Summary

My dissertation consists of four studies, with a common focus on how market imperfections or policy induced frictions shape the input choices – capital and labour – and the productivity of firms, sectors and the macroeconomy as a whole.

Chapter 1 provides an empirical and theoretical analysis on the role of capital rentals as opposed to ownership by firms. Novel results using US firm level data show that capital renting makes up one-fifth of capital expenditures, and it increases during downturns. Further, cross-country evidence is presented that output losses after financial crises are smaller where renting is more prevalent. To understand these findings, a general equilibrium model with borrowing constraints and with the option to rent or buy capital is set up. It illustrates that the countercyclicality of rentals occurs because their supply increases, as renting serves as an additional means of savings when credit markets malfunction. Moreover, demand also shifts towards rentals as they become relatively cheaper. By absorbing excess savings, renting mitigates financial crises.

Chapter 2 analyses the use of information and communication technologies (ICT) and how it is shaped by business risk. In particular, it establishes a direction of causality between ICT take up and an exogenously derived volatility of demand: matching several cross-country cross-industry databases on detailed ICT use, input-output linkages and industry-level inputs and output, it shows that more volatile demand leads to more widespread ICT adoption. By reducing adjustment costs and thus causing firms to rely less extensively on internal inputs but more on flexible external inputs (outsourcing), ICT helps firms to better adjust to demand shocks. This mechanism is corroborated by empirical findings which show a significant effects of a risky environment on the use of ICT, in particular communication related technologies such as the internet. Moreover, additional evidence is found for the key role of intermediate inputs in adjusting to external shocks whenever ICT is used more intensively, whereas employment – a “traditional input” internal to the firm – does not adjust more quickly.

Chapter 3 utilizes cross-country firm level data to shed light on the global productivity slowdown. It aims to bring the debate surrounding the causes of the slowdown – which has largely been conducted from a macroeconomic perspective – to a more microlevel. It uncovers a novel feature of the slowdown: it does not coincide with a low pace
of productivity growth at the “global frontier” (i.e. of the most productive businesses across all the 24 countries in the sample), but rather rising labour productivity at the global frontier coupled with an increasing divergence between this frontier and lagging (non-frontier) firms. Aggregate MFP performance is shown to be significantly weaker in industries where MFP divergence was more pronounced, suggesting that the divergence observed is not solely driven by frontier firms pushing the boundary outward. The chapter then also explores the behaviour of the firms outside the frontier, and concludes that the pace of convergence has slowed. Moreover, evidence is found for a worsening of productivity enhancing market selection, which could be symptomatic of rising entry barriers and a decline in the contestability of markets. Taken together, these findings suggest that it is likely to be not only the capabilities but also the incentives of the laggard firms that is at play behind the growing gap from the frontier. Confirming the role of pro-competitive deregulation in shaping the incentives of non-frontier firms, we find that the rise in the MFP gap is much more extreme in sectors where product market reforms were least extensive.

Chapter 4 relies on the same type of rich international microeconomic data to investigate the determinants of labour adjustment, in particular at the onset of the 2008 financial crisis. It is shown that the role of institutions and policies are of primary importance and technological factors of production (i.e. differences between services and manufacturing firms) are less important. First, it provides comparable estimates on firm-level labour adjustment by country, industry and firm size. Second, using variance decomposition methods, it shows that differences in firm-level labour adjustment accounts for about 40% of the cross-country variation in aggregate employment growth at the outset of the crisis. We interpret this as evidence that differences in institutional settings accounted for a substantial part of the variation in aggregate employment growth. Third, we find that stronger protection for regular workers is associated with lower (higher) employment (earnings-per-worker) response in the wake of output shocks. This suggests employment protection shifts the burden of adjustment from the extensive to the intensive margin. However, in explaining the diverse cross-country patterns in employment adjustment during the crisis, the impact of employment protection alone seems to be small.