

Ladies and gentlemen,

Total factor productivity, or TFP, is of undoubted economic importance in many domains. It is precisely with a view to gaining a better understanding of TFP and its driving factors, as well as assessing the role it has to play in the main challenges facing us today, that the Bank has organised this colloquium.

While introducing the discussion with our expert panel members, I would like to acknowledge the high quality of the research work that has been carried out by the different university teams. Would also like to thank wholeheartedly all contributors, speakers or panelists, who have been up here on this platform before me, as well as all participants whose debates have animated our thinking.

So, what have we learnt from the contributions that have been presented over the last two days?

First of all, that the concept of TFP, unobservable for the economist, must be measured extremely precisely if it is to be useful for economic decision-makers. Various contributions to this conference have tried to tackle the different aspects of this issue rigorously. The list is long, whether we are talking about the fact that advances in technology can be accompanied by more intensive use of certain factors of production, the production capacity utilisation rate, the functional forms selected, the fact that firms generally tend to produce several product lines, the econometric treatment of the endogeneity of some factors of production, the separation of firm-specific pricing from the productive efficiency of the firm itself, or even workforce skills and quality of physical capital.

This first point underlines the need to develop suitable tools for monitoring TFP so as to be able to make a reliable and accurate diagnosis. Here, it is worth mentioning the initiative taken by the Eurosystem central banks, which, within the CompNet network, are putting together a series of indicators per branch of activity that are both comparable over time and between euro area countries.

Secondly, some of the contributions have shed light on recent trends in TFP in the advanced economies. The Bank has also repeatedly observed, as in our last Annual Report, a decline in TFP at the macroeconomic level since the 2000s. A comparison between countries raises the question why the slowdown is more marked and more persistent in Europe. Fingers are often pointed at the European economies' weaker capacity to absorb technological changes, and more generally speaking, the fact that the European economies are less flexible. [NB : Ce paragraphe pourrait être complété et modifié en fonction de la contribution de Bart Van Ark].

Thirdly, most of the contributions have endeavoured to study more closely the determinants of TFP and the impact of the economic environment on trends in TFP at the firm level.

One particular study has highlighted differences in TFP trends between individual branches in the manufacturing sector. In addition, it has shown that advances in technology lead to changes in the use of factors of production, in turn triggering a reduction in the blue-collar workforce, and more intensive use of

either physical capital or intermediate goods. These findings indicate that the measures to implement are not necessarily the same across all sectors. They also remind us that promoting both labour force skills and adaptability, along with a policy of lifelong training, can be key to reaping full advantage of technological progress while safeguarding workers' jobs.

Moreover, population ageing is a future challenge that cannot be ignored. While the debate has mostly concentrated on its implications in terms of sustainability of public finances, especially in terms of expenditure, the research work presented here has pointed up an effect that has undoubtedly not been given enough attention. Estimates suggest that workforce ageing has a negative composition effect on TFP growth in the companies in question. Accordingly, at the macroeconomic level, population ageing could have accounted for a sizeable part of the decline in aggregate TFP since the 1990s. Consequently, if our firms are to successfully take up the challenge of a sustainable integration of older workers into the labour market, innovative solutions for encouraging TFP growth need to be developed jointly.

A final batch of contributions has focused on the influence of the institutional and organisational set-up, as well as the impact of market structures on firms' performance.

One of these contributions has underlined, for a particular episode, the role that different types of organisation and management style can have to play when it comes to companies' performance, and in this case their profitability. The paper has shown that, in this particular case, mergers and acquisitions had forced the acquired establishments to adopt the more effective management methods used by the firms taking them over and thus improve their performance.

Some of the other research papers have reviewed the effects of globalisation on firms' performance, focusing in particular on the fiercer competition brought by products imported onto domestic markets. The first contribution has shown that, in the face of competition from imported products, Belgian manufacturing firms have improved their overall productive efficiency, thanks to a deeper specialisation in their core products, for which they had benefited from an initial technological advantage. The second contribution has illustrated how, on the back of growing competition from China, manufacturing firms in Belgium have, on average, cut their production costs, even taking advantage of access to cheaper imports of intermediate products, and have thus been able to reduce their prices. Companies that were originally less productive have adjusted their productivity levels upwards and their prices downwards, while the opposite is observed for the firms that were initially the best performers.

[NB le paragraphe ci-dessous pourrait être modifié en fonction de la contribution de Bronwyn Hall].

The role of innovation and advances in technology as a driver of productivity and long-term growth has been pointed up once again. Innovation may take the form of new products being brought in, innovation in the production process or in management styles. While innovation is taking place within individual companies, our responsibility as economic decision-makers comes also into play, whether to maintain a stable economic environment that encourages investment, particularly innovative investment, whether to take policy measures or launch reforms that favour not just the development of new technologies but also the capacity to absorb innovation, creation (and financing) of firms, and especially pioneering ones, for example, or to provide support to the process of reallocation of resources from the least productive to the most productive firms.

Another research paper has looked closely into the role of the type of competition prevailing on the product and labour markets. It shows that, while most sectors face imperfect competition on the product market, different regimes co-exist on the labour market. These different regimes could be one of the elements affecting TFP growth and its heterogeneous nature among firms.

Finally, the last research paper has shown that state aid has enabled the least efficient firms, and especially those facing financial constraints, to partly overcome their handicap. This effect has been particularly strong during the economic and financial crisis. This study thus emphasises the role that a targeted industrial policy can play to help firms to make the necessary adjustments in the event of a particular difficulty.

So, ladies and gentlemen, there you have some of the main lessons that can be drawn from the contributions presented here. Of course, not all the questions that deserve our attention could be raised during the course of these three working sessions. I would therefore like to take the opportunity of this final session to take a less academic look at the role of economic policies and the measures that need to be put in place, given the wide range of experience that our panelists share.

We would more in particular like you to set forth your views on the underlying causes of the productivity slowdown and as to the future prospects for TFP growth in Europe and especially in Belgium. What role should European, national or regional economic policies, for instance on the macroeconomic level and as to education, innovation, competition, regulation, structural reforms play in stimulating productivity and potential output?