

## Jan Smets: New data needs for monetary policy

Speech by Mr Jan Smets, Governor of the National Bank of Belgium, at the ninth European Central Bank Conference on Statistics, Session 1: New data needs for monetary policy, Frankfurt am Main, 11 July 2018.

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### Reflections on the future of monetary policy may require new data needs

I would like to thank the organisers for inviting me to this most interesting conference, and especially this particular session as it really is about the interactions between statistics and the future of monetary policy, a hotly debated topic.

Some important (and interrelated) things have been happening over the last decade or so in the monetary policy landscape. Not only have central banks broadened their toolkit to tackle the financial crisis but also the economic world has been faced with structural changes. Besides, both the use of new instruments and the availability of new data have spurred advances in monetary policy research.

The interplay of these phenomena could potentially have serious implications for the way we think about monetary policy going forward, be it in terms of objectives, instruments, transmission channels or data monitoring. But – and that is the message I want to convey here – to avoid drawing overly hasty conclusions, this requires careful reflection and, in some cases, implies new data needs. Only after careful investigation of the issues at stake, can lessons for the future of monetary policy be drawn.

In my remarks today, I will focus more specifically on three phenomena that challenge our traditional thinking about monetary policy:

- ♦ First, the role played by heterogeneity – which has been clearly demonstrated by the use of new monetary policy tools (typically more targeted) and something which is increasingly documented in economic research and data.
- ♦ Second, digitalisation – probably one of the most notable structural economic changes over the last few years – which also opens the door to a new world of data.
- ♦ Third, the changing role of the financial sector.

I intend to raise a number of questions to foster the debate and hopefully help to structure our thinking. “How exactly have these challenges called into question the consensus on which monetary policy has been based? How can new data help to identify whether – and to what extent – the practice of monetary policy has changed? More speculatively, can new data help shape a possible “new normal” for monetary policy?”

Needless to say, I do not want to provide any definite answers to these key questions; they have far-reaching implications making it unrealistic to settle all these issues on this panel.

### Taking a step back: data and the New-Keynesian consensus

Before looking ahead, let's first look back a bit.

Data that central banks traditionally look at are broadly tailored to the New-Keynesian model paradigm. In this view of the world – and I am grossly oversimplifying here, not doing justice to macro-modellers, nor to policy-makers – the central bank operates in a framework where representative agents interact, production is labour-intensive and where the role for financial factors is limited. Building on rational expectations and sticky prices, inflation is driven by

expected inflation and the anticipated change in real marginal costs – the so-called New-Keynesian Phillips curve which links economic activity and inflation.

In this set-up, monetary policy should aim for price stability. Doing so requires bringing aggregate demand into line with the potential output path. The prime way to do so in these models is by steering individuals' intertemporal choice between consuming today versus tomorrow. This gives a key role to interest rates, where the working assumption is that the central bank steers perfectly the interest rate that is relevant for the representative agent.

The careful monitoring of macro-economic aggregates and their projections successfully supported monetary policy decisions in this view of the world which seemed fairly appropriate up to about ten years ago.

Like I hinted at in my introduction, several developments might have called into question this fairly simple framework. So, I will focus on three key challenges to the standard practice of monetary policy and their data dimension that I just mentioned. These are: heterogeneous agents, digitalisation and, finally, the changing role of the financial sector. Let's look at each in turn.

### ***First challenge: heterogeneous agents***

The appropriateness of representative agent models has been challenged quite strongly since the crisis. For instance, some people have claimed that monetary policy tools aimed at stabilising macro aggregates have harmful side effects on specific sectors or types of economic agents. The allegation that asset purchases increase wealth inequality, that the low rate environment “punishes” savers or that easy monetary policy facilitates the survival of zombie firms are just a few examples.

But, are we only talking about possible side effects of some measures here? I think these reflections are a broader indication of how heterogeneity can also be a transmission channel for monetary policy. Going one step further, it could appear that monetary policy works more via the cross-section than via the time dimension which is the traditional New-Keynesian intertemporal story. To put it bluntly, could it be that an interest rate cut has a bigger impact on aggregate demand because it shifts income from creditors to debtors – who stand ready to spend –, rather than via intertemporal substitution?

Micro heterogeneity and distributional aspects already appear on the monetary policy stage. They are backed up by advances in theoretical research. [Brunnermeier and Sannikov](#), for instance, argue that targeted monetary policy leads to redistributive effects that help mitigate financial frictions. I think credit-easing policies are an explicit example of that since specific types of lending are being supported. Newly developed [Heterogeneous Agent New Keynesian models](#) (HANK models) also help to get essential insight on monetary policy transmission channels when the assumption of representative agents is abandoned. Such models suggest that forward guidance could be less powerful than conventional rate cuts because of liquidity-constrained households<sup>1</sup>.

This strand of research would benefit from additional data to help rigorously test these theories, at the euro area level too. For sure, extra data at a fairly granular level, with a panel dimension to capture effects over time as well, are of interest here. Micro data from the Household Finance and Consumption Survey (HFCS) are already a step forward and that effort should be continued. For example, these data have allowed researchers at the ECB to mitigate concerns that the APP benefits the wealthy at the expense of the poor<sup>2</sup>. Other Eurosystem data initiatives like Anacredit can also be useful, for instance to study the extent of zombie lending and how it interacts with the monetary policy stance.

### ***Second challenge: digitalisation***

As we all know, digitalisation of society dramatically changes our lives – how we produce, work, trade or consume<sup>3</sup>. So what are the consequences for monetary policy?

I shall mention two interlinked dimensions here.

First, digital products and services raise issues with measuring the genuine level of macro aggregates that central banks typically look at. How to adequately capture quantities when, for instance, Netflix or Spotify memberships allow unlimited consumption of content? How do we determine potential output in such economies? And what about measuring consumer prices for digital service providers such as social network platforms?

Second, technology challenges our understanding of price dynamics. Is price stickiness still relevant for digital transactions? How do prices behave when the marginal cost of producing more is very small, even close to zero?

Addressing all these questions is no easy task. Overall, digitalisation complicates our understanding of the transmission process from extra output to inflation. This has implications not only for the way we model the economy – and here I am thinking about possible adjustments to the New-Keynesian Phillips curve – but also for the role we devote to monetary policy. Should monetary policy set different objectives if prices are highly flexible and the costs of inefficient price dispersion are much smaller than presumed? Too early to tell, of course, but definitely worth an in-depth investigation.

Meanwhile, I welcome advances made in measuring macroeconomic aggregates in the digital economy, in particular consumer prices. Across the Atlantic, the [Billion prices project](#) and [Adobe Analytics](#) data are promising examples of that. They provide tentative evidence that US inflation could be overestimated, although this result seems to depend on the dataset used. At the euro area level, national statistical offices' initiatives on integration of online and scanner prices into HICP measures, as well as the Eurosystem's choice of investing heavily in research on price-setting using micro data will certainly help too.

While digitalisation challenges our thinking about macro-economic accounting, it can also provide a whole new set of granular and at the same time multidimensional data. In that sense, Big Data can become our ally. I will briefly come back to this point at the end.

### ***Third challenge: the changing role of the financial sector***

A third challenge to traditional thinking relates to the changing nature and role of financial intermediation, well documented in a research area that literally exploded during the last decade.

We have not only witnessed greater fragmentation within the banking sector which has forced us to take unprecedented non-conventional measures to preserve a smooth transmission of monetary policy. We are also observing a slow-moving tendency towards a larger role for non-banks in the financing of the economy. With the Capital Markets Union, a project I fully endorse, the role of players outside the traditional banking sector will hopefully get bigger. This justifies particular vigilance on the part of the ECB to be ready to monitor developments in this area. We should also make sure we are able to monitor developments in so-called private virtual tokens that aim to play a role as money – even though I tend to think that these developments are not (yet) of macroeconomic relevance. Related to this, the Fintech revolution blurs the traditional boundaries between the financial and the non-financial sector.

When such things are becoming more relevant, monetary policy transmission can profoundly change and monitoring the traditional financial indicators can turn out to be inadequate. Therefore, good data coverage of new trends in the financial sector is essential. Fortunately, the Eurosystem plays a proactive role here and I would like to give two examples where new data play a key role.

During the financial crisis, a Eurosystem-wide effort was launched to exploit bank-level data underlying the money and credit aggregates that are monitored in the ECB's monetary analysis. That way, the Governing Council could assess in a fairly granular way the transmission of measures via the banking sector. The data also proved key for calibrating the details of the targeted loans we started giving to banks back in 2014.

Thanks to Money Market Statistical Reporting (MMSR), which I recognise is a huge statistical challenge, we also have a better view on the workings of euro area money markets. Moreover, it enables the Eurosystem to provide for a back-up risk-free benchmark rate should currently available private benchmark rates cease to be published. In this respect, it is very good to see how new economic realities are being reflected here: contrary to the current benchmarks, transactions with non-bank money market participants could be included in this new benchmark too.

### Concrete application and conclusion

The three challenges I raised today may not only imply extensive use of existing micro data but also require further efforts to exploit the new world of data opened up by digitalisation – the so-called Big Data.

I do not intend to elaborate much on concrete applications and challenges that come with Big Data. These aspects will certainly be more deeply tackled later today, in the third session of this conference. That said, I think technology-driven data bring serious challenges from a practical point of view, above all because their granularity is multi-dimensional. As correctly stated by Andrew (Andy) Haldane from the Bank of England in a speech he gave earlier this year, it runs through their volume (cross-section), their velocity (frequency) and their variety. One needs efficient data analytics tools to use the data properly while being aware of their limitations in terms of privacy and confidentiality.

To wrap up, the challenge in future will be how to translate the findings from new data into concrete policy implications. After all, the micro evidence has to add up to policy advice for monetary policy which is a macro policy with a rather limited set of instruments. Therefore, in some cases, other policies – such as macro-prudential, fiscal or structural policies – could be more appropriate for tackling the challenges that new data reveal.

Thank you for your attention.

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<sup>1</sup> Liquidity-constrained households are indeed unable or unwilling to borrow against the future rise in income that the promise of low rates underpins ([Kaplan et al.](#)).

<sup>2</sup> According to [Lenza and Slacalek](#), the effects of QE and unconventional monetary policy on income via lower unemployment (benefiting the poor) are more significant than the effects of high prices for financial assets (benefiting the wealthy).

<sup>3</sup> Globalisation is another structural phenomenon that has the potential to influence our thinking about monetary policy – a view the BIS often emphasises – and which could also have implications for what data to monitor. As Claudio Borio from the BIS suggests, many of the issues surrounding digitalisation could apply in a somewhat similar way for globalisation as well (I refer to his "[Through the looking glass](#)" speech from 2017).