The Political Economy of Labor Policy

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Abstract

This article explores the political and economic origins of size-contingent Employment Protection Legislation (EPL), which imposes stricter requirements on larger firms. The theory is based on the political conflict between workers and entrepreneurs that is shaped by endogenous occupational decisions. The equilibrium policy protects only workers in larger firms, regardless of the government's political orientation. Firms strategically adjust their labor demand in response to the size-contingent policy, causing welfare distortions. These distortions can be eliminated by balancing the bargaining power of workers and entrepreneurs. A dynamic extension of the model rationalizes the long-term stability of size-contingent EPL within countries.

Keywords: size-contingent EPL, occupational choice, political conflict.

JEL: K31, L51, J8, J65, D72

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1 Introduction

Employment Protection Legislation (EPL) is a set of rules that govern termination of job contracts. Every country has established a different group of regulations, such as severance payments, reinstatement, and notification procedures. The primary motivation of EPL is similar in all countries: to shield workers from unfair dismissal. However, policy institutions such as the OECD and IMF advocate for reducing these rigidities as a cure for high unemployment in heavily regulated regions, like Europe. In practice, such reforms have been hard to implement due to considerable political opposition (Saint-Paul, 2002). Possibly as a way to address these challenges, countries have implemented size-contingent EPL, applying regulations differently by firm size.

To investigate the prevalence of size-contingent EPL, I begin by collecting data on its adoption and evolution across countries (Section 2). In most countries, size-contingent EPL is *tiered*, with stricter regulations applying to firms exceeding a certain employee threshold. For instance, in France, firms with more than 50 employees must follow a complex redundancy plan for collective dismissals. In Italy, firms with more than 15 employees must reinstate unjustly dismissed workers and pay their foregone wages. Although appealing, this type of regulation is not innocuous: it creates a wedge between firms' wages, employment stability, and growth (Schivardi and Torrini, 2008; Leonardi and Pica, 2013).

In spite of its distortive effects, *tiered* EPL has been widely adopted over the past five decades by countries with diverse institutional backgrounds and by governments with political positions ranging from left to right. This is remarkable because this regulation is not fully consistent with either ideology. Indeed, *tiered* EPL leaves workers in smaller firms unprotected while imposing higher costs on larger firms. Furthermore, the aggregate costs of EPL are estimated to be rather high, up to 3.5% of GDP (Gourio and Roys, 2014; Garicano et al., 2016; Aghion et al., 2023). But if EPL is so costly, why does it exist, and why is it *tiered* in many countries?

Despite extensive literature on the political determinants of labor policy (Saint-Paul, 2000, 2002; Botero et al., 2004), the emergence of *tiered* EPL remains largely unexplored (Boeri and Jimeno, 2005). This article fills this gap by building a politico-economic theory that endogenizes and explains the emergence of *tiered* EPL. My model is similar to that used in the macro literature on size-contingent policies (e.g., Restuccia and Rogerson, 2008; Guner et al., 2008; Garicano et al., 2016), incorporating heterogeneous firms and an occupational choice (worker or entrepreneur). A novel feature, grounded in the labor-finance literature, is that EPL distorts firms' decisions by reducing credit (Simintzi et al., 2015; Serfling, 2016; Bai et al., 2020), forcing firms—especially smaller ones—to shrink. This labor-finance interaction creates firm-specific distortions that induce heterogeneous preferences for EPL. The design of EPL is then determined by a politically oriented government that aggregates these interests.

The main result of the paper is that a *tiered* EPL equilibrium arises regardless of the government ideology. Extensions of the baseline model show that the emergence of *tiered* EPL is robust to the type of electoral system, wage rigidities, and labor mobility frictions. These predictions explain the widespread use of *tiered* EPL. The extensions address other two policy-related questions: how to eliminate the welfare distortions of *tiered EPL*, and why this regulation persists over time? I find that welfare distortions can be eliminated through independent negotiations between workers (unions) and entrepreneurs, while limiting unions' power. Additionally, the long-run stability of *tiered* EPL emerges naturally from the dynamic feedback between the wealth distribution and labor policy choices over time.

The baseline model is as follows. Citizens are born with different wealth (assets) and choose to be workers or entrepreneurs. Risk-averse workers supply labor in response to the equilibrium wage and EPL, which protects them against two risks: individual dismissal or collective layoff for economic reasons. Upon dismissal, entrepreneurs transfer workers a compensation proportional to the strength of EPL. Firms are heterogeneous, with investment and labor constrained by credit limits that depend positively on their assets and negatively on EPL stringency. A politically oriented government (ranging from *pro-worker* to *pro-business*) designs EPL by maximizing the weighted welfare of workers and entrepreneurs. It makes a one-time binary decision per firm: implement weak or strong EPL.[1] Thus, EPL can be potentially size-contingent and may in principle take any shape in equilibrium.

My baseline model rests on four key assumptions that are later relaxed in several extensions. First, EPL is potentially *asset-based* and is enforceable. Second, real wages fully adjust to EPL. Third, EPL design is a one-time decision. Finally, following the macro literature on size-contingent EPL (Gourio and Roys, 2014; Garicano et al., 2016; Aghion et al., 2023), a single wage clears the labor market, with mobility frictions preventing immediate workers' relocation.[2] Thus, the baseline analysis captures the *short-to-medium* run desirability of EPL for a government in power for a limited time. To understand the *long-run* stability of *tiered* EPL, I develop a dynamic extension where a stationary *tiered* EPL arises from the interaction between EPL and wealth inequality over time.

The main result from the baseline model is that the equilibrium EPL is *tiered* regardless of the government's ideology, i.e., there exists a regulatory size threshold above which stricter EPL applies. Even when the government cares only about workers, it keeps those in smaller firms unprotected. Conversely, even when the government cares exclusively about entrepreneurs, it subjects larger firms to stricter EPL. More *pro-worker* governments choose a lower regulatory

[1] The "government's problem" can be microfounded through probabilistic voting à la Persson and Tabellini (2000).

[2] This assumption simplifies the analysis but is not crucial. An extension shows that minimal mobility frictions can sustain a *tiered* EPL equilibrium, with firms paying different wages depending on the strength of EPL they face.

threshold. These results align with the empirical facts documented in Section 2.

To establish these results, I first show that a flat increase of EPL is economically neutral. Strengthening EPL in all firms raises expected labor payments due to better dismissal compensation. Workers respond by supplying more labor, while entrepreneurs reduce labor demand, decreasing the equilibrium wage. In equilibrium, the wage decrease offsets the initial increase in labor payments. Thus, a homogeneous EPL improvement has no impact on welfare. Can a size-contingent EPL improve the political welfare? This article proves it can, and moreover, such a policy is *tiered* regardless of the government's political orientation.

The intuition for this result stems from the impact of a *tiered* EPL on the labor market and across different groups of workers and entrepreneurs. First, consider a *pro-business* government, prioritizing entrepreneurs. Tighter EPL on larger firms increases labor market competition, reducing the equilibrium wage. Smaller firms substantially benefit from lower wages, while larger firms can more easily absorb stricter EPL due to their easier access to credit. Thus, a *pro-business* government views a *tiered* EPL as a way to cross-subsidize small firms at a relatively low cost to larger firms. The political motivation of a *pro-business* government to adopt a *tiered* EPL can be summarized as follows: *"regulate large businesses to foster small businesses growth"*.

Second, consider a *pro-worker* government. While ideally it would like to protect all workers, stricter EPL in smaller firms reduces their already limited access to credit, discouraging investment and hiring. Although EPL increases expected labor payments, it significantly decreases employment in smaller firms, reducing their workers' welfare. Thus, even though a *pro-worker* government aims to protect all workers, it implements softer EPL in smaller firms. The core principle is summarized as *"do not regulate small businesses to protect their workers"*.

In the last part of the paper, I explore several extensions that relax the key assumptions of the baseline model, showing the robustness of the *tiered* EPL equilibrium. I discuss three important extensions below.

First, I consider a more realistic environment where EPL can be contingent on labor (*labor-based* EPL). I begin by showing that the government's problem reduces to choosing an asset threshold to maximize *labor-based* welfare, yielding equilibrium properties resembling that of the baseline model. As a result, the equilibrium EPL remains *tiered* regardless of the government ideology. However, a group of firms hires labor just below the regulatory threshold to legally avoid stricter EPL, causing welfare distortions.[3] This strategic behavior results in lower *labor-based* welfare compared to the *asset-based* welfare. Can the government use an alternative mechanism to achieve the maximum *asset-based* welfare while preventing strategic behavior?

[3] Gourio and Roys (2014) and Garicano et al. (2016) provide evidence of such strategic behavior by showing that the firm size distribution is distorted in France, where the regulatory threshold is 50. Few firms have exactly 50 employees, while many have 49 employees.

To address this question, the second extension examines the equilibrium when firm-level negotiations between workers (unions) and entrepreneurs determine EPL design. Under certain conditions, the government can attain the maximum *asset-based* welfare by setting a uniform level of unions' bargaining power. Workers in smaller firms voluntarily accept weaker protection, anticipating that their firms would struggle with stricter EPL, harming their welfare. Thus, the independently negotiated EPL remains *tiered.* As a result, the government adjusts unions' power to control negotiations in larger firms.

The main takeaway of the second extension is that the government can eliminate the distortions from strategic behavior by calibrating unions' bargaining power. Thus, existing regulations designed to limit unions' power, such as the Right-to-Work Laws in the US or the Strikes Act 2023 in the UK, may effectively achieve outcomes similar to the preferred *tiered* EPL while bypassing its unintended welfare distortions.

A final question is why *tiered* EPL has remained stable over time in many countries (see Section 2). To address this, I develop a dynamic extension of the model. The main feature is that EPL shapes the future wealth distribution, which in turn influences subsequent EPL designs. The policy dynamics result from the interaction between EPL and the wealth distribution over time. I analyze the endogenous evolution of EPL in an economy with an initial power law distribution and where occupational choice is limited by credit constraints.

The dynamic extension reveals that the equilibrium regulatory threshold increases until reaching a steady state, regardless of changes in governments' ideologies over time. The intuition is that a *tiered* EPL creates a cross-subsidy from large to small firms, reducing the future share of small to large firms, thereby decreasing the support for highly protective EPL. Overall, a *tiered* EPL reinforces the future support for the same type of regulation through the changes it induces in the wealth distribution. A stationary *tiered* EPL emerges once occupational choice is no longer limited by credit constraints, shedding light on the long-term stability of such policies.

This paper adds to four strands of literature. The first strand studies the political economy of labor policy (Saint-Paul, 2000, 2002; Botero et al., 2004). While prior work explains two-tier systems *within* firms (Saint-Paul, 1996; Boeri et al., 2012), *tiered* EPL, which creates a wedge *between* firms, remains understudied. Boeri and Jimeno (2005) links monitoring effectiveness to firm size to show that EPL should only be accepted in large units. In contrast, my model builds on the evidence that EPL crowds out credit (Simintzi et al., 2015; Serfling, 2016), forcing firms to cut investment (Bai et al., 2020) and employment (Autor et al., 2006, 2007). This labor-finance channel induces heterogeneous preferences that lead to a *tiered* EPL equilibrium. A companion paper (Huerta, 2025b), provides evidence supporting the predicted political preferences of my model.

Second, an extensive macro literature estimates the welfare costs of size-contingent policies (Guner et al., 2008; Restuccia and Rogerson, 2008; Gourio and Roys, 2014; Garicano et al., 2016;

Aghion et al., 2023). All these papers take size-contingent regulations as exogenous. I add to this literature by studying the origins of size-contingent EPL.

Third, a large body of literature introduces politics into macroeconomic models to explain different policies such as government spending (Krusell and Rios-Rull, 1996, 1999; Bachmann and Bai, 2013), the welfare state (Benabou, 2000; Hassler et al., 2003a,b, 2005; Alesina and Angeletos, 2005; Benabou and Tirole, 2006; Huerta, 2025a), government debt (Alesina and Tabellini, 1990; Song et al., 2012; Alesina and Passalacqua, 2016), and social security (Gonzalez-Eiras and Niepelt, 2008; Sleet and Yeltekin, 2008). I contribute to this strand by developing a tractable dynamic extension of my model that links wealth inequality and EPL over time, explaining the persistence of *tiered* EPL. The tractability of my model offers a promising direction for future research on how inequality-policy dynamics shape the evolution and stability of other types of regulations.

Finally, this article links to the literature on the joint determination of financial and labor regulations (e.g. Pagano and Volpin, 2005; Perotti and Von Thadden, 2006; Fischer and Huerta, 2021). Pagano and Volpin (2005) finds that proportional electoral systems lead to stricter EPL than majoritarian systems. Related to this result, my model explains how *tiered* EPL emerges under both systems, with lower regulatory thresholds under proportional systems.

This study advances the understanding of labor policy in four ways. First, it documents and explains the widespread emergence of *tiered* EPL across countries. Second, it shows that the welfare distortions from *tiered* EPL can be eliminated by allowing unions to exist while limiting their bargaining power. Third, it shows that the dynamic interaction between the wealth distribution and labor protection over time justifies the long-term stability of *tiered* EPL. Finally, extensions of the model suggest that a more protective *tiered* EPL should arise in countries with leftist governments, flexible wages, proportional electoral systems, and tighter labor mobility frictions.

The paper is organized as follows. Section 2 presents motivating evidence. Section 3 introduces the baseline model. Section 4 examines the individual preferences for EPL. Section 5 studies the political equilibrium. Section 6 discuss the extensions. Section 7 concludes.

2 Motivating Evidence

2.1 Institutional background

Employment Protection Legislation (EPL) encompasses rules that protect workers from unfair dismissal, such as severance pay, reinstatement, and notification procedures. Several countries implement *tiered* EPL, applying stricter rules for firms exceeding a certain employee threshold.[4] For instance, in France, firms with more than 50 employees must follow complex dismissal procedures for collective dismissals. In Italy, firms with more than 15 employees must reinstate unjustly dismissed workers and pay their foregone wages.

2.2 *Tiered* EPL across the world

I collect data on the enactment and evolution of *tiered* EPL across countries from Labor Codes, the International Labor Organization (ILO), and labor reforms studies. Section C in the Appendix surveys the countries that have enacted *tiered* EPL since 1950. Figure 1 presents the data, which motivates this paper. The y-axis shows the regulatory size threshold (number of workers) above which EPL becomes stricter, while the x-axis indicates the year when the threshold was set or changed.[5] Panel (a) shows regulatory thresholds enacted by a left-wing governments (in red), and Panel (b) those by right-wing governments (in blue).[6] Box plots represent the 95% confidence interval around the mean. The top/bottom horizontal lines are the 95th/5th percentiles.

The figure offers four insights about EPL, which serve as a guidance for the model. First, many countries have implemented *tiered* EPL, with the regulatory threshold varying significantly across countries. Second, once enacted, these thresholds are largely stable over time, except in cases such as Germany and Australia. Third, *tiered* EPL has been adopted by both left or right-wing executives across several regions, regardless of legal origins, or electoral systems. Table 1 below shows the distribution of *tiered* EPL adoption by year, region, political orientation, proportionality of the electoral system, legal origin, and frequency of regulatory changes.

Finally, the average regulatory threshold is lower when enacted by leftist governments.[7] While not fundamental to motivate the paper, this last claim requires further justification. Table 3 in Appendix C presents regressions on the regulatory threshold, considering five key determi-

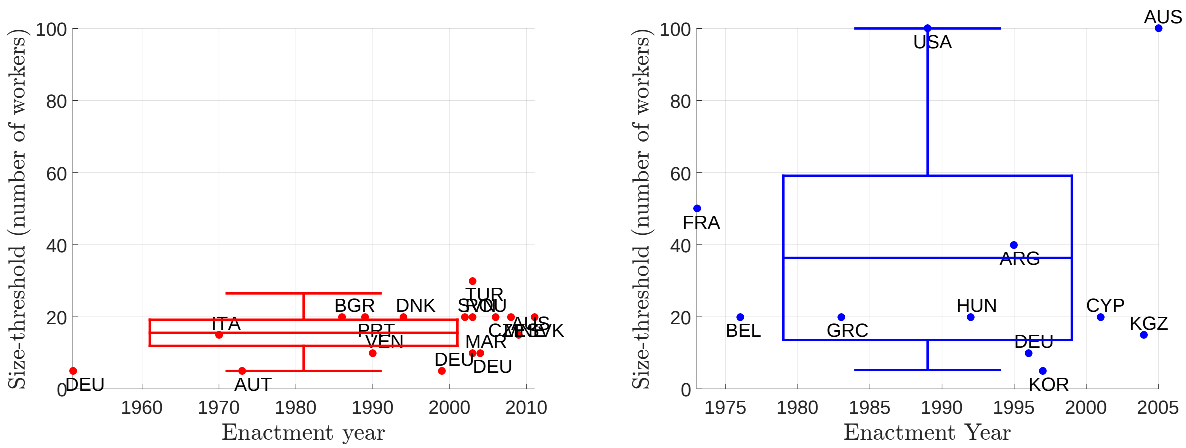
[4] Also known as *size-contingent* EPL. I use *tiered EPL* to emphasize the discrete increase in EPL stringency above the regulatory threshold. The term *tiered* regulation appears in several papers studying this type of regulation (see for instance Brock and Evans, 1985; Brock et al., 1986; Trebbi and Zhang, 2022).

[5] Left and right-wing governments are based on the executive's political orientation from the World Bank Database of Political Institutions (WDPI) (Beck et al., 2001).

[6] There are only two cases of *tiered* EPL adoption by centrist governments: Italy in 1960 and Finland in 2007.

[7] The average regulatory threshold for left-wing governments is lower than the average threshold for right-wing ones with a 95% level of confidence.

nants of labor regulations: a dummy for left-wing political orientation of the executive (Esping-Andersen, 1990), legal origin (Botero et al., 2004) , proportionality of the electoral system (Pagano and Volpin, 2005), ethnic fractionalization (Alesina and La Ferrara, 2005), and a democracy index (Greenhill et al., 2009). The coefficient for left-wing orientation is negative and significant even after controlling for these determinants of EPL and removing the outliers in Figure 1b. Thus, leftist governments are associated with lower thresholds above which EPL becomes more protective.



(a) Regulatory threshold, left-wing.

(b) Regulatory threshold, right-wing.

Figure 1: *Tiered* EPL across the world

Table 1: Adoption of *tiered* EPL across the world

Years	N obs.	Region	N countries	Pol. orientation	N obs.	Legal origins	N countries
1950-1980	6	North America	1	Left	17	French	9
1981-1990	5	South America	2	Center	2	English	3
1991-2000	6	Oceania	1	Right	11	German	3
2001-2011	13	Northern Europe	2			Socialist	8
		Southern Europe	6			Scandinavian	2
		Western Europe	4				
		Eastern Europe	5	**Proportionality**	**N obs.**	**N changes**	**N countries**
		East Asia	1	0	3	1	22
		Western Asia	1	1	3	2	2
		Central Asia	1	2	8	4	1
		North Africa	1	3	15		

Column 1 displays the distribution of *tiered* EPL enactment/modification over time. Column 2 shows regional distribution of countries with *tiered* EPL. Column 3's upper table presents *tiered* EPL enactment/modification by executive ideology from the World Bank Database of Political Institutions (WBDPI). Column 3's bottom table presents *tiered* EPL enactment/modification by proportionality of electoral systems (with 3 indicating full proportional representation). Column 4's upper table presents countries with *tiered* EPL by legal origin (La Porta et al., 2008), and its lower table shows the frequency of tiered EPL enactment/modification since 1950.

3 The Model

This section outlines the baseline model, which is based on Fischer and Huerta (2021). Citizens differ in their wealth (assets) and choose to be either workers or entrepreneurs. Occupational choice gives rise to endogenous political interests for EPL, which are aggregated by a politically oriented government that chooses the EPL design. After describing the baseline model, I discuss the key modeling assumptions and summarize the extensions.

3.1 Timeline

Consider a three periods one-good open economy. Figure 2 illustrates the timeline. In what follows, I describe the events of each period.

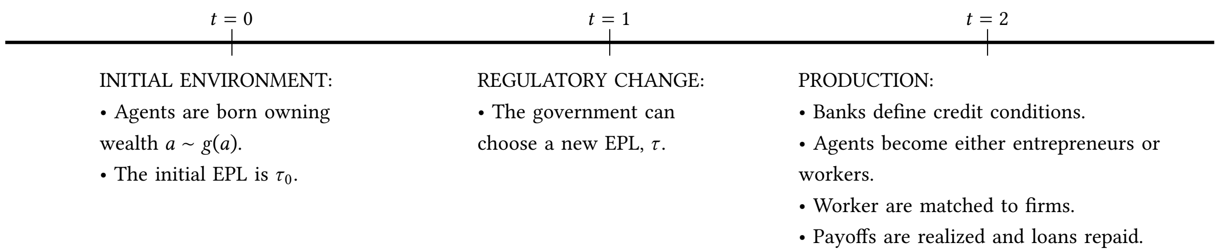


Figure 2: Timeline.

3.1.1 t=0

At $t = 0$, a continuum of risk neutral agents are born differentiated by wealth a. The probability density function $g(a)$ of wealth is continuous and given by $g : [0, a_M] \to \mathbb{R}$. The cumulative wealth distribution is denoted by $G(a)$. Agents have access to a Cobb-Douglas production technology that uses capital k and labor l: $f(k, l) = k^{\alpha} l^{\beta}$, with $\alpha + \beta < 1$. They are price-takers in the labor and capital markets. The wage rate w is determined to perfectly clear the labor market (*fully flexible* wage). The price of capital is exogenously given by ρ. The price of the single good is normalized to one.

The initial strength of EPL is homogeneous across firms and given by $\tau_0(a) = (\tau_L^I, \tau_L^C)$, where $\tau_L^I, \tau_L^C \in [0, 1]$ represent the strictness of individual and collective dismissal regulations (EPL), respectively. The "L" subscript stands for initially "low" worker protection. Workers are risk averse and risk losing their jobs from both individual or collective layoffs. EPL insures workers against both risks, as detailed in the next sections.

3.1.2 t=1

At $t = 1$, a politically oriented government decides whether to improve the strength of individual and collective dismissal protection to $\tau_H^I > \tau_L^I$ and $\tau_H^C > \tau_L^C$, respectively. For each firm, it chooses between maintaining low worker protection or providing higher protection. The resulting EPL is denoted by $\tau \equiv (\tau^I, \tau^C)$, with $\tau^I : [0, a_M] \to \{\tau_L^I, \tau_H^I\}$ and $\tau^C : [0, a_M] \to \{\tau_L^C, \tau_H^C\}$.

3.1.3 t=2

At $t = 2$, the economy operates in accordance with the chosen policy, τ. The single period is divided into three stages as illustrated by Figure 3. Below, I detail the events at each sub-period.

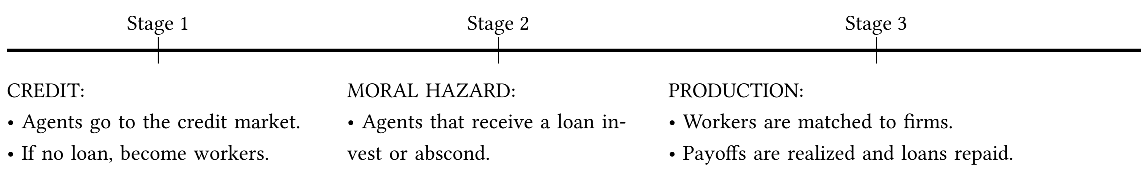


Figure 3: Timing at $t = 2$.

3.1.3.1 Stage 1: Credit A competitive banking system, with unlimited access to international funds at the interest rate ρ, provides credit to potential entrepreneurs. Due to credit market imperfections, banks impose three types of credit constraints: a minimum collateral requirement ($\underline{a}$), asset-based debt limits ($d(a)$), and differentiated interest rates ($r(a)$). These credit conditions also depend on the strength of EPL faced by each firm, $\tau(a)$. Section A.1 in the Appendix details the credit contract. Excluded agents ($a < \underline{a}$) may become workers, the rest can become entrepreneurs.

3.1.3.2 Stage 2: Moral hazard Banks provide credit to entrepreneurs while facing a moral hazard problem: investment decisions are non contractible, and banks are imperfectly protected against default. Borrowers ($a \geq \underline{a}$) can either honor the credit contract and invest in a firm, or default to finance private consumption. In the latter case, the legal system recovers only a fraction $1 - \phi$ of capital. Thus, $1 - \phi$ represents the loan recovery rate or the strength of creditor rights.[8]

3.1.3.3 Stage 3: Production Workers are matched to firms according to *ex-post* probabilities that clear the labor market under τ. Entrepreneurs succeed with probability $p \in (0, 1)$, producing $f(k, (1 - s)l)$ units of output, where $s \in [0, 1]$ represents the individual job separation probability.

[8] Fischer et al. (2019) build a model with a similar financial structure (see also Balmaceda and Fischer, 2009), but where collateral laws are represented by a more general functional form. The results of the model remain unchanged under that more general approach.

Thus, $(1-s)l$ is the effective labor used for production out of the total l units of labor hired. When a worker is fired, the entrepreneur must pay her a fraction $\tau^I(a)$ of her labor income, wl.

With probability $1-p$, production fails and the firm initiates a collective layoff for economic reasons. The firm is liquidated and the legal system recovers only a fraction η of invested capital k. The recovered capital ηk is distributed among creditors, i.e., banks and workers. The firm pays a fraction $\tau^C(a)$ of labor income to workers while the rest, $\eta k - \tau^C(a)wl$, goes to banks.

3.2 Payoffs

In what follows, I describe the payoffs of banks, entrepreneurs, and workers. Crucially, they depend on the specific strength of EPL exercised in each firm, $\tau(a) = (\tau^I(a), \tau^C(a))$, and on the economy-wide EPL design, τ, which influences all decisions through the equilibrium wage.

3.2.1 Banks

The expected profits of a bank lending d to an entrepreneur with wealth a, who hires l units of labor, and pays an interest rate r, are:

$$U^B(a,d,l|\tau) = p(1+r)d + (1-p)[\eta k - \tau^C(a)wl] - (1+\rho)d. \tag{3.1}$$

3.2.2 Entrepreneurs

The expected utility of an entrepreneur with wealth a, who borrows d, hires l units of labor is:

$$U^E(a,d,l|\tau) = p[f(k,(1-s)l) - (1-s)wl - s\tau^I(a)wl - (1+r)d]. \tag{3.2}$$

3.2.3 Individual workers

For the rest of the paper, define the effective labor payment per unit of labor supplied (the *effective wage*): $\bar{w}(\tau) \equiv [p(1-s+s\tau(a)^I) + (1-p)\tau(a)^C] \cdot w$. The labor utility of a worker who supplies l^S units of labor to a firm subject to EPL τ is:

$$u^W(l^S|\tau) = v(\bar{w}(\tau)) \cdot l^S - \varsigma(l^S), \tag{3.3}$$

where $v(\bar{w}) = \bar{w}^\sigma$ with $\sigma \in (0,1)$, and $\varsigma(l^S) = (l^S)^\gamma$ represents a convex disutility function of labor, with $\gamma > 2$ and $\sigma < \frac{\gamma-1}{\gamma}$.[9] The worker also earns $(1+\rho)a$ from depositing her wealth in the banking system. Thus, the total worker's utility is $U^W(l^S|\tau) + (1+\rho)a$.

[9] The specific form chosen for U^W simplifies the algebra, but it is not essential for the results. What it is important is that workers are risk averse, and thus, value EPL as an insurance mechanism for job loss.

EPL insures the risk averse workers against dismissal risks. Individual dismissal happens with probability ps, in which case the entrepreneur pays the worker $\tau^I(a) \cdot w$ for each unit of labor. Collective layoffs happen with probability $(1-p)$, in which case the worker receives $\tau^C(a) \cdot w$.

At $t = 2$, individual workers are matched to a firm subject to EPL (τ_i^I, τ_j^C), with $(i, j) \in \{L, H\} \times \{L, H\}$, according to a probability $q(\tau_i^I, \tau_j^C)$ that clears the labor market given the EPL design, τ (see Section 5.1.1 for more details). Thus, the expected labor utility of an individual worker is homogeneous and given by:

$$\mathbb{E}u^W = \sum_{(i,j)\in\{L,H\}\times\{L,H\}} q(\tau_i^I, \tau_j^C)\; u^W(l^S|\tau_i^I, \tau_j^C). \tag{3.4}$$

In this baseline model, I assume that mobility frictions—such as search costs or existing job contracts—prevent immediate workers' relocation. Without these frictions, workers would move from firms with low to high protection, leading to different equilibrium wages across firms. Thus, probabilistic matching and mobility frictions sustain a common equilibrium wage in the *short run*, simplifying the analysis. In Section 6, I relax this assumption and show that even minimal mobility frictions are sufficient for the emergence of a *tiered* EPL equilibrium. I also develop a dynamic extension of the model to study the *long run* stability of *tiered* EPL.

3.2.4 Group of workers

Finally, define the total utility of workers in a firm that hires l units of labor:

$$U^W(l|\tau) \equiv n \cdot u^W(l^S|\tau) = \frac{l}{l^S} \cdot [v(\bar{w}(\tau)) \cdot l^S - \varsigma(l^S)] = v(\bar{w}(\tau)) \cdot l - \frac{l}{l^S} \cdot \varsigma(l^S), \tag{3.5}$$

where $n \equiv l/l^S$ is a measure of the "number" of workers hired by the firm. The government's problem presented in Section 3.5 can be written either in terms of $\mathbb{E}u^W$ or as the integral of U^W over the wealth distribution. I opt for the latter, as the government's regulatory choices can be interpreted in terms of the effects on different groups of workers and entrepreneurs. This approach provides a more intuitive interpretation of the results. Section A.3 in the Appendix shows how to derive the expression for U^W.

3.3 Ex-ante competitive equilibrium

This section outlines the *ex-ante* competitive equilibrium that emerges if the economy operates under the initial homogeneous EPL, $\tau_0 = (\tau_L^I, \tau_L^C)$. Citizens form their political preferences for EPL based on this *ex-ante* equilibrium. Given τ_0 and $g(a)$, agents understand their societal position under τ_0 and how changes in EPL would impact them relative to this initial position. Section 4 characterizes these preferences. A formal description of the *ex-post* competitive equilibrium (post policy change) for an arbitrary EPL design is more complex and is presented in Section E.2 in the Appendix. In Section 5.1.1, I characterize the *ex-post* equilibrium under a monotonic EPL design.

3.3.1 Individual optimization

3.3.1.1 Banks' decisions The banking system is assumed to be competitive. The zero-profits condition gives:

$$1 + r(a) = \frac{1+\rho}{p} - \frac{1}{pd}(1-p)[\eta k - \tau^C(a)wl] \tag{3.6}$$

3.3.1.2 Workers' decisions To find the individual labor supply, $l_0^S \equiv l^S(\tau_0)$, each worker maximizes (3.3) to obtain:

$$v(\bar{w}) = \varsigma'(l_0^S). \tag{3.7}$$

3.3.1.3 Entrepreneurs' decisions The entrepreneur's decision problem is:

$$\max_{d,l} U^E(a, d, l|\tau_0)$$

$$s.t. \;\; U^E(a, d, l|\tau_0) \geq u^W(l_0^S|\tau_0) + (1+\rho)a, \tag{3.8}$$

$$U^E(a, d, l|\tau_0) \geq \phi k, \tag{3.9}$$

where (3.8) and (3.9) are the occupational and incentive compatibility constraints, respectively. Condition (3.8) asks that the agent prefers to form a firm instead of becoming a worker and (3.9) states that the entrepreneur does not have incentives to abscond with the loan. The unconstrained problem leads to the optimal size given by capital, k_0^*, and labor, l_0^*:

$$p f_k(k_0^*, (1-s)l_0^*) = 1 + r^*, \tag{3.10}$$

$$p(1-s) f_l(k_0^*, (1-s)l_0^*) = \bar{w}(\tau_0), \tag{3.11}$$

where $1+r^* \equiv 1+\rho-(1-p)\eta$. Credit constraints limit investment decisions, thus only sufficiently wealthy agents attain this efficient scale. Section A.1 in the Appendix describes the debt contract. Two wealth thresholds define credit constraints on the extensive margin: a minimum wealth requirement to obtain credit ($\underline{a}_0$) and a wealth cutoff, $\overline{a}_0 > \underline{a}_0$, to obtain a loan to invest efficiently. On the intensive margin, entrepreneurs with lower wealth or facing stricter EPL are subject to lower debt limits ($d(a)$) and pay higher interest rates ($1 + r(a)$).

3.3.2 Ex-ante competitive equilibrium: Definition and outcome

Definition 1 *Given the initial EPL, τ_0, a competitive equilibrium is such that: (i) agents with wealth $a < \underline{a}_0$ become workers and supply l_0^S units of labor; (ii) agents with $a \geq \underline{a}_0$ become entrepreneurs and invest $k(a) = a + d(a)$ in a firm; and (iii) the equilibrium wage w is given by:*

$$l_0^S \cdot G(\underline{a}_0) = \int_{\underline{a}_0}^{\bar{a}_0} l(a)\, g(a) \partial a + l_0^*(1 - G(\bar{a}_0)), \tag{3.12}$$

where the left-hand side is total labor supply and the right-hand side is labor demand.

In sum, the model sorts agents into four groups: (i) workers ($a < \underline{a}_0$), (ii) entrepreneurs operating inefficient firms ($a \in [\underline{a}_0, \bar{a}_0)$), (iii) entrepreneurs obtaining credit to operate efficiently ($a \in [\bar{a}_0, k_0^*)$), and (iv) entrepreneurs that self-finance an efficient firm ($a \geq k_0^*$). Figure 4 summarizes these features.

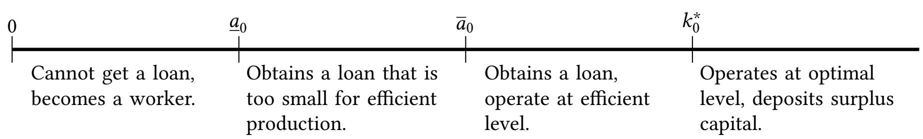


Figure 4: *Ex-ante* competitive equilibrium.

3.4 The baseline model in four equations

The baseline model can be broken down into four equations for a given EPL function, τ:

$$U^E(a|\tau) = [pf(k, (1-s)l) + (1-p)\eta k - \bar{w}(\tau)l - (1+\rho)d] \cdot \mathbb{1}_{a \geq \underline{a}_0}, \tag{3.13}$$

$$U^W(a|\tau) = \frac{\gamma - 1}{\gamma} \bar{w}^{\sigma} l, \tag{3.14}$$

$$l^S = {\frac{\bar{w}(\tau)^{\sigma}}{\gamma}}^{\frac{1}{\gamma-1}}, \tag{3.15}$$

$$\mathbb{E}_g[l^S|\tau] = \mathbb{E}_g[l|\tau], \tag{3.16}$$

where equation (3.13) comes from replacing $1 + r(a)$ (equation (3.6)) into (3.2), with debt ($d \equiv d(a|\tau)$) and labor ($l \equiv l(a|\tau)$) depending positively on assets and negatively on the strength of EPL in each firm. Equations (3.14) and (3.15) are obtained from condition (3.7). Condition (3.16) clears the labor market determining the equilibrium wage (w) given τ (analogous to (3.12), but it allows EPL to depend on firm size). $\mathbb{E}_g[\cdot|\tau]$ represents the integral over the wealth distribution, $g(a)$.

To simplify exposition, I assume that occupational choice is made based on the minimum wealth to obtain a loan under τ_0 (as captured by $\mathbb{1}_{a \geq \underline{a}_0}$ in equation (3.13)). This means that there is a set of agents around $\underline{a}_0$ who do not anticipate occupational changes after an EPL reform. Otherwise, agents would have to keep track of four thresholds: $\underline{a}(\tau_i^I, \tau_j^C)$, evaluated at $(i, j) \in \{L, H\} \times \{L, H\}$. Working with this more general version would unnecessarily complicate the analysis without changing the results. In Section E.2 in the Appendix, I characterize the *ex-post* competitive equilibrium when agents account for all these thresholds and under an arbitrary EPL, τ. In Section D.4, when I study the dynamics of size-contingent EPL, I allow agents to fully anticipate occupational effects.

3.5 The problem of the government

The public choice mechanism that defines the EPL design to be exercised at $t = 2$ is as follows:

$$\begin{aligned} &\max_{\tau=\{\tau(a)\}_0^{a_M}} \{\bar{U}(\tau,\lambda) \equiv \lambda \cdot \mathbb{E}_g[U^W|\tau] + (1-\lambda)\cdot \mathbb{E}_g[U^E|\tau]\} \\ &s.t. \quad \mathbb{E}_g[l^S|\tau] = \mathbb{E}_g[l|\tau], \end{aligned} \tag{3.17}$$

where $\bar{U}$ is the *political objective function*: the *ex-post* weighted welfare of workers and entrepreneurs.

The public choice mechanism admits two interpretations. First, a central government maximizes workers' and entrepreneurs' welfare according to its political orientation, as measured by the parameter λ. Second, the political objective function $\bar{U}$ emerges from probabilistic voting, with λ capturing certain features of the electoral process. Section D.5 in the Appendix provides such microfoundation by following Persson and Tabellini (2000).[10] Throughout the paper, I adhere to the first interpretation: a *vote* represents the *de facto* influence of an individual in the political aggregation process, rather than an electoral vote (see Bachmann and Bai (2013) for a similar interpretation).

In Sections 4 and 5, I assume the government can enact and enforce the selected policy ruling out strategic behavior. Also, I study policy changes in a single dimension, but not in both τ^I and τ^C simultaneously. I relax these assumptions in Section 6. For the rest of the paper, EPL is simply denoted by $\tau : [0, a^M] \to \{\tau_L, \tau_H\}$, except in Section 5.1 where I show that the solution to problem (3.17) is monotone in both τ^I and τ^C.

Solving problem (3.17) poses two challenges. First, there is no restriction on the form of τ, so, in principle, all possible shapes must be considered. Second, the equilibrium condition must

[10]The political micro-foundation leads to aggregation weights that may not add to one and that depend on the model's primitives and on the endogenous mass of workers, $G(\underline{a}_0)$. To simplify the analysis, I normalize these weights to add to one.

balance the labor supply and demand across all subsets of agents under a given EPL regime. A formal characterization of this *ex-post* equilibrium is complex and depends on the specific shape of EPL (see Section E.2 in the Appendix). However, the problem can be solved without working directly with the general *ex-post* equilibrium. To this end, in Section 4, I begin by studying the individual preferences for an improvement in EPL. Then, in Section 5, I show that these endogenous preferences restrict τ to a set of monotonic functions, resulting in a *tiered* EPL equilibrium.

3.6 Discussion of modeling assumptions and summary of extensions

To sum up, my baseline model relies on four key assumptions: (1) EPL is *asset-based*, enforceable, and shields risk averse workers against dismissal risks; (2) the wage rate w is fully flexible; (3) EPL design is a one-time decision; and (4) there is a single equilibrium wage w that clears a competitive labor market. Workers are matched to firms with low and high protection according to endogenous probabilities that clear the labor market, with mobility frictions preventing immediate relocation. In what follows, I discuss important aspects of assumptions (1) and (4). Then, I summarize the extensions that relax the four key assumptions.

Modeling EPL My model views EPL as an insurance mechanism for risk averse workers who may lose their jobs through individual or collective dismissal. A key feature of EPL is that it involves employer-to-employee transfers (Lazear, 1990). Severance payments are direct monetary transfers upon termination, while notice of termination is an informational transfer with economic value (Pissarides, 2001). This contrasts with the related political economy (e.g., Saint-Paul, 2002; Boeri and Jimeno, 2005) and the macro literature on size-contingent EPL (Gourio and Roys, 2014; Garicano et al., 2016; Aghion et al., 2023), where EPL is a deadweight firing cost on firms.[11] The employer-to-employee transfers inherent in EPL seem crucial for sustaining a *tiered* EPL equilibrium. Removing these direct transfers—such as when I study general redistribution or SMEs' subsidies—undermines the robustness of the *tiered* equilibrium, which appears to be a distinctive feature of EPL (see Section 6.5). A deeper study of other size-contingent regulations is left for future work.

Modeling the labor market Probabilistic worker-firm assignment and workers' inability to immediately relocate sustain a common post-equilibrium wage across firms.[12] The baseline analysis should be viewed as the *short to medium run* desirability of an EPL design for a government in

[11] In many models, incorporating transfers to workers makes EPL neutral when wages are fully flexible, as in my model (see Lemma 1 in Section 5.2)

[12] The assumption of a single wage that clears the labor market under size-contingent policies has been extensively used in the related macro literature (Gourio and Roys, 2014; Garicano et al., 2016; Aghion et al., 2023).

power for limited time, before workers relocation undoes the impact of a EPL change through firm-specific wage adjustments. In Section 6.4, I develop a dynamic extension to understand the *long-run* stability of *tiered* EPL. In Section 6.5, I allow for worker relocation and show that minimal mobility frictions can sustain a *tiered* EPL equilibrium.

Summary of extensions Section 6 covers the most important extensions. The list of extensions is as follows: (i) Labor-based EPL, (ii) Wage inflexibility, (iii) Independent bargaining between workers and entrepreneurs, (iv) Dynamic extension, (v) Microfoundation for the government problem: Proportional representation, (vi) Alternative political mechanism: Majoritarian representation, (vii) Labor mobility flexibility, (viii) Regulations on capital use, (ix) Two-dimensional EPL, and (x) Self-reporting under *asset-based* EPL. Further details and proofs are in Appendix D.

In general, the *tiered* EPL equilibrium is robust across extensions. Stripping the model down to essentials, the properties that lead to this result are: (I) credit restrictions tighten when EPL improves, especially for smaller firms; (II) EPL involves at least some employer-to-employee transfers, and (III) size-contingent EPL generates at least a minimal difference between the *effective* wage paid in unregulated an regulated firms. For a more detailed discussion see Section 5.4.1.

4 Political Preferences for EPL

This section describes the political preferences for EPL among different groups of entrepreneurs and workers. Given the initial policy τ_0, I analyze the *ex-post* effect of a marginal increase of τ on entrepreneurs' (U^E) and workers' utility (U^W) in a particular firm. In this analysis, I do not consider the general equilibrium effects through wage adjustments that happen when EPL strengthens in a non-negligible mass of firms.[13] I leave that discussion for Section 5, where I explore in detail the political preferences when agents consider how the equilibrium wage responds to the specific shape of EPL.

The following assumption on the cost of capital $(1+\rho)$ is a sufficient condition for Propositions 1 and 2 to hold:[14]

Assumption 1 $p > \frac{1}{\eta}\left(\frac{\alpha\phi}{\beta(1-s)^2(1-\alpha-\beta)} - (1+\rho) + \eta\right) \Leftrightarrow 1 + r^* > \frac{\alpha\phi}{\beta(1-s)^2(1-\alpha-\beta)}$.

[13]However, the proofs of the main propositions of this section (Propositions 1 and 2) are more general. I consider the possibility of an indirect effect through wages ($\frac{\partial w}{\partial \tau}$), which occur if a non-negligible mass of firms experience an increase in τ. Both propositions hold as long as τ does not improve in all firms. In that case, the net effect on the effective wage ($\bar{w}(\tau)$) is zero and so EPL is neutral (see Lemma 1 in Section 5.2).

[14]This assumption is in general not very restrictive, as the lower bound on p is negative for a large set of 'reasonable' parameters. When it is binding, it does not limit p significantly. For instance, for $\rho = \frac{5}{12}\%, \phi = 15\%, \eta = 70\%, \alpha = 0.25, \beta = 0.6\%, s = 2.5\%$, it asks that $p > 0.192$.

4.1 Preferences of entrepreneurs

The next proposition describes the impact of an increase in τ on entrepreneurial utility (U^E).

Proposition 1 *Consider the initial EPL, τ_0, then:*

1. *All entrepreneurs are worse off after a marginal increase of τ.*

2. *This negative effect is strictly decreasing if $a \in [\underline{a}_0, \overline{a}_0)$ and remains constant after $a \geq \overline{a}_0$.*

Proposition 1 shows that improving EPL negatively affects all entrepreneurs. Consistent with the empirical evidence of the labor-finance literature, stronger EPL reduces access to credit (Simintzi et al., 2015; Serfling, 2016) and raises debt costs (Alimov, 2015), forcing firms—especially smaller ones—to adapt by reducing investment (Bai et al., 2020) and hiring (Autor et al., 2006, 2007).

Intuitively, higher dismissal costs exacerbate the agency problem between banks and entrepreneurs by reducing profits at a given firm scale. In response, banks tighten credit conditions by lowering debt limits ($d(a)$), increasing minimum collateral requirements ($\underline{a}$), and raising debt costs ($r(a)$) to deter default. These restrictions particularly impact smaller firms that finance a larger share of investment through loans. As a result, stricter EPL forces smaller firms to significantly cut investment, reducing their utility. In contrast, credit capacity of larger firms remains largely intact, allowing them to adapt to EPL. Thus, larger firms can more easily absorb higher labor costs and continue operating near optimal scale.

To sum up, all entrepreneurial groups oppose a marginal increase of τ. The strongest opposition comes from entrepreneurs running the smallest firms, while large entrepreneurs are less reluctant to improvements of τ.

4.2 Preferences of workers

The following proposition characterizes the change in the utility of the different groups of workers (U^W) due to a marginal increase in τ.

Proposition 2 *Consider the initial EPL, τ_0, and suppose a marginal increase of τ. Then, there is a cutoff, $\tilde{a}_0 \in (\underline{a}_0, \overline{a}_0)$, given by:*

$$\frac{\partial U^W(\tilde{a}_0|\tau_0)}{\partial \tau} = 0, \tag{4.1}$$

such that:

1. *Workers' utility in firms with $a \in [\underline{a}_0, \tilde{a}_0)$ decreases.*

2. *Workers' utility in firms with $a > \tilde{a}_0$ increases.*

3. *This marginal effect is strictly increasing in* $a \in [\underline{a}_0, \overline{a}_0)$ *and remains constant after* $a \geq \overline{a}_0$.

Proposition 2 predicts that stricter EPL reduces workers' utility in smaller firms, while benefiting those in larger firms. Two opposing effects determine the net impact of increased τ on U^W: (i) a higher *effective wage* ($\bar{w}$), but (ii) stricter credit constraints which force some firms to shrink and hire less labor.

The utility of workers in smaller firms ($a \in [\underline{a}_0, \tilde{a}_0)$) decreases because effect (ii) dominates. Stricter EPL in smaller firms further limits their access to credit, forcing them to substantially cut investment and hiring to continue operating. As a result of the sharp drop in employment, U^W falls. In contrast, workers in large firms ($a > \tilde{a}_0$) benefit from stricter EPL, as effect (i) dominates. These firms can absorb EPL without major reductions in hiring due to their better access to credit, allowing their workers to effectively benefit from protection.

4.3 Summary of the political preferences for EPL

Figure 5 illustrates Propositions 1 and 2. It shows the marginal impact of increased τ on U^E (blue dashed line) and U^W (red solid line) as a function of firm assets, a.

The main prediction of this section is that although the purpose of EPL is to protect workers, it has unintended welfare consequences. It reduces the utility of workers in smaller firms while primarily benefiting those in larger firms. Moreover, it significantly hurts smaller firms, while larger firms can more easily accommodate stricter EPL. In a companion paper (Huerta, 2025b), I provide empirical support for these results by using firm-level panel data and exploiting the state-level adoption of Wrongful Discharge Laws (WDLs) in the U.S.

Table 2 summarizes the political preferences of workers and entrepreneurs across different business sectors.[15] Workers in small firms are aligned with their entrepreneurs in opposing to stricter EPL. In contrast, workers in larger firms are in favor of stronger EPL but opposed to their employers' interests.

	Worker	Entrepreneur
Small scale sector; $a \in [\underline{a}_0, \tilde{a}_0)$	< 0	$<< 0$
Large scale sector; $a > \tilde{a}_0$	> 0	< 0

Table 2: Individual preferences for an increase of τ.

[15] '< 0' indicates opposition to EPL, while '> 0' denotes support for EPL. '$<< 0$' stands for strong opposition.

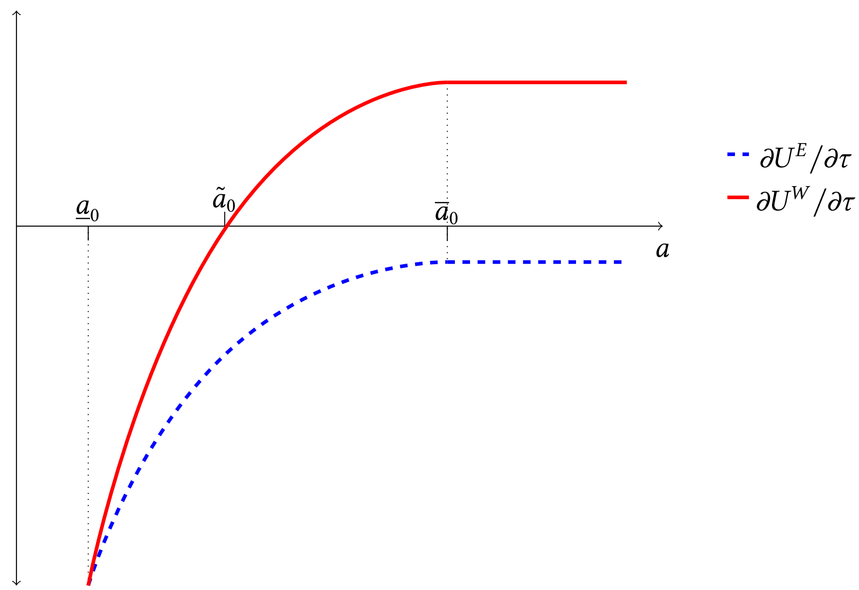


Figure 5: Effects of an increase of τ on entrepreneurs' and workers' utility.

5 Political Equilibrium

This section characterizes the political equilibrium by following four steps. In Section 5.1, I show that the solution to problem (3.17) is monotonic in both components, τ^I and τ^C, without ruling out a flat EPL. In Section 5.2, I examine how the equilibrium wage responds to EPL. In Section 5.3, I explore the political preferences of different groups of agents when they consider the general equilibrium effects of EPL. Finally, in Section 5.4, I study the equilibrium EPL that best aggregates these interests and find that EPL is *tiered*, regardless the government ideology.

5.1 A first step: Monotonicity of the equilibrium EPL

Proposition 3 exploits the properties of the individual preferences studied in Section 4 to show that any equilibrium EPL must satisfy monotonicity at each component. As a result, there are two asset thresholds, $\mathbb{a}^I \in [\underline{a}_0, a_M]$ and $\mathbb{a}^C \in [\underline{a}_0, a_M]$, above which individual and collective regulations become stricter, respectively. This result allows me to write $\bar{U}$ more explicitly, making the government's problem tractable. However, it does not rule out flat regulations, so the equilibrium EPL is not necessarily *tiered*.

Proposition 3 *Any EPL that solves* (3.17), $\tau = (\tau^I, \tau^C)$, *satisfies monotonicity at each component:*

$$\tau^i(a) \,:\, \tau^i(a') \leq \tau^i(a'') \quad \forall a' < a'', i \in \{I, C\}.$$

Moreover, there are two size thresholds, $\mathbb{a}^I \in [\underline{a}_0, a_M]$ *and* $\mathbb{a}^C \in [\underline{a}_0, a_M]$*, such that:*

$$\tau^i(a) = \begin{cases} \tau_L^i \ \mathit{if}\, a < \mathbb{a}^i, \\ \tau_H^i \ \mathit{if}\, a \geq \mathbb{a}^i. \end{cases} \tag{5.1}$$

For next sections, I focus on a policy change in a single dimension, so I denote again EPL simply by τ, without distinguishing between individual and collective dismissal regulations. In Section D.9 in the Appendix, I study the two-dimensional case and show that equilibrium EPL is *tiered* in both regulations. That result rationalizes the type of EPL used, for instace, in France and Austria.

5.1.1 The *ex-post* competitive equilibrium

The result of Proposition 3 allows us to explicitly define the *ex-post* competitive equilibrium as a function of the regulatory threshold, $\mathbb{a} \in [\underline{a}_0, a_M]$. Section E.1.2 in the Appendix provides a more detailed description.

Definition 2 *Given the EPL,* τ*, with the regulatory threshold,* $\mathbb{a}$*, a competitive equilibrium is such that: (i) agents with wealth* $a < \underline{a}_0$ *become workers and are matched to firms with low and high protection with probability* q *and* $1 - q$*, respectively; (ii) workers supply* l_j^S *units of labor if they are matched to a firm with* τ_i*, with* $i \in \{L, H\}$ *and* l_j^S *satisfying* $v(\bar{w}(\tau_j)) = \varsigma'(l_i^S)$*; (iii) agents with* $a \geq \underline{a}_0$ *become entrepreneurs. Those with* $a \in [\underline{a}_0, \mathbb{a})$ *face EPL* τ_L*, the rest operate under* τ_H*. Investment is given by:* $k(a|\tau_i) = a + d(a|\tau_i)$*; and iv) the equilibrium wage* w *is given by:*

$$m_L \cdot l^S(\tau_L) = \int_{\underline{a}_0}^{\mathbb{a}} l(a|\tau_L) g(a) \partial a, \tag{5.2}$$

$$m_H \cdot l^S(\tau_H) = \int_{\mathbb{a}}^{a_M} l(a|\tau_H) g(a) \partial a, \tag{5.3}$$

$$m_L + m_H = G(\underline{a}_0), \tag{5.4}$$

where m_i *is the mass of workers in firms with EPL* τ_i*. The probability to be matched to a firm with low protection is then given by:* $q = \frac{m_L}{G(\underline{a}_0)}$.

Using Definition 2 and equation (5.1), the government's problem can be rewritten in terms of the regulatory threshold, $\mathbb{a}$, as follows:

$$\max_{\mathbb{a}\in[\underline{a}_0, a_M]} \left\{ \bar{U}(\mathbb{a},\lambda) \equiv \lambda \left(\int_{\underline{a}_0}^{\mathbb{a}} U^W(a|\tau_L) g(a)\partial a + \int_{\mathbb{a}}^{a_M} U^W(a|\tau_H) g(a)\partial a \right) \right.$$
$$\left. + (1-\lambda) \left(\int_{\underline{a}_0}^{\mathbb{a}} U^E(a|\tau_L) g(a)\partial a + \int_{\mathbb{a}}^{a_M} U^E(a|\tau_H) g(a)\partial a \right) \right\},$$

s.t. conditions (5.2) to (5.4),

where $\bar{U}(\mathbb{a},\lambda)$ is the politically-weighted welfare given the regulatory threshold, $\mathbb{a}$, and the government's ideology, λ. Throughout the paper, I refer to $\bar{U}(\mathbb{a},\lambda)$ as the *asset-based welfare*. Conditions (5.2) to (5.4) form a system of three equations and three unknowns: m_L, m_H and w. The equilibrium wage w is uniquely defined by these conditions.

5.2 The regulatory threshold and the equilibrium wage

The next lemma shows that a less protective EPL, i.e. a larger regulatory threshold $\mathbb{a}$, leads to a higher equilibrium wage. In particular, a flat EPL is neutral ($\mathbb{a} = \underline{a}_0$). I explain these results below.

Lemma 1 *The equilibrium wage w is increasing in $\mathbb{a}$. In particular, if $\mathbb{a} = \underline{a}_0$, the change in w is such that* $\frac{\partial \bar{w}}{\partial \mathbb{a}} = 0$.

First, consider a flat labor reform, where EPL improves from τ_L to τ_H for all firms (i.e., $\mathbb{a} = \underline{a}_0$). The direct effect of stricter EPL is that the *effective wage* ($\bar{w}$) is higher. Thus, individual workers supply more labor while firms face higher operating leverage, which crowds out external finance and reduces hiring. In consequence, less capital is invested and less labor is demanded. Higher labor supply and lower labor demand imply a lower equilibrium wage.

Lemma 1 shows that the direct positive effect of a flat labor reform on the effective wage ($\bar{w}$) is exactly counteracted by the reduction in w. Thus, $\bar{w}$ does not change in equilibrium, making a flat EPL neutral. The intuition is that as long as the net effect on $\bar{w}$ remains positive, workers and firms adjust their labor decisions by pushing down w. This process continues until the net effect on $\bar{w}$ is zero. Therefore, workers' and entrepreneurs' welfare remains unchanged relative to the initial EPL, τ_0.

Second, suppose that the government deviates from a flat reform ($\mathbb{a} = \underline{a}_0$) and marginally increases the regulatory threshold, $\mathbb{a}$. Workers in firms with $a < \mathbb{a}$ are subject to weaker EPL and thus, face a lower *effective wage*. As a result, those workers supply less labor. Additionally, entrepreneurs operating firms with $a < \mathbb{a}$ face lower labor costs and demand more labor. Increased labor demand and reduced labor supply in firms under weaker EPL lead to a higher equilibrium wage relative to a flat reform. As the size threshold increases, the mass of firms facing weaker EPL rises, which leads to a larger w. Eventually, when $\mathbb{a} \to a_M$, the equilibrium wage converges to the wage before any regulatory change, $w(\tau_0)$.

Overall, increasing the regulatory threshold raises the equilibrium wage. In particular, passing a flat labor reform ($\mathbb{a} = \underline{a}_0$) will keep the outcome of the initial EPL ($\mathbb{a} = a_M$) unchanged. Formally: $\bar{U}(\mathbb{a} = \underline{a}_0, \lambda) = \bar{U}(\mathbb{a} = a_M, \lambda)$ for any λ. The question that must be asked is: Can the government improve welfare ($\bar{U}$) by implementing a *tiered* EPL (i.e., $\mathbb{a} \in (\underline{a}_0, \bar{a}_0)$)?

To answer this question, I start by describing the individual political preferences for the regulatory threshold $\mathbb{a}$. Then, in Proposition 4, I characterize the equilibrium EPL that aggregates these interests.

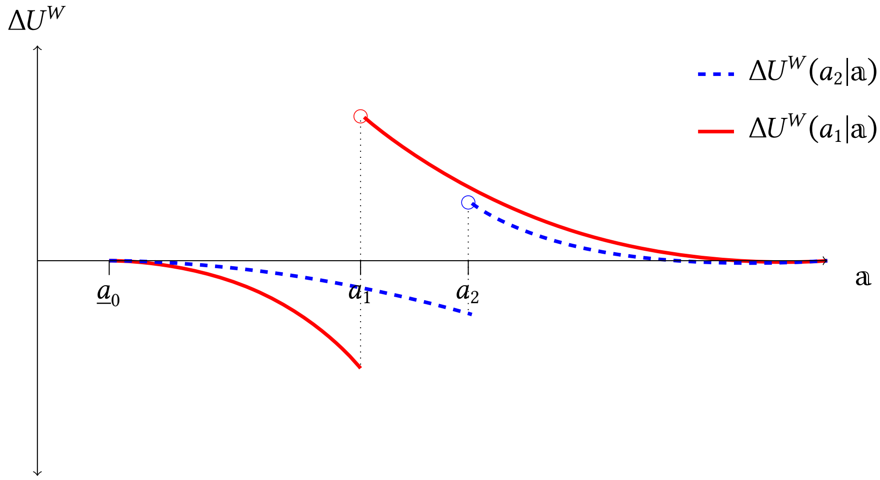
5.3 Political preferences for the regulatory threshold

This section illustrates the preferences for the regulatory threshold, $\mathbb{a}$, across different groups of workers and entrepreneurs. Figure 6 depicts the changes in utilities of the different groups as a function of the regulatory threshold. The changes are relative to the initial EPL, τ_0. The figure was constructed based on the results in Sections 4 and 5.2. Smooth variations in the depicted curves (i.e., in the slopes) happen through wage changes, while discrete jumps or falls occur when firms are at the regulatory threshold ($a = \mathbb{a}$).

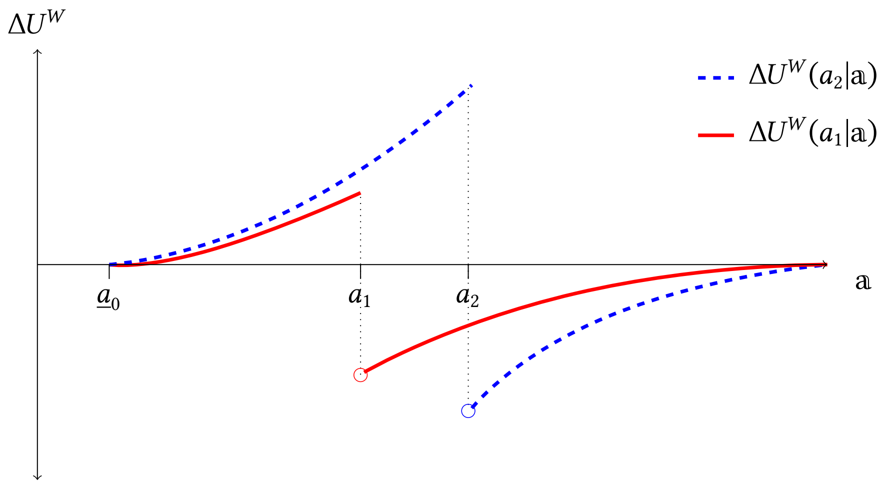
Preferences of workers in small firms Figure 6a depicts the change in U^W as a function of the regulatory threshold ($\mathbb{a}$) for workers in small firms, with assets $a < \tilde{a}_0$. Section 4 shows that the utility of workers in smaller firms decreases when EPL strengthens. In fact, they benefit from lower wages because smaller firms can significantly increase their labor. The lower the wage, the greater the increase in utility for workers in smaller firms. Thus, when the regulatory threshold is non-binding ($a < \mathbb{a}$), the change in utility as a function of $\mathbb{a}$ is positive and decreasing in $\mathbb{a}$ (since $\frac{\partial w}{\partial \mathbb{a}} > 0$). On the other hand, because workers in smaller firms suffer from higher protection, there is a discrete fall in utility when the regulatory threshold becomes binding (i.e, at $a = \mathbb{a}$). As $\mathbb{a}$ declines towards $\underline{a}_0$, the change in utility returns to zero.

Figure 6a also compares the utility gains of workers in small firms of different sizes, a_1 and a_2 (where $a_1 < a_2 < \tilde{a}_0$). The red solid line shows that workers in less capitalized firms (a_1) benefit more from a non-binding regulatory threshold ($a_1 < \mathbb{a}$). Conversely, the blue dashed line shows that workers in more capitalized firms (a_2) suffer less from stricter EPL ($a_2 \geq \mathbb{a}$).

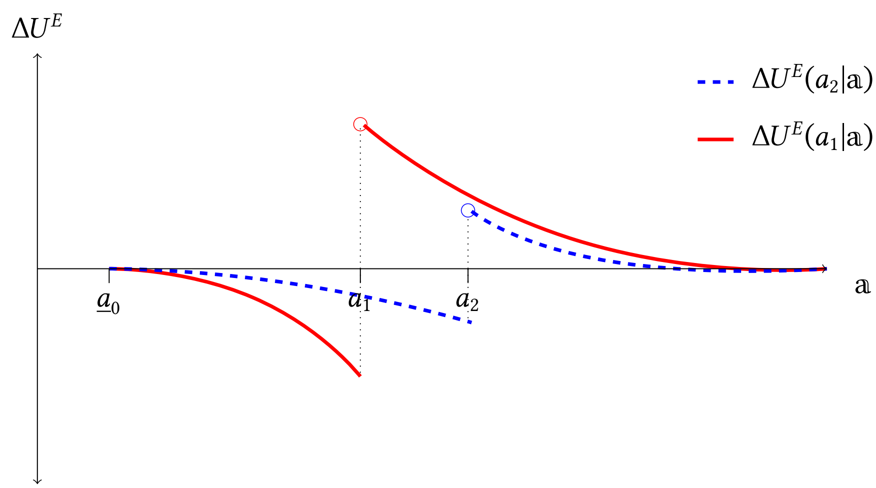
Preferences of workers in large firms Figure 6b shows the change in utility of workers in large firms ($a > \tilde{a}_0$). The effects are reversed relative to Figure 6a. As discussed in Section 4, these workers benefit from a higher wage and stricter EPL. In this case, workers in larger firms (a_2)



(a) ΔU^W as function of $\mathbb{a}$ ($a_1 < a_2 < \tilde{a}_0$).



(b) ΔU^W as function of $\mathbb{a}$ ($a_2 > a_1 > \tilde{a}_0$).



(c) ΔU^E as function of $\mathbb{a}$ ($a_2 > a_1$).

Figure 6: Political preferences for the size threshold as a function of assets.

benefit more from increased protection (blue dashed line), while those in less capitalized firms (a_1) are less affected by not receiving that higher protection (red solid line).

Preferences of entrepreneurs Figure 6c presents the change in entrepreneurs' utilities as a function of $\mathbb{a}$. Entrepreneurs benefit from stricter EPL as long as they remain operating under weak regulations ($a < \mathbb{a}$). The explanation is that a more protective EPL, i.e. a lower regulatory threshold, decreases the equilibrium wage and reduces operational costs. However, when entrepreneurs are subject to stricter EPL ($a > \mathbb{a}$), their utility decreases as they must pay a higher *effective wage*, $\bar{w}$. As shown in the figure, entrepreneurs operating less capitalized firms (a_1) benefit more from being excluded from stricter EPL (red solid line), while those running larger firms (a_2) suffer less from facing more stringent EPL (blue dashed line).

Summary of political preferences To sum up, there are conflicting interests regarding the scope of EPL. Workers in smaller firms ($a < \tilde{a}_0$) would prefer stricter EPL for everyone except themselves. Meanwhile, workers in larger firms ($a > \tilde{a}_0$) would prefer high protection for themselves but not for others. All firms would like strong EPL for their competition but to operate under weak EPL themselves. The questions that remain are: What is the best regulatory design that balances these political interests, and how does it depend on the government's ideology?

Intuitively, based on Figure 6, a left-wing government may want to implement a *tiered* EPL because it can benefit both workers in small ($a < \tilde{a}_0$) and large firms ($a > \tilde{a}_0$). However, in choosing EPL, the government must balance two opposing forces: decreasing the regulatory threshold benefits workers in smaller firms but harms those in larger firms due to reduced wages. On the other hand, Figure 6c suggests that a right-wing government can benefit owners of smaller firms by imposing stricter EPL on larger firms. The next section formalizes these ideas by studying the equilibrium EPL.

5.4 Equilibrium EPL

To simplify the exposition define:

$$\bar{U}^E(\mathbb{a}) \equiv \int_{\underline{a}}^{\mathbb{a}} U^E(a|\tau_L)g(a)\partial a + \int_{\mathbb{a}}^{a_M} U^E(a|\tau_H)g(a)\partial a, \tag{5.5}$$

$$\bar{U}^W(\mathbb{a}) \equiv \int_{\underline{a}}^{\mathbb{a}} U^W(a|\tau_L)g(a)\partial a + \int_{\mathbb{a}}^{a_M} U^W(a|\tau_H)g(a)\partial a, \tag{5.6}$$

where expressions (5.5) and (5.6) are aggregate entrepreneurs' and workers' welfare, respectively. The *asset-based welfare* is written as:

$$\bar{U}(\mathbb{a}, \lambda) = \lambda \cdot \bar{U}^W(\mathbb{a}) + (1 - \lambda) \cdot \bar{U}^E(\mathbb{a}). \tag{5.7}$$

The following proposition characterizes the political equilibrium.

Proposition 4

1. *$\bar{U}(\mathbb{a}, \lambda)$ achieves a global maximum in $[\underline{a}_0, a_M]$ at some regulatory threshold, $\mathbb{a}_{pe} \in (\underline{a}_0, a_M)$, characterized by:*

$$\mathbb{a}_{pe} = \sup_{\mathbb{a}} \bar{U}(\mathbb{a}, \lambda). \tag{5.8}$$

Suppose that $g(a)' < 0$ and workers' risk aversion coefficient satisfies $\frac{\sigma\gamma}{\gamma-1} > 1 - \frac{\tau_L \min\{s, 1-p\}}{\max\{s, 1-p\}}$, then:

2. *$\bar{U}^E(\mathbb{a}, \lambda)$ and $\bar{U}^W(\mathbb{a}, \lambda)$ are strictly concave in $\mathbb{a}$.*

3. *The equilibrium regulatory threshold, $\mathbb{a}_{pe}$, is the unique solution to:*

$$\lambda \frac{\partial \bar{U}^W(\mathbb{a}_{pe}, \lambda)}{\partial \mathbb{a}} = -(1 - \lambda) \frac{\partial \bar{U}^E(\mathbb{a}_{pe}, \lambda)}{\partial \mathbb{a}}. \tag{5.9}$$

4. *The equilibrium regulatory threshold, $\mathbb{a}_{pe}$, is decreasing in λ.*

Proposition 4 states the main result of the paper. The equilibrium EPL is *tiered* (i.e., $\mathbb{a}_{pe} \in (\underline{a}_0, a_M)$) regardless of the government ideology (λ). Thus, even when the government cares only about entrepreneurs, it imposes stricter EPL on larger firms. Conversely, even when it cares only about workers, it keeps workers in smaller firms under weak protection. Moreover, the regulatory threshold is decreasing in λ, thus more leftist governments establish a more protective EPL. These results are consistent with the stylized facts presented in Figure 1 in Section 2.

The result holds for any continuous wealth distribution g on $[0, a_M]$. Under the additional assumption that $g' < 0$ and that workers are sufficiently risk averse, both $\bar{U}^E$ and $\bar{U}^W$ are strictly concave in the regulatory threshold, $\mathbb{a}$. Thus, $\bar{U} = \lambda \bar{U}^W + (1 - \lambda)\bar{U}^E$ is concave for any $\lambda \in [0, 1]$. The equilibrium EPL is uniquely determined by (5.9) for any λ. Figure 7 illustrates these features. The red solid line corresponds to $\bar{U}^W(\mathbb{a}, \lambda = 1)$, where $\mathbb{a}_{LW}$ is the left-wing EPL. The blue dashed line shows $\bar{U}^E(\mathbb{a}, \lambda = 0)$, which reaches its maximum at some $\mathbb{a}_{RW}$ (right-wing EPL). The dotted line corresponds to $\bar{U}(\mathbb{a}, \lambda)$ for $\lambda \in (0, 1)$, which attains its maximum at some $\mathbb{a}_C \in (\mathbb{a}_{LW}, \mathbb{a}_{RW})$.

The assumption that $g' < 0$ guarantees that the *asset-based welfare* is strictly concave. However, as stated in item 1, it is not essential to conclude that the equilibrium EPL is *tiered*. The exponential distribution, and more importantly, the Pareto distribution satisfy that $g' < 0$. Extensive research suggests that the wealth distribution, especially at the upper tail, is well approximated by a Pareto distribution (for a literature review, see Jones, 2015).

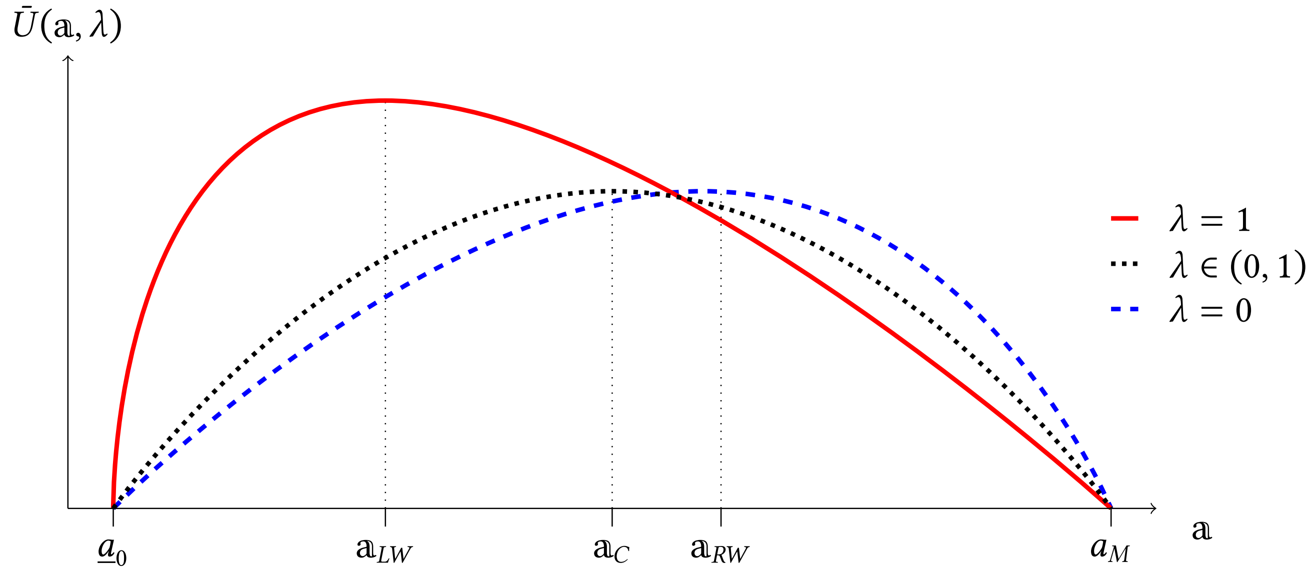


Figure 7: *Asset-based welfare* ($\bar{U}$) as a function of λ and a when $g' < 0$.

The intuition for Proposition 4 is as follows. First, right-wing governments understand that stricter EPL in larger firms leads to a lower equilibrium wage due to increased competition in the labor market. The small-scale sector significantly benefits from lower labor costs due to increased access to credit and investment. Large firms have to pay higher labor costs, but can more easily adjust their operations due to their unconstrained access to credit. Thus, from a right-wing government's perspective, a *tiered* EPL is a way to cross-subsidize smaller firms at a relatively low cost for larger firms.

Second, left-wing governments understand that smaller firms cannot accommodate stricter EPL, which would negatively affect their workers. Thus, even when a left-wing government would like to give protection to all workers, it keeps those in smaller firms under weak protection as a means of safeguarding their welfare from the adverse effects that EPL would have on their firms' operations.

To sum up, the political motivation of a right-wing government to establish a *tiered* EPL can be stated as follows:

> "*regulate large businesses to foster small businesses growth*",

while the motto of a left-wing government is:

> "*do not regulate the small businesses to protect their workers*".

5.4.1 Discussion of results: What is needed for a *tiered* EPL?

As detailed in Section 6, the *tiered* EPL equilibrium remains robust when relaxing the four key assumptions outlined in Section 3.6. In what follows, I break the model down into three essential properties for a *tiered* EPL equilibrium and provide supporting empirical literature.

EPL-finance interaction Strengthening EPL creates size-specific distortions through its interaction with financial frictions: it reduces access to credit, forcing firms—especially smaller ones—to adjust by cutting investment and hiring (Simintzi et al., 2015; Serfling, 2016; Bai et al., 2020). This property is key for the individual preferences presented in Section 4, which give rise to a *tiered* EPL equilibrium. In a companion paper (Huerta, 2025b), I exploit the state-level adoption of EPL in the U.S. to provide evidence for these interests.

EPL involves some employer-to-employee transfers This assumption implies that the dismissal compensation workers receive depends on the strength of EPL faced by their firm. In reality, severance payments are direct monetary transfers upon termination, while notice of termination is an informational transfer with economic value (Lazear, 1990; Pissarides, 2001). The removal of direct employer-to-employee transfers, such as when I study regulations on capital use, breaks the robustness of the *tiered* equilibrium.

Effective wage gap The *tiered* EPL depends on generating at least a minimal difference between the *effective wage* paid in unregulated relative to regulated firms. Empirical evidence showing that *tiered* EPL creates a wedge between firms includes Schivardi and Torrini (2008); Leonardi and Pica (2013); Cingano et al. (2016). In the model, the *effective wage* differential can be sustained under minimal labor mobility frictions, which prevent workers from perfectly relocating between firms.

6 Extensions

This section presents several extensions to the baseline model. Overall, the main result that the equilibrium EPL is *tiered* is generally robust across extensions. More importantly, these extensions address two other key policy-related questions: how to mitigate the welfare distortions caused by *tiered* EPL, and why this regulation persists in many countries? Additional details and proofs are in Appendix D.

In Section 6.1, I examine the equilibrium when EPL is *labor-based*, as in the data. In Section 6.2, I study the equilibrium EPL under wage inflexibility. In Section 6.3, I investigate the EPL design that results from independent negotiations between workers and entrepreneurs. In Section 6.4, I develop a dynamic extension of the model. In Section 6.5, I briefly discuss three extensions: (i) EPL under different electoral systems, (ii) model with labor mobility, and (iii) regulations on capital use.

Appendix D presents additional extensions that are not covered in this section. In Section D.9, I study a two-dimensional labor reform where the government chooses individual and collective dismissal regulations simultaneously. In Section D.10, I briefly analyze the distortions generated when agents can self-report their assets.

6.1 Labor-based policy

This section studies a more realistic setting where EPL can be contingent on labor. In response to a *labor-based* EPL, a group of firms hire labor strategically to legally avoid stricter EPL, creating welfare distortions. The main takeaway is that the government accounts for these distortions and still adopts a *tiered* EPL, as observed in the data. However, these distortions reduce the effectiveness of this regulation in generating "cross subsidies" through wages. As a result, the *labor-based welfare* is lower than the *asset-based welfare* obtained in Section 5, when there was no strategic behavior.

6.1.1 The problem of the government

EPL is represented by $\tau(l) : [l_{min}, l_{max}] \to \{\tau_L, \tau_H\}$, where its domain is defined as $l_{min} = l(\underline{a}_0|\tau_H)$ and $l_{max} = l(\overline{a}_0|\tau_L)$. The government's problem is given by (3.17), but now it chooses a *labor-based* EPL. Similarly to an *asset-based* EPL, the solution satisfies monotonicity in both components (see Proposition 5 in Section D.1 of the Appendix). As a result, there is a regulatory threshold, $\mathbb{L}$, above which stricter EPL applies.

6.1.2 Strategic behavior

In response to a *labor-based* EPL, firms hire labor strategically. There is an endogenous range of firms, $a \in [a_1, a_2]$, that hire slightly less labor than $\mathbb{L}$ to legally avoid stricter EPL. Formally, these two thresholds are defined as follows:

$$U^E(a_1, d(a_1), \mathbb{L}|\tau_L) = U^E(a_1, d(a_1), l(a_1)|\tau_L), \tag{6.1}$$

$$U^E(a_2, d(a_2), \mathbb{L}|\tau_L) = U^E(a_2, d(a_2), l(a_2)|\tau_H), \tag{6.2}$$

where the asset thresholds a_1 and a_2 are implicit functions of $\mathbb{L}$, and $l(\cdot)$ is the optimal labor demand function. Gourio and Roys (2014) and Garicano et al. (2016) provide evidence of such strategic behavior in France, where the regulatory threshold is 50. Few firms have exactly 50 employees, while a large number of firms have 49 employees.

Figure 8 illustrates the units of labor hired as a function of assets. There are three groups of firms. First, firms with $a \in [\underline{a}_0, a_1)$ are subject to weak EPL (τ_L) and hire labor optimally. Second, firms with $a \in [a_1, a_2]$ act strategically and hire slightly less than $\mathbb{L}$, which is suboptimal given their operation scale.[16] Third, firms with $a > a_2$ operate under stricter EPL (τ_H) and hire labor optimally given their investment level.

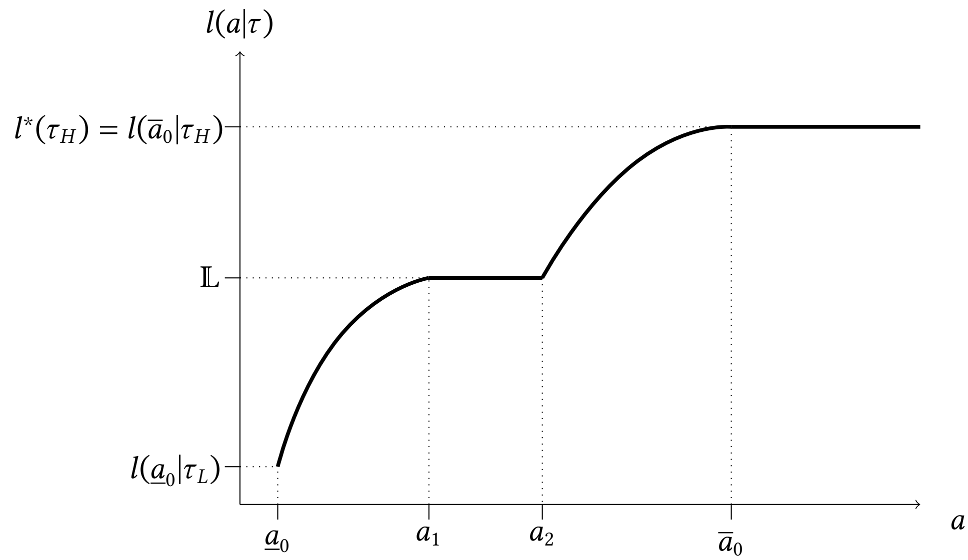


Figure 8: Labor decisions as a function of assets.

6.1.3 Political equilibrium under a labor-based policy

Conditions (6.1) and (6.2) allow me to write the government's problem more explicitly. Define the total entrepreneurs' and workers' welfare as follows:

$$\tilde{U}^E(\mathbb{L}) = \int_{\underline{a}_0}^{a_1} U^E(a, l(a)|\tau_L)g(a)\partial a + \int_{\boldsymbol{a_1}}^{\boldsymbol{a_2}} \boldsymbol{U^E(a, \mathbb{L}|\tau_L)g(a)\partial a} + \int_{a_2}^{a_M} U^E(a, l(a)|\tau_H)g(a)\partial a, \tag{6.3}$$

$$\tilde{U}^W(\mathbb{L}) = \int_{\underline{a}_0}^{a_1} U^W(a, l(a)|\tau_L)g(a)\partial a + \int_{\boldsymbol{a_1}}^{\boldsymbol{a_2}} \boldsymbol{U^W(a, \mathbb{L}|\tau_L)g(a)\partial a} + \int_{a_2}^{a_M} U^W(a, l(a)|\tau_H)g(a)\partial a, \tag{6.4}$$

[16]Recall that given capital, $k(a|\tau) = a + d(a|\tau)$, the optimal units of labor, $l(a|\tau)$, when the strength of EPL is τ are given by: $p(1-s)f_l(k(a|\tau), (1-s)l(a|\tau)) = \bar{w}$. Firms that belong to $(a_1, a_2]$ hire less labor than what is optimal given their capital, thus $p(1-s)f_l(k, (1-s)\mathbb{L}) > \bar{w}$.

where the bold terms capture the direct welfare distortions generated by strategic behavior. These distortions also create general equilibrium effects through wages, which impact the welfare of the rest of the agents who do not act strategically. The problem of the government is:

$$\max_{\mathbb{L}\in[l_{min},l_{max}]} \left\{\tilde{U}(\mathbb{L},\lambda) = \lambda\tilde{U}^{W}(\mathbb{L}) + (1-\lambda)\tilde{U}^{E}(\mathbb{L})\right\}$$

$$s.t. \quad m_L \cdot l^S(\tau_L) = \int_{\underline{a}_0}^{a_1} l(a|\tau_L)g(a)\partial a + \mathbb{L}\cdot[G(a_2) - G(a_1)], \tag{6.5}$$

$$m_H \cdot l_H^S(\tau_H) = \int_{a_2}^{a_M} l(a|\tau_H)g(a)\partial a, \tag{6.6}$$

$$m_L + m_H = G(\underline{a}_0), \tag{6.7}$$

where equations (6.5) to (6.7) are the equilibrium labor market conditions. The government now chooses EPL while accounting for the welfare distortions caused by strategic behavior. In Section D.1 in the Appendix, I show how the government's problem can be reformulated to maximize the *labor-based welfare* by choosing a unique asset threshold. Once the problem is rewritten in terms of an asset threshold, the same insights described in Section 5 apply. Proposition 6 in the Appendix shows that the equilibrium EPL remains *tiered* regardless of the government's ideology.

6.2 Inflexibility in real wages

A key property for the emergence of a *tiered* EPL is the downward flexibility of real wages, allowing the government to create cross-subsidies through EPL. However, in many countries, real rigidities prevent wages from falling below a certain level. For instance, in France, 90% of workers are covered by collective bargaining agreements and minimum wages are relatively high.

To address this concern, I extend the model to incorporate a variable degree of wage inflexibility, $\iota \in [0,1]$. Following Garicano et al. (2016), the wage is given by: $w_\iota = w + \iota(w_0 - w)$, where w is the equilibrium wage under perfect flexibility and w_0 is the wage rate under the initially flat EPL, τ_0. Section D.2 in the Appendix studies the case with perfectly inflexible wages ($\iota = 1$), which is the "least favorable scenario" for a *tiered* EPL. Despite this, EPL remains *tiered* for governments that are not strongly *pro-business*. The results also apply to partial wage inflexibility, i.e., $\iota \in (0,1)$. Overall, a more protective EPL (with smaller $\mathbb{a}$) is expected to emerge under higher wage flexibility.

Proposition 7 in Appendix D shows that a "sufficiently" *pro-worker* government, $\lambda > 1/(2-\frac{1}{\gamma})$, implements a *tiered* EPL. In contrast, a "sufficiently" *pro-business* government, $\lambda \leq 1/2 + \frac{1}{(\gamma-2)}$, maintains weak EPL across the board, as EPL only harms entrepreneurs when wages are inflexible. Thus, even under perfect wage inflexibility, a range of leftist and left-center governments still choose to protect only workers in larger firms.

6.3 Independent bargaining

The main message of Section 6.1 is that the equilibrium EPL remains *tiered* when EPL is *labor-based.* However, some firms hire labor strategically to legally avoid stricter EPL, causing welfare distortions. As a result, the *labor-based welfare* is lower than the *asset-based welfare* obtained in Section 5, where strategic behavior was ruled out. Can governments use an alternative mechanism to achieve the maximum *asset-based welfare* (i.e., that survives strategic behavior)?

This section presents such an alternative mechanism: independent bargaining between workers (unions) and entrepreneurs. Under certain conditions, the government can eliminate the welfare distortions caused by a *tiered* EPL by properly allocating the bargaining power between unions and firms. Full details and discussion are provided in Section D.3 in the Appendix.

6.3.1 Bargaining terms

Each group of workers in a firm is organized as a union, whose purpose is to promote working conditions aligned with workers' interests. Unions bargain with firm owners (entrepreneurs) to set EPL before production takes place and to maximize their workers' welfare, U^W.

The government controls the outcome of negotiations by regulating unions' bargaining power μ, where μ can be simply understood as the frequency at which a firm's EPL is set at the union's optimal level. The policy instrument—unions' bargaining power—is a single-dimensional parameter that is uniform across firms. Thus, it survives strategic behavior because firms cannot adjust their size to face more favorable regulations. Since the policy instrument has only one degree of freedom, it is not obvious whether there exists a level of μ that replicates the maximum *asset-based welfare* of Section 5. Recall that this level of welfare was attained under a size-contingent EPL which provided the government a greater degree of freedom.

Several real-world regulations limit unions' bargaining power. In the US, the Right-to-Work Law allows workers to opt out of joining unions and paying union fees. Australia's Fair Work Act 2009 requires a secret ballot and three days' notice before workers can take a bargaining strike. Recently, the UK's Strikes Act 2023 enables employers in sectors with specified minimum service levels to serve a work of notice on unions seven days before a strike begins.

6.3.2 Equilibrium EPL

The equilibrium EPL from independent negotiations is *tiered* at $\tilde{a}_0$, regardless of unions' bargaining power. Formally, it is given by τ_L for $a < \tilde{a}_0$ and $\tau^* \in [\tau_L, \tau_H]$ for $a \geq \tilde{a}_0$ (see Lemma 4 in Appendix D), where τ^* is increasing in the bargaining power of unions μ.

This result is a consequence of the preferences presented in Table 2. Even when workers in smaller firms ($a < \tilde{a}_0$) could demand better conditions, they agree to remain under weak protection to avoid the negative impact that stricter EPL would have on their welfare. In equilibrium, is like unions never come to exist in smaller firms. In contrast, workers in large firms ($a \geq \tilde{a}_0$) benefit from stricter EPL, and thus, demand a higher τ. However, the level of protection they can achieve is limited by unions' bargaining power.

In response to the outcome arising from independent bargaining, the government chooses μ to control negotiations in larger firms ($a \geq \tilde{a}_0$). For the case of labor inflexibility, Proposition 8 in Appendix D shows that there is a range of λ's (political orientation) such that the government can choose μ to attain the maximum *asset-based welfare*. This result can be extended to flexible wages. Overall, allowing unions to exist and regulating their bargaining power can be an alternative mechanism to achieve the welfare of the most preferred *tiered* EPL.

6.4 The dynamics of size-contingent EPL

An important question that arises in light of the evidence in Section 2 is why *tiered* EPL has remained stable in most countries over time. To address this question, I develop a dynamic extension of the baseline model where EPL affects the future wealth distribution, which in turn influences the future design of EPL. Thus, the dynamics of size-contingent EPL result from the joint interaction between policies and the wealth distribution over time. To tackle the technical difficulties associated with characterizing this dynamic interaction, I make two assumptions: (i) the initial wealth distribution follows a power law, and (ii) workers and entrepreneurs save a fixed fraction of their assets each period. A full description and discussion of the model is presented in Section D.4 in the Appendix.

I analyze the endogenous evolution of size-contingent EPL in an economy where occupational choice is initially limited by credit constraints. The main finding is that the equilibrium regulatory threshold has an increasing trend over time and reaches a steady state level in the long-run. This is true regardless of changes in the government's ideology over time. This result rationalizes the long-term stability of *tiered* EPL within countries. I provide an intuition for this result below.

First, a *tiered* EPL introduces a cross-subsidy from larger to smaller firms. Moreover, it greatly benefits the small-scale sector while imposing a relatively low cost on larger firms. Thus, the future share of small to large firms decreases, increasing the entrepreneurial support for a less protective EPL, i.e., a higher regulatory threshold.

From the point of view of workers, those in smaller firms have a strong preference for a protective EPL, i.e., a low regulatory threshold. On the other hand, those in larger firms demand protection for themselves but not for workers in smaller firms (a higher regulatory threshold). Thus, as smaller firms growth over time, the overall workers' support for a highly protective EPL decreases. As a result, the implementation of a *tiered* EPL induces a decline in the support for a highly protective EPL, which explains why the regulatory threshold presents an increasing trend over time. The regulatory threshold reaches a stationary level once occupational choice is no longer limited by credit constraints.

6.5 Additional Extensions

Electoral systems In Section D.5, I show that the government's problem presented in Section 3.5 can be microfounded as a probabilistic voting model with proportional representation. In Section D.6, I examine the equilibrium under a majoritarian electoral system. Consistently with the data, I find that the emergence of a *tiered* EPL is not restricted by the type of electoral system. However, a more protective EPL (i.e., a lower regulatory threshold) is expected to arise under proportional electoral systems.

Labor mobility In Section D.7, I explore the effects of labor mobility on the equilibrium EPL. Two results arise from this extension. First, minimal labor-mobility frictions are sufficient for the emergence of a *tiered* EPL equilibrium. Second, the equilibrium EPL is more protective under tighter mobility frictions.

Regulations on capital use In Section D.8, I examine regulations on capital use that are also size-contingent across many countries. The emergence of a *tiered* regulation on capital use depends on at least three factors: the progressivity of government's transfer program, whether regulation restricts firm size or subsidizes credit, and the government ideology. Overall, it is not straightforward to reframe the entire analysis as general redistribution or as subsidies to SMEs. A distinctive feature of EPL for the emergence of a *tiered* regulation is that it involves direct employer-to-employee transfers. The removal of this feature significantly changes the theoretical analysis. A deeper study of other size-contingent regulations is left for future work.

7 Conclusions

This article explores the politico-economic origins of *tiered* Employment Protection Legislation (EPL), which imposes stricter regulations on firms with more employees than a certain regulatory threshold. In my model, wealth heterogeneity and occupational choice give rise to endogenous political preferences for EPL. A politically oriented government designs EPL, potentially choosing a size-contingent policy to accommodate agents' heterogeneous preferences.

This paper contributes to our understanding of the determinants of labor policy in at least four ways. First, it shows that the equilibrium EPL that results from the political conflict between workers and entrepreneurs is *tiered*, regardless of the government's political orientation. Extensions of the model indicate that a more protective *tiered* EPL (i.e., a lower regulatory threshold) should arise in countries with leftist governments, flexible wages, proportional electoral systems, and tighter labor mobility frictions. These results rationalize the widespread emergence of *tiered* EPL that I document across countries with different institutional backgrounds.

Second, a *tiered* EPL causes welfare distortions as some firms strategically hire their labor to avoid stricter regulation. This study shows that governments can eliminate such distortions by allowing unions to exist while limiting their bargaining power relative to entrepreneurs. Thus, policy measures that limit unions' power, such as the Right-to-Work-Laws in the US and the Strikes Act 2023 in the UK, can be effective ways to achieve a similar outcome to the most preferred *tiered* EPL while bypassing its unintended welfare distortions.

Third, a dynamic extension of the model predicts the emergence of a steady-state *tiered* EPL that results from the joint interaction between policies and the wealth distribution over time. This finding sheds light on the long-term stability of *tiered* EPL within countries.

Finally, the model delivers new testable predictions for the welfare effects of EPL across groups of workers and firms. Although EPL aims to protect workers, it has unintended regressive consequences. It reduces the welfare of workers in smaller firms while mainly benefiting those in larger firms. Moreover, EPL significantly hurts smaller firms, while larger firms can more easily accommodate stricter EPL. In a companion paper (Huerta, 2025b), I provide empirical support for these predictions by using firm-level panel data and exploiting the state-level adoption of Wrongful Discharge Laws in the US.

Future research may extend the analysis to understand the origins and economic consequences of other types of size-contingent regulations that are widespread worldwide, such as special tax treatments, credit subsidies, and restrictions on business expansion. Exploring the evolution and stability of different regulations through models that account for the dynamic interaction between policies and inequality appears to be a fruitful direction for future inquiry.

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A Appendix: Basics

A.1 Optimal debt contract

In this section, I characterize the conditions that define the optimal debt contract under the initial EPL, $\tau_0 = (\tau_L^I, \tau_L^C)$. These conditions can be generalized to any EPL design, τ. Define the auxiliary function:

$$\Psi(a, d, l|\tau_0) \equiv U^E(a, d, l|\tau_0) - \phi k, \tag{A.1}$$

which measures the severity of agency problems for a triplet (a, d, l).[17] Analogously as in Fischer and Huerta (2021), it can be shown that there exists a minimum wealth required to obtain a loan, $\underline{a}_0 = \underline{a}(\tau_0)$, which is given by:[18]

$$\Psi(\underline{a}_0, \underline{d}_0, \underline{l}_0|\tau_0) = 0 \Leftrightarrow U^E(\underline{a}_0, \underline{d}_0, \underline{l}_0|\tau_0) = \phi\underline{k}_0 \tag{A.2}$$

$$\Psi_d(\underline{a}_0, \underline{d}_0, \underline{l}_0|\tau_0) = 0 \Leftrightarrow p f_k(\underline{k}_0, \underline{l}_0) = 1 + \rho - (1-p)\eta + \phi, \tag{A.3}$$

$$\frac{\partial U^E(\underline{a}_0, \underline{d}_0, \underline{l}_0|\tau_0)}{\partial l} = 0 \Leftrightarrow p(1-s) f_l(\underline{k}_0, (1-s)\underline{l}_0) = \bar{w}(\tau_0), \tag{A.4}$$

where $\underline{k}_0 \equiv \underline{a}_0 + \underline{d}_0$, $\underline{d}_0 > 0$ is the amount of debt that the first agent with access to credit can obtain, and $\underline{l}_0$ are the units of labor she hires. Intuitively, (A.2) requires that an agent with the minimum wealth required for a loan, $\underline{a}_0$, does not have incentives to default. Condition (A.3) imposes that an agent with $\underline{a}_0$ receives the minimum debt, $\underline{d}_0$. Finally, (A.4) asks that labor hired $\underline{l}_0$ is optimal at the capital level k_0.

Thus, there is credit rationing: a rationed borrower ($a < \underline{a}_0$) may be willing to pay a higher interest rate to obtain a loan, but banks will not accept such an offer since they cannot trust the borrower. From condition (A.3), the marginal return to investment of the first agent with access to credit is $1 + \underline{r} = 1 + \rho - (1-p)\eta + \phi$, which corresponds to the highest possible return to investment. As a increases, the return to capital falls until it eventually attains the level at the efficient scale, $1 + r^* = 1 + \rho - (1-p)\eta$. Since U^E is increasing and continuous, there exists a critical wealth level, $\overline{a}_0 > \underline{a}_0$, such that an entrepreneur with $\overline{a}_0$ is the first agent that can obtain a loan to invest efficiently:

$$\Psi(\overline{a}_0, k_0^* - \overline{a}_0, l_0^*) = 0. \tag{A.5}$$

In equilibrium, these two thresholds define an endogenous range of entrepreneurs, $[\underline{a}_0, \overline{a}_0)$, who have constrained access to credit and operate at an inefficient scale. Because in this range the

[17] If $\Psi > 0$ the incentives to commit default decrease as Ψ increases. In contrast, if $\Psi < 0$ the entrepreneur has incentives to behave maliciously. A more negative Ψ means that the entrepreneur has less incentives to honor the credit contract and abscond with the loan.

[18] Conditions below arise from a *minimax* problem. See proof of Lemma 1 in Fischer and Huerta (2021) for more details.

marginal return to capital exceeds the marginal cost of debt, these agents request their maximum allowable loan, which is given by:

$$\Psi(a, d, l|\tau_0) = 0, \tag{A.6}$$

where labor $l \equiv l(a|\tau_0)$ satisfies:

$$p(1-s)f_l(a+d,(1-s)l) = \bar{w}(\tau_0). \tag{A.7}$$

A.2 Occupational choice

In Section 3.3, I simplified the analysis by omitting a third wealth threshold, $\hat{a}_0$, which defines the minimum wealth for agents to choose entrepreneurship. Formally:

$$\hat{a}_0 \equiv \inf_{\{a\}}\{U^E(a, d(a), l(a)) - U^W(a)\} \geq 0.$$

Different arrangements could arise in the model as a function of $\underline{a}_0$ and $\hat{a}_0$. Figure 9 illustrates these features. Panel a) shows the case in which $\underline{a}_0 > \hat{a}_0$. All agents with $a < \hat{a}_0$ become workers and those with $a \geq \underline{a}_0$ become entrepreneurs. Agents with $a \in (\hat{a}_0, \underline{a}_0)$ may become either workers or invest their little wealth in a firm (micro-entrepreneurs). In the paper, I focus on the case in which all agents with $a < \underline{a}_0$ become workers. Panel b) presents the case in which some agents that can access the credit market prefer to become workers, $a \in [\underline{a}_0, \hat{a}_0)$. Fischer and Huerta (2021) show that the properties of the model are preserved under the cases that are not studied in this paper.

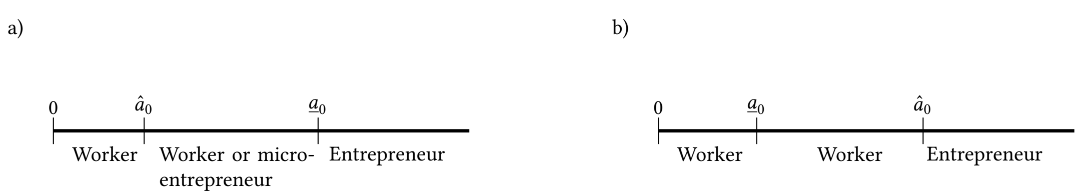


Figure 9: Occupational choice.

A.3 Deriving the utility of a group of workers

This section shows how the derive the expression for the utility of the group of workers in a firm hiring l units of labor, denoted by $U^W(l)$ (equation (3.5)). Recall the labor market equilibrium condition:

$$l^S \cdot G(\underline{a}) = \int_{\underline{a}}^{a_M} l\ g(a)\partial a, \tag{A.8}$$

multiply by $v(\bar{w}) \cdot G(\underline{a})$, and substract $\varsigma(l^S) \cdot G(\underline{a})$ on both sides to obtain:

$$
\begin{aligned}
\underbrace{\left(v(\bar{w})l^S - \varsigma(l^S)\right)}_{=u^W(l^S)} \cdot G(\underline{a}) &= \left(\int_{\underline{a}}^{a_M} (v(\bar{w}) \cdot l)\; g(a)\partial a\right) - \varsigma(l^S) \cdot G(\underline{a}), \\
\Rightarrow u^W(l^S) \cdot G(\underline{a}) &= \left(\int_{\underline{a}}^{a_M} (v(\bar{w}) \cdot l)\; g(a)\partial a\right) - \left(\varsigma(l^S) \cdot \int_{\underline{a}}^{a_M} \frac{l}{l^S}\; g(a)\partial a\right), \\
\Rightarrow u^W(l^S) \cdot G(\underline{a}) &= \int_{\underline{a}}^{a_M} U^W(l)\; g(a)\partial a. \qquad \text{(A.9)}
\end{aligned}
$$

where in the second line I have used the labor market equilibrium condition (A.8). Expression (A.9) shows how total workers' utility, $u^W(l^S) \cdot G(\underline{a})$, is distributed across firms of different sizes, where the utility of the group of workers in a firms hiring l units of labor is given by:

$$
U^W(l) = v(\bar{w}) \cdot l - \frac{l}{l^S} \cdot \varsigma(l^S). \qquad \text{(A.10)}
$$

B Appendix: Main Proofs

In the rest of the Appendix, I denote the *effective* labor payment per unit of labor supplied as $\bar{w} \equiv [p(1-s+s\tau(a)^I)+(1-p)\tau(a)^C]\cdot w$ (*effective wage*) and its derivative in terms of some measure x by $\bar{w}_x$. I also denote the integral of some function $z(a)$ over the wealth distribution, i.e. $\int z(a)g(a)\partial a$, by $\int z(a)\partial G(a)$. Additionally, I denote the marginal productivity of capital of the first agent that becomes an entrepreneur ($a=\underline{a}_0$) by $1+\underline{r} \equiv 1+r^*+\phi$, where $1+r^*=1+\rho-(1-p)\eta$ is the marginal productivity at the efficient scale.

The following properties are useful to prove Propositions 1 and 2:

1. $\frac{\partial d}{\partial \tau} = \frac{l\bar{w}_\tau}{pf_k-(1+\underline{r})} < 0.$
2. $\frac{\partial l}{\partial \tau} = \frac{\bar{w}_\tau}{1-s}\left(\frac{1}{p(1-s)f_{ll}} - \frac{\beta(1-s)f_k}{f_{ll}(pf_k-(1+\underline{r}))}\right) < 0.$
3. $\frac{\partial \underline{a}_0}{\partial \tau} = \frac{\underline{l}_0\bar{w}_\tau}{pf_k(\underline{k}_0,\underline{l}_0)+(1-p)\eta-\phi} > 0.$
4. $\frac{\partial l^S}{\partial \tau} = \frac{v'(\bar{w})\bar{w}_\tau}{\varsigma''(l^S)} > 0.$
5. $\frac{\partial U^W}{\partial \tau} = v'(\bar{w})\bar{w}_\tau l^S > 0.$
6. $\frac{\partial d}{\partial a} = -\frac{pf_k+(1-p)\eta-\phi}{pf_k-(1+\underline{r})} > 0.$
7. $\frac{\partial l}{\partial a} = -\frac{f_{lk}}{f_{ll}(1-s)}\left(1+\frac{\partial d}{\partial a}\right) > 0.$

Proof:

Item 1. Differentiation of equation (A.6) in terms of τ leads to:

$$\Psi_d\frac{\partial d}{\partial \tau} + \underbrace{\Psi_l}_{=0 \text{ by (A.7)}}\frac{\partial l}{\partial \tau} + \Psi_\tau = 0$$
$$\Rightarrow \frac{\partial d}{\partial \tau} = -\frac{\Psi_\tau}{\Psi_d} = \frac{l\bar{w}_\tau}{pf_k-(1+\underline{r})} < 0, \tag{B.1}$$

where I have used that $f_k \in [1+r^*, 1+\underline{r}]$, and that $\bar{w}_\tau > 0$.[19]

[19]Note that when τ increases in a single firm: $\bar{w}_\tau = w > 0$. However, when τ increases in a non-negligible mass of firms, the equilibrium wage goes down, partially offsetting the direct effect of improved labor regulation. Despite this, it is still true that $\bar{w}_\tau > 0$. The only exception is when τ improves in all firms. In that case, EPL is neutral: $\bar{w}_\tau = 0$. I study that particular case in Lemma 1.

Item 2. From the FOC of labor (A.7):

$$p(1-s)\left(f_{lk}\frac{\partial d}{\partial \tau}+(1-s)f_{ll}\frac{\partial l}{\partial \tau}\right)=\bar{w}_{\tau},$$

$$\Rightarrow \frac{\partial l}{\partial \tau}=\frac{\frac{\bar{w}_x}{p(1-s)}-f_{lk}\frac{\partial d}{\partial \tau}}{(1-s)f_{ll}}=\frac{\bar{w}_{\tau}}{1-s}\left(\frac{1}{p(1-s)f_{ll}}-\frac{\beta(1-s)f_k}{f_{ll}(pf_k-(1+\underline{r}))}\right)<0, \tag{B.2}$$

where the last equality follows from $f_{kl}=\frac{\alpha(1-s)\beta f}{kl}=\frac{\beta(1-s)f_k}{l}$.

Item 3. Differentiate (A.2) to obtain:

$$\Psi_a(\underline{a}_0,\underline{d}_0,\underline{l}_0)\frac{\partial \underline{a}_0}{\partial \tau}+\underbrace{\Psi_d(\underline{a}_0,\underline{d}_0,\underline{l}_0)}_{=0 \text{ by (A.3)}}\frac{\partial \underline{d}_0}{\partial \tau}+\underbrace{\Psi_l(\underline{a}_0,\underline{d}_0,\underline{l}_0)}_{=0 \text{ by (A.4)}}\frac{\partial \underline{l}_0}{\partial \tau}+\Psi_{\tau}(\underline{a}_0,\underline{d}_0,\underline{l}_0)=0,$$

$$\Rightarrow \frac{\partial \underline{a}_0}{\partial \tau}=-\frac{\Psi_{\tau}(\underline{a}_0,\underline{d}_0,\underline{l}_0)}{\Psi_a(\underline{a}_0,\underline{d}_0,\underline{l}_0)}=\frac{\underline{l}_0\bar{w}_{\tau}}{pf_k(\underline{k}_0,\underline{l}_0)+(1-p)\eta-\phi}>0. \tag{B.3}$$

Item 4. Differentiate condition (3.7) in terms of τ and solve for $\frac{\partial l^S}{\partial \tau}$ to obtain the result.

Item 5. Differentiation of (3.3) in terms of τ gives:

$$\frac{\partial u^W}{\partial \tau}=v'(\bar{w})\bar{w}_{\tau}l^S+\underbrace{(v(\bar{w})-\varsigma'(l^S))}_{=0 \text{ by (3.7)}}\frac{\partial l^S}{\partial \tau}=v'(\bar{w})\bar{w}_{\tau}l^S>0. \tag{B.4}$$

Item 6. Differentiate (A.6) in terms of a to obtain:

$$\Psi_k\left(1+\frac{\partial d}{\partial a}\right)+\Psi_d\frac{\partial d}{\partial a}+\Psi_l\frac{\partial l}{\partial a}=0.$$

Use that $\Psi_k=pf_k+(1-p)\eta-\phi$, $\Psi_d=-(1+\rho)$, and that $\Psi_l=0$ to obtain the result.

Item 7. Differentiate (A.7) in terms of a to obtain:

$$p(1-s)\left(f_{lk}\left(1+\frac{\partial d}{\partial a}\right)+(1-s)f_{ll}\frac{\partial l}{\partial a}\right)=0,$$

$$\Rightarrow \frac{\partial l}{\partial a}=-\frac{f_{lk}}{f_{ll}(1-s)}\left(1+\frac{\partial d}{\partial a}\right)>0. \tag{B.5}$$

■

B.1 Proof of Proposition 1

Proposition 1 *Consider the initial EPL, τ_0, then:*

1. *All entrepreneurs are worse off after a marginal increase of τ.*

2. *This negative effect is strictly decreasing if $a \in [\underline{a}_0, \overline{a}_0)$ and remains constant after $a \geq \overline{a}_0$.*

Proof:

Differentiation of $U^E(a)$ in terms of τ gives:

$$\frac{\partial U^E(a)}{\partial \tau} = [f_k - (1+\rho)]\frac{\partial d}{\partial \tau} - \bar{w}_\tau l. \tag{B.6}$$

Replace (B.1) in (B.6) to obtain:

$$\frac{\partial U^E(a)}{\partial \tau} = l \cdot \bar{w}_\tau \left[\frac{pf_k - (1+r^*)}{pf_k - (1+\underline{r})} - 1\right] = \phi \bar{w}_\tau \frac{l}{pf_k - (1+\underline{r})} < 0. \tag{B.7}$$

Thus, the effect of increased τ on entrepreneurs' utility is negative. In particular, $\lim_{a \to \underline{a}_0+} \frac{\partial U^E(a)}{\partial \tau} = -\infty$ and $\frac{\partial U^E(\overline{a}_0)}{\partial \tau} = -l^* \bar{w}_\tau$. In order to conclude that this negative effect becomes weaker as a increases, all is left to show is that $\frac{\partial}{\partial a}\left(\frac{\partial U^E(a)}{\partial \tau}\right) > 0$. Differentiate (B.7) with respect to a:

$$\frac{\partial}{\partial a}\left(\frac{\partial U^E(a)}{\partial \tau}\right) = \frac{\phi \bar{w}_\tau}{(pf_k - (1+\underline{r}))^2}\left[\frac{\partial l}{\partial a}(f_k - (1+\underline{r})) - l\frac{\partial}{\partial a}(pf_k)\right].$$

Note that:

$$\frac{\partial}{\partial a}(f_k) = \left(f_{kk} - \frac{f_{kl}^2}{f_{ll}}\right)\left(1 + \frac{\partial d}{\partial a}\right) = -\frac{\alpha f}{(1-\beta)k^2}(1-\alpha-\beta)\left(1+\frac{\partial d}{\partial a}\right) < 0, \tag{B.8}$$

Use equations (B.5) and (B.8) to obtain:

$$\begin{aligned}
\frac{\partial}{\partial a}\left(\frac{\partial U^E(a)}{\partial \tau}\right) &= \frac{\phi \bar{w}_\tau}{(pf_k - (1+\underline{r}))^2}\left(1+\frac{\partial d}{\partial a}\right)\left[-\frac{f_{kl}}{(1-s)f_{ll}}(pf_k - (1+\underline{r})) + l\frac{p\alpha f}{(1-\beta)k^2}(1-\alpha-\beta)\right], \\
&= \underbrace{\frac{\phi l \bar{w}_\tau}{(1-s)^2(1-\beta)k(pf_k - (1+\underline{r}))^2}\left(1+\frac{\partial d}{\partial a}\right)}_{>0}\left[\alpha(pf_k - (1+\underline{r})) + pf_k(1-s)^2(1-\alpha-\beta)\right].
\end{aligned}$$

Denote the term in brackets by h and notice that:

$$h \equiv \alpha(pf_k - (1+\underline{r})) + pf_k(1-s)^2(1-\alpha-\beta) > -\alpha\phi + (1+r^*)(1-s)^2(1-\alpha-\beta) > 0,$$

where the first inequality comes from $pf_k \in [1+r^*, 1+\underline{r}]$ and the second one uses Assumption 1. Therefore, $\frac{\partial}{\partial a}\left(\frac{\partial U_e(a)}{\partial \tau}\right) > 0$. Thus, smaller firms are more adversely affected by an increase in τ. ■

B.2 Proof of Proposition 2

Proposition 2 *Consider the initial EPL, τ_0, and suppose a marginal increase of τ. Then, there is a cutoff, $\tilde{a}_0 \in (\underline{a}_0, \overline{a}_0)$, given by:*

$$\frac{\partial U^W(\tilde{a}_0|\tau_0)}{\partial \tau} = 0, \tag{B.9}$$

such that:

1. *Workers' utility in firms with $a \in [\underline{a}_0, \tilde{a}_0)$ decreases.*
2. *Workers' utility in firms with $a > \tilde{a}_0$ increases.*
3. *This marginal effect is strictly increasing in $a \in [\underline{a}_0, \overline{a}_0)$ and remains constant after $a \geq \overline{a}_0$.*

Proof: Differentiating condition (3.14) with respect to τ:

$$\frac{\partial U^W(a)}{\partial \tau} = \frac{\gamma}{\gamma - 1}\left(l \underbrace{v'(\bar{w})\bar{w}_\tau}_{>0} + \underbrace{\frac{\partial l}{\partial \tau}}_{<0} v(\bar{w}) \right), \tag{B.10}$$

Note that the sign of $\frac{\partial U^W(a)}{\partial \tau}$ is ambiguous and depends on a through l. In particular, $\lim_{a \to \underline{a}_0^+} \frac{\partial d}{\partial \tau} = -\infty$ and so, $\lim_{a \to \underline{a}_0^+} \frac{\partial l}{\partial \tau} = -\infty$, which implies that $\lim_{a \to \underline{a}_0^+} \frac{\partial U^W(a)}{\partial \tau} = -\infty$. Thus, at least in a neighborhood of $\underline{a}_0$, workers are made worse off when τ increases. Additionally, the labor market must satisfy the welfare equilibrium condition (equation (A.9)):

$$\int_{\underline{a}_0}^{a_M} u^W \partial G(a) = \int_{\underline{a}_0}^{a_M} U^W(a) \partial G(a). \tag{B.11}$$

Differentiate (B.11) in terms of τ and evaluate at τ_0 to obtain:

$$\underbrace{\frac{\partial u^W}{\partial \tau} G(\underline{a}_0) + u^W g(\underline{a}_0) \frac{\partial \underline{a}_0}{\partial \tau}}_{>0} = \int_{\underline{a}_0}^{a_M} \frac{\partial U^W(a)}{\partial \tau} \partial G(a) \underbrace{- U^W(\underline{a}_0) g(\underline{a}_0) \frac{\partial \underline{a}_0}{\partial \tau}}_{<0}, \tag{B.12}$$

where I have used that $\frac{\partial U^W}{\partial \tau} > 0$ and $\frac{\partial \underline{a}_0}{\partial \tau} > 0$. Using the fact that $\frac{\partial U^W(a)}{\partial \tau} < 0$ in some neighborhood of $\underline{a}_0$ and that the second term of the right-hand side is also negative, it follows that $\frac{\partial U^W(a)}{\partial \tau}$ must be positive in some range (otherwise condition (B.12) is violated). If $\frac{\partial U^W(a)}{\partial \tau}$ is strictly increasing in a, then there exist some threshold $\tilde{a}_0 \in (\underline{a}_0, \overline{a}_0)$ given by:

$$\frac{\partial U^W(\tilde{a}_0)}{\partial \tau} = 0,$$

such that $\frac{\partial U^W(a)}{\partial \tau} < 0$ if $a \in [\underline{a}_0, \tilde{a}_0)$ and $\frac{\partial U^W(a)}{\partial \tau} > 0$ if $a > \tilde{a}_0$. This leads to the results of the proposition. Thus, all is left to show is that $\frac{\partial}{\partial a}\left(\frac{\partial U^W(a)}{\partial \tau}\right) > 0$. Differentiation of $\frac{\partial U^W(a)}{\partial \tau}$ with respect to a leads to:

$$\frac{\partial}{\partial a}\left(\frac{\partial U^W(a)}{\partial \tau}\right) = \frac{\gamma}{\gamma - 1}\left(\underbrace{\frac{\partial l}{\partial a} v'(\bar{w})\bar{w}_\tau}_{>0} + \frac{\partial}{\partial a}\left(\frac{\partial l}{\partial \tau}\right) v(\bar{w})\right).$$

Thus, the sign of $\frac{\partial}{\partial a}\left(\frac{\partial U^W(a)}{\partial \tau}\right)$ depends on the sign of $\frac{\partial}{\partial a}\left(\frac{\partial l}{\partial \tau}\right)$. In what follows, I show that $\frac{\partial}{\partial a}\left(\frac{\partial l}{\partial \tau}\right) > 0$, which implies that $\frac{\partial}{\partial a}\left(\frac{\partial U^W(a)}{\partial \tau}\right) > 0$. Differentiation of (B.2) leads to:

$$\begin{aligned}\frac{\partial}{\partial a}\left(\frac{\partial l}{\partial \tau}\right) &= \frac{\bar{w}_\tau}{1-s}\Bigg[-\frac{\frac{\partial}{\partial a}(f_{ll})}{p(1-s)f_{ll}^2} - \beta(1-s)\frac{\frac{\partial}{\partial a}(f_k)(pf_k - (1+\underline{r}))f_{ll}}{(pf_k - (1+\underline{r}))^2 f_{ll}^2} + \beta(1-s)f_k\frac{\left(p\frac{\partial}{\partial a}(f_k)f_{ll} + (pf_k - (1+\underline{r}))\frac{\partial}{\partial a}(f_{ll})\right)}{(pf_k - (1+\underline{r}))^2 f_{ll}^2}\Bigg],\\ &= \underbrace{\frac{\bar{w}_\tau}{p(1-s)^2(pf_k - (1+\underline{r}))^2 f_{ll}^2}}_{\equiv h > 0}\left[\frac{\partial}{\partial a}(f_{ll})\cdot[\beta(1-s)^2 pf_k(pf_k - (1+\underline{r})) - (pf_k - (1+\underline{r}))^2] + \beta(1-s)^2 p\frac{\partial}{\partial a}(f_k)\cdot f_{ll}(1+\underline{r})\right].\end{aligned} \tag{B.13}$$

Notice that:

$$\frac{\partial}{\partial a}(f_{ll}) = f_{llk}\left(1 + \frac{\partial d}{\partial a}\right) + f_{lll}(1-s)\frac{\partial l}{\partial a} = \left(f_{llk} - \frac{f_{kl}\cdot f_{lll}}{f_{ll}}\right)\left(1 + \frac{\partial d}{\partial a}\right) = \frac{\alpha\beta(1-s)^2 f}{kl^2}\left(1 + \frac{\partial d}{\partial a}\right) > 0. \tag{B.14}$$

Defining $\tilde{h} \equiv h \cdot \left(1 + \frac{\partial d}{\partial a}\right)$ and replacing (B.8) and (B.14) in (B.13) gives:

$$\begin{aligned}\frac{\partial}{\partial a}\left(\frac{\partial l}{\partial \tau}\right) &= \tilde{h}\Bigg[\frac{\alpha\beta(1-s)^2 f}{kl^2}\cdot[\beta(1-s)^2 pf_k(pf_k - (1+\underline{r})) - (pf_k - (1+\underline{r}))^2]\\ &\quad - \beta(1-s)^2 p\frac{\alpha f}{(1-\beta)k^2}(1-\alpha-\beta)\cdot f_{ll}(1+\underline{r})\Bigg],\\ &= \underbrace{-(1-\beta)^{-1}\tilde{h}\frac{f_{ll}}{k}}_{>0}\Big[\alpha[\beta(1-s)^2 pf_k(pf_k - (1+\underline{r})) - (pf_k - (1+\underline{r}))^2]\\ &\quad + \beta(1-s)^2 pf_k(1-\alpha-\beta)(1+\underline{r})\Big].\end{aligned}$$

The sign of this expression is determined by the sign of the term in brackets, which I denote by x:

$$\begin{aligned}x &\equiv \alpha[\beta(1-s)^2 pf_k(pf_k - (1+\underline{r})) - (pf_k - (1+\underline{r}))^2] + \beta(1-s)^2 pf_k(1-\alpha-\beta)(1+\underline{r}),\\ &= -\alpha(pf_k - (1+\underline{r}))(pf_k(1-\beta(1-s)^2) - (1+\underline{r})) + \beta(1-s)^2 pf_k(1-\alpha-\beta)(1+\underline{r}).\end{aligned}$$

Recall that $pf_k \in [1+r^*, 1+\underline{r}]$, then:

$$
\begin{aligned}
pf_k - (1+\underline{r}) &\in [-\phi, 0], \\
pf_k(1-\beta(1-s)^2) - (1+\underline{r}) &\in [-(\beta(1-s)^2(1+r^*)+\phi), -\beta(1-s)^2(1+r^*+\phi)].
\end{aligned}
$$

Using these properties and Assumption 1:

$$
\begin{aligned}
x &\geq -\alpha\phi(\beta(1-s)^2(1+r^*)+\phi) + \beta(1-s)^2(1+r^*)(1-\alpha-\beta)(1+r^*+\phi), \\
&> -\alpha\phi(\beta(1-s)^2(1+r^*)+\phi) + \beta(1-s)^2(1+r^*)(1-\alpha-\beta)(\beta(1-s)^2(1+r^*)+\phi), \\
&> (\beta(1-s)^2(1+r^*)+\phi)\big[-\alpha\phi + \beta(1-s)^2(1+r^*)(1-\alpha-\beta)\big] > 0,
\end{aligned}
$$

which implies that $\frac{\partial}{\partial a}\left(\frac{\partial l}{\partial \tau}\right) > 0$. Thus, $\frac{\partial}{\partial a}\left(\frac{\partial U^W(a)}{\partial \tau}\right) > 0$, which leads to the result of the proposition. ■

B.3 Proof of Proposition 3

Proposition 3 *Any EPL that solves* (3.17), $\tau = (\tau^I, \tau^C)$, *satisfies monotonicity at each component:*

$$
\tau^i(a) \,:\, \tau^i(a') \leq \tau^i(a'') \quad \forall a' < a'', i \in \{I, C\}.
$$

Moreover, there are two size thresholds, $\mathbb{a}^I \in [\underline{a}_0, a_M]$ *and* $\mathbb{a}^C \in [\underline{a}_0, a_M]$, *such that:*

$$
\tau^i(a) = \begin{cases} \tau_L^i \; if \, a < \mathbb{a}^i, \\ \tau_H^i \; if \, a \geq \mathbb{a}^i. \end{cases} \tag{B.15}
$$

Proof: By contradiction, suppose that there is some solution to problem (3.17), $\tau(a) = (\tau^I(a), \tau^C(a))$, such that the function $\tau^i(a)$, with $i \in \{I, C\}$, violates monotonicity in some non-zero measure set $\mathcal{A} \in \mathcal{J}([\underline{a}_0, a_M])$ and for which monotonicity holds in $[\underline{a}_0, a_M] - \{\mathcal{A}\}$. Assume that $\mathcal{A}$ is partitioned into two intervals, $\mathcal{A}_L$ and $\mathcal{A}_H$, such that:

$\mathcal{A} = \mathcal{A}_L \bigcup \mathcal{A}_H$, $\mathcal{A}_L \bigcap \mathcal{A}_H = \emptyset$ and $a' \in \mathcal{A}_L, a'' \in \mathcal{A}_H \Rightarrow a' < a''$,

and define:

$$
\tau^i(a) \,:\, \tau^i(a') > \tau^i(a''), a' \in \mathcal{A}_L, a'' \in \mathcal{A}_H.
$$

This last condition is equivalent to $\tau^i(\mathcal{A}_L) > \tau^i(\mathcal{A}_H) \Leftrightarrow \tau^i(\mathcal{A}_L) = \tau_H^i$ and $\tau^i(\mathcal{A}_L) = \tau_L^i$. Further, define $m_g^E(\tau_L^i|\tau, \mathcal{A})$ and $m_g^E(\tau_H^i|\tau, \mathcal{A})$ as the masses of entrepreneurs in the set $\mathcal{A}$ that operate under τ_L^i and τ_H^i given the EPL τ and the wealth distribution g:

$$m_g^E(\tau_j^i|\tau,\mathcal{A}) \equiv \int_{a\in\mathcal{A}} \mathbf{1}[\tau(a)=\tau_j^i]\partial G(a), \quad j\in\{L,H\}. \tag{B.16}$$

Consider an alternative EPL, T, that satisfies monotonicity in $\mathcal{A}$. For $i \in \{I, C\}$, T is composed by the functions $\mathrm{T}^i(a)$ that satisfy:

$$\mathrm{T}^i(a) = \begin{cases} \tau^i(a) & \text{if } a \in [\underline{a}_0, a_M] - \{\mathcal{A}\}, \\ \{\mathrm{T}^i(a) \,:\, \mathrm{T}^i(\tilde{\mathcal{A}}_L) < \mathrm{T}^i(\tilde{\mathcal{A}}_H)\} & \text{if } a \in \mathcal{A} = \tilde{\mathcal{A}}_L \bigcup \tilde{\mathcal{A}}_H, \end{cases}$$

where $\mathcal{A}$ is partitioned into two intervals, $\tilde{\mathcal{A}}_L$ and $\tilde{\mathcal{A}}_H$, such that:
$\mathcal{A} = \tilde{\mathcal{A}}_L \bigcup \tilde{\mathcal{A}}_H$, $\tilde{\mathcal{A}}_L \bigcap \tilde{\mathcal{A}}_H = \emptyset$ and $a' \in \tilde{\mathcal{A}}_L, a'' \in \tilde{\mathcal{A}}_H \Rightarrow a' < a''$,
and
$m_g^E(\tau_L^i|\mathrm{T},\mathcal{A}) = m_g^E(\tau_L^i|\tau,\mathcal{A})$ and $m_g^E(\tau_H^i|\mathrm{T},\mathcal{A}) = m_g^E(\tau_H^i|\tau,\mathcal{A})$.

Note that $\mathrm{T}^i(\tilde{\mathcal{A}}_L) = \tau_L^i$ and $\mathrm{T}(\tilde{\mathcal{A}}_H) = \tau_H^i$. Thus, T satisfies monotonicity in $\mathcal{A}$. Moreover, it reverts and preserves the masses of entrepreneurs operating under τ_L^i and τ_H^i that arise from τ. From Proposition 1, $\frac{\partial}{\partial a}\left(\frac{\partial U^E}{\partial \tau^i}\right) > 0$. Thus, the aggregate welfare of entrepreneurs is higher under T. Additionally, Proposition 2 shows that $\frac{\partial}{\partial a}\left(\frac{\partial U^W}{\partial \tau^i}\right) > 0$, hence workers' welfare is also larger under T. Therefore, τ cannot be the solution to problem (3.17).

Nevertheless, observe that T may not satisfy monotonicity in $[\underline{a}_0, a_M]$. For instance, if τ was such that $\tau(a) = \tau_H^i, \forall a$. But since $\mathcal{A}$ was chosen arbitrarily, the argument can be repeated iteratively to discard any solution for which monotonicity does not hold in some non-zero measure set. Hence, the solution to the government's problem must satisfy monotonicity at both components, which implies equation (B.15).[20] ■

B.4 Proof of Lemma 1

The proof of Lemma 1 makes use of the following properties:

1. $\frac{\partial d}{\partial w} < 0$.
2. $\frac{\partial l}{\partial w} < 0$.
3. $\frac{\partial a}{\partial w} > 0$.
4. $\frac{\partial l^S}{\partial w} > 0$.

[20] Notice that the resulting policy T is not necessarily the solution. It is an arbitrary EPL that satisfies monotonicity and that dominates any policy τ that violates monotonicity in some non-zero measure set.

Proof: Differentiation of (A.6) gives:

$$\frac{\partial d}{\partial w} = -\frac{\Psi_w}{\Psi_d} = \frac{\bar{w}_w l}{p f_k - (1 + \underline{r})} < 0$$

The FOC of labor (A.7) implies:

$$\frac{\partial l}{\partial w} = \left(\frac{\bar{w}_w}{p(1-s)^2} - \frac{f_{kl}}{1-s} \frac{\partial d}{\partial w} \right) \frac{1}{f_{ll}} < 0.$$

To show item 3 use equations (A.2) and (A.3) to obtain that: $\frac{\partial \underline{a}}{\partial w} = -\frac{\Psi_w}{\Psi_a} = \frac{\bar{w}_w \underline{l}}{p f_k + (1-p)\eta - \phi} > 0$. For the last item, use (3.7) to conclude that: $\frac{\partial l^S}{\partial w} = \frac{v'(\bar{w})\bar{w}_w}{\varsigma''(l^S)} > 0$. ∎

Lemma 1 *The equilibrium wage w is increasing in* $\mathbb{a}$. *In particular, if* $\mathbb{a} = \underline{a}_0$, *the change in w is such that* $\frac{\partial \bar{w}}{\partial \mathbb{a}} = 0$.

Proof: Recall the labor market equilibrium conditions:

$$m_L \cdot l^S(\tau_L) = \int_{\underline{a}}^{\mathbb{a}} l(a|\tau_L) \partial G(a), \tag{B.17}$$

$$m_H \cdot l^S(\tau_H) = \int_{\mathbb{a}}^{a_M} l(a|\tau_H) \partial G(a), \tag{B.18}$$

$$m_L + m_H = G(\underline{a}). \tag{B.19}$$

To simplify notation, define $l_L^S \equiv l^S(\tau_L)$, $l_H^S \equiv l^S(\tau_H)$, $l_L(a) \equiv l(a|\tau_L)$, and $l_H(a) \equiv l(a|\tau_H)$. Differentiation of conditions (B.17) to (B.19) in terms of $\mathbb{a}$ leads to:

$$\frac{\partial m_L}{\partial \mathbb{a}} l_L^S + m_L \frac{\partial l_L^S}{\partial \mathbb{a}} = \int_{\underline{a}}^{\mathbb{a}} \frac{\partial l_L(a)}{\partial \mathbb{a}} \partial G(a) + l_L(\mathbb{a}) g(\mathbb{a}) - l_L(\underline{a}) g(\underline{a}) \frac{\partial \underline{a}}{\partial \mathbb{a}}, \tag{B.20}$$

$$\frac{\partial m_H}{\partial \mathbb{a}} l_H^S + m_H \frac{\partial l_H^S}{\partial \mathbb{a}} = \int_{\mathbb{a}}^{a_M} \frac{\partial l_H(a)}{\partial \mathbb{a}} \partial G(a) - l_H(\mathbb{a}) g(\mathbb{a}), \tag{B.21}$$

$$\frac{\partial m_H}{\partial \mathbb{a}} = g(\underline{a}) \frac{\partial \underline{a}}{\partial \mathbb{a}} - \frac{\partial m_L}{\partial \mathbb{a}}. \tag{B.22}$$

Combining (B.21) and (B.22):

$$\frac{\partial m_L}{\partial \mathbb{a}} = \left(-\int_{\mathbb{a}}^{a_M} \frac{\partial l_H(a)}{\partial \mathbb{a}} \partial G(a) + l_H(\mathbb{a}) g(\mathbb{a}) + l_H^S g(\underline{a}) \frac{\partial \underline{a}}{\partial \mathbb{a}} + m_H \frac{\partial l_H^S}{\partial \mathbb{a}} \right) \frac{1}{l_H^S}, \tag{B.23}$$

rearranging (B.20) gives:

$$\frac{\partial m_L}{\partial \mathbb{a}} = \left(\int_{\underline{a}}^{\mathbb{a}} \frac{\partial l_L(a)}{\partial \mathbb{a}} \partial G(a) + l_L(\mathbb{a}) g(\mathbb{a}) - l_L(\underline{a}) g(\underline{a}) \frac{\partial \underline{a}}{\partial \mathbb{a}} - m_L \frac{\partial l_L^S}{\partial \mathbb{a}} \right) \frac{1}{l_L^S}. \tag{B.24}$$

Equalizing conditions (B.23) and (B.24):

$$l_H^S \int_{\underline{a}}^{\mathbb{a}} \frac{\partial l_L(a)}{\partial \mathbb{a}} \partial G(a) + l_L^S \int_{\mathbb{a}}^{a_M} \frac{\partial l_H(a)}{\partial \mathbb{a}} \partial G(a) - l_H^S(l_L(\underline{a}) + l_L^S) \mathrm{g}(\underline{a}) \frac{\partial \underline{a}}{\partial \mathbb{a}} - m_L l_H^S \frac{\partial l_L^S}{\partial \mathbb{a}} - m_H l_L^S \frac{\partial l_H^S}{\partial \mathbb{a}} = (l_L^S l_H(\mathbb{a}) - l_H^S l_L(\mathbb{a}))\mathrm{g}(\mathbb{a}),$$

$$\Rightarrow \frac{\partial w}{\partial \mathbb{a}} \left(l_H^S \int_{\underline{a}}^{\mathbb{a}} \underbrace{\frac{\partial l_L(a)}{\partial w}}_{<0} \partial G(a) + l_L^S \int_{\mathbb{a}}^{a_M} \underbrace{\frac{\partial l_H(a)}{\partial w}}_{<0} \partial G(a) - l_H^S(l_L(\underline{a}) + l_L^S) \mathrm{g}(\underline{a}) \underbrace{\frac{\partial \underline{a}}{\partial w}}_{>0} - m_L l_H^S \underbrace{\frac{\partial l_L^S}{\partial w}}_{>0} - m_H l_L^S \underbrace{\frac{\partial l_H^S}{\partial w}}_{>0} \right) = \underbrace{(l_L^S l_H(\mathbb{a}) - l_H^S l_L(\mathbb{a}))}_{<0} \mathrm{g}(\mathbb{a}).$$

This last condition implies that $\frac{\partial w}{\partial \mathbb{a}} > 0$. Finally, suppose that $\mathbb{a} = \underline{a}_0$, i.e., the strength of EPL increases from τ_L to τ_H for all firms. Recall the equilibrium labor market condition under a flat EPL:

$$l^S \cdot G(\underline{a}) = \int_{\underline{a}}^{a_M} l(a) \partial G(a).$$

Differentiation in terms of τ leads to:

$$\frac{\partial l^S}{\partial \tau} G(\underline{a}) + l^S\, \mathrm{g}(\underline{a}) \frac{\partial \underline{a}}{\partial \tau} = \int_{\underline{a}}^{a_M} \frac{\partial l}{\partial \tau} \partial G(a) - \underline{l}\, \mathrm{g}(\underline{a}) \frac{\partial \underline{a}}{\partial \tau} \Rightarrow \frac{\partial \bar{w}}{\partial \tau} \underbrace{\left(\frac{\partial l^S}{\partial \bar{w}} G(\underline{a}) + [l^S + \underline{l}] \mathrm{g}(\underline{a}) \frac{\partial \underline{a}}{\partial \bar{w}} - \int_{\underline{a}}^{a_M} \frac{\partial l}{\partial \bar{w}} \partial G(a) \right)}_{>0} = 0,$$

where I have used that $\frac{\partial l^S}{\partial \tau} = \frac{\partial \bar{w}}{\partial \tau} \frac{\partial l^S}{\partial \bar{w}}$, $\frac{\partial \underline{a}}{\partial \tau} = \frac{\partial \bar{w}}{\partial \tau} \frac{\partial \underline{a}}{\partial \bar{w}}$, and $\frac{\partial l}{\partial \tau} = \frac{\partial \bar{w}}{\partial \tau} \frac{\partial l}{\partial \bar{w}}$. In conclusion, $\frac{\partial \bar{w}}{\partial \tau} = 0$ if $\mathbb{a} = \underline{a}_0$. ■

B.5 Proof of Proposition 4

Proposition 4

1. *$\bar{U}(\mathbb{a}, \lambda)$ achieves a global maximum in $[\underline{a}_0, a_M]$ at some size threshold $\mathbb{a}_{pe} \in (\underline{a}_0, a_M)$ characterized by:*

$$\mathbb{a}_{pe} = \sup_{\mathbb{a}} \bar{U}(\mathbb{a}, \lambda). \tag{B.25}$$

Suppose that $\mathrm{g}(a)' < 0$ and workers' risk aversion coefficient satisfies $\frac{\sigma\gamma}{\gamma - 1} > 1 - \frac{\tau_L \min\{s, 1-p\}}{\max\{s, 1-p\}}$, then:

2. *$\bar{U}^E(\mathbb{a}, \lambda)$ and $\bar{U}^W(\mathbb{a}, \lambda)$ are strictly concave in $\mathbb{a}$.*

3. *The equilibrium size threshold $\mathbb{a}_{pe}$ is the unique solution to:*

$$\lambda \frac{\partial \bar{U}^W(\mathbb{a}_{pe}, \lambda)}{\partial \mathbb{a}} = -(1 - \lambda) \frac{\partial \bar{U}^E(\mathbb{a}_{pe}, \lambda)}{\partial \mathbb{a}}. \tag{B.26}$$

4. *The equilibrium size threshold, $\mathbb{a}_{pe}$, is decreasing in λ.*

Proof: Differentiation of equations (5.5) and (5.6) in terms of $\mathbb{a}$ leads to:

$$\begin{aligned}\frac{\partial \bar{U}^E(\mathbb{a})}{\partial \mathbb{a}} &= \int_{\underline{a}_0}^{\mathbb{a}} \frac{\partial U^E(a|\tau_L)}{\partial \mathbb{a}} \partial G + \int_{\mathbb{a}}^{a_M} \frac{\partial U^E(a|\tau_H)}{\partial \mathbb{a}} \partial G + [U^E(\mathbb{a}|\tau_L) - U^E(\mathbb{a}|\tau_H)]g(\mathbb{a}), \\ &= \frac{\partial w}{\partial \mathbb{a}} \left[\int_{\underline{a}_0}^{\mathbb{a}} \frac{\partial U^E(a|\tau_L)}{\partial w} \partial G + \int_{\mathbb{a}}^{a_M} \frac{\partial U^E(a|\tau_H)}{\partial w} \partial G \right] + [U^E(\mathbb{a}|\tau_L) - U^E(\mathbb{a}|\tau_H)]g(\mathbb{a}). \quad \text{(B.27)}\end{aligned}$$

$$\begin{aligned}\frac{\partial \bar{U}^W(\mathbb{a})}{\partial \mathbb{a}} &= \int_{\underline{a}_0}^{\mathbb{a}} \frac{\partial U^W(a|\tau_L)}{\partial \mathbb{a}} \partial G + \int_{\mathbb{a}}^{a_M} \frac{\partial U^W(a|\tau_H)}{\partial \mathbb{a}} \partial G + [U^W(\mathbb{a}|\tau_L) - U^W(\mathbb{a}|\tau_H)]g(\mathbb{a}), \\ &= \frac{\partial w}{\partial \mathbb{a}} \left[\int_{\underline{a}_0}^{\mathbb{a}} \frac{\partial U^W(a|\tau_L)}{\partial w} \partial G + \int_{\mathbb{a}}^{a_M} \frac{\partial U^W(a|\tau_H)}{\partial w} \partial G \right] + [U^W(\mathbb{a}|\tau_L) - U^W(\mathbb{a}|\tau_H)]g(\mathbb{a}).\end{aligned} \quad \text{(B.28)}$$

Proof of Item 1

First, recall that $\lim_{a \to \underline{a}_0^+} \frac{\partial U^W(a|\tau_L)}{\partial \tau} = -\infty$ and $\lim_{a \to \underline{a}_0^+} \frac{\partial U^E(a|\tau_L)}{\partial \tau} = -\infty$ (see the proofs of Propositions 1 and 2). Therefore, $\lim_{\mathbb{a} \to \underline{a}_0^+} \frac{\partial \bar{U}^W(\mathbb{a})}{\partial \mathbb{a}} > 0$ and $\lim_{\mathbb{a} \to \underline{a}_0^+} \frac{\partial \bar{U}^E(\mathbb{a})}{\partial \mathbb{a}} > 0$. Second, note that $\bar{U}^W(\mathbb{a})$ and $\bar{U}^E(\mathbb{a})$ are bounded in $[\underline{a}_0, a_M]$:

$$\begin{aligned}\bar{U}^E(\mathbb{a}) < M^E \equiv U^E(a_M|\tau_L)[1 - G(\underline{a}_0)], \quad \forall \mathbb{a} \in [\underline{a}_0, a_M], \\ \bar{U}^W(\mathbb{a}) < M^W \equiv U^W(a_M|\tau_H)[1 - G(\underline{a}_0)], \quad \forall \mathbb{a} \in [\underline{a}_0, a_M].\end{aligned}$$

To obtain the results above, first note that by Proposition 1, $U^E(a|\tau)$ is increasing in a and decreasing in τ. Second, Proposition 2 shows that $U^W(a|\tau)$ is increasing in a and increasing in τ for $a \in [\tilde{a}_0, a_M]$. Finally, use that $\mathbb{a} \in [\underline{a}_0, a_M]$ and $\tau \in \{\tau_L, \tau_H\}$ to conclude that $\bar{U}^E(\mathbb{a})$ and $\bar{U}^W(\mathbb{a})$ are bounded by some finite positive numbers M^W and M^E, respectively.

As a result, $\bar{U}^E(\mathbb{a})$ and $\bar{U}^W(\mathbb{a})$ are continuous and bounded functions in $[\underline{a}_0, a_M]$ satisfying: i) $\bar{U}^E(\underline{a}_0) = \bar{U}^E(a_M) > 0$ and $\bar{U}^W(\underline{a}_0) = \bar{U}^W(a_M) > 0$,[21] ii) $\frac{\partial \bar{U}^E(\underline{a}_0^+)}{\partial \mathbb{a}} > 0$ and $\frac{\partial \bar{U}^W(\underline{a}_0^+)}{\partial \mathbb{a}} > 0$. Thus, $\bar{U}^E(\mathbb{a})$ and $\bar{U}^W(\mathbb{a})$ achieve a global maximum $\tilde{M}^E > \bar{U}^E(\underline{a}_0)$ and $\tilde{M}^W > \bar{U}^W(\underline{a}_0)$ given by:

$$\begin{aligned}\tilde{M}^E &= \sup_{\mathbb{a}} \bar{U}^E(\mathbb{a}), \\ \tilde{M}^W &= \sup_{\mathbb{a}} \bar{U}^W(\mathbb{a}),\end{aligned}$$

In conclusion, $\bar{U} = \lambda \bar{U}^W + (1-\lambda)\bar{U}^E$ achieves a global maximum. Moreover, properties i) and ii) imply that the global maximum is achieved at some $\mathbb{a}_{pe} \in (\underline{a}_0, a_M)$. Thus, the equilibrium policy is *tiered* regardless of the value of λ.

Proof of Item 2

[21] These properties come from the fact that having $\mathbb{a} = \underline{a}_0$ or $\mathbb{a} = a_M$ leads to the same *effective wage* $\bar{w}$ and thus, to the same equilibrium outcomes (see the last part of Lemma 1)

Differentiation of (B.27) and (B.28) in terms of $\mathbb{a}$ leads to:

$$\frac{\partial^2 \bar{U}^E}{\partial \mathbb{a}^2} = -2\left[\frac{\partial U^E(\mathbb{a}|\tau_H)}{\partial \mathbb{a}} - \frac{\partial U^E(\mathbb{a}|\tau_L)}{\partial \mathbb{a}}\right] \cdot g(\mathbb{a}) - [U^E(\mathbb{a}|\tau_H) - U^E(\mathbb{a}|\tau_L)] \cdot g'(\mathbb{a}), \tag{B.29}$$

$$\frac{\partial^2 \bar{U}^W}{\partial \mathbb{a}^2} = -2\left[\frac{\partial U^W(\mathbb{a}|\tau_H)}{\partial \mathbb{a}} - \frac{\partial U^W(\mathbb{a}|\tau_L)}{\partial \mathbb{a}}\right] \cdot g(\mathbb{a}) - [U^W(\mathbb{a}|\tau_H) - U^W(\mathbb{a}|\tau_L)] \cdot g'(\mathbb{a}). \tag{B.30}$$

Propositions 1 and 2 show that $\frac{\partial^2 U^E}{\partial a \partial \tau} > 0$ and $\frac{\partial^2 U^W}{\partial a \partial \tau} > 0$. Thus, the first terms of equations (B.29) and (B.30) are negative. Moreover, recall that $\frac{\partial U^E}{\partial \tau} < 0$. Hence, if $g' < 0$, then the second term of (B.29) is negative. Therefore, $\frac{\partial^2 \bar{U}^E}{\partial \mathbb{a}^2} < 0$, and so $\bar{U}^E$ is strictly concave in $\mathbb{a}$. Note however that the sign of $\frac{\partial U^W}{\partial \tau}$ depends on $\mathbb{a}$. In particular, if $\mathbb{a} > \tilde{a}_0$, Proposition 2 implies that $\frac{\partial U^W}{\partial \tau} > 0$, and thus, the sign of (B.30) is ambiguous.

In order to find the sign of (B.30), I use the following labor market welfare condition:

$$\bar{U}^W = m_L u^W(\tau_L) + m_H u^W(\tau_H).$$

Differentiating twice in terms of $\mathbb{a}$ gives:

$$\frac{\partial^2 \bar{U}^W}{\partial (\mathbb{a})^2} = \underbrace{\frac{\partial^2 m_L}{\partial \mathbb{a}^2}(u^W(\tau_L) - u^W(\tau_H))}_{\equiv t_1} + \underbrace{2\frac{\partial m_L}{\partial \mathbb{a}}\left(\frac{\partial u^W(\tau_L)}{\partial \mathbb{a}} - \frac{\partial u^W(\tau_H)}{\partial \mathbb{a}}\right)}_{\equiv t_2} + \underbrace{m_L \frac{\partial^2 u^W(\tau_L)}{\partial \mathbb{a}^2} + m_H \frac{\partial^2 u^W(\tau_H)}{\partial \mathbb{a}^2}}_{\equiv t_3} \tag{B.31}$$

where I have used that $\frac{\partial m_H}{\partial \mathbb{a}} = -\frac{\partial m_L}{\partial \mathbb{a}}$ and denoted the j-th term of the equation by t_j. To find the sign of (B.31), use condition (3.7) to obtain:

$$u^W(\tau) = \frac{(\gamma - 1)}{\gamma^{\frac{\gamma}{\gamma-1}}} \cdot v(\bar{w}(\tau))^{\frac{\gamma}{\gamma-1}} = \bar{\gamma} \cdot \bar{w}(\tau)^{\chi}, \tag{B.32}$$

where I have defined $\bar{\gamma} \equiv \frac{(\gamma-1)}{\gamma^{\frac{\gamma}{\gamma-1}}}$ and $\chi \equiv \frac{\sigma\gamma}{\gamma-1} < 1$. First, note that u^W is increasing in τ and w, and strictly concave in w:

$$\frac{\partial u^W}{\partial \tau} = \bar{\gamma}\chi\sigma\bar{w}^{\chi-1}\bar{w}_\tau > 0, \tag{B.33}$$

$$\frac{\partial u^W}{\partial w} = \bar{\gamma}\chi\sigma\bar{w}^{\chi-1}\bar{w}_w > 0, \tag{B.34}$$

$$\frac{\partial^2 u^W}{\partial w^2} = \bar{\gamma}\sigma\chi(\chi - 1)\bar{w}^{\chi-2}(\bar{w}_w)^2 < 0, \tag{B.35}$$

where in the last equation I have used that $\frac{\partial}{\partial w}(\bar{w}_w) = 0$. Also, we have:

$$\frac{\partial^2 u^W}{\partial \tau \partial w} = \bar{\gamma}\chi\sigma\bar{w}_{\tau w}\bar{w}^{\chi-1}\left((\chi-1)\frac{\bar{w}_\tau}{\bar{w}} + 1\right) > 0. \tag{B.36}$$

Recall that $\bar{w} = [p(1-s+s\tau^I)+(1-p)\tau^C]w$, so $\bar{w}_\tau = sw$ if $\tau = \tau^I$ and $\bar{w}_\tau = (1-p)w$ if $\tau = \tau^C$. Thus, (B.36) is positive provided that $\tau_L > (1-\chi)\frac{max\{s,1-p\}}{min\{s,1-p\}}$, which is the condition in the proposition.

Condition (B.33) implies that $t_1 < 0$, while (B.36) implies that:

$$t_2 = 2\underbrace{\frac{\partial m_L}{\partial \mathbb{a}}}_{<0}\underbrace{\frac{\partial w}{\partial \mathbb{a}}}_{>0}\underbrace{\left(\frac{\partial u^W(\tau_L)}{\partial w} - \frac{\partial u^W(\tau_H)}{\partial w}\right)}_{<0 \quad \text{by (B.36)}} < 0.$$

Finally, use that $\frac{\partial^2 u^w}{\partial \mathbb{a}^2} = \frac{\partial^2 w}{\partial \mathbb{a}^2}\frac{\partial u^w}{\partial w} + \frac{\partial w}{\partial \mathbb{a}}\frac{\partial^2 u^w}{\partial w^2}$ and equations (B.34) and (B.35) to conclude that $t_3 < 0$. As a result, $\bar{U}$ is strictly concave in $\mathbb{a}$.

Proof of Item 3

Since both $\bar{U}^E$ and $\bar{U}^W$ are strictly concave, then $\bar{U} = \lambda\bar{U}^W + (1-\lambda)U^E$ is strictly concave. The unique size threshold $\mathbb{a}_{pe}$ that maximizes $\bar{U}$ is then given by (5.9).

Proof of Item 4

Finally, from Propositions 1 and 2, $\frac{\partial U^W(a)}{\partial w} \geq \frac{\partial U^E(a)}{\partial w}$ for $a > \underline{a}_0$. Therefore, the size threshold at which $\frac{\partial \bar{U}^W}{\partial \mathbb{a}} = 0$ is to the left of that at which $\frac{\partial \bar{U}^E}{\partial \mathbb{a}} = 0$. Since both functions are concave, the size threshold that maximizes $\bar{U}$ moves to the left as λ increases, which proves the last item. ■

C Appendix: Data

C.1 Data collection

This section explains how the data presented in Figures 1a and 1b was constructed. I list below the sources for each of the 25 countries. Labor codes were obtained mainly from the International Labor Organization (ILO). For some countries, the information comes from studies regarding EPL (which are cited after those countries' names). The focus is on countries that apply *tiered* EPL. Thus, the data is on the regulatory threshold (number of workers) above which EPL becomes stricter. For each country, I searched the year in which the regulatory threshold was enacted and all the instances in which it was changed. I consider both individual and collective dismissal regulations.

Left and right-wing governments are defined based on the political orientation of the executive as measured by the World Bank Database of Political Institutions (WDPI), and defined in Beck et al. (2001). The WDPI provides a variable that can take three values "Left", "Center" or "Right". There are only two instances in which a *tiered* EPL was enacted by a center government: Italy in 1960 and Finland in 2007.

Argentina According to the Small and Medium Entreprises Law (SMEL) enacted in 1995, Article 83, the rules on notice period do not apply to SMEs defined as those companies with less than 40 employees.

Australia According to the Workplace Relations Act, 2005, claims of unfair dismissal were not available for workers in firms with 100 or more workers. Four years later, the Fair Work Act (FWA) 2009, defined exemptions pertaining to dismissal in firms with less than 15 employees. Firms with less than 15 workers are are exempted from a redundancy pay and their employees can make a claim for unfair dismissal only after 12 months of engagement (6 months in firms with 15 or more employees). Source: Vranken (2005).

Austria The Work Constitution Act, 1973, establishes that protection regarding individual dismissal only applies to firms with more than 5 employees. According to Section 45a of the Labour Market Promotion Act, 1969, the definition of collective dismissals excluded enterprises with less than 20 workers. Since there are size thresholds from which both individual and collective dismissal regulations apply, I choose to use the one reported by ILO, i.e. 5.

Belgium According to Article 1, Royal Order on Collective Dismissals, 1976, collective dismissal regulations apply to firms with more than 20 workers. However, individual dismissal regulations apply to all firms.

Bulgary According to the Labor Code, 1986, enterprises with less than 20 workers are excluded from collective dismissal regulations. Individual dismissal regulations apply to all firms.

Cyprus The Collective Dismissals Act, Section 2, 2001, excludes firms with less than 20 employees from collective dismissal regulations. Individual dismissal regulations apply to all firms.

Czech Republic According to Section 62 of the Labor Code, 2006, enterprises with less than 20 workers are excluded from collective dismissal regulations. Individual dismissal regulations apply to all firms.

Denmark According to Section 1 of the Collective Dismissals Act, 1994, enterprises with less than 20 workers are excluded from collective dismissal regulations. Individual dismissal regulations apply to all firms.

Finland The Act on Cooperation within Undertakings, 2007, establishes that procedures with regards to economic dismissals apply only to firms with 20 or more workers.

France Labor laws make special provisions for firms with more than 10, 11, 20 or 50 employees. However, 50 is generally agreed by labor lawyers to be the threshold from which costs increase significantly. According to the Labor Code, Articles L.1235-10 to L.1235-12, 1973, firms with at least 50 employees firing more than 9 workers must follow a complex redundancy plan with oversight from Ministry of Labor. Firms with 50 or more workers must also establish a committee on health and safety (Aticle L.4611-1), must form a staff commitee with a minimum budget of 0.3% of total payroll (Article L.2322-1-28), are obliged to set up a profit-sharing plan (Article L.3322-2), face higher duties in case of an accident in the workplace (Article L.12226-10), must conduct a formal professional assesment for each worker older than 45 (Article L.6321-1). Sources: Garicano et al. (2016), Gourio and Roys (2014).

Germany In 1951, the Federal Parliament enacted a federal Act on the Protection against Dismissal (Kündigungsschutzgesetz, PADA). The Act established that dismissals in establishments with more than 5 workers required a social justification. The threshold for the applicability of the PADA has changed three times. In 1996, from 5 to 10 employees and then back again to 5 workers in 1999. Since 2004 this threshold has been shifted to 10 workers. Sources: Siefert and Funken-Hotzel (2003), Verick (2004), Bellmann et al. (2014).

Greece According to Act No. 1387/1983 enterprises with less than 20 workers are excluded from collective dismissal regulations. Individual dismissal regulations apply to all firms.

Hungary According to Section 94 of the Labor Code, 1992, enterprises with less than 20 workers are excluded from collective dismissal regulations. Individual dismissal regulations apply to all firms.

Italy Individual dismissals were first regulated in Italy in 1966 through Law No. 604. In case of dismissal, workers could take employers to court. If judges ruled that these dismissals were unfair, employers had either to reinstate the worker or pay a firing cost which depended on firm size. Firms with more than 60 employees had to pay twice the amount paid by firms with less than 60 workers. In 1970, the Workers' Statute (Law No. 300) established that in case of unfair dismissal those firms with more than 15 employees had to reinstate workers and pay their foregone wages. Article 35 of The Workers' Statute also excluded employers with less than 15 workers (or less than 5 in the agricultural sector) from some specific aspects of union rights. Sources: Kugler and Pica (2008), Rutherford and Frangi (2018)

Kyrgyzstan According to Article 55 of the Labor Code, 2004, fixed-term contracts may be concluded during the first year of its creation in enterprises employing up to 15 workers.

Montenegro According to Article 92 of the Labor Law, 2008, regulations on collective dismissals apply only to firms with at least 20 employees.

Morroco According to Article 66 of the Labor Code, 2003, regulations on collective dismissals apply only to firms with at least 10 employees. Individual dismissal regulations apply to all firms.

Portugal The Decreto-Lei 64-A/89 introduced in 1989 softened the dismissal constraints faced by firms. Article 10 defined 12 specific rules for firms with more than 20 workers. Only four of these rules applied to firms employing 20 or fewer workers. Firms with less than 50 employees were allowed to conduct a collective dismissal involving only two workers, but those enterprises with more than 50 workers required that at least five workers be dismissed. Source: Martins (2009).

Romania Article 1 of the Labor Code, 2004, that regulated individual and collective dismissal excluded enterprises with less than 20 employees.

Slovakia A new definition of collective dismissals was introduced in 2011 into the Labor Code. According to Section 73, enterprises with less than 20 workers are excluded from procedural requirements regarding collective dismissals.

Slovenia The Employment Relationship Act (ERA), 2002, excluded firms with less than 20 employees from the procedural requirements applicable to collective dismissals.

South Korea The Labour Standards Act enacted in 1997, Article 11, establishes that employment regulations apply to firms with more than 5 workers. Source: Yoo and Kang (2012).

Turkey According to Article 18 of the Labor Act, 2003, workers in establishments with less than 30 employees are not covered by the job security provision.

United States According to the Workforce Investment Act passed in 1989, firms with 100 or more employees, excluding part-time employees, are required to provide 60 days' written notice to displaced workers. Source: Addison and Blackburn (1994).

Venezuela Under the Organic Labor Law of 1990, enterprises with less than 10 employees were exempt from the obligation to reinstate workers even if there was a court decision ruling that the dismissal was unjustified.

C.2 The determinants of *tiered* EPL

In this section, I employ a cross-country regression analysis to evaluate the claim that a leftist executive is associated with a lower regulatory threshold above which EPL becomes stricter.[22] In Table 3, I present the results from regressing the regulatory threshold on five important determinants of labor regulations suggested in the literature.

First, political power theories suggest that regulations protecting workers are introduced by leftist governments to benefit their constituencies (Esping-Andersen, 1990, 1999; Hicks, 1999). Thus, I include a dummy for left-wing political orientation of the executive taken from the World Bank Database of Political Institutions (WBDPI). Second, following the findings of Botero et al. (2004) that French and Scandinavian legal origins have higher levels of labor regulation, I control for countries' legal origin taken from La Porta et al. (2008). Third, I add a measure for the degree of proportionality of the electoral system which has been recognized as an important factor in the choice of the strength of employment protection (Pagano and Volpin, 2005). Fourth, in fractionalized societies the formation of ethnic-based groups may influence the choice of public policies, such as labor regulations (Easterly and Levine, 1997; Alesina and La Ferrara, 2005). Thus, I include a measure for ethnic fractionalization taken from Alesina et al. (2003). Finally, previous studies find that democracy is positively correlated with labor rights (Mosley and Uno, 2007; Neumayer and De Soysa, 2006; Greenhill et al., 2009). Thus, I include a democracy index taken from Coppedge et al. (2020).

Columns (1) to (3) present the results when using all countries and observations reported in Section C.1. In columns (4) to (6), I repeat the estimation without considering the observations from the US and Australia in 2005 that may significantly bias the estimation (see Figure 1b). The coefficient on the dummy variable representing a left-wing political orientation of the executive is negative and significant, even after removing outliers and controlling for the main determinants of labor regulation recognized in the literature. Thus, leftist governments have on average enacted a lower regulatory regulatory threshold compared to right-wing governments.

[22]Some countries such as Australia, Germany, and Italy have changed their regulatory threshold at least one time. Thus, these countries have more than one observation.

Table 3: Determinants of *tiered* EPL

	(1)	(2)	(3)	(4)	(5)	(6)
	Full Sample			No Outliers		
Left	-16.80**	-14.33*	-12.05	-11.45**	-8.543*	-7.731*
	(7.135)	(7.509)	(8.458)	(5.461)	(4.843)	(4.368)
Proportionality	-5.532	-6.579	-7.376	2.690	0.635	0.336
	(5.700)	(5.675)	(4.391)	(3.917)	(3.500)	(2.479)
French Legal Origin		-2.905	-2.888		6.664	5.992
		(7.715)	(8.904)		(5.144)	(4.700)
Scandinavian Legal Origin		-7.115	-12.53		-1.154	-4.832
		(8.221)	(16.42)		(4.770)	(8.507)
German Legal Origin		-24.64**	-29.91**		-12.43***	-16.04**
		(8.919)	(10.82)		(2.602)	(5.820)
Ethnic Fractionalization			0.146			-17.36
			(26.62)			(14.92)
Electoral Democracy Index			35.37			2.494
			(23.87)			(13.24)
Constant	46.71***	54.02***	28.66	20.07*	23.52***	27.28**
	(16.77)	(19.13)	(24.54)	(10.22)	(7.575)	(12.94)
Observations	30	30	30	28	28	28
R-squared	0.249	0.405	0.475	0.182	0.472	0.528

The dependent variable is the regulatory threshold (number of workers) above which EPL becomes stricter. The "Full Sample" contains all the countries reported in Section C.1. "No Outliers" removes the observations from the US and Australia in 2005 that may significantly bias the estimation. "Left" is a dummy that indicates whether the regulatory threshold was enacted by a left-wing executive as measured in the World Bank Database of Political Institutions (WBDPI). "Proportionality" measures the degree of proportionality of the electoral system. Following Pagano and Volpin (2005), "Proportionality"= $pr - plurarity - housesys + 2$, which are variables taken from WBDPI. "Proportionality" is equal to 3 if all the seats are assigned through a proportional rule, 2 if the majority of the seats are assigned proportionally, 1 when a minority of seats are defined via this rule, and 0 if no seats are determined in this way. "French, Scandinavian, and German Legal Origin" are dummies that capture the origin of the legal system, taken from La Porta et al. (2008). "Ethnic" is a measure of ethnic fractionalization taken from Alesina et al. (2003). The "Electoral Democracy Index" is taken from Coppedge et al. (2020). Robust standard errors are reported in parenthesis. ***, **, and *, indicate significance levels at the 1%, 5%, and 10%, respectively.

D Appendix: Extensions

D.1 Labor-based EPL

This section shows that the equilibrium EPL remains *tiered* when it is *labor-based*, as in the data. I start by showing that the equilibrium EPL satisfies monotonicity at each component.

Proposition 5 *The equilibrium EPL, $\tau(l) = (\tau^I(l), \tau^C(l))$, satisfies monotonicity at each component:*

$$\tau^i(l) \,:\, \tau^i(l') \leq \tau^i(l'') \quad \forall l' < l'',\ i \in \{I, C\}.$$

Moreover, there are two labor thresholds, $\mathbb{L}^I \in [l_{min}, l_{max}]$ and $\mathbb{L}^C \in [l_{min}, l_{max}]$, such that:

$$\tau^i(l) = \begin{cases} \tau^i_L \text{ if } l < \mathbb{L}^i, \\ \tau^i_H \text{ if } l \geq \mathbb{L}^i. \end{cases}$$

Proof: The proof proceeds similarly to that of Proposition 3. By contradiction, suppose that there is some solution to the government's problem, $\tau(l) = (\tau^I(l), \tau^C(l))$, such that the function $\tau^i(l)$, with $i \in \{I, C\}$, violates monotonicity in some non-zero measure set $\mathcal{L} \in \mathcal{J}([l_{min}, l_{max}])$ and for which monotonicity holds in $[l_{min}, l_{max}] - \mathcal{L}$. Then, as in the proof of Proposition 3, construct some alternative EPL, $\mathrm{T}(l)$, that satisfies monotonicity in $\mathcal{L}$. Denote by $\mathbb{L}^i$ the labor threshold above which $\mathrm{T}^i(l) = \tau^i_H$. Given $\mathrm{T}^i(l)$, there is range of firms $[a^i_1, a^i_2]$ that hire an amount of labor slightly lower than $\mathbb{L}^i$:

$$U^E(a^i_1, d(a^i_1), \mathbb{L}^i | \tau^i_L) = U^E(a^i_1, d(a^i_1), l(a^i_1) | \tau^i_L),$$
$$U^E(a^i_2, d(a^i_2), \mathbb{L}^i | \tau^i_L) = U^E(a^i_2, d(a^i_2), l(a^i_2) | \tau^i_H).$$

Then, the labor function given assets, $\tilde{l}(a)$, for assets level in $\mathcal{A} \equiv \{a \,:\, a = l^{-1}(l),\ l \in \mathcal{L}\}$ is given by:[23]

$$\tilde{l}(a) = \begin{cases} l(a) & \text{if } a < a^i_1, \\ \mathbb{L}^i & \text{if } a \in [a^i_1, a^i_2], \\ l(a) & \text{if } a > a^i_2. \end{cases} \tag{D.1}$$

The next step is to show that $\mathrm{T}(l)$ gives higher welfare than $\tau(l)$. This requires that $\frac{\partial}{\partial a}\left(\frac{\partial U^E}{\partial \tau}\right) \geq 0$ and $\frac{\partial}{\partial a}\left(\frac{\partial U^W}{\partial \tau}\right) \geq 0$. Note that $\frac{\partial}{\partial a}\left(\frac{\partial U^j}{\partial \tau}\right) = \frac{\partial}{\partial l}\left(\frac{\partial U^j}{\partial \tau}\right) \cdot \frac{\partial \tilde{l}(a)}{\partial a}$, where $j \in \{E, W\}$. From the proofs of Propositions 1 and 2, $\frac{\partial}{\partial l}\left(\frac{\partial U^j}{\partial \tau}\right) > 0$. Also, $\frac{\partial l(a)}{\partial a} > 0$. Thus, from equation (D.1), $\frac{\partial \tilde{l}(a)}{\partial a} \geq 0$. Then, $\frac{\partial}{\partial a}\left(\frac{\partial U^j}{\partial \tau}\right) \geq 0$, which concludes the proof. ■

[23] $l^{-1}(\cdot)$ is the inverse labor demand function of firms, implicitly defined by $p(1-s)f_l(a + d(a), (1-s)l(a)) = \bar{w}$.

The next step is to map the government's problem into a problem in which it chooses an asset threshold to maximize the *labor-based welfare*. Use conditions (6.1) and (6.2) to express $\mathbb{L}$ and a_2 in terms of the asset threshold a_1. Formally, given a_1, the labor threshold is $\mathbb{L} = l(a_1|\tau_L)$. The second threshold, $a_2 \equiv a_2(a_1)$, is implicitly defined by:

$$U^E(a_2, d(a_2), l(a_1|\tau_L) = U^E(a_2, d(a_2), l(a_2)|\tau_H).$$

Then, the problem of the government presented in Section 6.1.3 can be rewritten in terms of the asset threshold a_1:

$$\begin{aligned}
\max_{a_1\in[\underline{a}_0, a_M]} \tilde{U}(a_1, \lambda) = \lambda \cdot & \left(\int_{\underline{a}_0}^{a_1} U^W(a, l(a)|\tau_L) \partial G(a) + \int_{a_1}^{a_2(a_1)} U^W(a, l(a_1)|\tau_L) \partial G(a) + \int_{a_2(a_1)}^{a_M} U^W(a, l(a)|\tau_H) \partial G(a) \right) \\
& + (1-\lambda) \cdot \left(\int_{\underline{a}_0}^{a_1} U^E(a, l(a)|\tau_L) \partial G(a) + \int_{a_1}^{a_2(a_1)} U^E(a, l(a_1)|\tau_L) \partial G(a) + \int_{a_2(a_1)}^{a_M} U^E(a, l(a)|\tau_H) \partial G(a) \right) \\
s.t \quad & m_L \cdot l^S(\tau_L) = \int_{\underline{a}_0}^{a_1} l(a|\tau_L) \partial G(a) + l(a_1) \cdot [G(a_2(a_1)) - G(a_1)], && \text{(D.2)} \\
& m_H \cdot l^S(\tau_H) = \int_{a_2(a_1)}^{a_M} l(a|\tau_H) \partial G. && \text{(D.3)} \\
& m_L + m_H = G(\underline{a}_0), && \text{(D.4)}
\end{aligned}$$

This alternative formulation leads to Proposition 6. The proposition requires the following lemma:

Lemma 2 *The equilibrium wage w is increasing in the regulatory threshold $\mathbb{L}$. In particular, if $\mathbb{L} = l_{min}$, the change in w is such that $\frac{\partial \bar{w}}{\partial \mathbb{L}} = 0$.*

Proof:

Differentiation of conditions (D.2) to (D.4) in terms of a_1 leads to,

$$\frac{\partial m_L}{\partial a_1} l_L^S + m_L \frac{\partial l_L^S}{\partial a_1} = \int_{\underline{a}}^{a_1} \frac{\partial l_L(a)}{\partial a_1} \partial G + \frac{\partial \mathbb{L}}{\partial a_1} G(a_2) + \mathbb{L} g(a_2) \frac{\partial a_2}{\partial a_1} - l_L(\underline{a}) g(\underline{a}) \frac{\partial \underline{a}}{\partial a_1}, \tag{D.5}$$

$$\frac{\partial m_H}{\partial a_1} l_H^S + m_H \frac{\partial l_H^S}{\partial a_1} = \int_{a_2}^{a_M} \frac{\partial l_H(a)}{\partial a_1} \partial G - \mathbb{L} g(a_2) \frac{\partial a_2}{\partial a_1}, \tag{D.6}$$

$$\frac{\partial m_H}{\partial a_1} = g(\underline{a}) \frac{\partial \underline{a}}{\partial a_1} - \frac{\partial m_L}{\partial a_1}, \tag{D.7}$$

where I have defined: $l_L(a) \equiv l(a|\tau_L), l_H(a) \equiv l(a|\tau_H), l_L^S \equiv l^S(\tau_L)$, and $l_H^S \equiv l^S(\tau_H)$.

Combining (D.6) and (D.7):

$$\frac{\partial m_L}{\partial a_1} = \left(- \int_{a_1}^{a_M} \frac{\partial l_H(a)}{\partial a_1} \partial G + \mathbb{L} g(a_2) \frac{\partial a_2}{\partial a_1} + l_H^S g(\underline{a}) \frac{\partial \underline{a}}{\partial a_1} + m_H \frac{\partial l_H^S}{\partial a_1} \right) \frac{1}{l_H^S}. \tag{D.8}$$

Rearranging (D.5) gives:

$$\frac{\partial m_L}{\partial a_1} = \left(\int_{\underline{a}}^{a_1} \frac{\partial l_L(a)}{\partial a_1} \partial G + \frac{\partial \mathbb{L}}{\partial a_1} G(a_2) + \mathbb{L} g(a_2) \frac{\partial a_2}{\partial a_1} - l_L(\underline{a}) g(\underline{a}) \frac{\partial \underline{a}}{\partial a_1} - m_L \frac{\partial l_L^S}{\partial a_1} \right) \frac{1}{l_L^S}. \tag{D.9}$$

Equalizing conditions (D.8) and (D.9):

$$l_H^S \int_{\underline{a}}^{a_1} \frac{\partial l_L(a)}{\partial a_1} \partial G + l_L^S \int_{a_2}^{a_M} \frac{\partial l_H(a)}{\partial a_1} \partial G - l_H^S (l_L(\underline{a}) + l_L^S) g(\underline{a}) \frac{\partial \underline{a}}{\partial a_1} - m_L l_H^S \frac{\partial l_L^S}{\partial a_1} - m_H l_L^S \frac{\partial l_H^S}{\partial a_1} + \frac{\partial \mathbb{L}}{\partial a_1} G(a_2) = \mathbb{L}(l_L^S - l_H^S) g(a_1),$$

$$\Rightarrow \frac{\partial w}{\partial a_1} \left(l_H^S \int_{\underline{a}}^{a_1} \underbrace{\frac{\partial l_L(a)}{\partial w}}_{<0} \partial G + l_L^S \int_{a_2}^{a_M} \underbrace{\frac{\partial l_H(a)}{\partial w}}_{<0} \partial G - l_H^S (l_L(\underline{a}) + l_L^S) g(\underline{a}) \underbrace{\frac{\partial \underline{a}}{\partial w}}_{<0} - m_L l_H^S \frac{\partial l_L^S}{\partial w} - m_H l_L^S \underbrace{\frac{\partial l_H^S}{\partial w}}_{<0} + \underbrace{\frac{\partial \mathbb{L}}{\partial w}}_{<0} G(a_2) \right) = \underbrace{\mathbb{L}(l_L^S - l_H^S)}_{<0} g(a_1).$$

This last condition implies that $\frac{\partial w}{\partial a_1} > 0$. Finally, to show that $\frac{\partial \bar{w}}{\partial \mathbb{L}} = 0$, the proof proceeds similarly to that of Lemma 1. ■

Proposition 6

1. *$\tilde{U}(\mathbb{L}, \lambda)$ achieves a global maximum in $[l_{min}, l_{max}]$ at some labor threshold $\mathbb{L}_{pe} \in (l_{min}, l_{max})$ characterized by:*

$$\mathbb{L}_{pe} = \sup_{\mathbb{L}} \tilde{U}(\mathbb{L}, \lambda).$$

Suppose that $g(\cdot)$ satisfies $g' < 0$ and that $\frac{\sigma\gamma}{1-\gamma} > 1 - \frac{\tau_L \min\{s, 1-p\}}{\max\{s, 1-p\}}$, then:

2. *$\tilde{U}^E(a_1, \lambda)$ and $\tilde{U}^W(a_1, \lambda)$ are strictly concave in a_1.*

3. *The equilibrium labor threshold $\mathbb{L}_{pe}$ is the unique solution to:*

$$\lambda \frac{\partial \tilde{U}^W(\mathbb{L}_{pe}, \lambda)}{\partial \mathbb{L}} + (1 - \lambda) \frac{\partial \tilde{U}^E(\mathbb{L}_{pe}, \lambda)}{\partial \mathbb{L}} = 0 \tag{D.10}$$

Proof: Rewrite equations (6.3) and (6.4) as a function of a_1 and differentiate in terms of a_1,

$$\frac{\partial \tilde{U}^E}{\partial a_1} = \int_{\underline{a}_0}^{a_1} \frac{\partial U^E(a, l(a)|\tau_L)}{\partial a_1} \partial G + \frac{\partial U^E(a_1, \mathbb{L}|\tau_L)}{\partial a_1} [G(a_2) - G(a_1)] + \int_{a_2}^{a_M} \frac{\partial U^E(a, l(a)|\tau_H)}{\partial a_1} \partial G + [U^E(a_1, l(a_2)|\tau_L) - U^E(a_1, l(a_2)|\tau_H)] g(a_2), \tag{D.11}$$

$$\frac{\partial \tilde{U}^W}{\partial a_1} = \int_{\underline{a}_0}^{a_1} \frac{\partial U^W(a, l(a)|\tau_L)}{\partial a_1} \partial G + \frac{\partial U^W(a_1, \mathbb{L}|\tau_L)}{\partial a_1} [G(a_2) - G(a_1)] + \int_{a_2}^{a_M} \frac{\partial U^W(a, l(a)|\tau_H)}{\partial a_1} \partial G + [U^W(a_1, l(a_2)|\tau_L) - U^W(a_1, l(a_2)|\tau_H)] g(a_2). \tag{D.12}$$

Proof of Item 1

Using equations (D.11) and (D.12), the proof proceeds similarly to that of Proposition 4.

Proof of Item 2

Differentiation of equations (D.11) and (D.12) gives,

$$\frac{\partial^2 \tilde{U}^E}{\partial {a_1}^2} = -2 \underbrace{\left[\frac{\partial U^E(a_2, l(a_2)|\tau_L)}{\partial a_1} - \frac{\partial U^E(a_2, l(a_2)|\tau_L)}{\partial a_1} \right]}_{>0} \cdot \underbrace{\frac{\partial a_2}{\partial a_1}}_{>0} - \underbrace{\left[U^E(a_2, l(a_2)|\tau_H) - U^E(a_2, l(a_2)|\tau_L) \right]}_{<0} \underbrace{g'(a_2)}_{<0} \underbrace{\frac{\partial a_2}{\partial a_1}}_{>0},$$

$$\frac{\partial^2 \tilde{U}^W}{\partial {a_1}^2} = -2 \underbrace{\left[\frac{\partial U^W(a_2, l(a_2)|\tau_H)}{\partial a_1} - \frac{\partial U^W(a_2, l(a_2)|\tau_L)}{\partial a_1} \right]}_{>0} \cdot \underbrace{\frac{\partial a_2}{\partial a_1}}_{>0} - \underbrace{\left[U^W(a_2, l(a_2)|\tau_H) - U^W(a_2, l(a_2)|\tau_L) \right]}_{?} \underbrace{g'(a_2)}_{<0} \underbrace{\frac{\partial a_2}{\partial a_1}}_{>0},$$

where I have used the results from Propositions 1 and 2 that $\frac{\partial^2 U^E}{\partial a \partial \tau} > 0$, $\frac{\partial^2 U^W}{\partial a \partial \tau} > 0$, and that $\frac{\partial U^E}{\partial \tau} < 0$. Thus, if $g' < 0$, then $\frac{\partial^2 \tilde{U}^E}{\partial {a_1}^2} < 0$. To show that $\frac{\partial^2 \tilde{U}^W}{\partial {a_1}^2} < 0$, proceed as in the proof of item 2 of Proposition 4.

Proof of Item 3

Since both $\tilde{U}^E(a_1)$ and $\tilde{U}^W(a_1)$ are strictly concave in a_1, then $\tilde{U}(a_1) = \lambda \tilde{U}^E(a_1) + (1-\lambda)\tilde{U}^E(a_1)$ is strictly concave. The size threshold that maximizes $\tilde{U}(a_1)$, denoted by $\mathbb{a}_{pe}$, satisfies:

$$\frac{\partial \tilde{U}(\mathbb{a}_{pe})}{\partial a_1} = 0 \Leftrightarrow \frac{\partial \tilde{U}(\mathbb{L}_{pe})}{\partial \mathbb{L}} \cdot \underbrace{\frac{\partial \mathbb{L}}{\partial a_1}}_{>0} = 0,$$

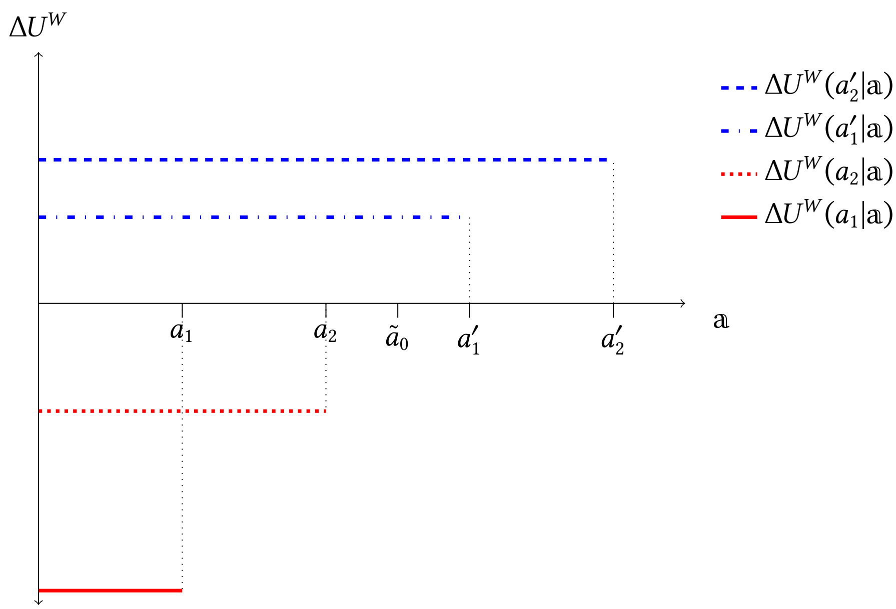
where the last condition leads to (D.10). ■

D.2 Inflexibility in real wages

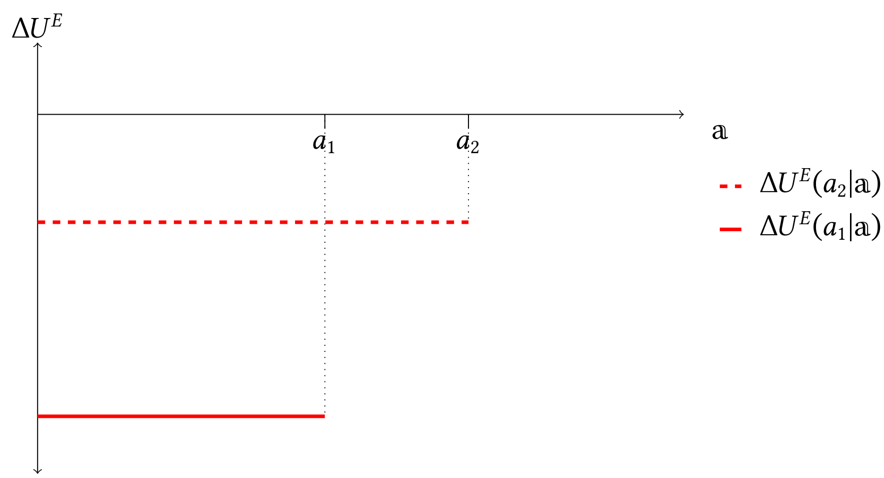
This section studies the equilibrium EPL when real wages are perfectly inflexible, $\iota = 1$. Thus, the wage rate is given by $w_0 = w(\tau_0)$ as defined by condition (3.12). The results can be extended to partial inflexibility in real wages, $\iota \in (0, 1)$. The government maximizes the *asset-based welfare* by taking the wage w_0 as given. Since wages cannot adjust to EPL, when τ improves it generates unemployment. Section E.3 in Appendix E shows how the endogenous probabilities to be matched to a firm under weak (τ_L) and strong (τ_H) regulations adjust to account for unemployment.

D.2.1 Political preferences with inflexible wages

Figure 10 illustrates the change in workers' and entrepreneurs' utilities as a function of the regulatory threshold, $\mathbb{a}$. The effects of an increase in τ can be inferred from Propositions 1 and 2. The changes are relative to the utilities they would obtain under the initial EPL, τ_0. All agents are indifferent when they are not affected by the change in EPL, i.e., when their firms' assets are such that $a < \mathbb{a}$. This is in contrast with Section 5 where all agents are affected by a change in EPL through changes in wages (even if they remain subject to the initially weak EPL).



(a) ΔU^W as function of $\mathbb{a}$.



(b) ΔU^E as function of $\mathbb{a}$.

Figure 10: Political preferences for the regulatory threshold as a function of assets.

D.2.1.1 Workers' preferences for $\mathbb{a}$ The red solid and dotted lines in Figure 10a show that workers in firms with $a < \tilde{a}_0$ are worse off whenever their firms are subject to stricter EPL, i.e., whenever $a \geq \mathbb{a}$. In contrast, as shown by the blue dashed and dashed-dotted lines, workers in firms with $a > \tilde{a}_0$ benefit from a change in EPL as long as they receive higher protection ($a \geq \mathbb{a}$).

Figure 10a also compares the utility losses and gains of workers in firms with four different sizes: $a_1 < a_2 < \tilde{a}_0$ and $a_2' > a_1' > \tilde{a}_0$. Within small firms ($a < \tilde{a}_0$), workers in smaller firms (a_1) suffer more from EPL than those in larger firms (a_2). On the other hand, within large firms ($a > \tilde{a}_0$), workers in larger firms (a_2') gain more from protection than those in smaller firms (a_1').

D.2.1.2 Entrepreneurs' preferences for $\mathbb{a}$ Figure 10b depicts entrepreneurs' utilities as a function of $\mathbb{a}$. All entrepreneurs are worse off under stricter EPL, i.e., when $a > \mathbb{a}$. Those running smaller firms (a_1) suffer more from stricter EPL than owners of larger firms (a_2). From Section 4, recall that larger firms can more easily absorb stricter EPL due to their better access to credit.

D.2.1.3 The asset-based welfare Figure 11 depicts the *asset-based welfare* as a function of $\mathbb{a}$ and λ. The value of $\bar{U}$ at τ_0 is normalized to zero. Thus, if the government does not implement any regulatory change (i.e., $\mathbb{a} = a_M$), then $\bar{U} = 0$. As shown in the figure, the shape of $\bar{U}$ depends on λ.

First, if the government cares only about workers ($\lambda = 1$), $\bar{U}$ is single-peaked at $\tilde{a}_0$, as shown by the continuous red line in the figure. Thus, the political equilibrium when $\lambda = 1$ is $\mathbb{a} = \tilde{a}_0$. Second, if the government cares only about entrepreneurs ($\lambda = 0$), $\bar{U}$ is negative in $[0, a_M]$ and increasing in $\mathbb{a}$ because wealthier entrepreneurs suffer less from EPL. This is shown by the dashed-blue line. In this case, the government chooses not to strengthen EPL, i.e., $\mathbb{a} = a_M$.

The question that remains is: what is the shape of $\bar{U}$ for $\lambda \in (0, 1)$? This case is illustrated by the dotted line. Intuitively, for a relatively low λ, the welfare should remain negative for any regulatory threshold, thus $\mathbb{a} = a_M$. Conversely, for a relatively high λ, $\bar{U}$ should still have a single peak at some asset threshold that gives $\bar{U} > 0$. For intermediate values of λ, the function may have more than one peak depending on the shape of the wealth distribution. Moreover, the peak may give a negative value for $\bar{U}$. Next section describes the set of λ's for which a political equilibrium can be characterized.

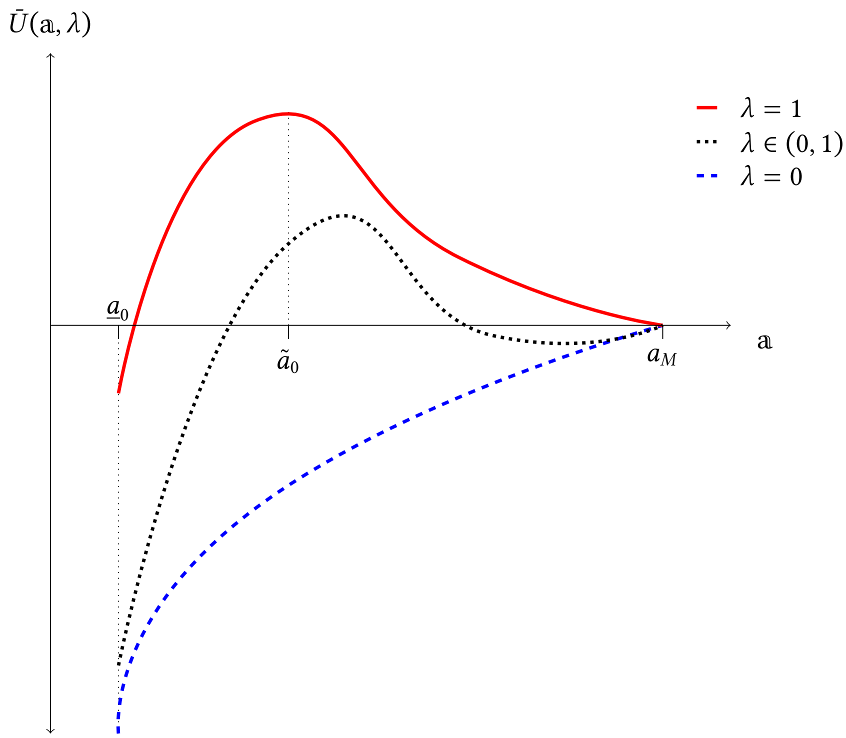


Figure 11: *Asset-based welfare* ($\bar{U}$) as function of λ and $\mathbb{a}$.

D.2.2 Equilibrium EPL with inflexible wages

The following proposition characterizes the political equilibrium, given by the regulatory threshold, $\mathbb{a}_{pe}$, that maximizes the *asset-based welfare.*[24]

Proposition 7 *The equilibrium regulatory threshold under inflexible wages, $\mathbb{a}_{pe}$, is as follows:*

1. *If $\lambda \leq \frac{1}{2+1/(\gamma-2)}$, then $\mathbb{a}_{pe} = a_M$.*
2. *If $\lambda > \frac{1}{2-1/\gamma}$, then $\mathbb{a}_{pe} \in [\tilde{a}_0, \overline{a}_0)$ satisfies:*

$$\lambda \frac{\partial U^W(\mathbb{a}_{pe}|\tau_L)}{\partial \tau} = -(1-\lambda)\frac{\partial U^E(\mathbb{a}_{pe}|\tau_L)}{\partial \tau}. \tag{D.13}$$

   In particular, if $\lambda = 1$, then $\mathbb{a}_{pe} = \tilde{a}_0$ and $\mathbb{a}_{pe} > \tilde{a}_0$ if $\lambda < 1$.

Figure 12 illustrates Proposition 7. It shows the equilibrium labor policy, $\tau_{pe}(a)$, as a function of firm's assets a and the government's political orientation, λ. A *pro-business* government ($\lambda \leq$

[24] To simplify the proof of the proposition and obtain (D.14), I define $\tau_H = \tau_L + \Delta, \Delta > 0$ and take $\Delta \to 0$. However, this is not essential for the result. When Δ is some arbitrary positive number, the condition can be written in terms of finite differences.

$\frac{1}{2+1/(\gamma-2)}$) is not willing to improve EPL and maintains low protection in all firms, as shown by the blue dashed line. On the other hand, a sufficiently *pro-worker* government ($\lambda > \frac{1}{2-1/\gamma}$) implements a *tiered* EPL, that is, there is a regulatory threshold, $\mathbb{a}_{pe} > \underline{a}_0$, above which stricter EPL applies (red dotted line). Thus, workers in smaller firms ($a < \mathbb{a}_{pe}$) are left without protection.

The equilibrium threshold, $\mathbb{a}_{pe}$, equalizes the weighted marginal workers' benefit and the weighted entrepreneurs' marginal costs at the threshold, as shown by expression (D.14). In principle, a *pro-worker* government would like to provide high protection to all workers. However, stricter EPL in smaller firms reduces their already limited access to credit, which discourages investment and hiring. Thus, despite that EPL increases the *effective wage* ($\bar{w}$), it significantly decreases employment in smaller firms, thereby reducing their workers' welfare. Hence, to satisfy condition (D.14), a *pro-worker* government must choose a regulatory threshold, $\mathbb{a}_{pe} > \underline{a}_0$. On the other hand, a *pro-business* government does not provide any protection to workers as it only harms entrepreneurs.

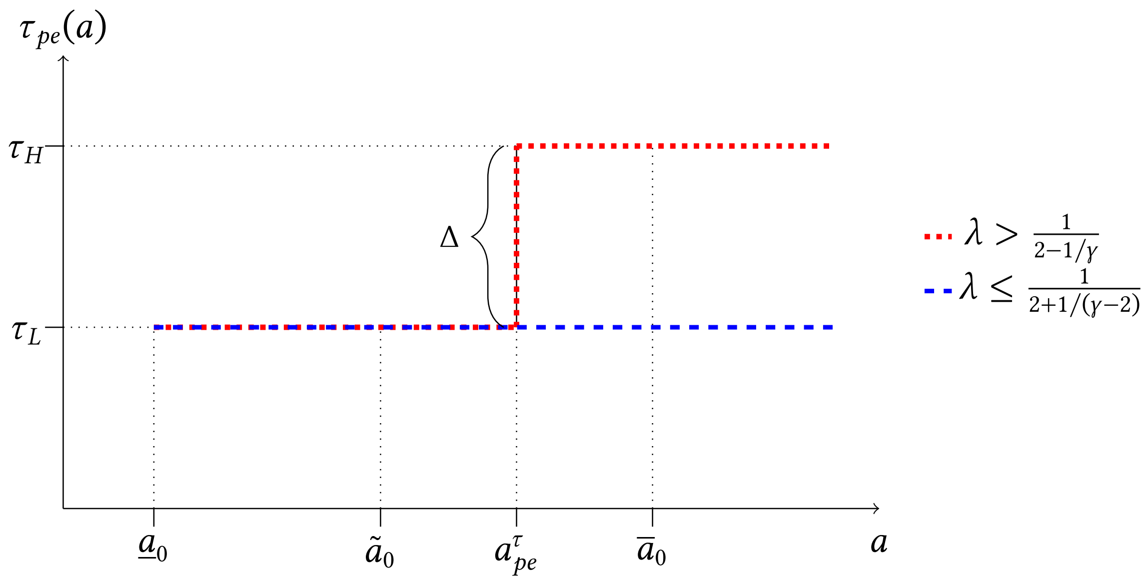


Figure 12: Equilibrium EPL under inflexible wages.

Proposition 7 shows that the equilibrium regulatory threshold can be explicitly characterized as long as $\lambda \leq \frac{1}{2+1/(\gamma-2)}$ or $\lambda > \frac{1}{2-1/\gamma}$, i.e., for non-centrist governments. , When wages are flexible, the equilibrium EPL can be characterized for any $\lambda \in [0, 1]$ (see Section 5).

A final question that should be asked is: What is the effect of λ on the equilibrium regulatory threshold? Intuitively, Figure 11 shows that as λ increases, i.e., as the government becomes more *pro-worker*, the red solid line receives a larger weight and the maximum of $\bar{U}$ shifts left. Thus, more leftist governments should establish a lower regulatory threshold, i.e., a more protective

EPL. Lemma 3 formalizes this result. This prediction is consistent with the empirical evidence presented in Figure 1 in Section 2, which shows that on average more leftist governments set a lower regulatory threshold. Botero et al. (2004) also provides evidence that the left is associated with more stringent EPL.

Lemma 3 *If $\lambda > \frac{1}{2-1/\gamma}$, the equilibrium regulatory threshold, $\mathbb{a}_{pe}$, under inflexible wages is strictly decreasing in λ.*

D.2.3 Inflexibility in real wages: Proofs

D.2.3.1 Proof of Proposition 7

Proposition 7 *The equilibrium regulatory threshold under inflexible wages, $\mathbb{a}_{pe}$, is as follows:*

1. *If $\lambda \leq \frac{1}{2+1/(\gamma-2)}$, then $\mathbb{a}_{pe} = a_M$.*
2. *If $\lambda > \frac{1}{2-1/\gamma}$, then $\mathbb{a}_{pe} \in [\tilde{a}_0, \bar{a}_0)$ satisfies:*

$$\lambda \frac{\partial U^W(\mathbb{a}_{pe}|\tau_L)}{\partial \tau} = -(1-\lambda)\frac{\partial U^E(\mathbb{a}_{pe}|\tau_L)}{\partial \tau}. \tag{D.14}$$

In particular, if $\lambda = 1$, then $\mathbb{a}_{pe} = \tilde{a}_0$ and $\mathbb{a}_{pe} > \tilde{a}_0$ if $\lambda < 1$.

Proof: The FOC of the government's problem in Section 5.1 is as follows:

$$\lambda[U^W(l(\mathbb{a}_{pe}|\tau_L)) - U^W(l(\mathbb{a}_{pe}|\tau_H))]g(\mathbb{a}_{pe}) + (1-\lambda)[U^E(k(\mathbb{a}_{pe}), l(\mathbb{a}_{pe})|\tau_L) - U^E(k(\mathbb{a}_{pe}), l(\mathbb{a}_{pe})|\tau_H)]g(\mathbb{a}_{pe}) = 0.$$

Replacing the formulas for the utilities and rearranging terms:

$$(2\lambda-1)[v(\bar{w}(\tau_L))l(\mathbb{a}_{pe}|\tau_L) - v(\bar{w}(\tau_H))l(\mathbb{a}_{pe}|\tau_H)] - \lambda\left[\frac{l(\mathbb{a}_{pe}|\tau_L)}{l^S(\mathbb{a}_{pe}|\tau_L)}\varsigma(l^S(\mathbb{a}_{pe}|\tau_L)) - \frac{l(\mathbb{a}_{pe}|\tau_H)}{l^S(\mathbb{a}_{pe}|\tau_H)}\varsigma(l^S(\mathbb{a}_{pe}|\tau_H))\right]$$
$$+ (1-\lambda)\left[\tilde{f}(\mathbb{a}_{pe}|\tau_L) - \tilde{f}(\mathbb{a}_{pe}|\tau_H)\right] = 0,$$

where I have defined:

$$\tilde{f}(a|\tau) \equiv pf(k(a|\tau), l(a|\tau)) + (1-p)\eta k(a|\tau) - (1+\rho)d(a|\tau), \tag{D.15}$$

which corresponds to the expected firm's output net of credit costs. Define the following "weighted worker's welfare" function:

$$\hat{U}^W(a|\tau) = (2\lambda-1)v(\bar{w}(\tau))l(a|\tau) - \lambda\frac{l(a|\tau)}{l^S(\tau)}\varsigma(l^S(\tau)). \tag{D.16}$$

Then, the FOC reads as:

$$\hat{U}^W(\mathbb{a}_{pe}|\tau_L) - \hat{U}^W(\mathbb{a}_{pe}|\tau_H) = \tilde{f}(\mathbb{a}_{pe}|\tau_H) - \tilde{f}(\mathbb{a}_{pe}|\tau_H)$$

Divide both sides of previous expression by Δ and take $\lim_{\Delta\to 0}(\cdot)$ to obtain:[25]

$$\frac{\partial \hat{U}^W(\mathbb{a}_{pe}|\tau_L)}{\partial \tau} = -(1-\lambda)\frac{\partial \tilde{f}(\mathbb{a}_{pe}|\tau_L)}{\partial \tau}. \tag{D.17}$$

Analogously to expression (B.10), differentiation of (D.16) in terms of τ leads to:

$$\frac{\partial}{\partial \tau}\left(\hat{U}^W(a)\right) = v(\bar{w})\bar{w}_\tau \cdot l\left[(2\lambda-1) - \frac{1}{\varsigma''(l^S)\cdot l^S}\left((2\lambda-1)\varsigma'(l^S) - \lambda\frac{\varsigma(l^S)}{l^S}\right)\right] + \underbrace{\frac{\partial l}{\partial \tau}}_{<0}\left((2\lambda-1)\varsigma'(l^S) - \lambda\frac{\varsigma(l^S)}{l^S}\right) \tag{D.18}$$

In what follows, expression (D.18) is used to characterize the solution to (D.17). Two cases are studied: i) $\lambda \leq \frac{1}{2+1/(\gamma-2)}$ and ii) $\lambda > \frac{1}{2-1/\gamma}$. When $\lambda \in \left[\frac{1}{2+1/(\gamma-2)}, \frac{1}{2-1/\gamma}\right]$ there may exist multiple solutions.

Case 1: $\lambda \leq \frac{1}{2+1/(\gamma-2)}$

Note that in this case:

$$(2\lambda-1)\varsigma'(l^S) - \lambda\frac{\varsigma(l^S)}{l^S} = [(2\lambda-1)\gamma - \lambda](l^S)^{\gamma-1} < 0,$$

and

$$(2\lambda-1) - \frac{1}{\varsigma''(l^S)\cdot l^S}\left((2\lambda-1)\varsigma'(l^S) - \lambda\frac{\varsigma(l^S)}{l^S}\right) = \frac{(2\lambda-1)\gamma(\gamma-2)+\lambda}{\gamma(\gamma-1)} < \frac{\lambda(2(\gamma-2)+1)+\gamma-2}{\gamma(\gamma-1)} < 0.$$

Proceeding as in Proposition 2, differentiation of (D.18) in terms of a leads to:

$$\begin{aligned}\frac{\partial}{\partial a}\left(\frac{\partial \hat{U}^W(a|\tau_L)}{\partial \tau}\right) = {} & \underbrace{v(\bar{w})\bar{w}_\tau \cdot \frac{\partial l}{\partial a}}_{>0}\underbrace{\left[(2\lambda-1) - \frac{1}{\varsigma''(l^S)\cdot l^S}\left((2\lambda-1)\varsigma'(l^S) - \lambda\frac{\varsigma(l^S)}{l^S}\right)\right]}_{<0} \\ & + \underbrace{\frac{\partial}{\partial a}\left(\frac{\partial l}{\partial \tau}\right)}_{>0}\underbrace{\left((2\lambda-1)\varsigma'(l^S) - \lambda\frac{\varsigma(l^S)}{l^S}\right)}_{<0} < 0.\end{aligned}$$

[25]Note that this expression is analogous to (D.14). As will be clear later, this alternative form is useful to study the solution of the government's problem. Additionally, I take $\Delta \to 0$ to simplify the proof of the proposition and obtain condition (D.14). However, this is not essential for the result. When Δ is some arbitrary positive number, the condition can be written in terms of finite differences.

Hence, in this case, the left-hand side of (D.17) is decreasing in a. Also, because $\lim_{a\to\underline{a}_0^+}\frac{\partial\hat{U}^W(a|\tau_L)}{\partial\tau}=+\infty$, a similar argument as the one used in Proposition 2 can be used to conclude that there is some cutoff, $\hat{a}_0\in(\underline{a}_0,\overline{a}_0)$, defined by:

$$\frac{\partial\hat{U}(\hat{a}_0|\tau_L)}{\partial\tau}=0,$$

such that $\frac{\partial\hat{U}^W(a|\tau_L)}{\partial\tau}>0$ if $a<\hat{a}_0$ and $\frac{\partial\hat{U}^W(a|\tau_L)}{\partial\tau}<0$ if $a>\hat{a}_0$. Moreover, from Proposition 1:

$$\frac{\partial}{\partial a}\left(-\frac{\partial\tilde{f}(a|\tau_L)}{\partial\tau}\right)<0.$$

Thus, the right-hand side of (D.17) is also decreasing in a. Additionally, $\lim_{a\to\underline{a}_0^+}-\frac{\partial\tilde{f}(a|\tau_L)}{\partial\tau}=+\infty$ and $\frac{\partial\tilde{f}(a|\tau_L)}{\partial\tau}=0$ for $a\geq\overline{a}_0$. Since $\frac{\partial\hat{U}^W(\hat{a}_0|\tau_L)}{\partial\tau}=0$ and $\hat{a}_0<\overline{a}_0$, then $-(1-\lambda)\frac{\partial\tilde{f}(a|\tau_L)}{\partial\tau}$ is always above $\frac{\partial\hat{U}^W(a|\tau_L)}{\partial\tau}$. Figure 21 in Section F of the Appendix illustrates condition (D.17) in terms of $\mathbb{a}_{pe}$. The left-hand side is represented by the red solid line, while the blue dashed line depicts the right-hand side. In conclusion, the FOC is always positive and the government chooses $\mathbb{a}_{pe}=a_M$.

Case 2: $\lambda>\frac{1}{2-1/\gamma}$

Note that this condition is equivalent to $\gamma>\frac{\lambda}{2\lambda-1}$. Thus:

$$(2\lambda-1)\varsigma'(l^S)-\lambda\frac{\varsigma(l^S)}{l^S}=[(2\lambda-1)\gamma-\lambda](l^S)^{\gamma-1}>0$$

and

$$(2\lambda-1)-\frac{1}{\varsigma''(l^S)\cdot l^S}\left((2\lambda-1)\varsigma'(l^S)-\lambda\frac{\varsigma(l^S)}{l^S}\right)=\frac{(2\lambda-1)\gamma(\gamma-2)+\lambda}{\gamma(\gamma-1)}>\frac{\lambda(\gamma-1)}{\gamma(\gamma-1)}=\frac{\lambda}{\gamma}>0.$$

These properties and the same argument used in Proposition 2 can be used to show that: $\lim_{a\to\underline{a}_0^+}\frac{\partial\hat{U}^W(a|\tau_L)}{\partial\tau}=-\infty$ and that $\frac{\partial}{\partial a}\left(\frac{\partial\hat{U}^W(a|\tau_L)}{\partial\tau}\right)>0$. Thus, there is a cutoff, $\hat{a}_0\in(\underline{a}_0,\overline{a}_0)$, such that $\frac{\partial\hat{U}^W(a|\tau_L)}{\partial\tau}<0$ if $a<\hat{a}_0$ and $\frac{\partial\hat{U}^W(a|\tau_L)}{\partial\tau}>0$ if $a>\hat{a}_0$.[26] Figure 22 in Section F illustrates equation (D.17) in terms of $\mathbb{a}$. The properties of $\hat{U}^W$ and $\tilde{f}$ imply that there is a unique solution, $\mathbb{a}_{pe}\in(\hat{a}_0,\overline{a}_0)$, to equation (D.17). In particular, when $\lambda=1$ the FOC reads as $\frac{\partial U^W(\mathbb{a}_{pe}|\tau_L)}{\partial\tau}=0$, which by Proposition 2 is solved by $\mathbb{a}_{pe}=\tilde{a}_0$. Otherwise, when $\lambda\in(\frac{1}{2-1/\gamma},1)$, $\mathbb{a}_{pe}>\hat{a}_0>\tilde{a}_0$, as shown in the figure. ■

D.2.3.2 Proof of Lemma 3

Lemma 3 *If $\lambda>\frac{1}{2-1/\gamma}$, the equilibrium regulatory threshold, $\mathbb{a}_{pe}$, under inflexible wages is strictly decreasing in λ.*

[26] Since $\lambda>2\lambda-1$ when $\lambda\in(0,1)$, then the cutoff at which $\frac{\partial\hat{U}^W}{\partial\tau}=0$ is to the right of that at which $\frac{\partial U^W}{\partial\tau}=0$.

Proof: Differentiating (D.14) in terms of λ:

$$\frac{\partial U^W}{\partial \tau} + \lambda \cdot \frac{\partial^2 U^W}{\partial \mathbb{a}_{pe} \partial \tau} \frac{\partial \mathbb{a}_{pe}}{\partial \lambda} = \frac{\partial U^E}{\partial \tau} - (1-\lambda) \cdot \frac{\partial^2 U^E}{\partial \mathbb{a}_{pe} \partial \tau} \frac{\partial \mathbb{a}_{pe}}{\partial \lambda},$$

$$\Rightarrow \frac{\partial \mathbb{a}_{pe}}{\partial \lambda} = \frac{\frac{\partial U^E}{\partial \tau} - \frac{\partial U^W}{\partial \tau}}{\lambda \frac{\partial^2 U^W}{\partial \mathbb{a}_{pe} \partial \tau} + (1-\lambda) \frac{\partial^2 U^E}{\partial \mathbb{a}_{pe} \partial \tau}}. \tag{D.19}$$

Note that from (D.14):

$$\lambda \left(\frac{\partial U^W}{\partial \tau} - \frac{\partial U^E}{\partial \tau} \right) = -\frac{\partial U^E}{\partial \tau} > 0.$$

Thus, the numerator of (D.19) is negative. Finally, from Propositions 1 and 2, the denominator is positive. Thus, $\frac{\partial \mathbb{a}_{pe}}{\partial \lambda} < 0$, when $\lambda > \frac{1}{2 - 1/\gamma}$. ■

D.3 Independent bargaining

D.3.1 Timeline

Figure 13 illustrates the timeline. At $t = 0$, workers are matched to a firm and are subject to the initially homogeneous EPL, $\tau_0(a) = \tau_L$. The different groups of workers form unions to bargain on τ with their firms.

Negotiation terms are as follows. At $t = 1$, potential entrepreneurs and unions sign an employment contract which defines the strength of EPL to be exercised at $t = 2$. The contract specifies whether the firm is going to operate under weak (τ_L) or strong EPL (τ_H). Entrepreneurs cannot precommit to a given level of employment since debt and labor are decided at period $t = 2$, i.e. after the new EPL τ has been set. Conversely, at $t = 1$, unions in bargaining with entrepreneurs set their demands taking into account the effect on debt, and thus, on the amount of labor that will be hired at $t = 2$. However, as negotiations take place independently between unions and entrepreneurs of different firms, they cannot anticipate the general equilibrium effects of the economy-wide changes in ELP. At $t = 2$, the economy operates under the new EPL, τ, that results from independent negotiations. Production takes place and loans are repaid.

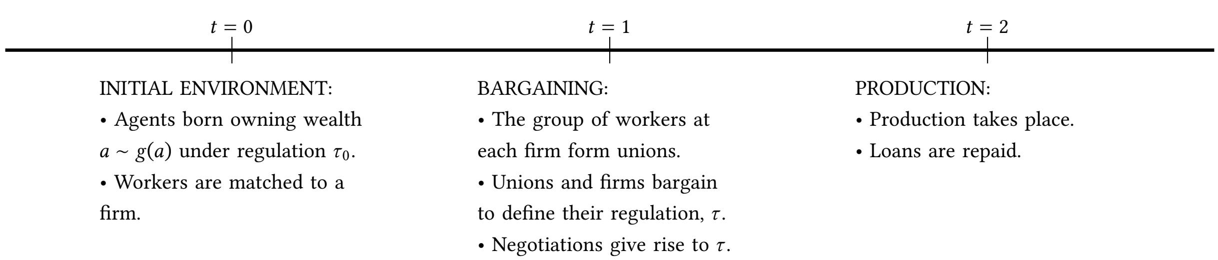


Figure 13: Timeline.

D.3.2 Bargaining mechanism

Unions and entrepreneurs bargain over their firm-specific labor regulation by following the random proposer model by Binmore (1987). Unions and entrepreneurs make take-it-or-leave-it proposals with frequencies μ and $1-\mu$, respectively. Thus, a firm's regulation is set at the union's optimal level with frequency μ and at the entrepreneur's preferred level with frequency $1-\mu$. Hence, $\mu \in [0,1]$ can be interpreted as the "unions' bargaining power", which is now the unique policy instrument of the government.

Importantly, μ is not size-contingent. Thus, policy intervention operates in a single dimension and it is uniform across firms. This means that firms cannot strategically adjust their size to face less stringent EPL. Since the policy instrument has only one degree of freedom, it is not obvious whether there exists a level of μ that replicates the maximum *asset-based welfare* of Section 5. Recall that this level of welfare was attained under a size-contingent EPL which provided the government a greater degree of freedom.

D.3.3 Equilibrium EPL

Negotiations lead to the expected EPL, $\tau_{rp} : [\underline{a}_0, a_M] \to \mathcal{O}$, to be implemented at $t=2$, where $\mathcal{O}$ is the convex set given by:

$$\mathcal{O} = \{(\zeta\tau_L + (1-\zeta)\tau_H, \zeta \in [0,1]\},$$

where $\tau_H = \tau_L + \Delta$, with $\Delta > 0$.

Lemma 4 *The expected EPL, $\tau_{rp} : [\underline{a}_0, a_M] \to \mathcal{O}$, that arises from the random proposer model is given by:*

$$\tau_{rp}(a) = \begin{cases} \tau_L & \text{if } a \in [\underline{a}_0, \tilde{a}_0), \\ \tau_L + \mu\Delta & \text{if } a \geq \tilde{a}_0. \end{cases} \tag{D.20}$$

Figure 14 illustrates Lemma 4. As opposed to Section 5, governments have no control over the size threshold above which EPL becomes stricter, which now is fixed and given by $\tilde{a}_0$. In this case, governments can affect the equilibrium policy by changing the bargaining power of unions, μ. Thus, now they have control over the size of the discontinuity at the regulatory threshold. In next section, I show the conditions under which the expected EPL that arises from the random proposer model can replicate the maximum *asset-based welfare*.

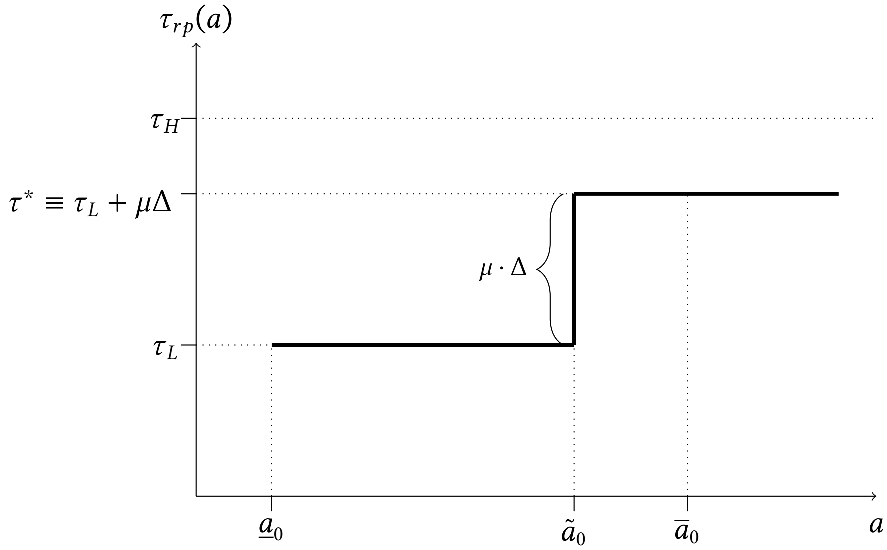


Figure 14: Expected labor regulation, τ_{rp}.

D.3.4 Bargaining under inflexible wages

I analyze the case in which wages are inflexible which is simpler. The results can be extended to flexible wages. The question to be studied in this section is as follows: Can the government choose the unions' bargaining power such that the negotiated EPL replicates the maximum *asset-based welfare*?

This question translates into finding a μ such that τ_{rp} gives the maximum *asset-based welfare*, $\bar{U}(\mathbb{a}_{pe})$, where $\mathbb{a}_{pe}$ solves equation (D.14) in Section (D.2).

Proposition 8 *The unions' bargaining power function, $\mu(\lambda)$, that implements the maximum asset-based welfare is as follows:*

$$\mu(\lambda) = \begin{cases} 0 & \text{if } \lambda \leq \frac{1}{2+1/(\gamma-2)}, \\ \theta(\lambda) & \text{if } \lambda \in (\tilde{\lambda}, 1], \end{cases} \tag{D.21}$$

where $\theta(\lambda) \in (0, 1]$ is some increasing function in λ such that $\theta(1) = 1$ and $\tilde{\lambda} > \frac{1}{2-1/\gamma}$.

Proposition 8 shows that there is a unions' bargaining power function, $\mu(\lambda)$, that implements the maximum *asset-based welfare* for $\lambda \in \left[0, \frac{1}{2+1/(\gamma-2)}\right] \bigcup (\tilde{\lambda}, 1]$. As expected, more leftist governments provide higher bargaining power to unions. In contrast, right-wing governments are able to exactly enforce their preferred policy by not allowing unions to exist, $\mu = 0$. Left-wing regulators can implement the exact equilibrium EPL of Section D.2.2 only when $\lambda = 1$ and by giving all the bargaining power to unions, $\mu = 1$. Otherwise, when $\lambda \in (\tilde{\lambda}, 1)$, the maximum *asset-based* *welfare* is achievable under a labor policy that is different to the one described in Section D.2.2. In what follows, I explain the intuition for this last result.

Under independent bargaining, governments do not have control over the threshold above which EPL becomes stricter, which is now fixed and given by $\tilde{a}_0$. However, Section D.2.2 shows that, when $\lambda \in (\tilde{\lambda}, 1)$, the preferred policy is such that the size threshold satisfies: $\mathbb{a} > \tilde{a}_0$. Thus, the EPL arising from independent negotiations has a lower size threshold than the most preferred EPL, i.e., provides protection to a larger set of workers. Governments can solve this issue by limiting the bargaining power of unions (μ), that is by controlling the intensive margin of EPL, represented in Figure 14 by the size of the 'jump' ($\mu\Delta$) at the threshold. As a result, the EPL that implements the maximum *asset-based welfare* provides protection to a larger set of workers, but the intensity of that protection is lower.

The main takeaway of this section is that government can eliminate the distortions created by strategic behavior by properly allocating the bargaining power between workers and entrepreneurs. In equilibrium, there are no unions in smaller firms ($a < \tilde{a}_0$). Even when workers from this sector are allowed to form unions and bargain on labor conditions, they accept to remain under weak protection regardless of their bargaining power. Thus, is like unions never come to exist in smaller firms. In consequence, the government chooses μ to control the outcome of negotiations in larger firms ($a > \tilde{a}_0$), and in this way, attain the desired level of welfare.

D.3.5 Bargaining: Proofs

D.3.5.1 Proof of Lemma 4

Lemma 4 *The expected labor regulation, $\tau_{rp} : [\underline{a}_0, a_M] \to \mathcal{O}$, that arises from the random proposer model is given by:*

$$\tau_{rp}(a) = \begin{cases} \tau_L & \text{if } a \in [\underline{a}_0, \tilde{a}_0), \\ \tau_L + \mu\Delta & \text{if } a \geq \tilde{a}_0. \end{cases}$$

Proof: Define $\tau^U(a)$ and $\tau^E(a)$ as the preferred policies of unions and entrepreneurs, respectively. First, when bargaining, agents cannot anticipate the effect of all agents' decisions on the equilibrium wage w. Thus, they only consider the direct positive effect of higher protection on their effective wage, but not the negative effect on w that happens when the economy-wide EPL changes. From Proposition 2: $\frac{dU^W(a)}{d\tau} < 0$ if $a \in [\underline{a}_0, \tilde{a}_0)$ and $\frac{dU^W(a)}{d\tau} > 0$ if $a > \tilde{a}_0$. Thus:

$$\tau_U(a) = \begin{cases} \tau_L & \text{if } a \in [\underline{a}_0, \tilde{a}_0), \\ \tau_H & \text{if } a \geq \tilde{a}_0. \end{cases}$$

Moreover, from Proposition 1, $\frac{\partial U^E(a)}{\partial \tau} < 0$ for any $a \geq \underline{a}_0$. Thus, $\tau_E(a) = \tau_L$.

From the random proposer model, the labor regulation is set at $\tau^U(a)$ with frequency μ and at $\tau^E(a)$ with frequency $1-\mu$. The negotiated expected EPL τ_{rp} is given by:

$$\tau_{rp}(a) = \begin{cases} \tau_L & \text{if } a \in [\underline{a}_0, \tilde{a}_0), \\ \tau_H \mu + \tau_L(1-\mu) & \text{if } a \geq \tilde{a}_0, \end{cases} .$$

Using that $\tau_H = \tau_L + \Delta$ leads to expression (D.20). ■

D.3.5.2 Proof of Proposition 8

Proposition 8 *The unions' bargaining power function, $\mu(\lambda)$, that implements the maximum asset-based welfare is as follows:*

$$\mu(\lambda) = \begin{cases} 0 & \text{if } \lambda \leq \frac{1}{2+1/(\gamma-2)}, \\ \theta(\lambda) & \text{if } \lambda \in (\tilde{\lambda}, 1], \end{cases}$$

where $\theta(\lambda) \in (0,1]$ is some increasing function in λ such that $\theta(1) = 1$ and $\tilde{\lambda} > \frac{1}{2-1/\gamma}$.

Proof: Define the weighted welfare of the preferred policy given λ as follows:

$$\tilde{U}(\lambda) \equiv \max_{\mathbb{a} \in (\underline{a}_0, a_M)} \left\{ \lambda \cdot \left(\int_{\underline{a}_0}^{\mathbb{a}} U^W(a|\tau_L)\partial G + \int_{\mathbb{a}}^{a_M} U^W(a|\tau_H)\partial G \right) + (1-\lambda) \cdot \left(\int_{\underline{a}_0}^{\mathbb{a}} U^E(a|\tau_L)\partial G + \int_{\mathbb{a}}^{a_M} U^E(a|\tau_H)\partial G \right) \right\}. \tag{D.22}$$

Define the weighted welfare of the expected EPL (τ_{rp}) given λ and bargaining power μ as:

$$V(\lambda, \mu) = \lambda \cdot \left(\int_{\underline{a}_0}^{\tilde{a}_0} U^W(a|\tau_L)\partial G + \int_{\tilde{a}_0}^{a_M} U^W(a|\tau^*)\partial G \right) + (1-\lambda) \cdot \left(\int_{\underline{a}_0}^{\tilde{a}_0} U^E(a|\tau_L)\partial G + \int_{\tilde{a}_0}^{a_M} U^E(a|\tau^*)\partial G \right), \tag{D.23}$$

where $\tau^* \equiv \tau_L + \mu \cdot \Delta$. First, note that from Lemma 4, when $\lambda = 1$ and $\mu = 1$, then the regulatory threshold arising from the random proposer model is $\tilde{a}_0$, which coincides with the preferred policy of the government. Thus, we have that $\tilde{U}(1) = V(1,1)$, i.e. $\mu = 1$ implements $\tilde{U}(1)$. Second, observe that if $\mu = 0$, then $\tau_{rp} = \tau_L$, which coincides with τ_{pe} given $\lambda \leq \frac{1}{2+1/(\gamma-2)}$. Therefore, $\mu = 0$ implements $\tilde{U}(\lambda)$ for any $\lambda \leq \frac{1}{2+1/(\gamma-2)}$.

Finally, all is left to do is to find what μ implements $\tilde{U}(\lambda)$ when $\lambda > \frac{1}{2-1/\gamma}$. Define the FOC (D.14) as a function of (λ, μ, a):

$$FOC(\lambda, \mu, a) \equiv \lambda \frac{\partial U^W(a|\tau^*)}{\partial \tau} + (1-\lambda) \frac{\partial U^E(a|\tau^*)}{\partial \tau}. \tag{D.24}$$

Additionally, differentiate $V(\lambda, \mu)$ in terms of μ to obtain:

$$\begin{aligned}\frac{\partial V(\lambda,\mu)}{\partial \mu} &= \frac{\partial \tau^*}{\partial \mu}\left(\lambda \int_{\mathbb{a}}^{a_M} \frac{\partial U^W(a|\tau^*)}{\partial \tau}\partial G + (1-\lambda)\int_{\mathbb{a}}^{a_M} \frac{\partial U^E(a|\tau^*)}{\partial \tau}\partial G\right),\\ &= \Delta\left(\int_{\tilde{a}_0}^{a_M} \lambda\frac{\partial \tilde{U}(a|\tau^*)}{\partial \tau} + (1-\lambda)\frac{\partial U^E(a|\tau^*)}{\partial \tau}\partial G\right) = \Delta\int_{\tilde{a}_0}^{a_M} FOC(\lambda,\mu,a)\partial G. \qquad \text{(D.25)}\end{aligned}$$

Pick $\lambda = 1-\varepsilon$, for some $\varepsilon > 0$, but small. Note that $FOC(1-\varepsilon, 1, a) < 0$ if $a > \mathbb{a}_{pe}$. Thus, by continuity of $FOC(\lambda,\mu,a)$, there must be some $\epsilon \in (0,1)$ such that $\frac{\partial V(\lambda,\mu)}{\partial \mu} < 0$ for $\mu \in (1-\epsilon, 1)$. In consequence, it must be that $V(1-\varepsilon,\mu) \geq V(1-\varepsilon, 1) = \tilde{U}(1-\varepsilon)$ for some $\mu \in (1-\epsilon, 1)$. Hence, for a given $\lambda = 1-\varepsilon$, there exists some $\mu(\lambda) \in (1-\epsilon, 1)$ that implements $\tilde{U}(1-\varepsilon)$. Since $\tilde{U}(\lambda)$ is increasing in λ, it must be that the function characterizing $\mu(\lambda)$, named as $\theta(\lambda)$, is increasing in λ. To conclude, since ε must be small, this result applies to some neighbourhood $\lambda \in (\tilde{\lambda}, 1)$, where $\tilde{\lambda} > \frac{1}{2-1/\gamma}$. ■

D.4 A dynamic extension of the model

This section develops a dynamic extension of the baseline model. The main feature is that EPL affects the future distribution of wealth, which in turn determines the future design of EPL. Thus, the dynamics of size-contingent EPL result from the joint interaction between policies and the wealth distribution over time. I analyze the endogenous evolution of size-contingent EPL in an economy where occupational choice is initially limited by credit constraints. The main finding is that the equilibrium regulatory threshold follows an increasing trend over time and reaches a steady-state in the long-run. This is true regardless of the evolution of political orientation of the ruling government. This result explains the long-term stability of *tiered* EPL within countries.

D.4.1 The model

Time is continuous, there is an infinite time horizon, and no uncertainty. The state of the economy at period t is given by the endogenous distribution of wealth $g_t(a)$. The initial wealth distribution follows a power law $g_0(a) = c \cdot a^{-\zeta}$, with $c > 0$ and $\zeta < 1$.

Consider momentarily a discrete time model where the length of a period is Δ. Figure 15 illustrates the sequence of events that take place in a timeframe Δ. First, given the wealth distribution g_t, the government chooses the regulatory threshold, $\mathbb{a}$, by solving equation (5.9). Second, after observing the wealth distribution and the current EPL, agents make their occupational choice. Third, production takes place (Figure 2 illustrates the timing within this stage). Finally, agents save a fraction $\theta^j > 0$ of their wealth each period and consume the rest, where $j \in \{W, E\}$ represents "worker" and "entrepreneur", respectively, with $\theta^E > \theta^W$.

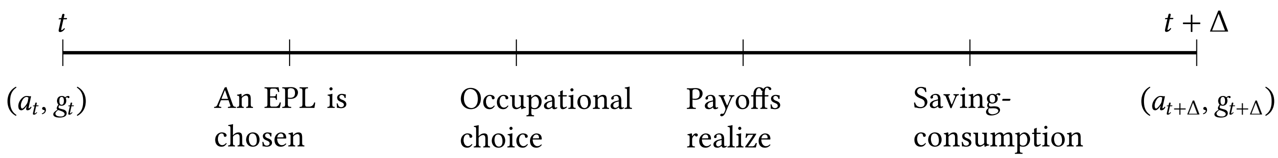


Figure 15: Timing within period t

Consider the EPL, τ_t, such that $\tau_t(a) = \tau_L$ if $a < \mathbb{a}$ and $\tau(a) = \tau_H$ if $a \geq \mathbb{a}$. The income function of an individual with assets a given τ_t is:

$$y_t(a) = \begin{cases} f(k,l) - (1 + \tau_t(a)) \cdot wl - (1+\rho)d & \text{if an entrepreneur,} \\ \mathbb{E}u^W(\tau_t) + (1+\rho)a & \text{if a worker,} \end{cases} \tag{D.26}$$

where $\mathbb{E}u^W$ is given by equation (E.1).

D.4.2 Discussion of key assumptions

The main challenge in studying the dynamics of EPL lies in characterizing the joint dynamics of regulation and wealth distribution. Few papers in the literature provide analytical results for policy dynamics in heterogeneous agent models (e.g. Itskhoki and Moll, 2019), but they do not incorporate an occupational decision or endogenous credit constraints as in my model. In Huerta (2025a), I analytically characterize the transition dynamics of social benefits in a setting that incorporates both ingredients.

The dynamic extension I consider in this paper involves at least three complications relative to Huerta (2025a). First, firms are heterogeneous in both capital and labor. Second, credit constraints apply to both the intensive and extensive margins. Third, the policy under study is a function of assets rather than a scalar.

In order to obtain analytical results, I make two important assumptions: (1) the initial density function follows a power law, and (2) agents save a fraction of their income that is exogenously given. Assumption (2) is the most important for tractability. It avoids solving the dynamic programming problem of individuals, which is analytically untractable given the variable size of firms and credit constraints that depend on both assets and EPL.

In Huerta (2025a), I solve the individual dynamic programming problem and obtain an equilibrium condition for the saving rate, which depends on the current wealth distribution and policy. Entrepreneurs save more than workers, which motivates the assumption that $\theta^E > \theta^W$. However, in that paper, firms are homogeneous, and thus, I can solve analytically for the consumption and saving policy functions. On the other hand, Itskhoki and Moll (2019) obtain tractability by assuming constant returns to scale and exogenous financial constraints that are linear in capital.

D.4.3 Occupational choice

Consider the following occupational (OC) and incentive compatibility (IC) functions:

$$OC_t(a, \tau; \mathbb{a}) = f(k(a), l(a)) - (1 + \tau)wl(a) - (1 + \rho)d(a) - \mathbb{E}u^W, \tag{D.27}$$

$$IC_t(a, \tau; \mathbb{a}) = f(k(a), l(a)) - (1 + \tau)wl(a) - (1 + \rho)d(a) - \phi k(a), \tag{D.28}$$

where $k(a) = a + d(a)$, $d(a)$ in (D.27) solves $\Psi(a, d, l) = 0$, and $d(a)$ in (D.28) also solves $\Psi_d(a, d, l) = 0$. Note that both functions, OC_t and IC_t, depend on the regulatory threshold $\mathbb{a}$ through the equilibrium wage w, which in turn affects $d(a)$, $l(a)$, and $\mathbb{E}u^W$. The time subscript captures the fact that all endogenous variables depend on the current wealth distribution g_t.

The occupational threshold, $\hat{a}(\tau, \mathbb{a})$, that defines the first agent who prefers to be an entrepreneur instead of a worker, is given by $OC(\hat{a}, \tau, \mathbb{a}) = 0$. The minimum collateral to obtain credit, $\underline{a}(\tau, \mathbb{a})$, is given by $IC(\underline{a}, \tau, \mathbb{a}) = 0$. Occupational choice is determined by comparing both thresholds at the different strengths of EPL, τ_L and τ_H. The occupational threshold is decreasing in τ, thus $\hat{a}_L(\mathbb{a}) \equiv \hat{a}(\tau_L, \mathbb{a}) > \hat{a}_H(\mathbb{a}) \equiv \hat{a}(\tau_H, \mathbb{a})$. On the other hand, the minimum collateral increases with τ, i.e., $\overline{a}_L(\mathbb{a}) \equiv \overline{a}(\tau_L, \mathbb{a}) < \overline{a}_H(\mathbb{a}) \equiv \overline{a}(\tau_H, \mathbb{a})$.

Figure 16 illustrates occupational choice. "W" stands for worker, and "E" stands for entrepreneur. There are four relevant cases. When $\mathbb{a} > \underline{a}_1$ (cases (1) and (2)), occupational choice is defined by $a^O \equiv \max\{\underline{a}_0, \hat{a}_0\}$. Agents with $a < a^O$ become workers, while the rest become entrepreneurs. On the other hand, if $\mathbb{a} < \underline{a}_1$ (cases (3) and (4)), occupational choice is more involved and there is no simple rule that summarizes occupational decisions.

In this section, I study an economy where the initial regulatory threshold satisfies $\mathbb{a}_0 > \underline{a}_H(\mathbb{a}_0)$ and with initially binding credit constraints, ($\underline{a}_L > \hat{a}_L$ (case (1)). Given these initial conditions, the dynamics of occupational choice depend solely on the evolution of a_t^O.

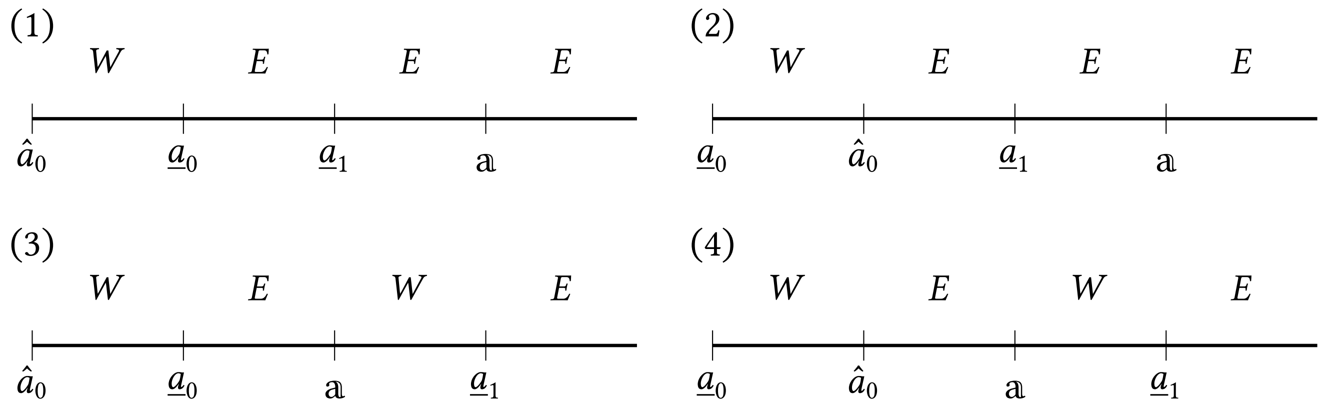


Figure 16: Occupational choice.

D.4.4 Equilibrium

Given some initial wealth distribution g_0 such that $\mathbb{a}_0 > \underline{a}_1(\mathbb{a}_0)$ and $\underline{a}_0 > \hat{a}_0$, the evolution of the economy is characterized by the following equations:

$$d_t g_t = -G_t(a_t^O) d_a(\theta^W a g_t(a)) - \left(1 - G_t(a_t^O)\right) d_a(\theta^E a g_t(a)), \tag{D.29}$$

$$a_t^O = \max\{\underline{a}_t(\tau_0), \hat{a}_t(\tau_0)\}, \tag{D.30}$$

$$\lambda d_{\mathbb{a}} \bar{U}_t^W(a_t^\tau) = -(1-\lambda) d_{\mathbb{a}} \bar{U}_t^E(a_t^\tau) \tag{D.31}$$

where the operator $d_x(\cdot)$ denotes the derivative in terms of x. Equation (D.29) determines the evolution of the wealth distribution[27], (D.30) determines occupational choice, and (D.31) defines the dynamics of the regulatory threshold.

Note that from condition (D.29), the economy does not attain a stationary distribution. In particular, wealth is accumulated indefinitely due to the assumption of fixed saving rates. Despite this, the regulatory threshold reaches a steady state level (see Proposition 9).

D.4.5 The dynamics of the regulatory threshold

Proposition 9 shows two important results. The regulatory threshold, $\mathbb{a}_t$, increases over time and attains a steady-state level. This is true regardless of the weights the government puts on workers and entrepreneurs. Thus, $\mathbb{a}_t$ follows an increasing trend regardless of the changes in the government ideology over time. These results provide an explanation for the persistence of *tiered*

[27]This condition is known as the Kolmogorov Forward Equation. For a proof of its derivation see Lemma 2 in Huerta (2025a)

EPL within countries. According to the model, the implementation of a *tiered* EPL influences the future evolution of the wealth distribution in such a way that the future support for such a regulation is reinforced.

Proposition 9 *Suppose that the initial wealth distribution g_0 is such that (i) $\mathbb{a}_0 > \underline{a}_H(\mathbb{a}_0)$ and (ii) credit constraints are binding, $\underline{a}_L > \hat{a}_L$, then the regulatory threshold, $\mathbb{a}_t$, increases over time and reaches a stationary level, $\mathbb{a}^*$, that solves:*

$$OC(\hat{a}(\tau_H, \mathbb{a}^*), \tau_L; \mathbb{a}^*) = 0. \tag{D.32}$$

The implementation of a *tiered* EPL introduces a cross-subsidy from larger to smaller firms. Moreover, it greatly benefits the small-scale sector while imposing a relatively low cost on larger firms. Thus, the future share of small to large firms decreases, increasing the entrepreneurial support for a less protective EPL, i.e. a higher regulatory threshold.

From the point of view of workers, those in smaller firms have a strong preference for a protective EPL, i.e., a low regulatory threshold. On the other hand, those in larger firms demand protection for themselves but not for workers in smaller firms (a higher regulatory threshold). Thus, as smaller firms growth over time, the overall workers' support for a highly protective EPL decreases. In sum, the implementation of a *tiered* EPL induces a decline in the support for a highly protective EPL, which explains why the regulatory threshold increases over time.

The final question is why the regulatory threshold reaches a steady state value. The cross-subsidy from large to small firms induced by a *tiered* EPL reinforces wealth accumulation, which makes credit constraints less binding over time. At some point, the *IC* becomes no longer binding. Thus, occupational decisions are not restricted by credit constraints anymore. The decision to invest in a firm is then determined by the occupational constraint (condition (D.33)), which defines the stationary regulatory threshold.

D.4.6 A dynamic extension of the model: Proofs

D.4.6.1 Proof of Proposition 9

Proposition 9 *Suppose that the initial wealth distribution g_0 is such that (i) $\mathbb{a}_0 > \underline{a}_H(\mathbb{a}_0)$ and (ii) credit constraints are binding, $\underline{a}_L > \hat{a}_L$, then the regulatory threshold, $\mathbb{a}_t$, increases over time and reaches a stationary level, $\mathbb{a}^*$, that solves:*

$$OC(\hat{a}(\tau_H, \mathbb{a}^*), \tau_L; \mathbb{a}^*) = 0. \tag{D.33}$$

Proof: Consider an initial distribution g_0 such that $\mathbb{a}_0 > \underline{a}(\tau_H, \mathbb{a}_0)$ and $\underline{a}_L > \hat{a}_L$. These conditions imply that occupational choice over time will be as in cases (1) or (2) from Figure 16, thus it will depend on $\underline{a}_L$ and $\hat{a}_L$. To avoid confusion with the time subscripts denote these thresholds as $\underline{a}_t$ and $\hat{a}_t$. Also, the derivative of a variable in terms of t is denoted by $d_t(\cdot)$. The evolution of the regulatory threshold, $\mathbb{a}_t$, is obtained by differentiating (D.31) in terms of t. To simplify exposition, I study separately a *pro-business* ($\lambda = 0$) and a *pro-worker* ($\lambda = 1$) government. The result then extends to any λ.

Consider first $\lambda = 0$. Differentiating (B.27) in terms of t gives:

$$\begin{aligned}\frac{\partial}{\partial t}\left(\frac{\partial \bar{U}_t^E}{\partial \mathbb{a}}\right) = & \int_{\underline{a}_t}^{\mathbb{a}} \frac{\partial^2 U^E(a|\tau_L)}{\partial(\mathbb{a})^2} d_t \mathbb{a} g_t(a) \partial a + \int_{\mathbb{a}}^{a_M} \frac{\partial^2 U^E(a|\tau_H)}{\partial(\mathbb{a})^2} d_t \mathbb{a} g_t(a) \partial a, \\ & + \int_{\underline{a}_t}^{\mathbb{a}} \frac{\partial U^E(a|\tau_L)}{\partial \mathbb{a}} d_t g_t(a) \partial a + \int_{\mathbb{a}}^{a_M} \frac{\partial U^E(a|\tau_H)}{\partial \mathbb{a}} d_t g_t(a) \partial a - d_t \underline{a}_t \, U^E(\underline{a}_t) g(\underline{a}), \\ & + \left(\frac{\partial U^E(\mathbb{a}|\tau_L)}{\partial \mathbb{a}} - \frac{\partial U^E(\mathbb{a}|\tau_H)}{\partial \mathbb{a}}\right) g_t(\mathbb{a}) d_t \mathbb{a} + \left(U^E(\mathbb{a}|\tau_L) - U^E(\mathbb{a}|\tau_H)\right) d_t g_t(\mathbb{a}) d_t \mathbb{a}.\end{aligned}$$

Imposing the FOC of the government and solving for $d_t \mathbb{a}$ gives:

$$d_t \mathbb{a} = \frac{-\int_{\underline{a}}^{\mathbb{a}} \frac{\partial U^E(a|\tau_L)}{\partial \mathbb{a}} d_t g_t(a) \partial a - \int_{\mathbb{a}}^{a_M} \frac{\partial U^E(a|\tau_H)}{\partial \mathbb{a}} d_t g_t(a) \partial a}{\int_{\underline{a}}^{\mathbb{a}} \frac{\partial^2 U^E(a|\tau_L)}{\partial(\mathbb{a})^2} g_t(a) \partial a + \int_{\mathbb{a}}^{a_M} \frac{\partial^2 U^E(a|\tau_H)}{\partial(\mathbb{a})^2} g_t(a) \partial a - \frac{l_t}{\Psi_a} \frac{\partial \bar{w}_t}{\partial \mathbb{a}} U^E(\underline{a}_t) g(\underline{a}) + \left(\frac{\partial U^E(\mathbb{a}|\tau_L)}{\partial \mathbb{a}} - \frac{\partial U^E(\mathbb{a}|\tau_H)}{\partial \mathbb{a}}\right) g_t(\mathbb{a}) + \left(U^E(\mathbb{a}|\tau_L) - U^E(\mathbb{a}|\tau_H)\right) d_t g_t(\mathbb{a})} > 0, \tag{D.34}$$

where I have used that $\frac{\partial U^E(a|\tau_H)}{\partial \mathbb{a}} < 0$ (see the proof of Proposition 4), $d_t g(a) < 0$ by equation (D.29), $\frac{\partial^2 U^E}{\partial \tau \partial a} > 0$ and $\frac{\partial U^E}{\partial \tau} < 0$ (see the proof of Proposition 1), and $d_t \underline{a}_t = \tau_L \frac{l d_t \bar{w}}{\Psi_a}$ with $d_t \bar{w} = \frac{\partial \bar{w}}{\partial \mathbb{a}} d_t \mathbb{a}$.

Now consider a *pro-worker* government that maximizes $\bar{U}_t^W = m_t^L u_L^W + m_t^H u_H^W$, with $m_t^L + m_t^H = G_t(\underline{a})$.[28] Differentiation in terms of $\mathbb{a}$ gives:

$$\frac{\partial \bar{U}_t^W}{\partial \mathbb{a}} = \frac{\partial m^L}{\partial \mathbb{a}}(u_L^W - u_H^W) + u_H^W g_t(\underline{a}) \frac{\partial \underline{a}}{\partial \mathbb{a}}$$

Imposing the FOC and differentiating in terms of t gives:

$$d_t \mathbb{a} = \frac{-d_t g_t(\underline{a}) \frac{\partial \underline{a}}{\partial \mathbb{a}} u_H^W}{\frac{\partial^2 m_t^L}{\partial(\mathbb{a})^2}(u_L^W - u_H^W) + g_t'(\underline{a}) \frac{\partial^2 \underline{a}}{\partial(\mathbb{a})^2} u_H^W} > 0 \tag{D.35}$$

where I have used that $d_t g_t(\underline{a}) < 0$, $g_t'(\underline{a}) < 0$, $\frac{\partial u^W}{\partial \tau} > 0$, $\frac{\partial^2 m^L}{\partial(\mathbb{a})^2} < 0$, and $\frac{\partial^2 \underline{a}}{\partial(\mathbb{a})^2} < 0$.

Conditions (D.34) and (D.35) imply that $d_t \mathbb{a} > 0$ for any $\lambda \in [0, 1]$. Thus, if the initial distribution is such that (i) $\mathbb{a}_0 > \underline{a}_1(\mathbb{a}_0)$ and (ii) $\underline{a}_0 > \hat{a}_0$, then the regulatory threshold increases over

[28] In this case, it is easier to work with the alternative expression for workers' welfare.

time. Condition (ii) in the proposition implies that $IC_0 = 0$ and $OC_0 > 0$. However, note that:

$$d_t OC_t = \left(U_a^E \underbrace{\frac{\partial \hat{a}}{\partial \mathbb{a}}}_{<0} + U_d^E \underbrace{\frac{\partial \hat{d}}{\partial \mathbb{a}}}_{<0} - \tau_L \hat{l} \underbrace{\frac{\partial \bar{w}}{\partial \mathbb{a}}}_{>0} - \underbrace{\frac{\partial \mathbb{E} u^W}{\partial \mathbb{a}}}_{>0} \right) \underbrace{d_t \mathbb{a}}_{>0} < 0. \tag{D.36}$$

Thus, there is a $t = \tilde{t}$ at which the OC_t becomes binding. Note that from that point onwards the regulatory threshold cannot continue increasing as the OC will be violated. Hence, the economy reaches a steady state regulation $\mathbb{a}^*$ that satisfies condition (D.33). ■

D.5 Political mechanism: Proportional representation

This section presents a politico-economic microfoundation for the government's problem (presented in Section 3.5). I show it can be rationalized as a probabilistic voting model along the lines of Persson and Tabellini (2000, pp. 52-58), where the political weight λ depends on the primitives of the model. Figure 17 illustrates the timeline.

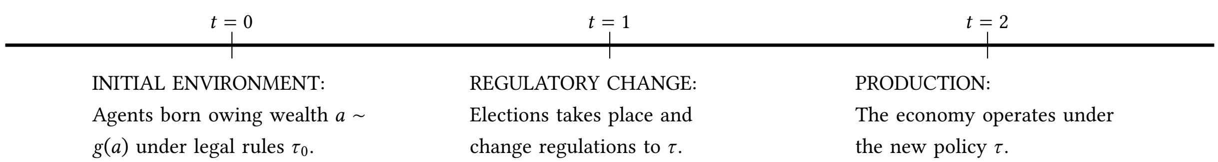


Figure 17: Timeline.

As shown in Section 3.3, given τ_0, there are two groups of voters: workers (W) with wealth $a < \underline{a}_0$, and entrepreneurs (E) with $a \geq \underline{a}_0$. Their utilities are represented by (3.2) and (3.5), respectively. The political preferences of agents are defined based on the *ex-ante* competitive equilibrium. Given τ_0 and $g(a)$, agents vote understanding what their position in society would be and how a more stringent EPL would affect them relative to this initial position.

The electoral competition takes place between two parties, A and B. Both parties simultaneously and non-cooperatively announce their electoral platforms, τ_A and τ_B, subject to the labor market equilibrium condition. The policies τ_A and τ_B map firm's assets to a specific strength of regulation (τ_L^i or τ_H^i, with $i \in \{I, C\}$). Thus, the proposed political platform of the parties is constrained to the set of functions: $\tau : [0, a_M] \rightarrow \Theta$, where $\Theta \equiv \{(\tau_L^I, \tau_L^C), (\tau_H^I, \tau_L^C), (\tau_L^I, \tau_H^C), (\tau_H^I, \tau_H^C)\}$ is the set of dismissal regulations that can be implemented at each firm.

Under a multidimensional policy, Downsian electoral competition is known to produce cycling problems that arise because parties' objective functions are discontinuous in the policy space. Probabilistic voting smooths the political objective function by introducing uncertainty from the parties' point of view (Lindbeck and Weibull, 1987). Specifically, there is uncertainty about the political preferences of each voter. As in Fischer and Huerta (2021), there is a continuum of agents (a, v). Voter (a, v) in group $j \in \{W, E\}$ votes for party A if:

$$U^j(a|\tau_A) > U^j(a|\tau_B) + \delta + \sigma_v^j(a), \tag{D.37}$$

where δ reflects the general popularity of party B, which is assumed to be uniformly distributed on $[-1/(2\psi), 1/(2\psi)]$. The value of δ becomes known after the policy platforms have been announced. Thus, parties announce their policy platforms under uncertainty about the results of the election. The variable $\sigma_v^j(a)$ represents the ideological preference of voter (a, v) for party B. The distribution of $\sigma_v^j(a)$ differs across workers and entrepreneurs, which is assumed to be uniform on $[-1/(2\chi^j), 1/(2\chi^j)]$. Note that neither group is biased towards either party, but that they differ in their ideological homogeneity represented by the density χ^j. Parties know the group-specific ideological distributions before announcing their platforms. The term $\delta + \sigma_v^j(a)$ captures the relative 'appeal' of candidate B, that is, the inherent bias of voter v with wealth a in group j for party B, irrespective of the proposed political platforms. $\sigma_v^j(a)$ also reflects the voters' preferences for other policy dimensions or issues that are independent of EPL.

I study the policy outcome under an electoral rule corresponding to proportional representation. Thus, a party requires more than 50% of total votes to win the election. To characterize the political outcome, it is useful to identify the 'swing voter' ($v = V$) in each group $j \in \{W, E\}$ and for each value of wealth a in that group who is indifferent between the two parties:

$$\sigma_V^j(a) = U^j(a|\tau_A) - U^j(a|\tau_B) - \delta. \tag{D.38}$$

All agents endowed with wealth a whose ideological preference is such that $\sigma_v^j(a) < \sigma_V^j(a)$ vote for party A, while the rest vote for party B. Therefore, conditional on δ, the fraction of agents in group j with wealth a that vote for party A is:

$$\begin{aligned} \pi_A^j(a|\delta) &= Prob[\sigma_v^j(a) < \sigma_V^j(a)], \\ &= \chi^j[U^j(a|\tau_A) - U^j(a|\tau_B) - \delta] + \frac{1}{2}. \end{aligned} \tag{D.39}$$

The probability that party A wins the election, p_A, is then given by:

$$p_A = Prob\left[\int_{\underline{a}_0}^{a_M} \pi_A^W(a|\delta)\partial G(a) + \int_{\underline{a}_0}^{a_M} \pi_A^E(a|\delta)\partial G(a) \geq \frac{1}{2}\right],$$

where the probability is taken with respect to the general popularity measure δ. Rearranging terms leads to:

$$
\begin{aligned}
p_A = Prob\Bigg[\chi^W \int_{\underline{a}_0}^{a_M} [U^W(a|\tau_A) - U^W(a|\tau_B)]\partial G(a) + \chi^E \int_{\underline{a}_0}^{a_M} [U^E(a|\tau_A) - U^E(a|\tau_B)]\partial G(a) \\
- \delta[\chi^W G(\underline{a}_0) + \chi^E(1 - G(\underline{a}_0))] \geq 0\Bigg], \\
= Prob\left[\delta \leq \frac{\chi^W \int_{\underline{a}_0}^{a_M} [U^W(a|\tau_A) - U^W(a|\tau_B)]\partial G(a) + \chi^E \int_{\underline{a}_0}^{a_M} [U^E(a|\tau_A) - U^E(a|\tau_B)]\partial G(a)}{\chi^W G(\underline{a}_0) + \chi^E(1 - G(\underline{a}_0))}\right], \\
= Prob\left[\delta \leq \frac{\chi^W[\bar{U}^W(\tau_A) - \bar{U}^W(\tau_B)] + \chi^E[\bar{U}^E(\tau_A) - \bar{U}^E(\tau_B)]}{\bar{\chi}}\right],
\end{aligned}
$$

where I have defined:

$$
\begin{aligned}
\bar{U}^W(\tau) &\equiv \int_{\underline{a}_0}^{a_M} U^W(a|\tau)\partial G(a), \\
\bar{U}^E(\tau) &\equiv \int_{\underline{a}_0}^{a_M} U^E(a|\tau)\partial G(a), \\
\bar{\chi} &\equiv \chi^W G(\underline{a}_0) + \chi^E(1 - G(\underline{a}_0)).
\end{aligned}
$$

Therefore, the probability that party A wins the election is:

$$
p_A = \psi\left[\frac{\chi^W}{\bar{\chi}}(\bar{U}^W(\tau_A) - \bar{U}^W(\tau_B)) + \frac{\chi^E}{\bar{\chi}}(\bar{U}^E(\tau_A) - \bar{U}^E(\tau_B))\right] + \frac{1}{2}
$$

Denote the relative political weight of workers and entrepreneurs by $\lambda^W \equiv \psi\frac{\chi^W}{\bar{\chi}}$ and $\lambda^E \equiv \psi\frac{\chi^E}{\bar{\chi}}$, respectively. Since both parties maximize the probability of winning the election, the Nash equilibrium is characterized by:

$$
\begin{aligned}
\tau_A^* &= \arg\max_{\tau_A}\{\lambda^W(\bar{U}^W(\tau_A) - \bar{U}^W(\tau_B)) + \lambda^E(\bar{U}^E(\tau_A) - \bar{U}^E(\tau_B))\}, \\
\tau_B^* &= \arg\max_{\tau_B}\{\lambda^W(\bar{U}^W(\tau_B) - \bar{U}^W(\tau_A)) + \lambda^E(\bar{U}^E(\tau_B) - \bar{U}^E(\tau_A))\}.
\end{aligned}
$$

As a result, the two parties' platforms converge in equilibrium to the same policy function τ^* that maximizes the weighted welfare of workers and entrepreneurs:

$$
\tau^* = \arg\max_{\tau}\{\lambda^W\bar{U}^W(\tau) + \lambda^E\bar{U}^E(\tau)\}, \tag{D.40}
$$

subject to the labor market equilibrium condition in problem (3.17).

In order to interpret problem (D.40), rewrite the political weights as follows:

$$\lambda^W = \frac{\psi}{G(\underline{a}_0) + \frac{\chi^E}{\chi^W}(1 - G(\underline{a}_0))},$$
$$\lambda^E = \frac{\psi}{\left(\frac{\chi^W}{\chi^E} - 1\right) G(\underline{a}_0) + 1}.$$

The political weights depend on both exogenous and endogenous variables. First, they are a function of the dispersion of the ideological preferences of both groups, measured by χ^j. Second, they are a function of the variability of party's B general popularity, ψ. Finally, they depend on the minimum wealth to obtain a loan, $\underline{a}_0$, under the initial policy τ_0. As explained in Section 3.3, that threshold is endogenously determined as a function of the primitives of the model.[29]

The political weights λ^j have an structural interpretations. They measure the relative dispersion of ideological preferences within group j. The ratio χ^W/χ^E determines the number of swing voters in each group. For instance, when χ^W increases the political weight of workers λ^W raises, but λ^E decreases. Intuitively, workers become more responsive to EPL announcements in favor or against them. As a result, the vote of entrepreneurs become less responsive to regulatory announcements compared to workers. Thus, workers become more politically powerful relative to entrepreneurs and the equilibrium platform becomes more *pro-worker*.

In order to write problem (D.40) as in Section 3.5, I normalize the political weights by choosing $\psi = \frac{\chi^W G(\underline{a}_0) + \chi^E (1 - G(\underline{a}_0))}{\chi^W + \chi^E}$. Thus, $\lambda^W + \lambda^E = 1$. Define $\lambda \equiv \lambda^W$, then the problem can be rewritten as

$$\tau^* = \arg\max_{\tau} \{\lambda \bar{U}^W(\tau) + (1 - \lambda)\bar{U}^E(\tau)\},$$

subject to the labor market equilibrium condition.

This corresponds to the "government's problem" presented in the body of the paper. Thus, when λ increases, the government chooses a policy platform that favors relatively more workers (*pro-worker*). If λ decreases the government becomes more *pro-business*. In particular, when $\chi^W \to +\infty$ then $\lambda \to 1$ and the government weights only workers. In contrast, if $\chi^E \to +\infty$ then $\lambda \to 0$ and the government cares only about entrepreneurs.

D.6 Equilibrium EPL under majoritarian representation

There are two parties, *RW* (right-wing) and *LW* (left-wing), that compete for office under majoritarian representation. Both parties simultaneously and non-cooperatively propose their *asset-*

[29] Specifically, $\underline{a}_0$ depends on: (i) the loan recovery rate or creditor protection ϕ, (ii) the initial strength of EPL τ_0, (iii) the international interest rate ρ, iv) the parameters of the production function α, β, and v) the wealth distribution $g(a)$.

based EPL, $\tau_{RW} : [0, a_M] \to \{\tau_L, \tau_H\}$ and $\tau_{LW} : [0, a_M] \to \{\tau_0, \tau_1\}$.

Consider three electoral districts: (1) workers and entrepreneurs in larger firms ($a > \bar{a}_0$), (2) workers and entrepreneurs in small firms ($a < \tilde{a}_0$), and (3) the "residual group", composed by workers and entrepreneurs in medium-sized firms ($a \in [\tilde{a}_0, \bar{a}_0]$). The party that wins more districts wins the election. Assume that $G(\tilde{a}_0) + 1 - G(\bar{a}_0) < \frac{1}{2}$, so no party can win the election just by capturing the votes from groups 1 or 2.

Following Pagano and Volpin (2005), agents with assets a from each group $j \in \{1, 2, 3\}$ have ideological preferences for party LW given by $\sigma_j(a) = \bar{\sigma}_j + \epsilon_j(a)$, where $\epsilon_j(a)$ is uniformly distributed on $[-1/(2\chi_j), 1/(2\chi_j)]$. Further, assume that $-\bar{\sigma}_1 < \bar{\sigma}_3 = 0 < \bar{\sigma}_2$. Thus, group 1 of workers and entrepreneurs in large firms are biased towards the right-wing party RW, while group 2 of agents in small firms favor more the left-wing party LW. The residual group 3 does not have on average an ideological preference for either party. A voter in group $j \in \{1, 2, 3\}$ votes for party RW if:

$$U^j(a|\tau_{RW}) > U^j(a|\tau_{LW}) + \delta + \sigma_j(a),$$

where, as in Section D.5, δ represents the general popularity of party LW which is assumed to be uniformly distributed on $[-1/(2\psi), 1/(2\psi)]$.

A sufficient condition to guarantee the existence of an equilibrium is that $\bar{\sigma}_1$ and $\bar{\sigma}_2$ are sufficiently large (as in Persson and Tabellini, 1999). Under these conditions, the residual group is pivotal. Thus, electoral competition takes place only in district 3. Thus, parties maximize the probability of obtaining the majority of votes in district 3, which is equivalent to solving:

$$\max_{\tau : [0, a_M] \to \{\tau_L, \tau_H\}} \left\{ \psi \cdot \int_{\tilde{a}_0}^{\bar{a}_0} [U^W(a) + U^E(a)]\, g(a) \partial a + \frac{1}{2} \right\} \tag{D.41}$$

Proposition 10 *Suppose that* $g' < 0$ *and* $\frac{\sigma\gamma}{1-\gamma} > 1 - \frac{\tau_L \min\{s, 1-p\}}{\max\{s, 1-p\}}$. *If the average ideological bias parameters of groups 1 and 2 satisfy:* $\bar{\sigma}_1 > \max\{c_1^E(\varepsilon), c_1^W(\varepsilon)\}$ *and* $\bar{\sigma}_2 > \max\{c_2^E(\varepsilon), c_2^W(\varepsilon)\}$ *for* ε *small:*

$$c_1^E(\varepsilon) = U^E(a_M | \mathbb{a} = a_M + \varepsilon) - U^E(\bar{a}_0 | \mathbb{a} = \bar{a}_0) + \frac{1}{2\psi} + \frac{1}{\chi_1} \tag{D.42}$$

$$c_1^W(\varepsilon) = U^W(a_M | \mathbb{a} = a_M) - U^W(\bar{a}_0 | \mathbb{a} = \bar{a}_0 + \varepsilon) + \frac{1}{2\psi} + \frac{1}{\chi_1} \tag{D.43}$$

$$c_2^E(\varepsilon) = U^E(\tilde{a}_0 | \mathbb{a} = \tilde{a}_0 + \varepsilon) - U^E(\underline{a}_0 | \mathbb{a} = \underline{a}_0) - \frac{1}{2\psi} - \frac{1}{\chi_2} \tag{D.44}$$

$$c_2^W(\varepsilon) = U^W(\tilde{a}_0 | \mathbb{a} = \tilde{a}_0) - U^E(\underline{a}_0 | \mathbb{a} = \underline{a}_0) - \frac{1}{2\psi} - \frac{1}{\chi_2} \tag{D.45}$$

Then, the equilibrium EPL under majoritarian representation is tiered, where the regulatory threshold satisfies $\mathbb{a}_{pe} \in (\tilde{a}_0, \underline{a}_0]$.

Proposition 10 defines the lower bounds on the average ideological parameters of groups 1 and 2 that guarantee that competition takes place only on district 2. The equilibrium EPL is *tiered*, with the regulatory threshold covering a range of "intermediate" values, $\mathbb{a} \in (\tilde{a}_0, \overline{a}_0]$.

The intuition for this result is that entrepreneurs running medium-sized firms can benefit from an EPL that imposes greater labor costs to larger firms because it decreases the equilibrium wage. From the point of view of workers in medium-sized firms, they benefit from receiving higher protection. However, they do not support a highly protective EPL (i.e. a very low regulatory threshold) as it induces a large decline in the wage rate. Overall, the pivotal group of entrepreneurs and workers demand stricter EPL on relatively large firms, which lead in equilibrium to a *tiered* EPL. This result rationalizes the fact that *tiered* EPL emerges either in countries with proportional or majoritarian electoral systems.

D.6.1 Equilibrium EPL under majoritarian representation: Proofs

D.6.1.1 Proof of Proposition 12

Proposition 12 *Suppose that* $g' < 0$ *and* $\frac{\sigma\gamma}{1-\gamma} > 1 - \frac{\tau_L \min\{s,1-p\}}{\max\{s,1-p\}}$. *If the average ideological bias parameters of groups 1 and 2 satisfy:* $\bar{\sigma}_1 > \max\{c_1^E(\varepsilon), c_1^W(\varepsilon)\}$ *and* $\bar{\sigma}_2 > \max\{c_2^E(\varepsilon), c_2^W(\varepsilon)\}$ *for* ε *small:*

$$c_1^E(\varepsilon) = U^E(a_M|\mathbb{a} = a_M + \varepsilon) - U^E(\overline{a}_0|\mathbb{a} = \overline{a}_0) + \frac{1}{2\psi} + \frac{1}{\chi_1} \tag{D.46}$$

$$c_1^W(\varepsilon) = U^W(a_M|\mathbb{a} = a_M) - U^W(\overline{a}_0|\mathbb{a} = \overline{a}_0 + \varepsilon) + \frac{1}{2\psi} + \frac{1}{\chi_1} \tag{D.47}$$

$$c_2^E(\varepsilon) = U^E(\tilde{a}_0|\mathbb{a} = \tilde{a}_0 + \varepsilon) - U^E(\underline{a}_0|\mathbb{a} = \underline{a}_0) - \frac{1}{2\psi} - \frac{1}{\chi_2} \tag{D.48}$$

$$c_2^W(\varepsilon) = U^W(\tilde{a}_0|\mathbb{a} = \tilde{a}_0) - U^E(\underline{a}_0|\mathbb{a} = \underline{a}_0) - \frac{1}{2\psi} - \frac{1}{\chi_2} \tag{D.49}$$

Then, the equilibrium EPL under majoritarian representation is tiered, where the regulatory threshold satisfies $\mathbb{a}_{pe} \in (\tilde{a}_0, \underline{a}_0]$.

Proof:

I start by showing that the equilibrium EPL is *tiered* at $\mathbb{a}_{pe} \in (\tilde{a}_0, \underline{a}_0]$, then I show that conditions $\bar{\sigma}_1 > \max\{c_1^E(\varepsilon), c_1^W(\varepsilon)\}$ and $\bar{\sigma}_2 > \max\{c_2^E(\varepsilon), c_2^W(\varepsilon)\}$, are sufficient for the existence of an equilibrium.

First, note that the policy that solves (D.41) is monotone. The same arguments used to show Proposition 5 apply. Thus, there is a regulatory threshold $\mathbb{a} \in [\underline{a}_0, a_M]$ such that $\tau(a) = \tau_L$ if $a < \mathbb{a}$ and $\tau(a) = \tau_H$, otherwise.

Second, if $g' < 0$ and $\frac{\sigma\gamma}{1-\gamma} > 1 - \frac{\tau_L \min\{s, 1-p\}}{\max\{s,1-p\}}$, the objective function is concave, and thus, there is a unique solution to problem (D.41), $\mathbb{a}_{pe}$ (see the proof of Proposition 3).

Third, from Proposition 1, $\frac{\partial U^W(a)}{\partial \bar{w}} < 0$ and $\frac{\partial^2 U^E(a)}{\partial a \partial \bar{w}} > 0$ for any $a \geq 0$. Also, from Lemma 1, $\frac{\partial w}{\partial \mathbb{a}} > 0$. Thus, by choosing $\mathbb{a} = \overline{a}_0 + \varepsilon$ with ε small, a candidate can implement the minimum possible wage, which benefits all entrepreneurs with wealth $a \in [\tilde{a}_0, \overline{a}_0]$. However, because $\frac{\partial^2 U^E(a)}{\partial a \partial \bar{w}} > 0$, entrepreneurs with lower wealth can benefit the most from a reduction in wages. Thus, it may be that the regulatory threshold that maximizes the welfare of the residual entrepreneurs is below $\overline{a}_0$, but never equal or lower than $\tilde{a}_0$. In sum, the regulatory threshold must belong to $(\tilde{a}_0, \overline{a}_0]$.

Fourth, from Proposition 2, $\frac{\partial U^W(a)}{\partial \bar{w}} > 0$ and $\frac{\partial^2 U^W(a)}{\partial a \partial \bar{w}} > 0$ for $a \geq \tilde{a}_0$. Thus, the regulatory threshold that maximizes $\int_{\tilde{a}_0}^{\overline{a}_0} U^W(a) g(a) \partial a$ must satisfy that $\mathbb{a} \leq \overline{a}_0$. Also, because $\frac{\partial^2 U^W(a)}{\partial a \partial \bar{w}} > 0$ for $a \geq \tilde{a}_0$, workers in larger firms benefit the most from receiving a higher *effective wage*. Hence, it must be that $\mathbb{a} \in (\tilde{a}_0, \overline{a}_0]$, otherwise the decrease in the equilibrium wage will hurt workers in larger firms. Overall, the solution to problem (D.41) satisfies $\mathbb{a} \in (\tilde{a}_0, \overline{a}_0]$.

To guarantee that competition takes place only in district 2, it is sufficient that agents from group 1 always vote for party *RW* and those from group 3 vote for *LW*. Since $\frac{\partial^2 U^E(a)}{\partial a \partial \bar{w}} > 0$ and $\frac{\partial \bar{w}}{\partial \mathbb{a}} > 0$, the minimum achievable utility for agents in group 1 is given by $U^E(\overline{a}_0 | \mathbb{a} = \underline{a}_0)$, while the maximum utility is $U^E(a_M | \mathbb{a} = a_M + \varepsilon)$ with ε small. Therefore, a sufficient condition for entrepreneurs in group 1 to always vote for *RW* is that:

$$U^E(\overline{a}_0 | \mathbb{a} = \underline{a}_0) > U^E(a_M | \mathbb{a} = a_M + \varepsilon) + \frac{1}{2\psi} + \frac{1}{2\chi_1} - \bar{\sigma}_1,$$

which determines the first threshold $c_1^E(\varepsilon)$.

From the point of view of workers, the minimum attainable utility for agents in group 1 is $U^W(\overline{a}_0 | \mathbb{a} = \overline{a}_0 + \varepsilon)$ for ε small, while the maximum utility for that group is $U^W(a_M | \mathbb{a} = a_M)$ (because $\frac{\partial^2 U^W(a)}{\partial a \partial \bar{w}} > 0$ and $\frac{\partial U^W(a)}{\partial \bar{w}} > 0$ for $a > \tilde{a}_0$). Thus, a sufficient condition for workers in group 1 to vote for *RW* is:

$$U^W(\overline{a}_0 | \mathbb{a} = \overline{a}_0 + \varepsilon) > U^W(a_M | \mathbb{a} = a_M) + \frac{1}{2\psi} + \frac{1}{2\chi_1} - \bar{\sigma}_1,$$

which gives the second threshold $c_1^W(\varepsilon)$. Thus, if $\bar{\sigma}_1 > \max\{c_1^E(\varepsilon), c_1^W(\varepsilon)\}$ for ε small, the agents from group 1 vote for *R*. An analogous procedure can be used to obtain the critical thresholds for group 2. ■

D.7 Modeling labor-mobility frictions

An important assumption of the baseline model is that labor-mobility frictions, such as job search costs, previously signed contract terms, or geographic barriers, prevent workers from freely moving between firms. Under this assumption, a *tiered* EPL creates a wedge between the *effective wage* ($\bar{w}$) paid by regulated and unregulated firms. Without mobility frictions, EPL would be neutral. Workers would move to firms with higher effective wages, reducing the wage paid in regulated firms and eliminating any difference between effective wages in equilibrium. However, since perfect labor mobility is unrealistic, the main concern is whether the *tiered* equilibrium remains robust under low mobility frictions.

In this section, I address this concern by introducing variable labor-mobility frictions. Two results emerge from this extension. First, even minimal mobility frictions are sufficient to sustain a *tiered* EPL. Second, the equilibrium EPL becomes more protective (i.e. the regulatory threshold is lower) when labor-mobility frictions are tighter.

D.7.1 A frictionless world

If labor-mobility frictions are not present, worker can freely choose the firm they want to work for. In equilibrium, the flow of workers from firms with lower to those with higher effective wages eliminates any difference between effective wages. Formally, the following wage-equilibrium condition must hold:

$$\bar{w}(w, \tau_L) = \bar{w}(w(\tau_H), \tau_H), \tag{D.50}$$

where w is the wage rate that solves (3.12) under τ_L and $w(\tau_H)$ is the wage rate in high-protection firms (τ_H) that equalizes effective wages across both types of firms.

D.7.2 Labor-mobility frictions

I follow Adamopoulos et al. (2024) and model labor-mobility frictions as barriers on the wage income. In particular, workers in regulated firms face a wage barrier υ. This barrier captures all the factors that prevent relocation of workers from unregulated to regulated firms. The *effective wage* as a function of the mobility barrier υ, denoted by $\tilde{w}(\upsilon)$, is written as follows:

$$\tilde{w}(\upsilon) = \begin{cases} \bar{w}(\tau_L, w) & \text{if } \tau = \tau_L, \\ \bar{w}(\tau_H(1-\upsilon), w) & \text{if } \tau = \tau_H, \end{cases} \tag{D.51}$$

The labor-mobility parameter satisfies $\upsilon \in [0, 1-\tau_L/\tau_H]$. When $\upsilon = 0$, there is no labor mobility as in the baseline case. If $\upsilon = 1 - \tau_L/\tau_H$, then workers can freely move between firms and condition (D.50) holds. An interpretation of υ is that it measures the fraction of workers who can freely move between firms relative to those who are probabilistically matched to firms.

D.7.3 Equilibrium EPL under imperfect mobility

First, note that as long as there is some degree of mobility friction, $\upsilon < 1 - \tau_L/\tau_H$, a wedge between the *effective wage* in regulated and unregulated firms exists. This is sufficient for the proof of Proposition 4 to hold. Specifically, with minimal frictions ($\upsilon \approx 0$), we still have that $\lim_{a \to \underline{a}_0} \frac{\partial U^j(a|\tau_L)}{\partial \tau} = -\infty$ for $j = W, E$, as even a minimal increase in the *effective wage* causes a highly non-linear reduction in credit for "marginal" entrepreneurs. This allows us to show that $\lim_{\mathbb{a} \to \underline{a}_0} \frac{\partial \bar{U}^j(a|\tau_L)}{\partial \tau} > 0$, implying that the optimal regulatory threshold satisfies $\mathbb{a} \in (\underline{a}_0, a_M)$, i.e., it remains *tiered* (see the proof of Item 1 of Proposition 3). Thus, even minimal mobility frictions are sufficient for the emergence of a *tiered* EPL, as they ensure the creation of cross-subsidies from large to small firms.

Second, greater labor mobility gives rise to a less protective EPL, i.e., a higher regulatory threshold, as established in Lemma 5. The intuition is that when workers can more easily move between firms, a regulatory change induces a smaller gap between the effective wages of large and small firms. Thus, the cross-subsidy effect of a *tiered* EPL is diminished.

Lemma 5 *The equilibrium regulatory threshold $\mathbb{a}_{pe}$ is increasing in labor mobility, $\upsilon \in [0, 1 - \tau_L/\tau_H)$.*

Proof: First, note that $\frac{\partial \mathbb{a}}{\partial \upsilon} = \frac{\partial \mathbb{a}}{\partial w} \frac{\partial w}{\partial \upsilon}$. Lemma 1 shows that $\frac{\partial \mathbb{a}}{\partial w} > 0$. Thus, all is left to show is that $\frac{\partial w}{\partial \upsilon} > 0$. Following an analogous procedure to that used to prove Lemma 1 gives that:

$$\frac{\partial w}{\partial \upsilon}\left(l_H^S \int_{\underline{a}}^{\mathbb{a}} \underbrace{\frac{\partial l_L(a)}{\partial w}}_{<0} \partial G(a) + l_L^S \int_{\mathbb{a}}^{a_M} \underbrace{\frac{\partial l_H(a)}{\partial w}}_{<0} \partial G(a) - l_H^S (l_L(\underline{a}) + l_L^S) g(\underline{a}) \underbrace{\frac{\partial \underline{a}}{\partial w}}_{>0} - m_L l_H^S \underbrace{\frac{\partial l_L^S}{\partial w}}_{>0} - m_H l_L^S \underbrace{\frac{\partial l_H^S}{\partial w}}_{>0} \right) = \underbrace{(l_L^S l_H(\mathbb{a}) - l_H^S l_L(\mathbb{a}))}_{<0} g(\mathbb{a}) - m_H l_L^S \int_{\mathbb{a}}^{a_M} \underbrace{\frac{\partial l_H(a)}{\partial \upsilon}}_{>0} \partial G(a) + m_H l_L^S \underbrace{\frac{\partial l_H^S}{\partial \upsilon}}_{<0},$$

which implies that $\frac{\partial w}{\partial \upsilon} > 0$. Note that I have used equation (D.51) to obtain that:

$$\frac{\partial l_j}{\partial \upsilon} = \begin{cases} \frac{\partial l_j}{\partial w} \frac{\partial w}{\partial \upsilon} & \text{if } j = L, \\ \frac{\partial l_j}{\partial w} \frac{\partial w}{\partial \upsilon} + \frac{\partial l_j}{\partial \upsilon} & \text{if } j = H. \end{cases}$$

A similar expression is obtained for $\frac{\partial l_j^S}{\partial \upsilon}$. This concludes the proof. ■

D.8 Regulations on capital use

This section extends the model to explore size-contingent regulations on capital use, such as special tax treatments, credit subsidies, and restrictions on business expansion. The main finding is that the results obtained for EPL do not directly apply to regulations on capital use. Thus, reframing the entire analysis as general redistribution or as subsidies to SMEs is not straightforward. A distinct feature of EPL is that it constitutes a transfer from a specific employer to her employees. This property is fundamental to obtaining the preferences summarized in Table 2, giving rise to a *tiered* EPL equilibrium. In contrast, regulation on capital use affects the size of regulated firms but does not involve direct employer-to-employee transfers. This difference significantly changes the theoretical analysis.

Unlike EPL, the emergence of a *tiered* regulation on capital use depends on at least three factors. First, the progressivity of government transfer programs. Second, whether regulation restricts firm size, provides a special tax treatment for smaller firms, or subsidizes credit for more financially constrained firms. Third, the political orientation of the government. Future research may expand this theoretical analysis to understand the widespread emergence of size-contingent regulations on capital use.

D.8.1 Modeling regulation

Regulation comprises a variable tax τ on capital use, which may be size contingent and *asset-based*. Specifically, an entrepreneur with assets a must pay a tax $\tau(a)\cdot R(a)$ to operate a firm. The utility of an entrepreneur with a is given by:

$$U^E(a;\tau) = f(k,l) - w\cdot l - (1+\rho)\cdot d - \tau\cdot R(a), \tag{D.52}$$

where $R(a)$ is an increasing function in assets that captures the type of regulation to be detailed below. The resources collected through taxes are transferred to workers. Transfers, $T(a)$, depend on the scale of the firm the worker works for. The utility of workers in firms facing a tax $\tau(a)$ is given by:

$$U^W(a;\tau) = v(w)\cdot l - \frac{l}{l^S}\varsigma(l^S) + T(a), \tag{D.53}$$

The government has a balanced budget. Thus, total transfers, $\bar{T}$, satisfy:

$$\bar{T}\cdot G(\underline{a}_0) = \int_{\underline{a}_0}^{a_M} \tau(a)\cdot R(a)g(a)\partial a. \tag{D.54}$$

The transfers to workers in a firm with assets a are given by: $T(a) = \omega(a)\cdot\bar{T}$, where the transfers' weights satisfy: $\omega' \leq 0$ and $\int_{\underline{a}_0}^{a_M}\omega(a)g(a)\partial a = 1$. The rate at which $\omega(a)$ decreases with a captures the progressiveness of the transfer program.

D.8.1.1 Size-restrictions Governments may impose a tax on firms growing too large. For example, Japan and France impose restrictions on the expansion of the retail sector (see Bertrand and Kramarz, 2002, for a discussion of the French case). Under these rules, retail businesses must follow a special procedure to obtain a license for the expansion of existing retail businesses or for the opening of new stores beyond a size threshold. In this case, $R(a) = k(a)$. Thus, firms pay a tax proportional to their size.

D.8.1.2 Financial subsidies Many countries such as South Korea and the US, provide large financial subsidies to smaller firms (Guner et al., 2008). These regulations are captured by setting $R(a) = -\rho d(a)$, which corresponds to a reduction in credit costs of regulated firms. The effective credit cost of a firm with debt $d(a)$ is given by $[1 + \rho(1 - \tau(a))] \cdot d(a)$.

D.8.1.3 Special tax treatments In many developed and developing countries, SMEs enjoy special tax treatments, such as a reduction of property tax payments or corporate tax rates (e.g. US, UK, Belgium, Germany). Additionally, in many countries, tax enforcement increases with size (for recent evidence, see Bachas et al., 2019). These types of policies can be represented by defining $R(a) = a$ or $R(a) = k(a)$, which correspond to a tax on capital while maintaining the model simple. Another more general approach would be to set $R(a) = f(k, l) - wl - (1 + \rho)d$ to capture a tax on profits, but that makes the model less tractable.

D.8.2 Tiered regulation?

In this section, I explore whether there is scope for the implementation of a *tiered* regulation. I examine two policies: (i) size-dependent taxes on capital and (ii) a credit subsidy to smaller firms. Section D.8.4 provides theoretical support for the discussion presented in this section.

D.8.2.1 Tax on capital Consider a regulation with $R(a) = k(a)$ and such that:

$$\tau(a) = \begin{cases} 0 & \text{if } a < \mathbb{a}, \\ \bar{\tau} & \text{if } a \geq \mathbb{a}, \end{cases}$$

where the regulatory threshold $\mathbb{a}$ is relatively large, meaning that stricter regulations apply only to large firms. Would such a policy be sustainable in equilibrium? (compared to a flat policy with zero taxes for everyone, i.e. $\mathbb{a} = a_M$).

First, consider the impact on entrepreneurs' utilities. Regulating large firms increases their net cost of capital, reducing both their optimal operational scale and their demand for labor. The decreased labor demand leads to a lower equilibrium wage, which significantly benefits smaller firms. However, the cost for large firms may not be "relatively low" as in the case of EPL. Large firms face two drawbacks due to regulation: (i) an increased cost of capital that also reduces their access to credit, and (ii) a decline in their optimal size. Whether a *pro-business* government implements a *tiered* regulation or not depends on how high are these costs relative to the cross-subsidy effect that benefits smaller firms. If a *pro-business* government opts for a *tiered* regulation, it is likely to choose a relatively large regulatory threshold and a low $\bar{\tau}$.

Second, consider the effects on workers' utilities. Workers in smaller firms benefit from a *tiered* regulation. Despite it reduces wages, it enables their firms to expand employment. Also, they benefit from receiving transfers. Their support for a *tiered* regulation increases as the transfers program becomes more progressive. On the other hand, workers in large firms are more likely to suffer under such regulation, as employment and wages decline. They only benefit from receiving transfers. When the transfer system is less progressive, they are less opposed to a *tiered* regulation. Therefore, a *pro-worker* government is more inclined to implement a *tiered* regulation when transfers are less progressive. In the case of capital taxation, a *tiered* regulation can only benefit workers in smaller firms at the expense of workers in large firms. Conversely, in the case of EPL, a *tiered* regulation can benefit both groups and thus, is more likely to be implemented by a *pro-worker* government.

D.8.3 Credit subsidies

Regulation is given by $R(a) = -\rho d(a)$ and such that:

$$\tau(a) = \begin{cases} \bar{\tau} & \text{if } a < \mathbb{a}, \\ 0 & \text{if } a \geq \mathbb{a}, \end{cases}$$

where the regulatory threshold is relatively low, i.e., only smaller firms receive a credit subsidy. Would such a policy be preferable compared to a policy which do not subsidize credit at all (i.e. $\mathbb{a} = \underline{a}_0$)?

First, note that this type of policy operates in a different way relative to a capital tax. Raising the regulatory threshold ($\mathbb{a}$) enhances access to credit for smaller firms, allowing them to expand investment and hiring. The increased demand for labor raises the equilibrium wage. As a result, large firms suffer from credit subsidies, while only subsidized firms benefit. In contrast to a capital tax, larger firms can more easily adapt to credit subsidies because their credit capacity remains robust. Specifically, such policies do not directly impact their capital cost as a capital tax would. Thus, a *pro-business* government is likely to implement credit subsidies for smaller firms, as they promote growth in the small-scale sector at a relatively low cost to larger firms.

From the perspective of workers, they now finance credit subsidies through taxes because $R(a) < 0$, and thus, $T(a) < 0$. The weights of transfers are adjusted to capture the progressivity of the tax system, with $\omega' > 0$. Thus, workers with higher labor income pay proportionally larger taxes. Workers in smaller firms benefit from credit subsidies as their firms expand employment and the wage rate increases. While workers in larger firms benefit from the higher wages, they must finance a larger fraction of credit subsidies through taxes. If the tax code is too progressive, workers in large firms may actually suffer from credit subsidies to smaller firms. Therefore, a *pro-worker* government is more likely to provide credit subsidies when the tax system is less progressive.

D.8.4 Regulations on capital use: theoretical support

In this section, I study the effects of changing the regulatory threshold ($\mathbb{a}$) on entrepreneurs' and workers' utilities. I focus on a tax on capital, thus $R(a) = k(a)$. The results extend to credit subsidies. Consider a firm subject to strict regulation ($a \geq \mathbb{a}$). Differentiating (D.52) and (D.53) in terms of $\mathbb{a}$:

$$\frac{\partial U^E}{\partial \mathbb{a}} = \left(\overbrace{[f_k(k,l) - \underbrace{(1+\rho+\tau)}_{\text{capital cost effect}}]}^{>0} \cdot \underbrace{\overbrace{\frac{\partial d}{\partial w}}^{<0}}_{\text{credit effect}} - l \right) \underbrace{\overbrace{\frac{\partial w}{\partial \mathbb{a}}}^{>0}}_{\text{wage effect}},$$

$$\frac{\partial U^W}{\partial \mathbb{a}} = \frac{lv'(w)(\gamma-1)}{\gamma} \cdot \underbrace{\overbrace{\frac{\partial w}{\partial \mathbb{a}}}^{>0}}_{\text{wage effect}} + (\gamma-1)(l^S)^{\gamma-1} \cdot \overbrace{\underbrace{\frac{\partial l}{\partial \mathbb{a}}}_{\text{employment effect}} \quad \frac{\partial w}{\partial \mathbb{a}}}^{<0} + \underbrace{\overbrace{\frac{\partial T}{\partial \mathbb{a}}}^{<0}}_{\text{transfer effect}},$$

where $\frac{\partial T(a)}{\partial \mathbb{a}} = -\omega(a) \cdot \frac{\bar{\tau} g(\underline{a}_0)}{G(\underline{a}_0)}$. Thus, the results above respond to the progressivity of the transfer program, as captured by the shape of $\omega(a)$. The equations above support the theoretical effects discussed in Section D.8.2.

D.9 Two-dimensional labor reform

This section deals with a two-dimensional labor reform. The government can simultaneously change individual and collective dismissal regulations. From Proposition 3, problem (3.17) reduces to finding two regulatory thresholds, $\mathbb{a}^I$ and $\mathbb{a}^C$, above which each type of regulation becomes stricter. To simplify the exposition define: $a^1 \equiv \min\{\mathbb{a}^I, \mathbb{a}^C\}$ and $a^2 \equiv \max\{\mathbb{a}^I, \mathbb{a}^C\}$. Further, define:

$$(\tilde{\tau}^I, \tilde{\tau}^C) \equiv (\tau_H^I, \tau_L^C)\, \mathbf{1}[\mathbb{a}^I \geq \mathbb{a}^C] + (\tau_L^I, \tau_H^C)\, \mathbf{1}[\mathbb{a}^I < \mathbb{a}^C].$$

Thus, aggregate entrepreneurs' welfare ($\lambda = 0$) is written as:

$$\bar{U}^E(\mathbb{a}^I, \mathbb{a}^C) = \int_{\underline{a}_0}^{a^1} U^E(a|\tau_L^I, \tau_L^C)\partial G + \int_{a^1}^{a^2} U^E(a|\tilde{\tau}^I, \tilde{\tau}^C)\partial G + \int_{a^2}^{a_M} U^E(a|\tau_H^I, \tau_H^C)\partial G,$$

while aggregate workers' welfare ($\lambda = 1$) is given by:

$$\bar{U}^W(\mathbb{a}^I, \mathbb{a}^C) = \int_{\underline{a}_0}^{a^1} U^W(a|\tau_L^I, \tau_L^C)\partial G + \int_{a^1}^{a^2} U^W(a|\tilde{\tau}^I, \tilde{\tau}^C)\partial G + \int_{a^2}^{a_M} U^W(a|\tau_H^I, \tau_H^C)\partial G.$$

The government's problem is written as follows:

$$\max_{(\mathbb{a}^I,\mathbb{a}^C)\in[\underline{a}_0,a_M]^2} \{\bar{U}(\mathbb{a}^I, \mathbb{a}^C) \equiv \lambda\bar{U}^W(\mathbb{a}^I,\mathbb{a}^C) + (1-\lambda)\bar{U}^E(\mathbb{a}^I, \mathbb{a}^C)\}$$

$$\begin{aligned} s.t \quad m(\tau_L^I, \tau_L^C) \cdot l^S(\tau_L^I, \tau_L^C) &= \int_{\underline{a}_0}^{a^1} l(a|\tau_L^I, \tau_L^C)\partial G, \\ m(\tilde{\tau}^I, \tilde{\tau}^C) \cdot l^S(\tilde{\tau}^I, \tilde{\tau}^C) &= \int_{a^1}^{a^2} l(a|\tilde{\tau}^I, \tilde{\tau}^C)\partial G, \\ m(\tau_H^I, \tau_H^C) \cdot l^S(\tau_H^I, \tau_H^C) &= \int_{\underline{a}_0}^{a^1} l(a|\tau_H^I, \tau_H^C)\partial G, \\ \sum_{(\tau^I,\tau^C)\in\Theta} m(\tau^I, \tau^C) &= G(\underline{a}_0), \end{aligned}$$

where $m(\tau^I, \tau^C)$ corresponds to the mass of workers subject to EPL $(\tau^I, \tau^C) \in \Theta$, with $\Theta = \{(\tau_L^I, \tau_L^C), (\tau_H^I, \tau_L^C), (\tau_L^I, \tau_H^C), (\tau_H^I, \tau_H^C)\}$. Also, recall that a^1 and a^2 are defined in terms of $(\mathbb{a}^I, \mathbb{a}^C)$. The first three conditions equalize labor supplied and demanded under the different regulatory regimes. The final condition asks that the sum of workers subject to different regulatory regimes must equal the total mass of workers, $G(\underline{a}_0)$. As in the unidimensional case, these conditions uniquely define $m(\tau^I, \tau^C)$ and the equilibrium wage w.

The following proposition describes the equilibrium EPL.

Proposition 13 $\bar{U}(\mathbb{a}^I, \mathbb{a}^C, \lambda)$ *achieves a global maximum in* $[\underline{a}_0, a_M]^2$ *at some regulatory thresholds,* $\mathbb{a}_{pe}^I \in (\underline{a}_0, a_M)$ *and* $\mathbb{a}_{pe}^C \in (\underline{a}_0, a_M)$*, characterized by:*

$$(\mathbb{a}_{pe}^I, \mathbb{a}_{pe}^C) = \sup_{(\mathbb{a}_{pe}^I,\mathbb{a}_{pe}^C)} \bar{U}(\mathbb{a}_{pe}^I, \mathbb{a}_{pe}^C, \lambda). \tag{D.55}$$

Proof: The same arguments used to prove item 1 of Proposition 4 apply in the two-dimensional case. Thus, $\bar{U}(\mathbb{a}_{pe}^I, \mathbb{a}_{pe}^C)$ is a bounded and continuous function in $[\underline{a}_0, a_M]^2$, satisfying:[30]
(i) $\bar{U}(\underline{a}_0, \underline{a}_0) = \bar{U}(a_M, a_M) > 0$, (ii) $\frac{\partial\bar{U}(\underline{a}_0^+,\mathbb{a}^C)}{\partial\mathbb{a}^I} > 0, \forall\mathbb{a}^C \in [\underline{a}_0, a_M]$, and (iii) $\frac{\partial\bar{U}(\mathbb{a}^I,\underline{a}_0^+)}{\partial\mathbb{a}^C} > 0, \forall\mathbb{a}^I \in [\underline{a}_0, a_M]$.

In consequence, $\bar{U}(\mathbb{a}^I, \mathbb{a}^C)$ achieves a global maximum. Moreover, properties (i) to (iii) imply that the global maximum is achieved at some $\mathbb{a}_{pe}^I \in (\underline{a}_0, a_M)$ and $\mathbb{a}_{pe}^C \in (\underline{a}_0, a_M)$. ■

As in the unidimensional case, the proposition states that the equilibrium EPL is *tiered* in

[30] I omit the dependence of $\bar{U}$ on λ to simplify notation.

both dimensions regardless of the government's ideology. Thus, in equilibrium there are three possible regulatory regimes: (τ_L^I, τ_L^C), $(\tilde{\tau}^I, \tilde{\tau}^C)$, and (τ_H^I, τ_H^C).

Figure 18 illustrates the case in which $\mathbb{a}_{pe}^I > \mathbb{a}_{pe}^C$, i.e., $(\tilde{\tau}^I, \tilde{\tau}^C) = (\tau_H^I, \tau_L^C)$. First, smaller firms with assets $a \in [\underline{a}_0, \mathbb{a}_{pe})$ are subject to weak EPL in both components, (τ_L^I, τ_L^C). Second, there is a range of medium-sized firms, $a \in [\mathbb{a}_{pe}^I, \mathbb{a}_{pe}^C)$, that face strong individual protection but weak collective protection, (τ_H^I, τ_L^C). Finally, larger firms with $a > \mathbb{a}_{pe}^C$ are subject to the strictest EPL, (τ_H^I, τ_H^C).

This EPL design resembles that used in Austria and France. In Austria, individual dismissal regulations apply only to firms with more than 5 employees, while collective regulations exclude firms with less than 20 workers. In France, firms with more than 10 workers face stricter EPL regarding economic dismisal. Also, firms with more than 50 employees must follow a costly legal process in case of dismissing more than 9 workers (collective dismissal).

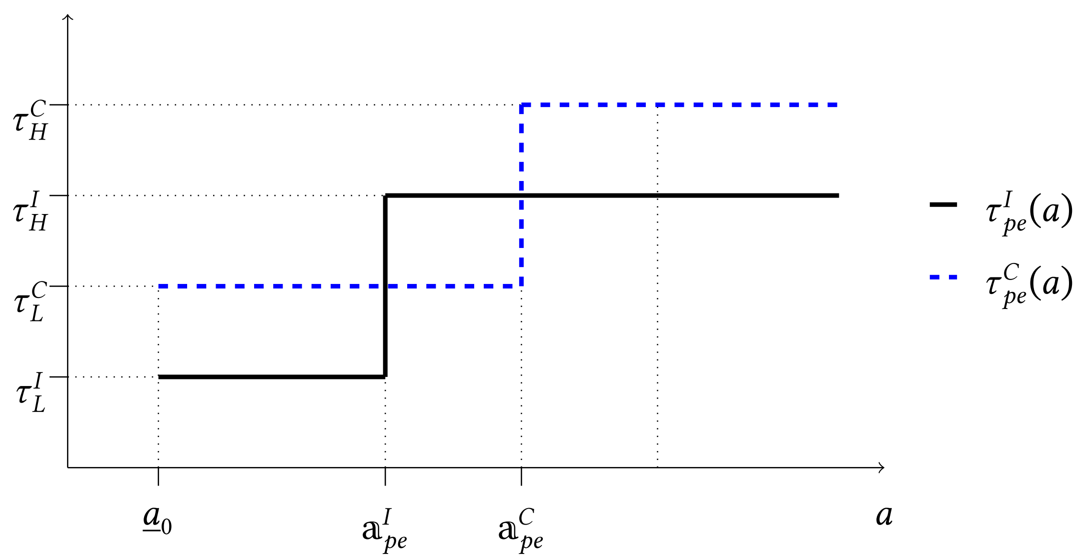


Figure 18: Equilibrium EPL, $\tau_{pe}(a) = (\tau_{pe}^I(a), \tau_{pe}^C(a))$.

D.10 Asset-based policy: self-reporting

Sections 5 and 6.1 have shown that the equilibrium EPL is *tiered* regardless on whether regulations are based on assets or labor. Also, the *asset-based welfare* is larger than the *labor-based welfare* due to the distortions generated by strategic behavior under a *labor-based* EPL. Why in practice governments do not implement EPL contingent on assets?

In the baseline model of Section 3, I have assumed that firms' assets are observable. But in reality firms can decide how many assets to report. Consider an economy where the government can implement an EPL contingent in assets, but where firms report their assets. In this case, firms may want to under-state their assets in order to operate under a less protective EPL. However, under-reporting involves a cost: since banks constrain credit depending on assets, under-reporting means that agents have less access to credit than if they reported truthfully. Thus, under-reporting means: (i) more flexible EPL, but at the cost of (ii) lower investment.

If effect (ii) dominates, then no entrepreneur would have incentives to lie about its assets holdings. If that is the case, an *asset-based* EPL would not create any distortion on welfare and would be preferable over a *labor-based* EPL. Lemma 6 shows that this is not the case. Given some asset threshold $\mathbb{a}$ above which EPL becomes stricter, there is a range of entrepreneurs with $a \geq \mathbb{a}$ that claim to have slightly less wealth than $\mathbb{a}$. Thus, they under-report their size. As a result, they receive less credit and invest less in a firm than if they reported truthfully, but they gain from reduced labor costs. As in the case of a *labor-based* EPL, strategic behavior distorts welfare by constraining the extent to which a *tiered* labor regulation can generate "cross-subsidies" through wages.

Lemma 6 *There exists a critical value* $\bar{\epsilon} > 0$ *such that agents with* $a \in [\mathbb{a}, \mathbb{a} + \bar{\epsilon})$ *report having slightly less assets than* $\mathbb{a}$.

Proof: Consider an agent endowed with wealth $a = \mathbb{a} + \epsilon$, where $\epsilon > 0$. Thus, if she reports her assets truthfully, she invests $k = \mathbb{a} + \epsilon + d(\mathbb{a} + \epsilon)$, and hires $l = l(\mathbb{a} + \epsilon)$ units of labor. The utility she obtains from reporting a is given by:

$$U^E(a|\tau_H) = pf(k,l) + (1-p)\eta k - \bar{w}(\tau_H)l - (1+\rho)d.$$

Otherwise, if she under-reports her size and says that she owns slightly less than $\mathbb{a}$, then her utility is given by:

$$U^E(\mathbb{a}|\tau_L) = pf(\tilde{k},\tilde{l}) + (1-p)\eta\tilde{k} - \bar{w}(\tau_L)\tilde{l} - (1+\rho)\tilde{d},$$

where $\tilde{d} = d(\mathbb{a}|\tau_L)$, $\tilde{k} = \mathbb{a} + \tilde{d}$, and $\tilde{l} = l(\mathbb{a}|\tau_L)$. Define the following auxiliary function:

$$h(\epsilon) \equiv U^E(a|\tau_H) - U^E(\mathbb{a}|\tau_L) = p[f(k,l) - f(\tilde{k},\tilde{l})] + (1-p)\eta[k-\tilde{k}] - \bar{w}(\tau_H)l + \bar{w}(\tau_L)\tilde{l} - (1+\rho)[d-\tilde{d}]. \tag{D.56}$$

First, note that:

$$h(\epsilon)\big|_{\epsilon=0} = \bar{w}(\tau_L)\tilde{l} - \bar{w}(\tau_H)l < 0,$$

where I have used that $\bar{w}(\tau_L) < \bar{w}(\tau_H)$ and $l > \tilde{l}$. Second, differentiate $h(\epsilon)$ in terms of ϵ:

$$\begin{aligned}\frac{\partial h(\epsilon)}{\partial \epsilon} &= U_k^E(a|\tau_H)\frac{\partial k}{\partial \epsilon} + U_l^E(a|\tau_H)\frac{\partial l}{\partial \epsilon} + U_d^E(a|\tau_H)\frac{\partial d}{\partial \epsilon}, \\ &= \underbrace{[p f_k(k,l) + (1-p)\eta]}_{>0}\left(1 + \frac{\partial d}{\partial \epsilon}\right) + \underbrace{[p f_k(k,l) - (1+r^*)]}_{\geq 0}\frac{\partial d}{\partial \epsilon} \geq 0,\end{aligned}$$

where I have used that $\frac{\partial d}{\partial \epsilon} = \frac{\partial d}{\partial a}\frac{\partial a}{\partial \epsilon} > 0$, since $\frac{\partial d}{\partial a} > 0$. Finally, since $h(0) < 0$, $h' > 0$ and h is continuous in ϵ, there is a unique $\bar{\epsilon} > 0$ such that $h(\bar{\epsilon}) = 0$. Thus, any agent with assets $a \in [\mathbb{a}, \mathbb{a} + \bar{\epsilon})$ is better off by reporting slightly less assets than $\mathbb{a}$. ■

E Appendix: Additional Definitions, Results, and Discussion

E.1 Tiered EPL: Additional definitions and results

In this section, I present some additional results under a *tiered* EPL, with $\tau(a) = \tau_L$ if $a < \mathbb{a}$ and $\tau(a) = \tau_H$ for $a \geq \mathbb{a}$ (see Section 5). Section E.1.1 provides an explicit expression for the individual expected workers' utility, $\mathbb{E}u^W$. Section E.1.2 illustrates the *ex-post* competitive equilibrium.

E.1.1 Individual expected workers' welfare

Define $u_L^W \equiv u^W(l_L^S)$ and $u_H^W \equiv u^W(l_H^S)$, where l_i^S is the individual labor supply when the worker is subject to EPL τ_i, with $i \in \{L, H\}$ (given by equation (3.7)). The expected utility of an individual worker, $\mathbb{E}u^W$, is given by:

$$
\begin{aligned}
\mathbb{E}u^W &= qu_L^W + (1-q)u_H^W, \\
&= q\left(v(\bar{w}(\tau_L))l_L^S - \varsigma(l_L^S)\right) + (1-q)\left(v(\bar{w}(\tau_H))l_H^S - \varsigma(l_H^S)\right), \\
&= \bar{\gamma}q\left(\bar{w}(\tau_L)^\chi - \bar{w}(\tau_H)^\chi\right) + \bar{w}(\tau_H)^\chi,
\end{aligned}
\tag{E.1}
$$

where q is in Definition 2 and in the last line I have used equation (3.7) to obtain that $u^W(\bar{w}) = \bar{\gamma}\bar{w}^\chi$, with $\bar{\gamma} \equiv \frac{\gamma-1}{\gamma^{\frac{\gamma}{\gamma-1}}}$ and risk aversion coefficient $\chi \equiv \frac{\sigma\gamma}{\gamma-1}$.

E.1.2 Ex-post competitive equilibrium under a tiered EPL

This section provides more details about the *ex-post* competitive equilibrium. A more protective EPL creates stronger labor market competition, reducing the equilibrium wage relative to τ_0, i.e., $w = w(\tau) < w_0 = w(\tau_0)$. The *ex-post effective wage* under EPL τ_i is denoted by $\bar{w}_i$, with $i \in \{L, H\}$. Figure 19 illustrates the *ex-post* competitive equilibrium. I consider a relatively protective EPL with $\mathbb{a} \in (\underline{a}_H, \overline{a}_H)$, where $\underline{a}_H$ and $\overline{a}_H$ are the minimum collateral to obtain credit and the minimum wealth to operate efficiently when EPL is τ_H.

Agents are sorted into four groups. First, agents without access to credit become workers ($a < \underline{a}_0$) and are matched to a firm with low protection with probability q (see Definition 2). Those working for firms with assets $a < \mathbb{a}$ receive a lower *effective wage* relative to τ_0, $\bar{w}_L < \bar{w}_0$, while those in firms with $a \geq \mathbb{a}$ receive a higher *effective wage*, $\bar{w}_H > \bar{w}_0$. Second, SMEs with $a \in [\underline{a}_0, \mathbb{a})$ face lower labor costs, and thus, have easier access to credit and operate at a more efficient scale. Third, entrepreneurs operating larger medium-sized firms, $a \in [\mathbb{a}, \overline{a}_H)$, face stricter EPL, receive less credit, and thus, have to shrink. Finally, wealthier entrepreneurs ($a \geq \overline{a}_H$) remain financially unconstrained and continue operating optimally despite paying a higher *effective wage*.

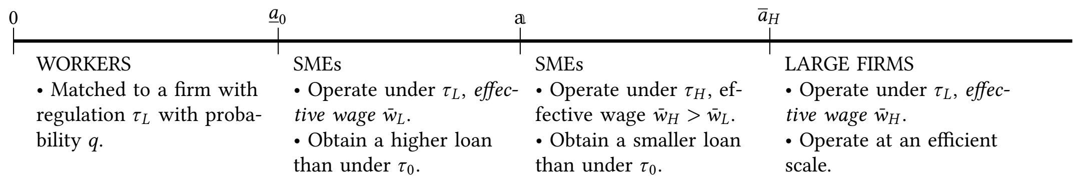


Figure 19: *Ex-post* competitive equilibrium.

E.2 Ex-post competitive equilibrium under a general EPL design

In this section, I define the competitive equilibrium under an arbitrary EPL, τ. Agents' occupational choice depends critically on four equilibrium thresholds: the minimum wealth required to obtain a loan under the four possible regulatory regimes, $\underline{a}_{i,j} \equiv \underline{a}(\tau_i^I, \tau_j^C)$, with $(i, j) \in \{L, H\} \times \{0, 1\}$

To formalize the conditions that define the equilibrium, I start by defining three important sets depending on agents' assets. First, the set of agents subject to a regulatory regime (τ_i^I, τ_j^C): $A_{i,j} = \{a \in [0, a_M] \, : \, \tau(a) = (\tau_i^I, \tau_j^C)\}$. Second, the set of individuals subject to (τ_i, τ_j), who are excluded from the credit market, and thus, who become workers: $\underline{A}_{i,j} = \{a \in A_{i,j} \, : \, a < \underline{a}(\tau_i^I, \tau_j^C)\}$. Third, the set of individuals who face EPL (τ_i^I, τ_j^C) but who have access to credit, and thus, become entrepreneurs: $\overline{A}_{i,j} = \{a \in A_{i,j} \, : \, a \geq \overline{a}(\tau_i^I, \tau_j^C)\}$. Denote by $l_{i,j}^S$ the individual labor supply, by $l_{ij}(a)$ the individual labor demand, and by $d_{i,j}(a)$ the level of debt of a firm operating under (τ_i^I, τ_j^C). The following definition formalizes the *ex-post* competitive equilibrium under an arbitrary EPL, τ.

Definition 3 *Given the EPL τ, a competitive equilibrium for $(i, j) \in \{L, H\} \times \{L, H\}$ is such that: (1) agents with wealth $a \in \underline{A}_{i,j}$ become workers and supply $l_{i,j}^S$, (2) agents with $a \in \overline{A}_{i,j}$ become entrepreneurs and invest $k_{i,j}(a) = a + d_{i,j}(a)$ in a firm, (3) the equilibrium thresholds $\underline{a}_{i,j}$, the level of debt, $\underline{d}_{i,j}$, and labor, $\underline{l}_{i,j}$, associated to those thresholds, and the equilibrium wage w solves the following system of equations:*

$$\Psi(\underline{a}_{i,j}, \underline{d}_{i,j}, \underline{l}_{i,j} | \tau_i^I, \tau_j^C) = 0, \;\; \forall (i, j) \in \{L, H\} \times \{L, H\} \tag{E.2}$$

$$\Psi_d(\underline{a}_{i,j}, \underline{d}_{i,j}, \underline{l}_{i,j} | \tau_i^I, \tau_j^C) = 0, \;\; \forall (i, j) \in \{L, H\} \times \{L, H\} \tag{E.3}$$

$$\frac{\partial U^E(\underline{a}_{i,j}, \underline{d}_{i,j}, \underline{l}_{i,j} | \tau_i^I, \tau_j^C)}{\partial l} = 0, \;\; \forall (i, j) \in \{L, H\} \times \{L, H\} \tag{E.4}$$

$$\sum_{(i,j) \in \{L,H\} \times \{L,H\}} \int_{a \in \underline{A}_{i,j}} l_{i,j}^S g(a) \partial a = \sum_{(i,j) \in \{L,H\} \times \{L,H\}} \int_{a \in \overline{A}_{i,j}} l_{i,j}(a) g(a) \partial a \tag{E.5}$$

The probability to be matched to a firm with regulations (τ_i^I, τ_j^I) *is given by:*

$$q_{i,j} = \frac{\int_{a \in \underline{A}_{i,j}} g(a) \partial a}{\sum_{(i,j) \in \{L,H\} \times \{L,H\}} \int_{a \in \underline{A}_{i,j}} g(a) \partial a} \tag{E.6}$$

The restriction in the government's problem (3.17) presented in Section 3 takes as given the triplet $(\underline{a}_{i,j}, \underline{d}_{i,j}, \underline{l}_{i,j})$ evaluated at (L, L). Thus, the set of agents subject to (τ_i^I, τ_j^C) who are excluded from the credit market and become workers is redefined as $\underline{\tilde{A}}_{i,j} = \{a \in A_{i,j} \, : \, a < \underline{a}_0\}$. Similarly, the set of individuals facing (τ_i^I, τ_j^C), who get credit and become entrepreneurs is redefined as $\overline{\tilde{A}}_{i,j} = \{a \in A_{i,j} \, : \, a \geq \overline{a}_0\}$. Therefore, condition (E.5) is rewritten as:

$$\sum_{(i,j) \in \{L,H\} \times \{L,H\}} \int_{a \in \underline{\tilde{A}}_{i,j}} l_{i,j}^S g(a) \partial a = \sum_{(i,j) \in \{L,H\} \times \{L,H\}} \int_{a \in \overline{\tilde{A}}_{i,j}} l_{i,j}(a) g(a) \partial a \tag{E.7}$$

E.3 Labor market under inflexible wages

This section defines the equilibrium in the labor market when wages are inflexible as in Section D.2. The government chooses EPL by taking the wage as given and equal to the equilibrium wage under τ_0: $w_0 = w(\tau_0)$. Since wages cannot adjust to changes in EPL, when τ increases it generates unemployment. I denote by u the fraction of unemployed agents who get zero utility. The equilibrium labor market conditions are:

$$\begin{aligned}
m_L \cdot l^S(\tau_L) &= \int_{\underline{a}_0}^{\mathbb{a}} l(a|\tau_L) \partial G(a), \\
m_H \cdot l^S(\tau_H) &= \int_{\mathbb{a}}^{a_M} l(a|\tau_H) \partial G(a), \\
m_L + m_H + u &= G(\underline{a}_0).
\end{aligned}$$

Given w_0, this is a system of three equations and three unknowns: m_L, m_H, and u. Note that in this case, the endogenous probabilities to be matched to a firm with weak or strong EPL, i.e., $\frac{m_L}{G(\underline{a}_0)}$ and $\frac{m_H}{G(\underline{a}_0)}$ respectively, adjust to account for unemployment.

E.4 Discussion: inflexible versus flexible wages

In this section, I briefly discuss the differences between the equilibrium EPL under flexible and inflexible wages. Section 5 shows that when wages are flexible, firms that are not subject to stricter EPL benefit from reduced wages. In that case, right-wing governments are willing to impose stricter EPL to larger firms as a way to cross-subsidize the small business sector. Left-wing governments keep smaller firms under weak EPL to protect their workers, so they also implement a *tiered* EPL. On the other hand, Section D.2 shows that, when real wages are inflexible, only more leftist governments are willing to implement a *tiered* EPL. From the point of view of more right-wing governments, increasing τ is too costly for firms. Thus, they keep weak EPL across the board.

Based on these results, one should expect that a *tiered* EPL is more likely to emerge in countries where wages are more flexible and under more leftist governments. In contrast, in countries where wages are more rigid (e.g. high minimum wages) the ability of wages to offset the effects of EPL is more limited. Thus, governments are less likely to impose a *tiered* EPL in such countries.

E.5 Political affiliations

As shown in Section 5, the equilibrium size threshold above which EPL becomes stricter depends on the political orientation of the government. Therefore, whether the policy-maker is left or right-wing matters in terms of *ex-post* welfare for each group of agents. In this section, I study the political affiliations of the different groups of agents (either left or right-wing) if they can anticipate the EPL design to be implemented by a leftist ($\lambda = 1$) or a right-wing ($\lambda = 0$) government. Given the initial EPL, τ_0, agents can anticipate the equilibrium EPL that a left or right-wing government will implement at $t = 1$, and thus, their *ex-post* expected welfare at $t = 2$.

The political affiliations of the different interest groups as function of their firms assets are summarized in Figure 20. There are three cases depending on the location of $\tilde{a}_0$, as illustrated by panels a) to c). In the figure, 'W' and 'E' stand for 'workers' and 'entrepreneurs', respectively. 'LW' and 'RW' stand for 'left-wing' and 'right-wing', respectively.

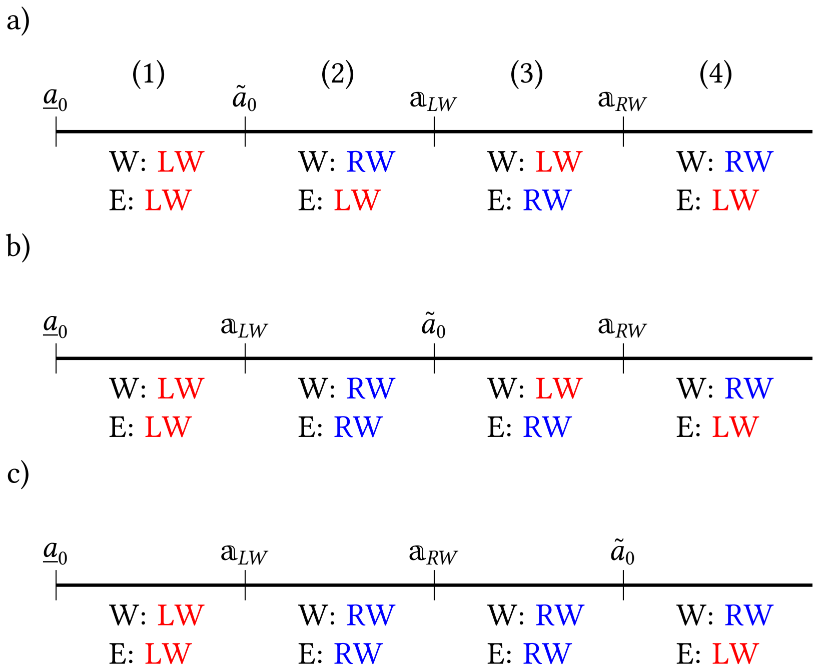


Figure 20: Political affiliations.

Firstly, the figure shows that there are four ranges of agents with different political affiliations, enumerated as 1, 2, 3 and 4. In all cases, there are two groups of workers that have opposing interests. Those matched to the smallest firms (group 1) support a left-wing EPL as opposed to those in largest firms (group 4). The intuition is as follows. Workers in group 1 do not want protection because a higher *effective wage* hurts their firms which are forced to shrink and hire less labor. A left-wing government provides protection to a large set of workers, but not to those in the smallest firms (those in group 1). This pushes down the equilibrium wage benefiting the smallest firms, and thus, their workers. Workers in group 4 can anticipate that even the most right-wing government will protect them. Thus, they are against more leftist governments that set a lower regulatory threshold, leading to a lower wage and hurting them.

Secondly, there is a middle class of workers and entrepreneurs with heterogeneous political preferences (groups 2 and 3). In Panel a), when $\tilde{a}_0 < \mathbb{a}_{LW}$, workers in firms with $a \in [\tilde{a}_0, \mathbb{a}_{LW})$ know that even the most leftist government is not going to provide them with higher protection. Thus, since they are better off under a higher *effective wage*, they support a right-wing government which sets a lower regulatory threshold. As opposed to their workers' interests, entrepreneurs running those firms support a leftist government which is not going to impose stricter EPL on their firms, but is going to do so for the rest of the firms, leading to a lower equilibrium wage.

Thirdly, the political preferences are reversed for agents in firms with $a \in (\mathbb{a}_{LW}, \mathbb{a}_{RW})$. In this case, workers can receive higher protection if they support a left-wing government, but their entrepreneurs suffer from higher wages. Interestingly, as $\tilde{a}_0$ increases relative to $\mathbb{a}_{LW}$ and $\mathbb{a}_{RW}$ (Panel b) and Panel c)), fewer workers want protection and more middle-class agents support a right-wing government.

Overall, the model predicts heterogeneous political preferences for a leftist or right-wing government across groups of workers and entrepreneurs. Those agents in the smallest and largest firms have well-defined political affiliations. However, there is a middle-class with heterogeneous preferences depending on the different configurations of the parameters. Cross class coalitions arise in equilibrium.

F Appendix: Additional Figures

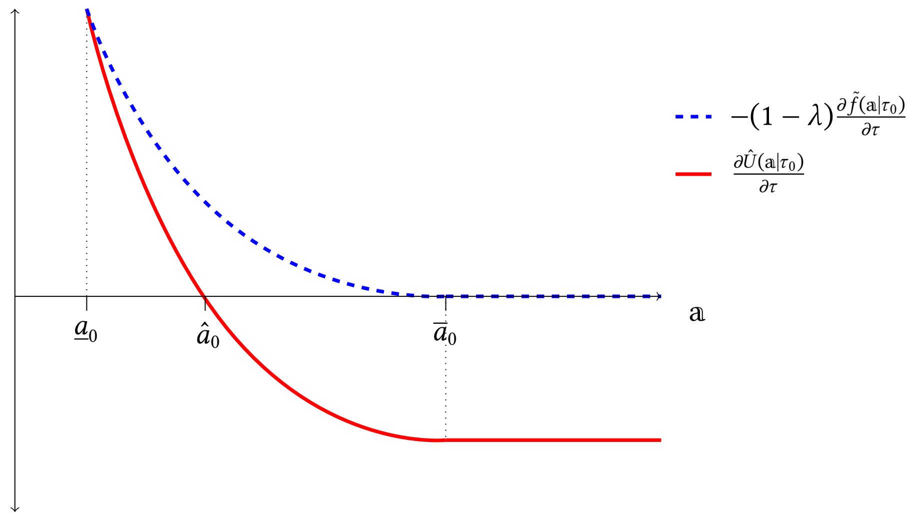


Figure 21: FOC as function of a under inflexible wages when $\lambda \leq \frac{1}{2+1/(\gamma-2)}$.

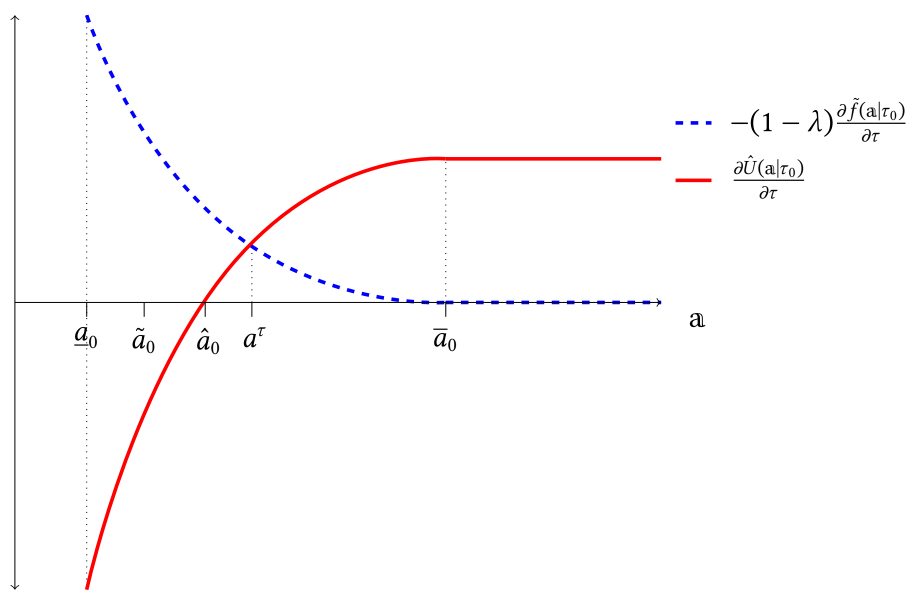


Figure 22: FOC as function of a under inflexible wages when $\lambda > \frac{1}{2-1/\gamma}$.