Credit and Unemployment: Do Institutions Matter?

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Introduction

Among various consequences of the subprime mortgage crisis, which broke out during the summer of 2007, the burst of unemployment is undoubtedly the most concerning. The rise in unemployment has been particularly pronounced in the United States. While the OECD harmonised unemployment rate (HUR) had decreased from 6 percent in 2003 to 4.6 percent in 2007, it suddenly climbed to 5.8 percent in 2008 and reached 8.1 percent during the first quarter of 2009. The evolution is less clear-cut in the EU, in which the average HUR has changed from 9 percent in 2003 to 8.2 percent in the first quarter of 2009. But this average hides significant differences among European countries. Some of them exhibit a particularly alarming employment situation, as exemplified by Ireland (with a HUR of 4.8 percent in 2003 against 11.8 percent in 2009) and Spain (11.1 percent in 2003 compared to 18.1 percent in 2009).

The most direct manifestation of the subprime crisis for the 'real' economy has been the dramatic reduction in access to credit faced by households and, above all, by firms. The credit crunch mainly results from both liquidity shrinkage and failures in the banking system. On the one hand, distressed banks tend to squeeze credit in order to restore their liquidity. On the other hand, banks' failures destroy the long-term relationships that lenders and borrowers have been building for many years (Bernanke 1983). As bank information about borrowers is inherently private, firms face difficulties in getting credit from other lenders. This leads to a reduction of credit availability, which can be amplified by a decline of share prices in financial markets. For example, firms with credit lines from the Continental Illinois incurred a significant fall in their share's value just after the bank's collapse in 1984 (Slovin et al. 1993). When the crisis is systemic, the whole stock market is affected, as testified by the decline in all major stock indexes since 2008.

The credit squeeze induced by the subprime crisis raises the more general point of the link between credit and labour market performance. The aim of this paper is to examine this issue and its normative implications. Following this introduction, we analyse the relationship between firms' access to credit and unemployment in the second section. The third section is dedicated to the literature on institutional and legal determinants of the access to credit. In the fourth section, we both complete and moderate the view developed in the second section, stressing the complex interactions that exist between financial arrangements and labour market institutions. The final section concludes.

Access to finance and unemployment: theoretical and empirical arguments

The links between access to credit and unemployment have been widely studied in the theoretical and empirical literature. To start with, there exists an indirect transmission channel that relates to the financial determinants of capital demand and the sensitivity of investment to cash-flow. In the new-Keynesian view, information asymmetries between lender and borrowers are analysed as market imperfections that result in credit rationing and investment contraction (Stiglitz and Weiss 1981). Using American firm-level data, Fazzari et al. (1988) estimate empirical investment models. They examine whether investment decisions depend on the availability of internal funds and whether this sensitivity is higher for high information-asymmetry firms. They confirm the existence of financial constraints, especially for low-dividend firms. A large empirical literature has then developed in

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line with this approach.[1] Unfortunately, none of these studies examines the effect of investment fluctuations on labour demand and employment performance.

A second strand of literature deals more explicitly with the issue of employment. To start with, finance directly affects employment through its impact on the new establishment of firms. According to Acemoglu (2001), job creation mainly occurs in innovating firms. Reducing the access to credit for entrepreneurs prevents the emergence of new firms and penalises employment. Belke and Fehn (2002), Fehn and Fuchs (2003) and Belke et al. (2004) focus on venture capital as a particularly appropriate source of finance for innovating firms. Their theoretical and empirical studies reveal that an insufficient development of venture capital hinders the establishment of new firms, thus harming employment.

Greenwald and Stiglitz (1993) as well as Arnold (2002) use an alternative approach, relating the new-Keynesian literature on capital demand to the issue of labour demand. They show that firms' labour demand depends on their financial constraint and fluctuates according to their balance-sheet position. Hence, employment declines when firms face a credit squeeze. This theoretical result has been corroborated by empirical studies. For example, Sharpe (1994) finds that the sensitivity of American firms' labour demand to sales increases with their leverage ratio. Using a set of British firms, Nickell and Wadhwani (1991) show that employment decreases with firms' leverage ratio and increases with their market capitalization. Moreover Nickell and Nicolitsas (1999) conclude that employment falls with the ratio of interest payments to cash-flow. Benito and Hernando (2008) obtain the same outcome for Spanish firms. Using Italian data, Caggese and Cunat (2008) establish that firms facing stronger financial constraints resort more intensively to fixed-term rather than to permanent workers.

Finally, the recent paper by Campello et al. (2010) proposes an encompassing analysis of how financial constraints affect both investment and employment. Their contribution is all the more interesting as they concentrate on the subprime crisis period. The authors survey 1,050 chief financial officers in the United States, Europe and Asia in order to distinguish financially-constrained and non financially-constrained firms. Their study provides evidence that during the crisis (i.e. during the last quarter of 2008), American financially-constrained firms were planning to cut their fixed capital expenses and reduce employment more intensively than non financially-constrained firms. Moreover, the difference between financially and non financially-constrained firms' reactions is significantly larger during the crisis than before (i.e. from the third quarter of 2007 to the last quarter of 2008).

Institutional and legal determinants of the access to credit

In most countries prudential and credit-boosting policies have been undertaken in order to bail out the banking system and to tackle the credit crisis. But access to credit also has structural determinants such as the legal and institutional framework. This idea is at the heart of the so-called 'law and finance' view, developed in the wake of the seminal paper by La Porta et al. (1997). The main argument propounded in this literature is that the availability of external finance strongly depends on the degree of investor protection as well as on the efficiency of law enforcement. Special attention is devoted to countries' legal systems. They distinguish four legal systems: the English, the French, the German and the Scandinavian system. The literature mainly contrasts the English and the French system. While the former, which prevails in Anglo-Saxon countries, is based on Common Law, the latter, in force in France as well as in many southern European countries, is based on the French Code Civil. According to this literature, the English system is more favourable to financial development and growth than the French one (La Porta et al. 1997; La Porta et al. 1998a; Levine 1998; Levine 1999; Beck et al. 2000).

In the same line as this literature, Djankov et al. (2003) and Djankov, Hart et al. (2008) focus on the access to credit.[2] They use several indicators that depend on the legal system and determine credit availability. Djankov et al. (2007) concentrate on the creditor rights index, built by La Porta et al. (1997) and La Porta et al. (1998a). This indicator encompasses several criteria: (a) whether there exist res-

[1] See notably Hoshi et al. (1988) who use Japanese data, and Bond and Meghir (1994) who test UK data.

[2] In the same line, some other works concentrate on securities laws (La Porta et al. 2006) and self-dealing (Djankov, La Porta et al. 2008) as well as on the quality of government (La Porta et al. 1998b) and the legal framework of new firms' entry (Djankov et al. 2002).

trictions (such as creditor consent or minimum dividends) when a debtor files for reorganization, (b) whether secured creditors can seize their collateral after the approval of a reorganization, (c) whether secured creditors are paid first out of the liquidating firm (before workers and the government), and finally (d) whether an administrator (instead of the manager) runs the business during the reorganization. Adding a value of 1 each time one of these four conditions is fulfilled, one obtains a creditor rights index that varies between 0 (poor creditor rights) and 4 (strong creditor rights). Following La Porta et al. (1997) and La Porta et al. (1998a), Djankov et al. (2007) find that the Common Law system is associated with a higher creditor index compared to the French legal system (2.278 in 2003 for the former against 1.313 for the latter), suggesting that Anglo-Saxon countries offer better legal protection to creditors. Using a set of 133 countries in the period from 1978 and 2003, the authors also regress the ratio of private credit from deposit financial institutions to the private sector to GDP on several control variables (such as GDP, GDP per capital growth, inflation, etc.). Their OLS estimates confirm the results obtained by La Porta et al. (1997) on a shorter data set (49 countries for the year 1994). The degree of creditor protection is shown to favour access to credit: when the creditor rights index (measured in 1999) rises by 1 percent, the ratio of private credit to GDP increases by 6 percent.

The authors also discuss the role of credit information sharing among creditors. Their idea is that information sharing alleviates insolvency risk, thus making banks less reluctant to grant credit. To measure the extent of information sharing in each country of their data set, they use two indicators. The first one relates to public registries that collect data about borrowers' indebtedness and make them available to lenders. It equals one if there exists a public registry in the country, zero otherwise. The second indicator refers to private credit bureaus, which allow banks to share their information about borrowers. It is equal to one if there exists a credit bureau in the country, zero otherwise. Public registries are more widely established in French-system countries than in Common Law countries while the reverse holds for credit bureaus. Using the same econometric method as for their study of credit rights, Djankov et al. (2007) find that the presence of private bureaus has a positive impact on the ratio of private credit while public registries favour access to credit only in low-income countries.

Djankov, Hart et al. (2008) examine the efficiency of debt enforcement as a determinant of access to credit. Their study is based on a survey of attorneys and judges in 88 countries, completed in 2005. Three variables are used to measure debt enforcement: the time to resolve the insolvency process (taken from Djankov et al. 2003), the cost to complete the insolvency process, and the likely disposition of assets (whether assets are preserved as a going concern or sold piecemeal). An encompassing measure of efficiency of debt enforcement is then computed. The higher it is, the more efficient is law enforcement. Here again, the English legal system is shown to offer a higher debt enforcement efficiency than the French system. The average index amounts to 72.1 for Common Law countries while it is only 40.4 for French legal system countries. The econometric approach of the authors is the same as in Djankov et al. (2007). They establish that the efficiency of debt enforcement positively affects the ratio of private credit to GDP. When debt enforcement efficiency increases by 10 percent, the ratio rises by 5 or 6 percent, depending on the econometric specification.

These elements support the view that the institutional environment crucially accounts for access to credit. They also suggest that the Anglo-Saxon legal system is the most appropriate from this point of view. Hence, reforming legal systems in the direction of a higher creditor protection, a reduction of the time and the cost of the insolvency process as well as a preservation of corporate assets should foster credit availability. This is precisely the kind of policy advocated by the World Bank. In its annual report 'Doing Business', explicitly inspired by the 'law and finance' literature, the World Bank proposes a ranking of countries based on various institutional indicators of doing business easiness, some of which especially affecting access to credit. Table 1 reports the value of these indicators for selected countries.

The World Bank also lists the countries engaged in significant reforms of their credit access regulation. For example, the Doing Business report indicates that, over the last five years, the main area of reform from this point of view has been the strengthening of creditor rights, especially in high-income countries (among which are Denmark, United States, Finland, France, etc.). According to the report, these reforms improved the credit recovery rate. Hence, they should also increase credit availability. The other

Table 1

Institutional determinants of access to credit

Countries	Legal rights index[a] (0–10)	Information index[b] (0–6)	Public registry coverage[c] (as % of adults)	Private registry coverage[d] (as % of adults)
USA	8	6	0	100
UK	9	6	0	100
Canada	6	6	0	100
Germany	7	6	0.8	98.3
France	7	4	32.5	0
Italy	3	5	12.2	77.5
Spain	6	5	45.3	7.6
Sweden	5	4	0	100
Japan	7	6	0	76.2
Singapore	10	4	0	40.3
Taiwan	4	5	0	63.2
China	6	4	62.1	0
Argentina	4	6	34.3	100
Chile	4	5	32.9	33.9

[a] Measure of the legal rights of borrowers and lenders through collateral and bankruptcy laws (the higher the index, the stronger the protection). – [b] Measure of the scope, access, and quality of credit information (the higher the index, the better information). – [c] Number of individuals and firms listed in a public credit-registry as a percentage of adult population. – [d] Number of individuals and firms listed in a private credit-registry as a percentage of adult population

Source: World Bank (2009).

important area of reform pointed out by the World Bank has consisted in increasing the efficiency of the liquidation process, notably through a reduction of its duration. This trend has been particularly pronounced in eastern European countries.

It is noteworthy that these policy recommendations are generally deregulation-oriented. For example, reducing the liquidation duration and softening the procedure contribute to make firms' closure easier. Similarly, promoting the development of credit bureaus implies a reduction of banks' information monopoly and an increase in banking competition (Brown et al. 2007). The deregulation dimension of reforms advocated by the World Bank is particularly is confirmed by the comments of Djankov et al. (2007) on the positive impact of public credit registries in low-income countries: "these results [...] point to a beneficial role of public credit registries in poor French legal origin countries – a rare example of an apparently successful state intervention" (Djankov et al. 2007, 301).

Combined with evidence given in the second section, these arguments suggest that reforming the institutional determinants of credit granting in the way defined by the 'law and finance' literature could significantly improve employment performance.

Interactions between credit availability and labour market institutions

The aim of this section is to take a critical look at the view developed in the previous section. Our main criticism concerns the existence of complementarities or substitutability among various institutional arrangements. Two policies or institutions are said to be complementary (resp. substitutable) when the efficiency of the one increases (resp. decreases) with the presence or the implementation of the other. Recent empirical and theoretical contributions[3] provide rich analyses of institutional interactions among labour market institutions (labour legislation, unemployment protection, union density, wage taxation, etc.) and product markets institutions (barriers to entry, price control, etc.).

But there also exist interactions between credit market regulation and labour market institutions. The literature on this issue is particularly interesting because it shows that the links between credit policies and unemployment are more complex than exposed in the third section. However, it is limited to a few theoretical papers. A first category of studies considers financial deregulation and labour market flexibilization as substitutes. In Rendon (2001), reducing firing and hiring costs boosts employment. Access to external finance curbs unemployment since it allows firms to finance labour adjustment costs. Therefore, if credit is easily available, removal of labour market adjustment costs becomes less effective since these costs can easily be financed by external finance. Symmetrically, if the labour market is made perfectly flexible, access to external finance has a weak impact on employment. In Belke and Fehn (2002), strong labour protection allows workers to partly capture the rent resulting from the entrepreneur's project. This decreases the project's rate of return below the minimum threshold required by fund providers. Hence, the firm cannot

[3] See Blanchard and Giavazzi (2003); Griffith et al. (2006); Berger and Danninger (2007); Fiori et al. (2007); Kugler and Pica (2008); Amable and Gatti (2006) as well as Amable et al. (2010).

be established and no jobs are created. However, the rise in unemployment yields a decline in labour protection and a subsequent rise in the project's return above the fund providers' threshold. Nevertheless, financial constraints slow down this adjustment process so that the return to higher employment is delayed. Symmetrically, when the labour market is flexible, there is no unemployment, and financial deregulation becomes ineffective. When the financial system is frictionless, the return to employment is immediate and a deregulation of the labour market becomes less interesting. According to these approaches, improving firms' access to external finance may not be always effective. If the labour market is highly deregulated, boosting credit turns out to be ineffective. However, it can be effective in countries where labour markets are highly regulated.

Another series of papers regard financial deregulation and labour market flexibilization as being complementary. Koskela and Stenbacka (2002) model the effects of a reduction of bank competition in an economy where workers are remunerated by a bargained base wage and a share of the firms' profit. Because the firms' hiring policy is financed by borrowing, an increase in the interest rate implied by a reduction of banking competition hinders employment. But workers internalize the rise in hiring costs and bargain less harshly about their base wage. The moderating effect dominates when unions are powerful. Otherwise, the former effect prevails. Hence, promoting access to credit through higher banking competition may be particularly effective if there is no moderating effect, i.e. if union density is weak. More generally, this suggests that financial liberalisation boosts employment only in countries with weakly deregulated labour markets. It becomes less interesting if the labour market is highly regulated. This contradicts the conclusion drawn from Rendon (2001), and Belke and Fehn (2002).

The outcome of Acemoglu and Pischke (1999) provides an even greater contrast. In their model, regulation of labour markets and financial systems (rather than *deregulation*) are seen as complementary. The authors argue that credit rationing favours employment since it entices firms to invest in human capital rather than in physical capital. The effect of a credit squeeze is particularly positive when labour market regulation hinders employment.

In summary, according to the nature of institutional interactions between labour market and financial arrangements, promoting firms' access to credit may have no effect on employment. This theoretical conclusion has important implications for empirical research. It notably suggests that it is urgently necessary to determine which one out the three configurations prevails in each country: substitutability between financial deregulation and labour market flexibilization, complementarity between financial deregulation and labour market flexibilization or complementarity between labour market and financial system regulation.

The paper by Gatti et al. (2009) is precisely aimed at filling this gap. Using annual data for 18 OECD countries for the period of 1980 to 2004, they investigate how labour and financial factors interact to determine unemployment. They estimate a dynamic panel model using the system generalized method of moments (GMM). Enlarging the analysis of access to credit to the more global issue of external finance, they consider three types of financial variables: stock market capitalization, intermediated credit (claims to the private sector by deposit money banks, insurance companies, private pensions, pooled investment schemes and development banks) and banking concentration. The main conclusion of the paper is that the impact of financial variables strongly depends on the labour market context. On the one hand, increased market capitalization and decreased banking concentration reduce unemployment only if the level of labour market regulation, union density and coordination in wage bargaining is low. On the other hand, increasing intermediated credit and banking concentration promote employment when the degree of labour market regulation, union density and coordination in wage bargaining is high. These results have important policy implications: in countries with high levels of labour market regulation, union density and wage bargaining coordination, boosting intermediated finance (through higher intermediated credit and banking concentration) appears much more appropriate than promoting market-based finance (through increased capitalization and lower banking concentration).

Conclusion

The aim of this paper was to stress the importance of institutions as critical determinants of the relationships between credit and employment. Its main conclusion is that this relationship does not only depend

on the legal determinants of credit but also on their interactions with other institutional arrangements such as labour market institutions.

We have already emphasised the need for empirical evaluations of institutional interaction effects. But there is also much theoretical work to be done. A particularly important inquiry avenue concerns accounting for product market institutions. In so far as they are closely linked to labour market institutions, how do they interact with financial factors? This calls for an encompassing theoretical model including not only labour market and financial arrangements but also product market institutions. This very hard task undoubtedly constitutes a motivating research agenda.

References

Acemoglu, D. (2001), "Credit Market Imperfections and Persistent Unemployment", *European Economic Review* 45, 665–679.

Acemoglu, D. and J.-S. Pischke (1999) "Beyond Becker: Training in Imperfect Labour Markets", *Economic Journal* 109, 112–142.

Amable, B., L. Demmou and D. Gatti (2010), "The Effect of Employment Protection and Product Market Regulation on Labour Market Performance: Substitution or Complementarity?", *Applied Economics* (forthcoming).

Amable, B. and D. Gatti (2006), "Reforms: Questioning Policy Complementarity", *Industrial and Corporate Change* 15, 101–122.

Arnold, L. (2002), "Financial Market Imperfections, Labour Market Imperfections and Business Cycles", *Scandinavian Journal of Economics* 104, 105–124.

Beck, T., R. Levine and N. Loayza (2000), "Finance and the Sources of Growth", *Journal of Financial Economics* 58, 261–300.

Belke, A. and R. Fehn (2002), "Institutions and Structural Unemployment: Do Capital Market Imperfections Matter?", *ifo Studien – Zeitschrift für empirische Wirtschaftsforschung* 48, 405–451.

Belke, A., R. Fehn and N. Foster (2004), "Venture Capital Investment and Labour Market Performance: A Panel Data Analysis", *Problems and Perspectives in Management,* Special Issue on Innovation Management, 5–19.

Benito, A. and I. Hernando (2008), "Labour Demand, Flexible Contracts and Financial Factors: New Evidence from Spain", *Oxford Bulletin of Economics and Statistics* 70, 283–301.

Bernanke, B. (1983), "Non-monetary Effects of the Financial Crisis in the Propagation of the Great Depression", *American Economic Review* 73, 257–276.

Berger, H. and S. Danninger (2007), "The Employment Effects of Labour and Product Markets Deregulation and Their Implications for Structural Reform", *IMF Staff Paper* 54, 591–619.

Blanchard, O. and F. Giavazzi (2003), "Macroeconomic Effects of Regulation and Deregulation in Goods and Labour Markets", *Quarterly Journal of Economics* 118, 879–907.

Bond, S. and C. Meghir (1994), "Dynamic Investment Models and the Firms' Financial Policy"' *Review of Economic Studies* 61, 197–222.

Brown, M., J. Pagano and T. Japelli (2007), "Information Sharing and Credit Market Performance: Firm-level Evidence from Transition Countries", *Journal of Financial Intermediation* 18, 151–172.

Caggese, A. and V. Cunat (2008), "Financing Constraint and Fixed-term Employment Contract", *Economic Journal* 118, 2013–2046.

Campello, M., J. Graham and C. Harvey (2010), "The Real Effects of Financial Constraints: Evidence from a Financial Crisis", *Journal of Financial Economics* (forthcoming).

Djankov, S., O. Hart, C. MacLiesh and A. Shleifer (2008), "Debt Enforcement around the World", *Journal of Political Economy* 116, 110–1149.

Djankov, S., R. La Porta, F. Lopez-de-Silanes and A. Shleifer (2002), "The Regulation of Entry", *Quarterly Journal of Economics* 117, 1–37.

Djankov, S., R. La Porta, F. Lopez-de-Silanes and A. Shleifer (2003), "Courts", *Quarterly Journal of Economics* 118, 457–522.

Djankov, S., R. La Porta, F. Lopez-de-Silanes and A. Shleifer (2008), "The Law and Economics of Self-dealing", *Journal of Financial Economics* 88, 430–465.

Djankov S., C. McLiesh and A. Shleifer (2007), "Private Credit in 129 Countries", *Journal of Financial Economics* 84, 299–329.

Fazzari, S., R. Hubbard and B. Petersen (1988), "Financial Constraint and Corporate Investment", *Brooking Papers on Economic Activity* 1, 141–195.

Fehn, R. and T. Fuchs (2003), *Capital Market Institutions and Venture Capital: Do They Affect Unemployment and Labour Demand?,* CESIfo Working Paper 898.

Fiori, G., G. Nicoletti, S. Scarpetta and F. Schiantarelli. (2007), *Employment Outcomes and the Interaction between Product and Labour Market Deregulation: Are They Substitutes or Complements?*, IZA Discussion Paper 2770.

Gatti, D., C. Rault and A-G. Vaubourg (2009), *Unemployment and Finance: How Do Financial and Labour Market Factors Interact?,* CESIfo Working Paper 2901.

Greenwald, B. and J. Stiglitz (1993), "Financial Market Imperfection and Business Cycles", *Quarterly Journal of Economics* 108, 74–114.

Griffith, R., R. Harrison and G. Macartney (2006), "Product Market Reforms, Labour Market Institutions and Unemployment", *Economic Journal* 117, 142–166.

Hoshi, T., A. Kashyap and D. Scharfstein (1988), "Corporate Structure, Liquidity and Investment: Evidence from Japanese Industrial Groups", *Quarterly Journal of Economics* 151, 33–59.

Koskela, E. and R. Stenbacka (2002), *Equilibrium Unemployment and Credit Market Imperfections: The Critical Role of Labour Market Mobility,* CESIfo Working Paper 654.

Kugler, A. and G. Pica (2008), "Effects of Employment Protection and Product Market Regulations on Job and Workers Flows: Evidence from the 1990 Italian Reform", *Labour Economics* 15, 78–95.

La Porta, R., F. Lopez-de-Silanes and A. Shleifer (2006), "What Works in Securities Law?", *Journal of Finance* 61, 1–32.

La Porta, R., F. Lopez-de-Silanes, A. Shleifer and R. Vishny (1997), "Legal Determinants of External Finance", *Journal of Finance* 52, 1131–1150.

La Porta, R., F. Lopez-de-Silanes, A. Shleifer and R. Vishny (1998a), "Law and Finance", *Journal of Political Economy* 106, 1113–1155.

La Porta, R., F. Lopez-de-Silanes, A. Shleifer and R. Vishny (1998b), "The Quality of Government", *Journal of Law, Economics and Organization* 15, 222–279.

Levine R. (1998), "The Legal Environment, Banks, and Long-run Economic Growth", *Journal of Money, Credit, and Banking* 30, 596–620.

Levine R. (1999), "Law, Finance and Economic Growth", *Journal of Financial Intermediation* 8, 36–67.

Levine R., N. Loayza and T. Beck (2002), "Finance and the Sources of Growth", *Journal of Financial Economics* 58, 261–300.

Nickell, S. and D. Nicolitsas (1999), "How Does Financial Pressure Affect Firms?", *European Economic Review* 43, 1435–1456.

Nickell, S. and S. Wadhwani (1991), "Employment Determination in British Industry: Investigation Using Micro-data", *Review of Economic Studies* 58, 955–969.

Rendon, S. (2001), *Job Creation under Liquidity Constraints: The Spanish Case,* Banco de Espana Working Paper 0101.

Sharpe, S. (1994), "Financial Market Imperfections, Firm Leverage and the Cyclicity of Employment", *American Economic Review* 84, 1060–1074.

Slovin, M., M. Sushka and J. Polonchek (1993), "The Value of Banking Durability: Borrowers as Bank Shareholders", *Journal of Finance* 68, 247–266.

Stiglitz, J. and A. Weiss (1981), "Credit Rationing in Markets with Imperfection Information", *American Economic Review* 71, 393–411.

Wasmer, E. and P. Weil (2004), "The Macroconomics of Labour and Credit Market Imperfections", *American Economic Review* 94, 944–963.

World Bank (2009), *Doing Business Report*, http://www.doingbusiness.org/MethodologySurveys/ClosingBusiness.aspx.