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# Risk Sharing Within the Firm: A Primer

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# Risk Sharing Within the Firm: A Primer

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## ABSTRACT

Labor income risk is key to the welfare of most people. This risk is mainly insured “within the firm” and by public institutions, rather than by financial markets. This monograph starts by asking why such insurance is provided within the firm, and what determines its boundaries. It identifies four main constraining factors: availability of a public safety net, moral hazard on the employees’ side, moral hazard on the firms’ side, and workers’ wage bargaining power. These factors explain three empirical regularities: (i) family firms provide more employment insurance than nonfamily firms; (ii) the former pay lower real wages; and (iii) firms provide less employment insurance where public unemployment benefits are more generous. The monograph also explores the connection between risk sharing and firms’ capital structure: greater leverage calls for high wages to compensate employees for greater job risk; nevertheless, firms may want to lever up strategically in order to offset the bargaining power of labor unions. Hence, the distributional conflict between shareholders and workers may limit risk sharing within the firm. By contrast, bondholders and workers are not necessarily in conflict, as both are harmed by firms’ risk-taking. In principle, firms may also insure employees

against uncertainty about their own talent, but their capacity to do so is constrained by workers' inability to commit to their employer: in the presence of labor market competition, high-talent employees will leave unless paid in line with their high productivity, making uncertainty about talent uninsurable. The monograph concludes by showing that risk sharing within firms has declined steadily in the last three decades, and by discussing the financial, competitive, technological and institutional developments that may have conjured this outcome.

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**Keywords:** risk sharing; insurance; unemployment; public safety net; social insurance; trade unions; implicit contracts; family-owned firms; firm ownership.

# 1

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## Introduction

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The magnitude of labor income risk and the way it is allocated within society are essential factors in social welfare, as wages are the primary source of income for most people, especially the young. At the start of working life, the wealth of the average individual consists almost entirely of human capital, i.e., the present discounted value of labor income; and even at age 55 human capital accounts for 60% to 80% of total wealth, depending on education (Guiso and Sodini, 2013, based on 2007 SCF data).

The risk to human capital – the riskiness of a worker’s lifetime compensation – stems not only from the variability of wages but also from the risk of dismissal and subsequent unemployment (Low *et al.*, 2010). The losses from unemployment comprise the immediate earnings loss, the costs of job search, and the likely decrease in earnings upon reentry into the workforce (Jacobson *et al.*, 1993). This permanent drop in earnings, often called the “scarring effect” of joblessness, may arise from general skill depreciation and loss of match-specific human capital, as well as from the reputational effects, vis-à-vis future employers, of dismissal. Scarring effects are particularly severe when unemployment is

due to dismissal<sup>1</sup> but are present even after layoffs due to the employer's failure<sup>2</sup> or, for asset management employees, to a fund liquidation.<sup>3</sup>

Unsurprisingly, job loss entails considerable welfare costs for workers. During periods of unemployment, even when the income drop is temporary, households cut back on spending (Browning and Crossley, 2001; Gruber, 1997) if they face borrowing constraints and hold illiquid assets (Browning and Crossley, 2009). There is also evidence that job loss also compromises the physical and emotional health of displaced workers. For instance, Sullivan and von Wachter (2009) find that, in the year immediately after job loss, high-seniority male workers experience a 50% to 100% increase in mortality hazard compared with similar workers who did not suffer job loss, and even 20 years after displacement, their annual death hazard is 10% to 15% higher. Job loss also triggers an increased probability of depression: using individual panel data, Doo-ley *et al.* (1994) estimate that workers who became unemployed had over twice the risk of increased depressive symptoms and of becoming clinically depressed as those who retained their jobs.

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<sup>1</sup>Gibbons and Katz (1991) noted that workers dismissed on an individual basis should on average be less capable than those fired in a plant closing, because the former are drawn from the bottom tail of the ability distribution and the latter from the whole distribution. Hence individually dismissed workers suffer from a greater loss of reputation. And Gibbons and Katz, using CPS data, find that they earn lower wages and face more protracted joblessness than those losing their jobs in a plant closing. Hallock (2009, pp. 79–81) reviews several other papers that estimate the scarring effects of job loss.

<sup>2</sup>Graham *et al.* (2019) study how bankruptcies affect the careers of rank-and-file employees, analyzing matched employer-employee panel data from the U.S. Census, and document a persistent 15% drop in wages following bankruptcy – most likely reflecting labor market frictions. Other studies focus on managers: Eckbo *et al.* (2016) report that only a third of CEOs maintain executive positions after a bankruptcy filing, especially when their firm's previous profitability was below the industry average, and departing CEOs suffer large income and equity losses. Similarly, using Danish administrative data, Nielsen (2017) shows that the personal income of ousted CEOs drops by 35 to 45% in the five years after dismissal.

<sup>3</sup>In asset management, hedge fund liquidations have significant scarring effects on the employees, but strictly through the reputation-loss channel. Using hand-collected data on 1,948 professionals, Ellul *et al.* (2020) find that top managers for funds liquidated after persistently poor relative performance suffer demotion and a significant loss in imputed compensation. When liquidations are preceded by normal relative performance, this scarring effect is absent.

Accordingly, how and how far workers can obtain insurance against human capital risk is an important issue. In practice, this risk is mainly shared “within the firm”; that is, it is borne to some extent by shareholders (and possibly bondholders), as well as being partly assumed by public institutions, which provide a safety net against layoffs via unemployment insurance and other welfare programs,<sup>4</sup> as well as public insurance to employees of insolvent firms,<sup>5</sup> and bail-outs of distressed companies.<sup>6</sup> Financial markets, instead, play at most a strictly limited role in insuring human capital risk, in contrast with their essential role in the reallocation and sharing of risks involving other asset classes.

The customary view of the way risk is shared within the firm is that it rests mainly on the employer, not on employees: entrepreneurs insulate workers from most of the risk stemming from output shocks by guaranteeing a stable income flow. This view dates at least back to Knight (1921):

The system under which the confident and venturesome assume the risk and insure the doubtful and timid by guaranteeing to the latter a specified income in return for an assignment of the actual results . . . is the enterprise and wage system of industry.

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<sup>4</sup>Topel and Welch (1980) and Topel (1983, 1984) argue that public unemployment insurance reduces both employment risk and the compensating wage differentials associated with such risk. However, according to Low *et al.* (2010), the welfare value of U.S. transfer programs such as Food Stamps, which provide partial insurance against income risk, exceeds that of unemployment insurance, which provides partial insurance against employment risk. Similarly, Deshpande and Lockwood (2020) show that U.S. disability programs provide valuable insurance against a wide range of risks, including unemployment risk, and the insurance they provide against non-health risks accounts for much of their value.

<sup>5</sup>In several countries, a government-mandated insurance fund secures the claims of employees of insolvent companies, so as to mitigate the cost of bankruptcy to workers by covering unpaid salaries, pension contributions, and/or severance pay, possibly capped at some fraction of the claims, irrespective of the employees’ seniority in the bankruptcy process (Ellul and Pagano, 2019).

<sup>6</sup>Especially at times of crisis, governments often rescue large companies to prevent or mitigate the massive layoffs that would otherwise occur. For instance, this motivated the 2009 bailout of General Motors and Chrysler by the U.S. government, as well as the widespread company bailouts effected in many countries in the wake of the COVID-19 pandemic.

The idea is that employees typically get insurance – mainly implicit – from their employers, as the latter bear most of the risk arising from demand and technology shocks, rather than transferring them to workers via changes in wages or employment.

Upon more careful thought, however, this customary view is puzzling both theoretically and empirically. At the theoretical level, it is not obvious that labor income or job risk should be insured by employers rather than by financial markets or intermediaries: what makes employers particularly suited to this task? And even the most casual empirical observation indicates instead that workers bear a very substantial amount of risk stemming from market or technology shocks. Layoffs associated with corporate restructuring or firm liquidation are commonplace. In the past two decades, aggregate shocks such as financial crises, international trade wars and the digital revolution have cost millions of workers their jobs, in many cases permanently eliminating their tasks from the production process. So it is natural to ask whether employers' ability or willingness to "insure the doubtful and timid" has declined over time and, if so, why.

A related question is why there are such large variations in job stability across firms, at any given time. In any given country and period, not all firms appear to be able or willing to provide the same degree of insurance to their employees. In particular, there is solid evidence that family firms feature greater employment stability than nonfamily firms; and the same can be said of business groups compared to standalone firms. Also, highly leveraged firms, being more exposed to financial distress and bankruptcy, tend to place more risk on their employees.

There are substantial differences between countries, too. The availability of government safety net programs is an obvious potential explanation for such international variation. To some extent a public safety net against unemployment risk may displace the provision of insurance by firms: there may be substitution between the two, with firms being more inclined to dismiss workers in countries and historical periods where unemployment benefits are more generous.

Finally, not all human capital risk arises from firm-related shocks, i.e., from market or technological factors: some is worker-related, stemming

from uncertainty over a worker's actual skills. In principle, a firm may be able to insure employees also against this risk, as by retaining less capable employees at the cost of rewarding the better ones less. As we shall see, however, competition for talent may limit firms' ability to provide such insurance.

The foregoing suggests that the customary view of risk sharing between firms and employees is a gross oversimplification. As neither the rationale nor the limitations of risk sharing within the firm are obvious, this monograph explores both in the context of simple models. First, it asks why firms may be better positioned than financial markets to protect employees from wage or employment risk (Section 2); next, it shows that four main factors limit their ability or willingness to do so: availability of a public safety net, moral hazard on the employees' side, moral hazard on the firms' side, and workers' market power (Section 3).

The predictions of these models provide a guide to the evidence, particularly to the empirical work on the provision of insurance by family vs. nonfamily firms and on the substitutability between firm and public unemployment insurance (Section 4). This analysis naturally leads to a related question, namely what role risk sharing within the firm plays in the choice of corporate leverage (Section 5). Clearly, employment stability requires low leverage, but this may not be optimal if workers have significant power in wage setting: in that case, the firm may want high leverage in order to gain a strategic advantage in wage bargaining. The presence of both workers and creditors as stakeholders also raises the question of whether they should be expected to be in conflict with each other or to ally against shareholders in the choice of leverage. On each of these points, there is rich empirical evidence.

Next, the monograph will turn to another risk faced by employees, that stemming from uncertainty about their own ability, and the extent to which firms can insure them against this risk too (Section 6). We shall see that whereas speedier resolution of this type of uncertainty increases risk for employees, it also allows better allocation of workers across tasks, which creates a tension between in-firm insurance and the productivity gains from faster learning. This tension can lead workers to inefficient labor market choices, such as opting for talent-insensitive jobs or churning across employers to delay learning their true skill level.

The overall picture provided by the monograph is that the insurance implicitly provided by firms to their employees is constrained by a number of economy-wide factors and affected by several firm characteristics. Thus, it is natural to ask whether and how firms' provision of employment insurance has changed over time, under the impact of changes in the economic environment or in firm characteristics. Section 7 provides some exploratory evidence on this point: it turns out that over the past 25 years, firms have substantially reduced their provision of employment stability, not only in the U.S. but worldwide. Based on the analysis of this monograph, I venture several conjectures on why this may have occurred. While I provide some initial evidence about its possible causes, this "fraying of the implicit employment contract", in the words of Hallock (2009), is likely to be the result of several concomitant forces, whose relative importance for the outcome is yet to be determined.

Section 8 concludes the monograph, not only by summarizing the main ideas that guide the analysis, but also by outlining some of the issues that call for further research in this area.



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