



BIS-IMF-OECD Joint Conference

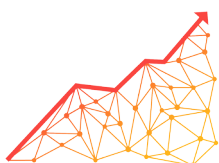
Weak productivity: The role of financial factors and policies

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SUMMARY RECORD



BANK FOR
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GLOBAL
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SUMMARY OF THE BIS-IMF-OECD JOINT CONFERENCE

WEAK PRODUCTIVITY: THE ROLE OF FINANCIAL FACTORS AND POLICIES

PARIS, 10-11 January 2018

For more information on the conference, please visit our webpage: <http://bit.ly/2yMvtqf>

Please note that all presentations can be found [here](#) and all background documents can be found [here](#).

Welcome remarks

The conference opened with a speech from **OECD Deputy Secretary General [Mari Kiviniemi](#)**, who highlighted the need for greater analysis on the role of financial and monetary policies for productivity – an angle that had largely been missing on the debate about the productivity slowdown so far, not least due its complexity. Indeed economists and policymakers have to deal head on with an environment that consists of a highly interconnected network of sub-systems, micro-level interactions, and unintended consequences, and finance is at the heart of that complex and interconnected world as the great financial crisis has shown. DSG Kiviniemi stressed the importance of this conference in filling some of the analytical gaps to better understand this complexity, and in providing fertile ground for reflection on the potential causes of the productivity slowdown.

Policy panel: Can financial and monetary policies help explain the productivity slowdown?

The panel discussion was opened by **Maurice Obstfeld**, who noted that the productivity slowdown was raising concerns for future living standards, social cohesion and the conduct of macroeconomic policy. However, economists do not have yet a clear explanation for this phenomenon: is it due to the crisis or are other more structural or policy factors at play? **Professor Obstfeld's** remarks revolved around three points: What do we know about the drivers of the slowdown? Did monetary policy play a role? If so, what are the implications?

As to the drivers, **Prof. Obstfeld** saw three main factors: hysteresis due to persisting weak corporate balance sheets, weak investment mainly due to sluggish demand and elevated policy uncertainty in the years after the crisis. These factors have been stronger in the EU than in the US, consistent with the greater magnitude of the post-crisis productivity slowdown in the former compared to the latter. **Prof. Obstfeld** noted that accommodative monetary policy had helped mitigate this slowdown by easing credit conditions, alleviating the drop in demand and allowing the entry and growth of young productive firms. He saw only scant evidence that easy money had led to any serious misallocation of capital and a rise in zombie firms outside of southern Europe. Besides, he noted that even the OECD was estimating relatively muted productivity gains from addressing the zombie firm issue; more broadly, an early normalization of monetary policy to boost productivity would not pass a cost-benefit test—the costs are well-known (lower output, higher unemployment, risks of de-anchoring

inflation expectations) and would be large, while the benefits (enhanced resource misallocation) are highly uncertain and may be quite small. He concluded therefore that there is no reason for monetary policy to change course. Instead, he saw the need for a more robust bank supervision and agreed on the merits of improving insolvency regimes where needed.

State Secretary Karolina Ekholm broadly agreed with **Professor Obstfeld's** views. She noted that the productivity slowdown predated the Great Financial Crisis and it was too early to know whether monetary policy could have played an unintended role in slowing the cleansing effect of the crisis. It is possible that easy money may have interfered with creative destruction but it is not clear that there had been sensible alternatives to it. Premature monetary tightening would have wiped out productive and unproductive firms alike, with serious economic consequences. Nonetheless, she agreed that there was evidence of forbearance, especially in the EU. In this regard, she noted that the market for firms is imperfect and riddled with asymmetric information problems that often prevent weak productivity firms to be taken over by stronger ones. For this reason, more research on the mechanisms of M&A and the role played by both the debt and equity sides is warranted in her view. On the bank side, **State Secretary Ekholm** saw a stronger role of expectations and uncertainty over tighter regulatory provisions in shaping the behaviour of banks especially in the EU. This said, she thought that, rather than venturing into premature monetary tightening, exploring ways to reform exit policies (e.g. insolvency regimes) would help redress productivity. In the meantime, monetary policy should stay focused on sustaining aggregate demand until inflation targets are reached (also to maintain central bank credibility) and financial policy should aim at ensuring financial stability.

Claudio Borio took a somewhat different view from the previous two speakers. His premise was that there was a blind spot in macroeconomics: the link between resource misallocation and macroeconomic outcomes may be tighter than we think. And this was something that standard macroeconomic models failed to capture. As an illustration, he focused on two areas that had been largely ignored: the effects of financial booms on resource misallocation; and the potential effects of low interest rates on productivity growth. As to the first, he quoted a recent BIS study suggesting that credit booms have an economically significant negative effect on productivity growth as reallocation of labour towards lower productivity growth sectors. Furthermore, the degree of labour reallocation during the boom tends to be associated with a longer stagnation in productivity growth if a banking crisis subsequently occurs. As to the second area, he noted that the theoretical link from productivity growth to real interest rates was not well established empirically and that causality could also run from the latter to the former. For example, too easy monetary policy may contribute to productivity-reducing financial booms, as noted before. And it may also slow down the necessary balance sheet repair and make it harder to select creditworthy borrowers, thus hampering the reallocation of resources towards more productive uses. More empirical work was needed. **Dr Borio** reported preliminary results from a recent BIS study showing that, since the 1980s, the share of zombie firms had been increasing as interest rates declined. Moreover, zombie firms survived for longer and had been better able to sustain debt. He asked whether the association of these developments with declining interest rates was just a coincidence, the result of causality running from low interest rates, or if it was the result of an adverse feedback loop, perhaps amplified by the financial cycle and the search for yield. At this stage, no one knew for sure, but the underappreciated link required more investigation. **Dr Borio** concluded by inviting policymakers to

be more alert to the potential adverse effects of delayed balance sheet repair and prolonged low interest rates on resource misallocation and growth.

In response to a question by **Alvaro Pereira**, the subsequent discussion focused on the dangers that persistently high levels of global debt could present for productivity developments. **Professor Obstfeld** stressed that efforts, especially in the EU, should be directed at continued strengthening of the banking sector, and productivity policies should concentrate on education, skills and mobility as well as at paying attention to the link between housing and resource misallocation, given the secular link between real estate booms and economic crises. He quoted the recent Spanish experience as an example of the link between housing booms, skill misallocation and skill underinvestment and the Japanese lost decade as an example of the economic consequences of mismanaging banks' balance sheet restructuring. In this regard, he noted that ultimately it was not tighter monetary policy but stronger pressure on banks that helped Japan come out of stagnation. **Dr Borio** thought that high private and public debt levels in relation to GDP, in aggregate higher than pre-crisis, were worrying. The world economy seemed unable to shake off the pre-crisis debt-fuelled growth model, and it seemed stuck in a debt trap with high debt service ratios hindering a return of interest rates to more normal levels. In this context, he saw scope for taking advantage of the current upswing to put in place a multi-pronged policy strategy, involving monetary policy normalisation, completion of balance sheet repair and financial reforms, fiscal consolidation and structural reforms. **State Secretary Ekholm** noted that the 1990s banking crisis in Sweden was solved by a government bailout, which is now precluded by EU regulation favouring the bail-in of creditors. She noted that the Swedish approach avoided financial collapse and, although better approaches may exist, they are as yet untested. At the same time, fiscal collapse was avoided by strong agreement among Swedish parties to consolidate budgets via increases in taxes and reductions in spending. She noted that, although the scars of this crisis were still felt (e.g. in the health care area), productivity growth had been very strong since then.

The panel was followed by a discussion with the audience, which focused on the differences between the Swedish and Japanese experiences and the role of zombie firms in dragging sluggish productivity. It was noted that the zombie firm phenomenon had to be set into a broader picture of an increasing share of low productivity firms surviving in markets. This could be related to the lower productivity thresholds afforded by the low interest rate environment. Also, easy money could not remain "the only game in town" and had to be supplemented by fiscal and structural measures, as it was not sustainable in the long-run. It was reiterated that the view that monetary policy had no long-run real impact had to be replaced by awareness of its potential implications via misallocation. In the end, while disagreement remained as to the role of monetary policy overshooting and the timing of monetary policy normalisation, there was some agreement that a three-pronged approach – including monetary stimulus, appropriate fiscal policies (mixing debt reduction with changes in the composition of expenditure) and structural reform – was needed to revive productivity growth over the long-run.

Keynote Philippe Aghion

Philippe Aghion's keynote focused on the interactions between monetary policy and product market competition. His introductory remarks addressed the complementarity between proactive monetary policy and structural reforms on labour and product markets. He showed that the impact

of financial constraints on productivity growth increases when the cleansing effect mechanisms and factor allocation dominate and decreases when incumbent firm productivity mechanisms dominate. He also pointed that counter-cyclical monetary policy has a greater impact on growth when barriers to trade and investment are low.

Aghion then presented a study that explored the links between monetary policy and product market regulation. The study looked at the effect of unexpected drops in long-term government bonds following the announcement of the Outright Monetary Transactions (OMT) program on growth controlling for differences in terms of product market competition. Results showed that heavily indebted sectors benefited disproportionately from the unexpected drop in long-term government bond yields following OMT but only in countries with low product market regulation. His presentation concluded that in a credit-constrained economy, counter-cyclical monetary policy (interest rates low in recessions and high in expansions) is more growth-enhancing in a more competitive environment (i.e. low product market regulation).

Session 1: Are credit and capital misallocated?

Dan Andrews (OECD) presented his paper co-authored with Filippos Petroulakis (European Central Bank) "[Breaking the Shackles: Zombie Firms, Weak Banks and Depressed Restructuring in Europe](#)" which investigates the connection between "zombie" firms (defined as firms being more than ten years old and having persistent problems meeting their interest payments) and bank health, and the consequences for aggregate productivity. Relying on cross-country firm-level data (ORBIS©) matched with bank data (Bankscope© and confidential data from the ECB), the paper finds evidence that zombie firms are significantly more likely to be connected with weak banks, consistent with the bank forbearance hypothesis. Moreover the paper shows that improvements in bank health are more likely to be associated with a reduction in the prevalence of zombie firms in countries where insolvency regimes do not unduly inhibit corporate restructuring. Leveraging the complementarities between bank strengthening efforts and insolvency regime reform therefore appears as a key factor to revive productivity growth.

In his paper "[Allocative Efficiency and Finance](#)", **Andrea Linarello** (Bank of Italy) investigates the extent to which credit supply shocks affect aggregate productivity growth. Relying on firm-level data covering the universe of Italian manufacturing firms between 2000 and 2015, the authors analyse how bank shocks affect the different components of the Melitz and Polanec (2015) aggregate productivity decomposition. They find that negative credit supply shocks have a negative effect on productivity through entry and through incumbent firms' productivity growth, but a positive effect through reallocation and exit, all these effects being only significant in the crisis period (after 2008). These different effects offset each other and overall, the authors find a negligible effect of banks' supply shocks on aggregate productivity dynamic. However the findings suggest that the reduction of credit supply after the crisis has had a cleansing effect, with workers being reallocated from the least productive to the most productive firms.

The final paper in the session was "[The aggregate effects of credit market frictions: Evidence from firm-level default assessments](#)" presented by **Isabelle Roland** (University of Oxford and LSE Centre for Economic Performance). The paper was written jointly with Timothy Besley (LSE) and John Van Reenen (MIT and LSE Centre for Economic Performance). It builds a theoretical model on misallocation and utilises firm-level data for the UK, along with the S&P risk-scoring algorithm, to

quantify the role of two separate channels of credit frictions on aggregate productivity. The first channel is through the deterioration of average credit default risk (“capital shallowing”), which is the main contributor to the overall negative impact of credit on post-crisis productivity growth in the UK. The second channel is misallocation of capital across firms, which accounts for a much smaller part of the overall negative effect. They find the negative impacts to be stronger among small and medium-sized enterprises.

The discussants (**Sebnem Kalemli-Ozcan**, Nail Moskowitz Professor of Economics from University of Maryland and **Garry Young**, Director of Macroeconomic Modelling and Forecasting, NIESR) praised the impressive amount of empirical work that went into all three papers of the session, and tried to reconcile their policy implications regarding the role of banks and other types of credit frictions. Prof. Kalemli-Ozcan emphasized that misallocation measures should be chosen appropriately for the type of analysis carried out: for static comparisons, the Olley-Pakes covariance term and for dynamic ones, the dispersion in marginal revenue products of inputs is better suited. Both she and Mr Young called for data confidentiality issues to be overcome, so as to facilitate the combination of the various micro data sources underlying these analyses.

Session 2: Financial frictions and within firm performance

The second session focused on the relationship between financial frictions and within-firm performance.

Romain Duval (IMF) et al. paper ("[Financial frictions and the great productivity slowdown](#)") exploited variation in pre-existing firm-level financial vulnerabilities (high debt roll-over risk and/or leverage) before the crisis to examine whether the sharp unforeseen tightening in credit conditions after the collapse of Lehman Brothers contributed to the post-crisis productivity slowdown. They find highly persistent and quantitatively large post-crisis TFP losses for vulnerable firms vis-à-vis their less vulnerable counterparts, especially when vulnerable firms’ main creditor banks were themselves more affected by the Lehman shock. They then show that tighter credit conditions led more vulnerable firms to cut disproportionately (non-collateralizable) intangible asset investment, contributing to the productivity decline. Finally, the authors estimate that the interplay between tighter credit conditions and pre-existing corporate balance sheet vulnerabilities accounted on average for about a third of the post-crisis slowdown in within-firm TFP growth.

Manaresi (Bank of Italy) paper ("[Credit supply and productivity growth](#)") documents that bank credit supply is an important determinant of improving a firm’s performance, both in the short run and in the long run. He proposes a methodology to estimate the elasticity of productivity to credit supply which is found to be important using matched bank-firm dataset in Italy: the decrease in credit supply by 12% as observed during the crisis accounts for more than 30% of the decrease observed in TFP after the crisis. The paper also documents that productivity enhancing activities are stimulated by credit supply.

Saadi et al. paper ("[The cleansing effect of banking crises](#)") investigates the impact of regulatory forbearance (whereby the regulator prevents banks from bankruptcy) and finds that in regions with less regulatory forbearance on distressed banks during the crisis there is more restructuring in the real sector and a better productivity growth path. The paper highlights the importance of long-term productivity considerations in the design of optimal bank resolution mechanisms: in the short run

bailouts may look appealing to the governments especially because the long-run costs bear less weight in their decision-making.

The three papers emphasize that firm-specific financial conditions, credit supply and regulation are all important for productivity growth.

Session 3: Financial policies, financial systems and productivity

Enisse Kharroubi (Bank for International Settlements) presented a paper on "[Monetary Policy, Factor Allocation and Growth](#)" (jointly written with Ryan Banerjee and Fabrizio Zampolli, also at the Bank for International Settlements). Using a sample of 10 advanced economies observed over the last 15 years, the paper investigates the impact of surprises in the slope of the yield curve on factor reallocation across sectors. It finds that interest rate surprises have been a significant determinant of the sensitivity of factor allocation to productivity growth at the sectoral level. Specifically, when the slope of the yield curve is smaller than had been anticipated one year before, factor accumulation tends to be stronger in sectors where productivity gains are weaker. By contrast, when the yield curve is steeper, factor accumulation tends to be stronger in sectors with higher productivity gains, thereby delivering an extra boost to aggregate (total factor) productivity growth. The authors argue that this result suggests that QE policies (which flatten the yield curve) may have been detrimental to productivity growth, unlike conventional monetary policies (which steepen the yield curve).

In her paper "[Debt Overhang, Rollover Risk, and Corporate Investment: Evidence from the European Crisis](#)" **Sebnem Kalemli-Özcan** (University of Maryland, CEPR, NBER) analysed the impact of credit constraints on investment. Using a big data approach, the authors match the firms to their banks based on banking relationships in eight European countries over time, obtaining over 2 million observations. Their findings show that (i) the decline in investment during the crisis was stronger for firms with high leverage, high debt service, and for those having a relationship with a weak bank; (ii) the relation between leverage and investment depends on the maturity structure of debt: firms with a higher share of long-term debt have higher investment rates since the rollover risk for those firms is lower; (iii) and that the negative effect of leverage is more pronounced when firms are linked to weak banks with high exposure to sovereign risk, indicating that firms that have borrowed more long term are less affected by bank weakness as they do not need to rollover loans. This result also suggests that loan evergreening by weak banks to firms facing higher rollover risk played a limited role during the crisis as these firms decreased investment more. Lastly, the direct negative effect of weak banks on the average firm's investment are found to disappear once demand shocks are controlled for, although the differential effects with respect to leverage and the maturity of debt remain.

Similarly, "[Distressed banks, distorted decisions?](#)", by **Gareth Anderson** (University of Oxford) also analysed real effects of the dependency of firms on weak banks during the Great Financial Crisis. However, his contribution focuses on the impact of credit constraints on business failures (exit rates) rather than investment. By exploiting the variation in credit constraints induced by pre-crisis banking relationships in the UK, the authors present evidence to suggest that restricted credit availability following the financial crisis increased the probability of business failure. But rather than "cleansing" the economy by accelerating the exit of less productive businesses, the results suggest that credit constraints may have resulted in some businesses failing despite being more productive than their surviving competitors.

Luigi Zingales's keynote focused on the link between the financial system and productivity weakness. He began by noting that it was difficult to explain the productivity slowdown on the basis of traditional size-based metrics of financial system performance – such as financial services to GDP – which have all increased over recent decades. Instead, he connected the weakness in business investment and deterioration in the allocation of capital to the rise of anti-competitive forces, noting evidence of declining business dynamism, rising market concentration and mark-ups and the increasing tendency for M&A activity translate into increases in market power as opposed to labour productivity.

Against this backdrop, **Zingales** contended the financial system's contribution to the productivity slowdown can be best understood in terms of its increasing tendency to favour collusion. In this regard, Zingales pointed to evidence of: *i*) analysts' communication fostering tacit collusion and thus capacity reduction in the airline industry; and *ii*) common ownership – particularly related to the diffusion of mutual funds – reducing competition in both the banking and airline industries. He also lamented the adverse growth consequences of a credit market – especially banks – that is increasingly focused on providing credit to households as opposed to firms.

In terms of what can be done, **Zingales** emphasised four main ideas: *i*) greater anti-trust enforcement to spur innovation and diffusion; *ii*) redefining property rights on data to foster greater portability and competition; *iii*) ensuring that credit flows to small and young firms; and *iv*) rethinking corporate governance, particularly with respect to the financial sector's role in improving firm performance and spurring investment-led growth.