

Vítor Constâncio: Deutsche Bank Prize attribution to Raghuram Rajan

Speech by Mr Vítor Constâncio, Vice-President of the European Central Bank, at the Panel on “Liquidity and Monetary Policy” at the occasion of Deutsche Bank Prize attribution to Raghuram Rajan, Frankfurt am Main, 26 September 2013.

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It is a great pleasure for me to participate in this panel on the occasion of the award of the prestigious Deutsche Bank prize – and, in particular, to be associated with this event honouring the work of Raghuram Rajan.

I became a greater admirer of Raghuram’s work, even if not a wholly uncritical one, after his premonitory paper¹ presented at the Jackson Hole central banking conference in 2005. It was a paper I distributed widely to friends and colleagues at the time. But, of course, Raghuram’s previous work was also quite well known – particularly his research on the theory of banking, on bank capital or liquidity risk, and on liquidity creation by banks with the unavoidable financial fragility that this implies². That research, conducted often with Douglas Diamond, fits well with our panel theme today.

Liquidity has been a somewhat elusive concept ever since Keynes defined it in his *Treatise on Money* in 1930 and Hicks developed it in subsequent work³. Liquidity is a relative concept, a matter of degree, and we all start from Keynes’s definition that one asset has more liquidity than another if it is “more certainly realizable at *short notice without loss*,” Here, “realizable” means the capacity to be exchanged into narrow money or, even better, into goods and services.

Where does the demand for liquidity come from?

The need for liquidity does not arise in the perfect and utopian world of general equilibrium with Arrow’s debt contracts or complete calculable contingent claims. Also, as Hicks pointed out, liquidity demand does not appear in traditional portfolio analysis, which he tried to expand by adding a liquidity preference complement.

But there are many ways of changing the assumptions of perfect general equilibrium analysis to generate demand for liquidity. For instance, Rajan and Diamond (2001) assume that assets are illiquid and so they “cannot be sold or borrowed against for the full value they generate”⁴ which implies that there is a demand for liquidity. Jean Tirole and Bengt Holmstrom (2011)⁵ assume that part of future income stream of firms (and the totality of the households’ income) cannot be pledged, meaning they cannot make their consumption or production plans contingent on contracts that can transfer *numeraire* from one period to

¹ Rajan, Raghuram (2005) “Has financial development made the world riskier?” also as NBER working paper n. 11728.

² See Rajan Raghuram and Douglas Diamond (2001) “Liquidity risk, liquidity creation and financial fragility: a theory of banking” *Journal of Political Economy*, Vol 109, no 2 (April 2001) and also by the same authors “Money in a theory of banking” *The American economic Review*, March 2006, and “Liquidity shortages and banking crises”, *The Journal of Finance*, Vol LX, No. 2, April 2005.

³ **J.M. Keynes (1930), *Treatise on Money*, vol II, page 67. John R. Hicks (1967) “*Critical essays in monetary theory*” Oxford at the Clarendon Press and chapter 19 of the “*Collected Essays on Economic Theory: Money, Interest and Wages (Volume 2)*, Wiley-Blackwell, 1982, where Hicks’ 1962 speech on Liquidity is reproduced and updated.**

⁴ Rajan Raghuram and Douglas Diamond (2001) “Liquidity risk, liquidity creation and financial fragility: a theory of banking” *Journal of Political Economy*, Vol 109, no 2 (April 2001), page 290.

⁵ Bengt Holmstrom and Jean Tirole (2011) “*Inside and outside liquidity*”, The MIT Press.

another. Consequently, they must prepare for financial shocks and reinforce their liquidity position, thus generating a demand for liquidity.

These authors distinguish between inside liquidity – created against pledgeable income – and outside liquidity, created by public entities backed by the state capacity to tax present and future income. This refers particularly to central banks, but also to the state budget via deposit guarantee schemes, occasional bailouts or social security programmes. Outside liquidity also includes international cross-border lending.⁶

Inside liquidity can be excessive, as we saw before the crisis with the expansion of shadow banking and secured lending and repos with repeated re-hypothecation. This is why Adrian and Shin (2008)⁷ question the relevance of monetary and credit aggregates in representing the overall liquidity situation, a fact that has clear regulatory implications for shadow banks and for the control of leverage.

Inside liquidity can also be insufficient, as we saw after the crisis when the chain of inside liquidity creation collapsed, markets froze, fire sales reduced asset values and recession expectations affected estimates of future income. That is when public intervention becomes necessary to substitute at least part of the liquidity needed to sustain the financial sector and economic activity.

There are also other concepts or perspectives on liquidity that have to be considered in order to understand how the term is used – and also because different perspectives are useful for different types of analysis. I mention four in particular:

1. First, macroeconomic liquidity, which refers to broad monetary and financial conditions assessed against some idea about what would be adequate to non-inflationary growth. These can be measured by quantities, like money or credit aggregates growth, or by price, interest rate and the shape of the yield curve.
2. Second, market liquidity, which refers to the easiness to buy or sell in monetary and financial markets without changing the price. This depends on the breadth, depth and resilience of the asset markets.
3. Third, balance sheet liquidity, which means the volume of liquid assets that can be mobilised at short notice.
4. Finally, funding liquidity – the possibility of facing liquidity requirements either from the balance sheet or from committed credit lines. Funding liquidity interacts with market liquidity, as Brunnermeier and Pedersen (2008)⁸ illustrated for the recent crisis. They demonstrated the existence of liquidity spirals when both types of liquidity are mutually reinforcing.

These different concepts are of course all related and are considered in different degrees and forms by monetary authorities.

With these definitions in mind, we can now ask ourselves how to assess the present liquidity situation in Europe and the US. Some observers tend to look only at the provision of official liquidity by central banks, and then to claim that “the world is awash with liquidity” or to write that high inflation is around the corner – something that is encouraged by gold bugs.

⁶ The inside/outside liquidity concepts do not completely overlap with the distinction between **private and official liquidity**, because outside liquidity at country level includes cross-border liquidity flows which are provided normally by private institutions.

⁷ See, among other texts, Tobias Adrian and Hyun Song Shin (2006) “Money, liquidity and financial cycles” Federal Reserve Bank of New York and Tobias Adrian and Hyun Song Shin (2008) “Liquidity and Leverage” Federal Reserve Bank of New York Staff Reports.

⁸ Markus K. Brunnermeier and Lasse H. Pedersen (2009) “Market liquidity and funding liquidity” *The Review of Financial Studies*, Vol 22, no 6.

Yet these observers often overlook that we cannot assess in isolation the evolution of the monetary base. Banks are deleveraging and inside and private liquidity are shrinking. This means that credit and money multipliers have collapsed. Indeed, if we look at total liquidity in Europe we see that credit is decreasing and monetary aggregates are increasing now close to nominal GDP.

Regarding price indicators, developments in output, unemployment and inflation in the market of goods and services do not indicate a situation of total excessive liquidity. The ECB's staff projections estimate inflation for next year at 1.3%, which is below and not very close to 2%. A negative output gap and high unemployment indicate that the full employment equilibrium real interest rate should be more negative, which is impossible to achieve as we approach the nominal zero bound.

So much for the market of goods and services – what about asset markets?

It is true that nominal interest rates have been low for quite a while, which creates some risks for asset markets. We observed, prior to the crisis and during the period of the mislabelled Great Moderation, a disconnect between asset prices and inflation in the market for goods and services. In February this year in a noted speech⁹, Jeremy Stein raised the possibility of this happening again as search for yield by financial institutions was beginning to affect prices in some riskier asset classes – such as covenant-lite loans, REITs, junk and high yield bonds.

What I like in his analysis is that he abandons the textbooks' fiction that asset prices depend only on the behaviour and preferences of final consumers as investors. Instead, he introduces an "institution-driven" analysis, making prices dependent on the incentive frameworks of managers in searching for yield (and bonus). This is exactly what Raghuram did in his 2005 paper.

It is indeed important to consider institutions' behaviour – think for instance about the structural trend of banks and dealers to reduce their inventories of bonds, and how the consequent reduction of liquidity in the secondary market may affect volatility, overshooting and price spikes.

Pointing to the responsibility of low interest rates in creating such incentives, Jeremy asks cautiously: "... would one really want to raise rates, and risk choking off economic activity? Wouldn't it be better to use a more narrowly focused supervisory or regulatory approach with less potential for damage to the economy?"

Considering the limitations of macroprudential policies in dealing with asset price booms, he did not want to exclude forever the possibility of using monetary policy to help do the job. I too recognise that monetary policy cannot ignore financial stability considerations. In situations of high credit growth that threaten to create asset price bubbles, I have endorsed the possibility of a "leaning against the wind" approach to monetary policy. Excesses in credit, leverage and asset prices invariably lead to crises and endanger medium term price stability.

However, the situation today is different. None of the phenomena identified by Jeremy for the US are really present. Moreover, the institutional changes after the crisis have enhanced the instruments of macroprudential policy and, I am confident, reinforced policymakers' disposition to apply them. In my view, macroprudential policies must therefore be tried in a serious way, as a priority. We should recognise that monetary policy cannot do everything and is already too much burdened with maintaining price stability, providing adequate liquidity to the banking sector and, in the US, with maintaining low unemployment.

⁹ Jeremy C. Stein "Overheating in credit markets, origins, measurement and policy responses" February 2013, speech at the Federal Reserve Bank of St. Louis.

I consider that in Europe the ECB has been managing liquidity adequately in the pursuance of our goal of ensuring price stability on a medium-term basis – and when that is ensured, catering for financial stability, output and employment.

Nevertheless, when risks to inflation subside or disappear, the traditional role of central banks as Lenders of Last Resort (LOLR) tends to come to the fore, and we have to be aware of the moral hazard that this can create – for example banks becoming permanently dependent on central bank money to operate. This consideration adds to the rationale justifying the two liquidity ratios that have been introduced as part of the Basel III agreement, which will make banks better prepared to face liquidity stresses.

How has the crisis affected the way the ECB conducts its liquidity operations?

In normal times, modern central banks manage their provision of primary liquidity with a view to achieving their target for a short term market rate – normally, the overnight rate.

The ECB, like most other modern central banks, conducts monetary policy with mandatory remunerated reserves and a corridor around the policy rate defined by two standing facilities. This means that the signal of one particular policy rate can coexist with different levels of bank reserves – so long as our “liquidity management operations” ensure that the liquidity provided is neither excessive nor insufficient in relation to the demand by profit maximising banks that react to the opportunity cost of reserves.

What matters for managing liquidity is the targeted policy rate and the amount of liquidity that is necessary to achieve it. In our case, we keep the banking sector in a liquidity deficit and supply liquidity via lending to the banks through a system of auctions. Other central banks supply liquidity mostly through outright purchases of securities, normally short-term government paper.

Both models of liquidity provision have changed during the crisis. In the case of the US, the Federal Reserve started to buy longer maturities and some private paper. In our case, in October 2008 we abandoned the system of auctions with variable rates and entered a mode of fixed rate, full allotment – supplying as much liquidity as banks’ demanded, provided they had eligible collateral to pledge.

On top of this, in December 2011 and February 2012, we launched extraordinary operations with 3-year maturities that totalled 1 trillion euro. The net increase in our monetary base was around 500 billion euro as banks reduced their use of shorter maturity facilities.

Our particular method of supplying primary liquidity makes the future absorption of liquidity in excess of the minimum reserve requirements easy to achieve. Banks have to repay what they have borrowed when maturity is reached. In reality, as their situation has improved, they are anticipating the repayment of the LTROs. They have repaid 362 billion euro (or 64% of the net increase of 500 billion euro) and excess liquidity, which reached a peak of 813 billion euro in March 2012, has now fallen to 218 billion euro. We have been exiting quietly and smoothly from an extraordinary phase of high central bank liquidity provision.

However, this new mode of conducting monetary policy also presents challenges. As the overnight market rate is determined by the volume of excess liquidity and the size of the corridor between the policy rate and the deposit facility rate, it is more difficult to influence its level – and correspondingly, to influence other short term money market rates. For instance, if excess liquidity keeps declining, as determined by the banks, there may be pressure on short rates to increase.

To this picture we also have to add the international dimension – notably the risk of spillovers from the US. We already saw that the announcement of a tapering of outright purchases resulted in higher money market rates in Europe.

In this overall context, we decided to introduce an important change in our policy, announcing a form of forward guidance. We stated that we will keep our key interest rates at

present or lower levels for an extended period of time, dependent on our assessment of medium-term prospects for inflation.

It should be noted that, although compatible with our monetary policy framework, this represents a real innovation in our instruments. It is conditional, it has a negative bias and this forward guidance will change only when we change our assessment of the impact of economic and monetary conditions on inflation prospects.

The new policy has already produced visible effects: the whole forward curve of euro rates up to two years came down immediately after our announcement. Although it has in the meantime increased somewhat, it remains stabilised at levels lower than we saw before our announcement. For the future, we are as usual data-dependent – but if declining excess liquidity were to put undue upward pressure on short-term rates, we would have to address this problem.

We still have several policy instruments available in our toolbox and will use them as needed. We will continue to manage liquidity conditions so as to maintain a stable monetary and economic environment that ensures our main goal of medium-term inflation below but close to 2%.

Thank you for your attention.