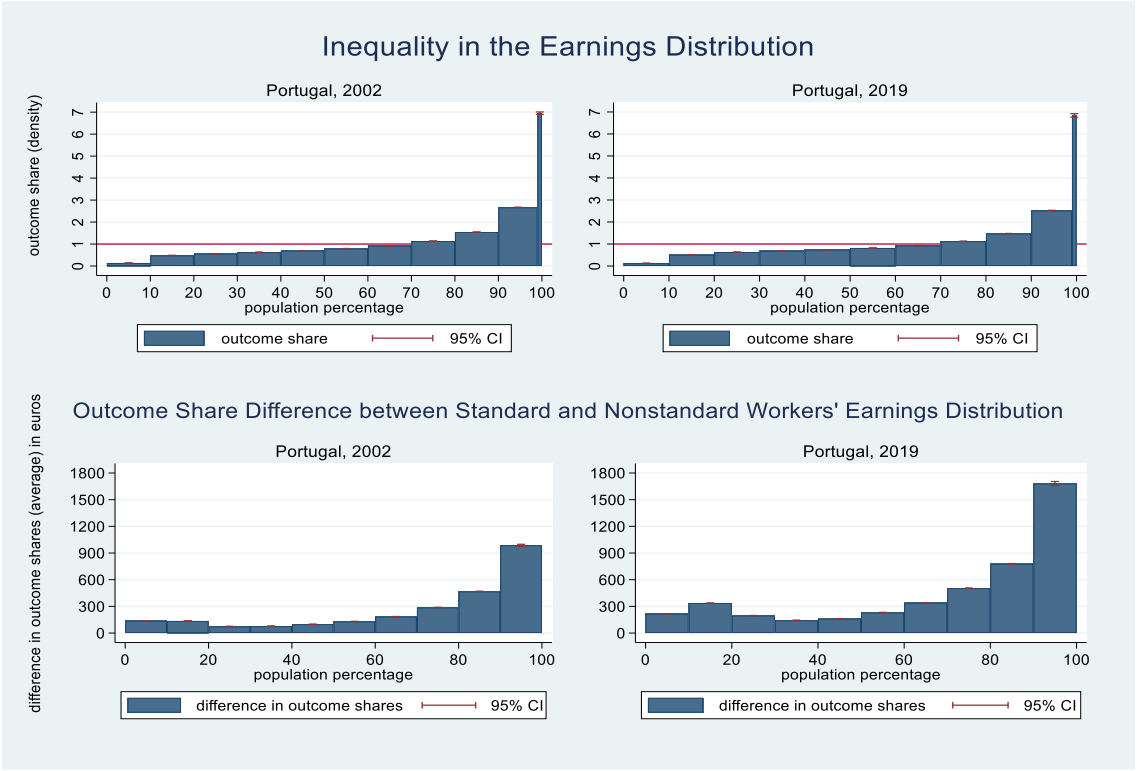


FIGURE 11 – INEQUALITY IN THE EARNINGS DISTRIBUTION BY STANDARD AND NONSTANDARD WORKERS IN PORTUGAL, 2019

SOURCE: QUADROS DE PESSOAL AND OWN CALCULATIONS

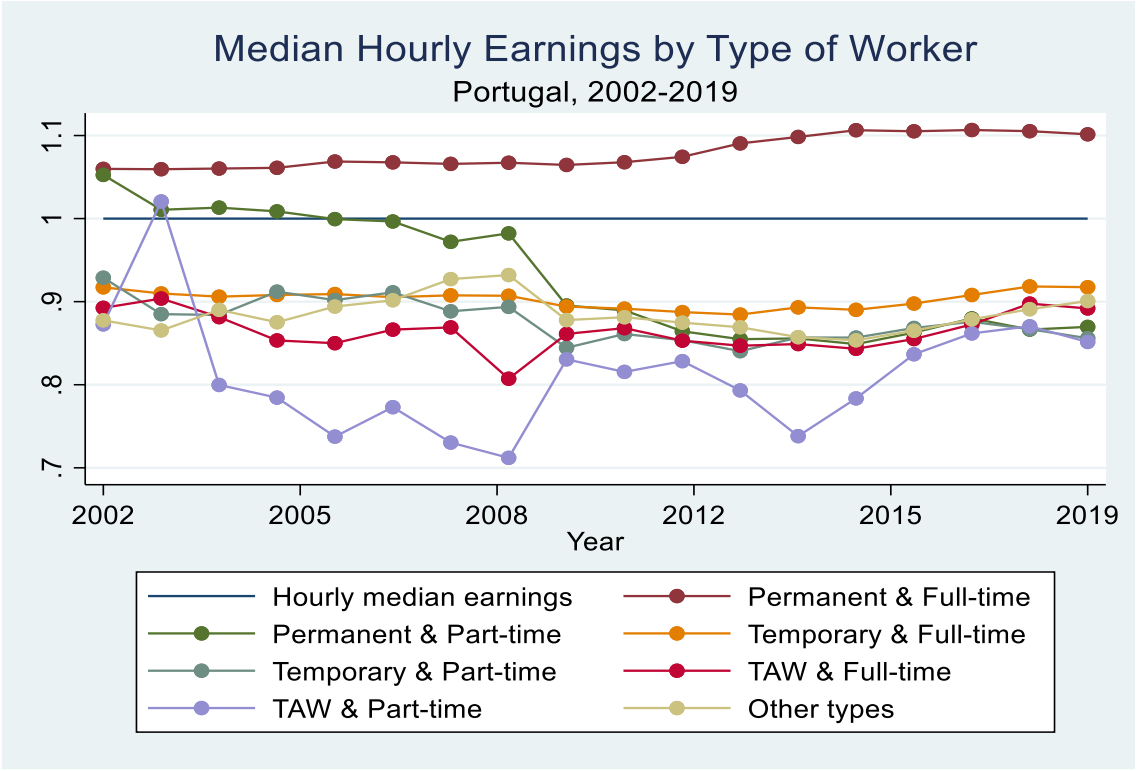


FIGURE 12 – MEDIAN HOURLY EARNINGS BY TYPE OF WORKER IN PORTUGAL, 2002-2019

SOURCE: QUADROS DE PESSOAL AND OWN CALCULATIONS

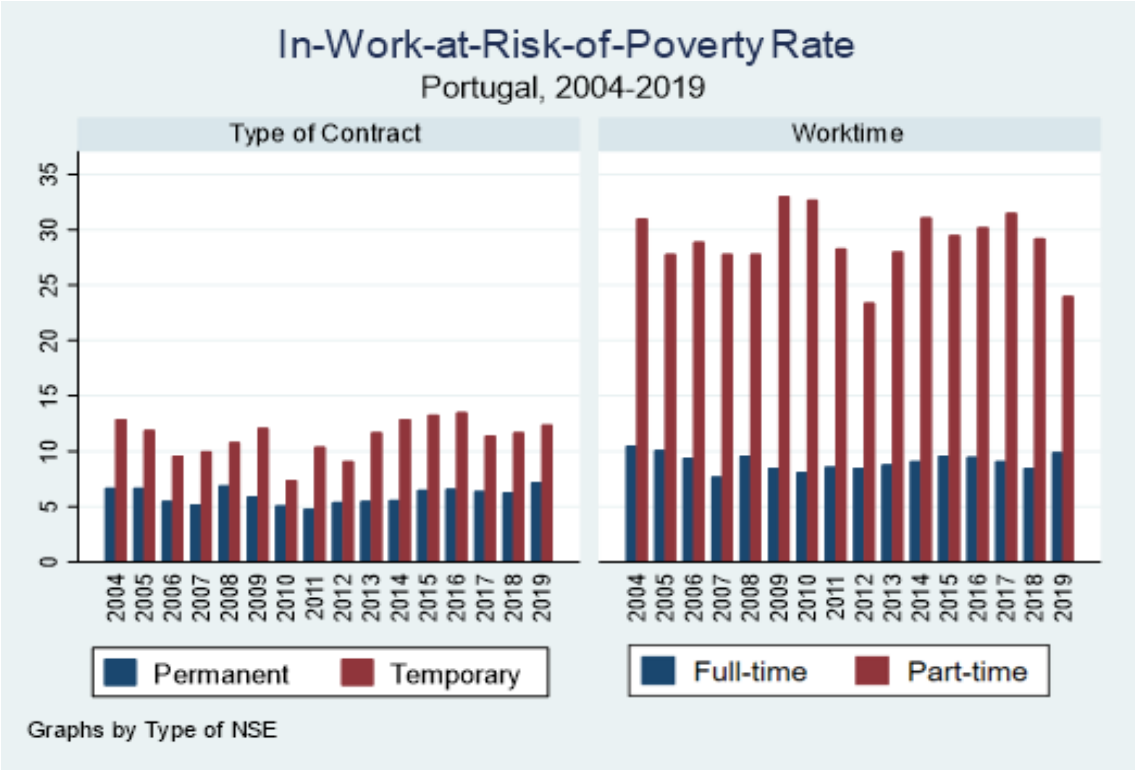


FIGURE 13 – IN-WORK-AT-RISK-OF-POVERTY RATE BY TYPE OF CONTRACT AND WORKTIME IN PORTUGAL, 2004-2019

SOURCE: EUROSTAT (EU-ILC)

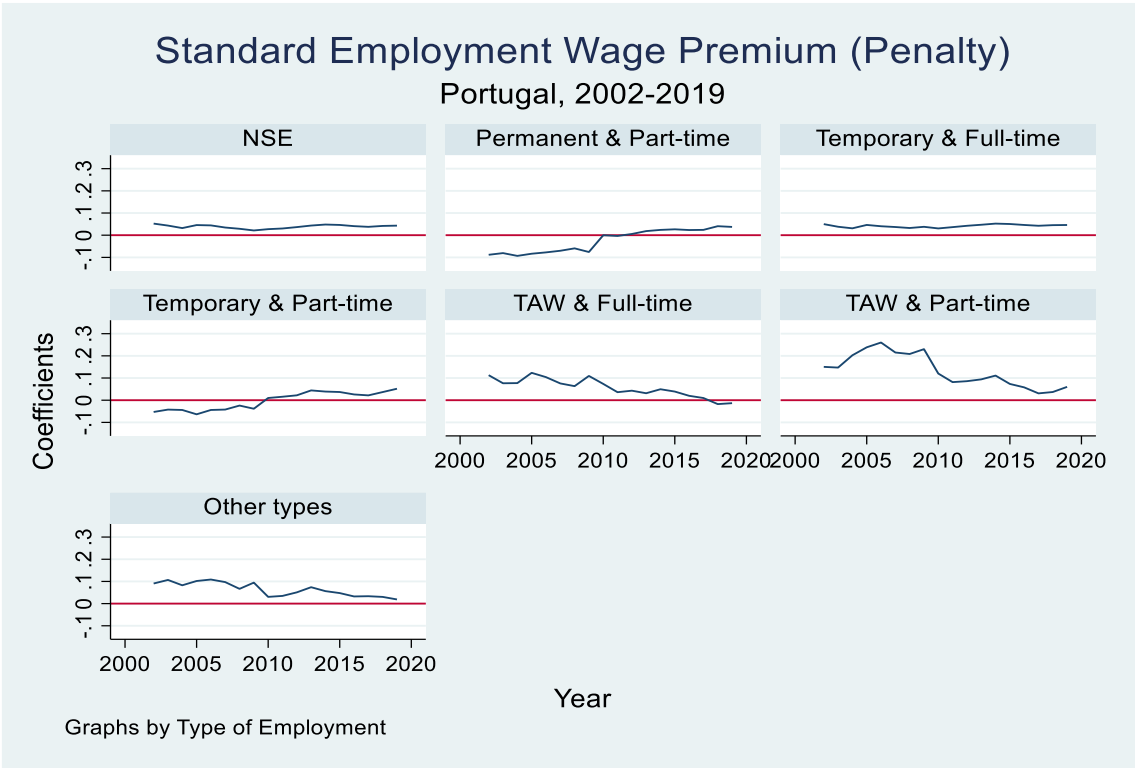


FIGURE 14 – STANDARD EMPLOYMENT WAGE PREMIUM IN PORTUGAL, 2002-2019

SOURCE: QUADROS DE PESSOAL AND OWN CALCULATIONS

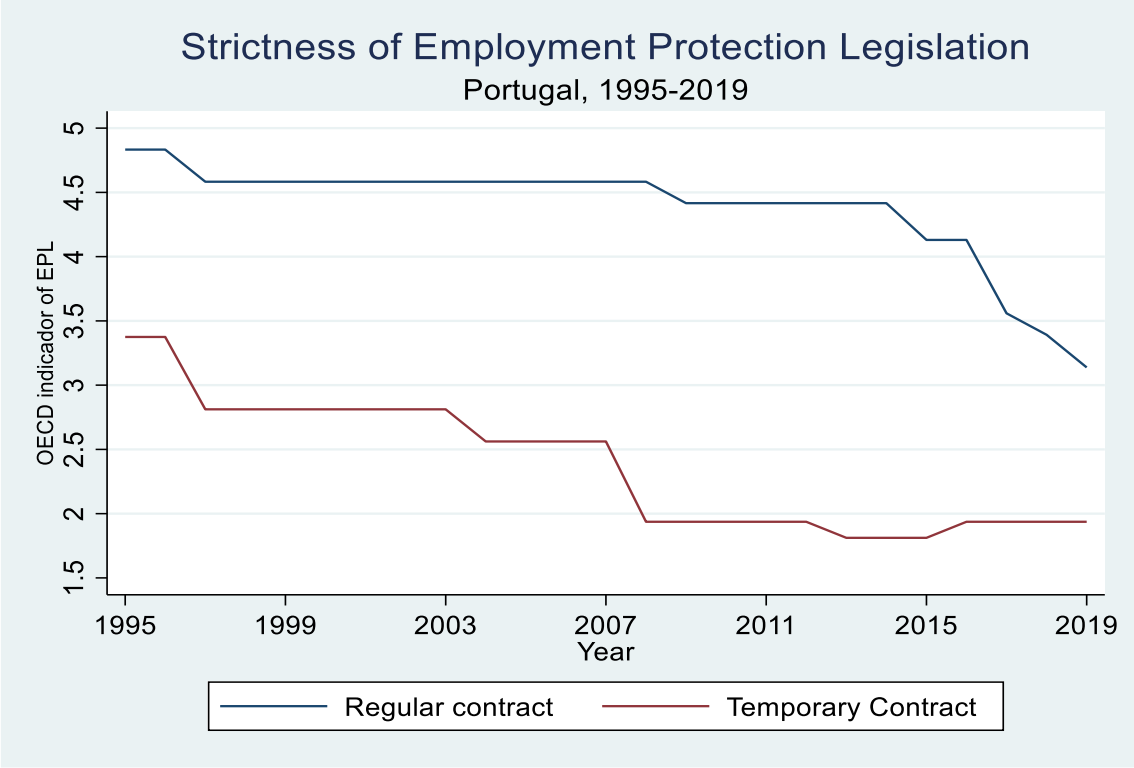


FIGURE 15 - STRICTNESS OF EPL BY PERMANENT AND TEMPORARY CONTRACTS IN PORTUGAL

SOURCE: OECD STATISTICS

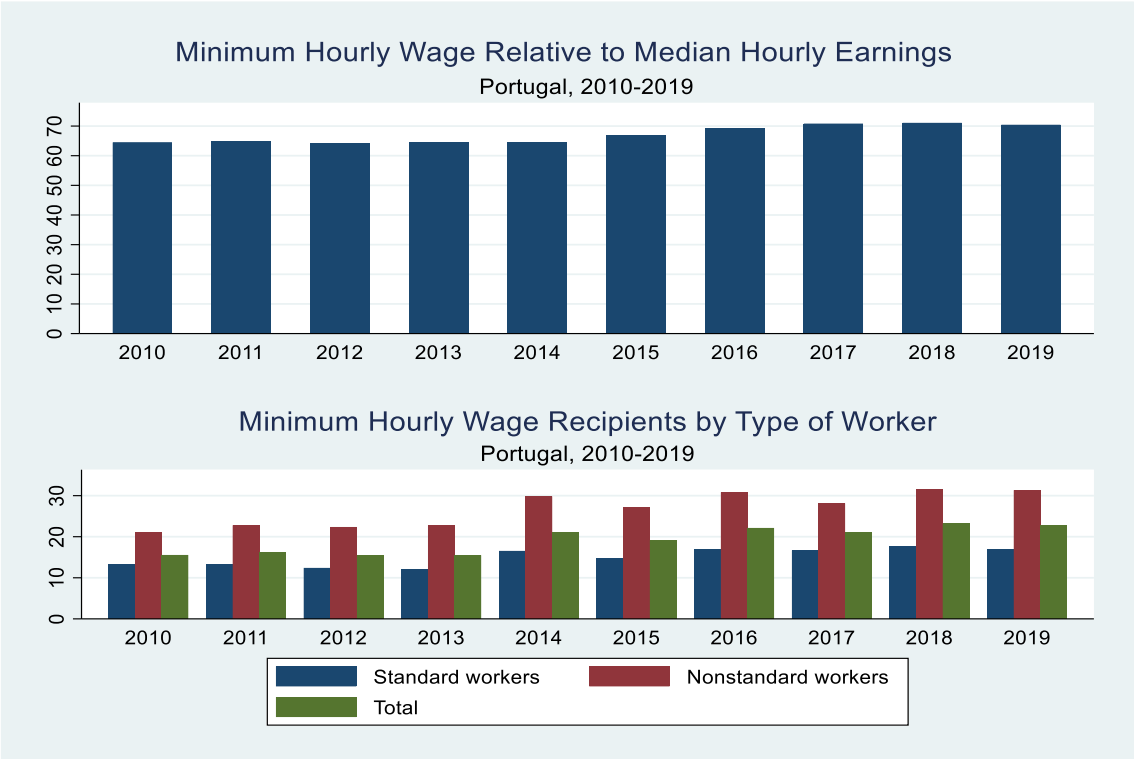


FIGURE 16 – MINIMUM HOURLY WAGE AND MINIMUM WAGE RECIPIENTS IN PORTUGAL, 2010-2019

SOURCE: QUADROS DE PESSOAL, INE/PORDATA AND OWN CALCULATIONS

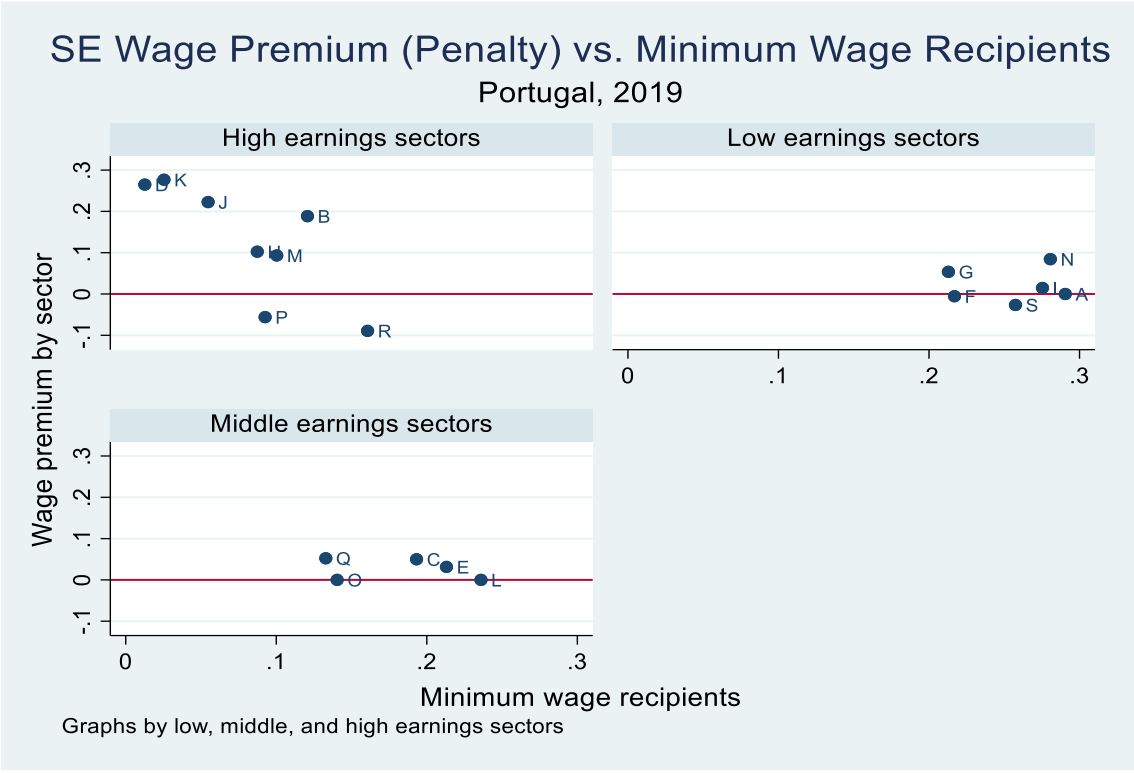


FIGURE 17 – STANDARD EMPLOYMENT WAGE PREMIUM VS MINIMUM WAGE RECIPIENTS IN PORTUGAL, 2019

SOURCE: QUADROS DE PESSOAL, INE/PORDATA AND OWN CALCULATIONS

SECTORS: A – AGRICULTURE, FORESTRY, FISHING; B – MINING AND QUARRYING; C – MANUFACTURING; D – ELECTRICITY, GAS, STEAM AND AIR CONDITIONING SUPPLY; E – WATER SUPPLY, SEWERAGE, WASTE MANAGEMENT AND REMEDIATION ACTIVITIES; F – CONSTRUCTION; G – WHOLESALE AND RETAIL TRADE, REPAIR OF MOTOR VEHICLES AND MOTORCYCLES; H – TRANSPORTATION AND STORAGE; I – ACCOMMODATION AND FOOD SERVICE ACTIVITIES; J – INFORMATION AND COMMUNICATION; K – FINANCIAL AND INSURANCE ACTIVITIES; L – REAL ESTATE ACTIVITIES; M – PROFESSIONAL, SCIENTIFIC AND TECHNICAL ACTIVITIES; N – ADMINISTRATIVE AND SUPPORT SERVICE ACTIVITIES; O – PUBLIC ADMINISTRATION AND DEFENCE, AND COMPULSORY SOCIAL SECURITY; P – EDUCATION; Q – HUMAN HEALTH AND SOCIAL WORK ACTIVITIES; R – ARTS, ENTERTAINMENT AND RECREATION; S – OTHER SERVICE ACTIVITIES.

TABLE I - NONSTANDARD EMPLOYMENT FORMS

Types of NSE	Definition
Temporary employees	A person having an employment contract or relationship entered into directly between an employer and an employee where the end of the employment contract or relationship is determined by objective conditions such as reaching a specific date, completing a specific task, or the occurrence of a specific event. It includes fixed-term contracts (FTC) and casual work.[2]
Part-time work	An employed person (employee or self-employed) whose regular work hours are less than comparable full-time workers. In Portugal, the criteria used to define a part-time worker is by checking if the working time agreed by the parties is less than normal/statutory working hours. It includes marginal part-time work, on-call work, and casual work.[3]
Temporary agency workers (TAW)	There is no direct employer-employee relationship. Instead, workers are hired by an organisation and then hired out or assigned to perform at a user firm. It is characterised by a triangular relationship and includes subcontracting and outsourcing (although there are differences, mainly regarding whom workers should receive guidelines).[4]
Self-employment	When there is no employment relationship, workers independently produce and sell goods and services on the market—two types of self-employment fall in a grey area: disguised self-employment and dependent self-employment.[5] Many self-employed workers are also part-time workers.

Source: ILO (2016)

[2] FTC is a work contract whose end is implicitly or explicitly tied to conditions such as a particular date, the occurrence of an event, or completion of a task or project. Casual work is often associated to informality, and occurs during short periods, or occasionally and intermittently (ILO, 2016).

[3] Marginal part-time work is performed by very short hours of work, usually less than 15 or 20 hours per week. On-call work is characterized by highly variable and unpredictable hours of work, in which workers receive short advance notice of schedules (ILO, 2016).

[4] Subcontracting differs from TAW in the sense that subcontractors not only hire workers, but also execute work that provides goods and services (ILO, 2016).

[5] Disguised self-employment refers to when an employer treats an individual as other than an employee to hide their actual legal status as an employee. Dependent self-employment occurs when workers perform services for a business under a contract different from a contract of employment but depend on one or a small number of clients for their income and receive direct guidelines regarding how the world should be done (ILO, 2016).

TABLE II - STRATEGIES TO MANAGE NSE RISKS

Strategy	Goal	Source
Flexicurity	Flexicurity aims to enhance labour market flexibility while providing security at the same time: low employment protection, generous unemployment benefits, and active labour market policies.	Wilthagen and Tros (2004); Lang (2006); Auer (2007); Schmid (2011)
Public Employment	The government could act as an employer of last resort, providing opportunities in areas not fully covered by profitable markets and mitigating involuntary part-time work risks.	Atkinson (2015); ILO (2016); Schmid & Wagner (2017)
Minimum Wage	The minimum wage can be an effective instrument to provide a decent living wage to nonstandard workers. It would not solve the problem by itself, but it can help to narrow the difference between standard and nonstandard workers.	Van Eyck (2003); Atkinson (2015); Schmid & Wagner (2017)
Universal (Minimum) Basic Income	Universal or minimum basic income could mitigate poverty (in-work and at old age), extending social insurance to volatile income risks and critical transitions over the life course.	Atkinson (2015); Schmid & Wagner (2017); Piketty (2020)
Collective Bargaining	Restore the workers' rights to trade unions and create an inclusive environment for collective bargaining.	Van Eyck (2003); Atkinson (2015); ILO (2016); Campos Lima (2016)
Redesign of Social Protection	Change the social protection structure to integrate nonstandard workers and innovate to provide new and equal opportunities for workers.	Atkinson (2015); Schmid & Wagner (2017); Schmid (2020); Piketty (2020)
Employment Services	Facilitate the (re)inclusion of workers in the labour market, providing information, training opportunities, job search assistance, and other services.	Van Eyck (2003); Schmid & Wagner (2017)
Limit the use of NSE contracts	Limit the use of such contracts by building bridges to ensure that nonstandard work serves as "stepping stones".	Van Eyck (2003); Almeida et al. (2020)
Inclusive labour contract	Establish new social rights and obligations to ensure the development of institutional capabilities that make workers fit the market as well as the market fit to workers.	Schmid (2018)
Stakeholder orientation	Governments and firms should create, where there is not one, a Social and Economic Council to integrate all stakeholders in the decision-making process.	Atkinson (2015); Piketty (2020)
A progressive income tax system	Return to a more efficient and progressive income tax system to finance the social protection system and improve wages at the base and in the middle of the income distribution.	Atkinson (2015); Piketty (2020)

TABLE III - NSE BY OCCUPATIONS IN 2019 COMPARED TO 1995 (2002)

	Change of share of nonstandard workers			
	Part-time workers	Self-employed workers	TAW	Temporary employees
Managers	(0.28)	(45.32)	0.07	4.89
Professionals	1.95	(0.07)	0.08	10.91
Technicians and associate professionals	0.88	2.18	0.33	10.28
Clerical support workers	2.08	(0.78)	2.83	10.59
Service and sales workers	3.06	(1.48)	0.50	11.49
Skilled agricultural, forestry and fishery workers	12.45	(28.12)	4.05	8.96
Craft and related trades workers	(0.51)	0.81	1.04	9.38
Plant and machine operators and assemblers	0.20	(1.16)	1.10	10.84
Elementary occupations	6.80	(5.14)	5.98	15.33
Armed forces occupations	-	-	5.61	20.51

Source: EUROSTAT (EU-LFS), "Quadros de Pessoal" and own calculations.

TABLE IV – MAIN REASONS FOR WORKING PART-TIME AND IN FIXED-TERM CONTRACTS IN PORTUGAL, PERCENTAGE, 1995 AND 2019

Part-time workers		
	1995	2019
Could not find a full-time job	28.5	43.7
Own illness or disability	9.4	7.1
Other family or personal responsibilities	-	4.8
Looking after children or incapacitated adults	-	4.2
In education or training	6.4	10.5
Other	55.6	29.7
Temporary Employees		
	1995	2019
Could not find a permanent job	83.4	82.0
Did not want a permanent job	1.2	6.2
In education or training	5.0	4.6
Probationary period	9.6	7.2
No response	0.8	-

Source: EUROSTAT (EU-LFS)

TABLE V - CORRELATION BETWEEN NSE AND ACTIVITY RATES IN PORTUGAL OVER 1995 (2002)-2019

	Activity rates		
	Total	Men	Women
Part-time work	0.49	(0.43)	(0.16)
Self-employment	(0.80)	0.16	(0.90)
Temporary agency workers	0.70	(0.68)	0.80
Temporary employees	0.93	0.27	0.74

Source: EUROSTAT (EU-LFS) and own calculations

TABLE VI - ROBUST REGRESSIONS OF LOG HOURLY EARNINGS FOR PORTUGAL, 2019

VARIABLES	(1)	(2)	(3)	(4)
Standard employment	0.262***	0.194***	0.127***	0.0433***
	(0.000514)	(0.000452)	(0.000432)	(0.000472)
Gender				
Female		-0.179***	-0.134***	-0.138***
		(0.000456)	(0.000461)	(0.000447)
Age group				
15 to 24		-0.145***	-0.106***	-0.0727***
		(0.000627)	(0.000593)	(0.000582)
55 to 64		0.0881***	0.0687***	0.00483***
		(0.000790)	(0.000698)	(0.000674)
Above 64		0.0703***	0.0344***	-0.0367***
		(0.00247)	(0.00224)	(0.00216)
Education level				
0-2		-0.179***	-0.0924***	-0.110***
		(0.000510)	(0.000481)	(0.000465)
5-8		0.471***	0.237***	0.261***
		(0.000811)	(0.000921)	(0.000895)
No information		-0.0433***	-0.0506***	-0.0526***
		(0.00456)	(0.00371)	(0.00373)
Citizenship				
National		0.0635***	0.0129***	-0.00351***
		(0.000878)	(0.000812)	(0.000803)
Tenure				0.0118***
				(0.000031)
Controls for 20 economic activities	No	No	Yes	Yes
Controls for 10 occupations	No	No	Yes	Yes
Constant	1.592***	1.647***	2.079***	2.064***
	(0.000328)	(0.000937)	(0.00271)	(0.00264)
Observations	2,935,341	2,935,341	2,935,341	2,935,182
R-squared	0.071	0.350	0.468	0.499

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
Source: Quadros de Pessoal and own calculations

TABLE VII - ROBUST REGRESSIONS OF LOG HOURLY EARNINGS FOR PORTUGAL, 2019

VARIABLES	(1)	(2)	(3)	(4)
NSE				
Permanent & Part-time	-0.239***	-0.152***	-0.0793***	-0.0375***
	(0.00153)	(0.00129)	(0.00125)	(0.00123)
Temporary & Full-time	-0.252***	-0.198***	-0.134***	-0.0461***
	(0.000539)	(0.000473)	(0.000441)	(0.000485)
Temporary & Part-time	-0.340***	-0.227***	-0.136***	-0.0517***
	(0.00113)	(0.00110)	(0.00102)	(0.00104)
TAW & Full-time	-0.322***	-0.179***	-0.0639***	0.0132***
	(0.000990)	(0.00111)	(0.00123)	(0.00123)
TAW & Part-time	-0.406***	-0.246***	-0.139***	-0.0602***
	(0.00218)	(0.00268)	(0.00255)	(0.00250)
Other types	-0.141***	-0.141***	-0.105***	-0.0189***
	(0.00371)	(0.00296)	(0.00274)	(0.00269)
Gender				
Female		-0.180***	-0.135***	-0.138***
		(0.000461)	(0.000464)	(0.000451)
Age group				
15 to 24		-0.142***	-0.106***	-0.0737***
		(0.000634)	(0.000598)	(0.000587)
55 to 64		0.0869***	0.0677***	0.00528***
		(0.000790)	(0.000698)	(0.000675)
Above 64		0.0662***	0.0299***	-0.0365***
		(0.00248)	(0.00224)	(0.00216)
Education level				
0-2		-0.180***	-0.0933***	-0.110***
		(0.000511)	(0.000481)	(0.000465)
5-8		0.470***	0.238***	0.261***
		(0.000810)	(0.000921)	(0.000895)
No information		0.0435***	-0.0481***	-0.0510***
		(0.00456)	(0.00372)	(0.00373)
Citizenship				
National		0.0631***	0.0119***	-0.00291***
		(0.000879)	(0.000813)	(0.000804)
Tenure				0.0118***
				(0.000031)
Controls for 20 economic activities	No	No	Yes	Yes
Controls for 10 occupations	No	No	Yes	Yes
Constant	1.854***	1.842***	2.208***	2.107***
	(0.000395)	(0.00103)	(0.00272)	(0.00266)
Observations	2,935,341	2,935,341	2,935,341	2,935,182
R-squared	0.073	0.351	0.469	0.499

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
Source: Quadros de Pessoal and own calculations