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The limits to monetary policy effectiveness

*There will be shifts in policy paradigms.
In all likelihood the important elements
will be a combination of fiscal expansion
and, in extremis, further experimentation
with unconventional monetary policies.*

Larry Summers (2016)

Introduction

Since the 1970s, after the decades of Keynesian theory's dominance, economists were again embraced with the belief that market economy possesses a strong ability to return on equilibrium growth path. They started to argue that active fiscal policy is not as relevant for stabilizing the economy as previously thought or even contested it for being a destabilizing force.

In such circumstances monetary policy came to be seen as the right tool for stabilizing the business cycle. Its main task was to maintain inflation at a level low enough not to distort economic agents' decisions which (under the model assumption of their rational expectations) keep economy in an equilibrium. In general equilibrium models, monetary policy is perceived as a mere addition enhancing economy's self-regulating forces. It is regarded as a necessary stabilizing factor only due to pro-cyclical impact of nominal price and wages rigidities.

The paradigm of self-regulating abilities of market economies was questioned during the recent global banking crisis followed by *balance-sheet recessions* in several countries (Koo 2013). Although the latter were – to a large extent – alleviated through *quantitative easing* programs, their effectiveness was limited. Moreover, the recent protracted weakness of demand is in all likelihood the first step to a secular recession.

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The goal of this paper is to highlight that in the period of secular recession the monetary policy not only reaches the bounds of its effectiveness but also may become an instrument supporting fiscal policy.

The remainder of the paper is organized as follows. Section 2 analyses, why central banks failed to provide an adequate response to unsustainable credit booms. Section 3 discusses symptoms of monetary policy encountering limits of its efficiency and becoming subordinate to fiscal policy. Section 3 concludes.

1. Reasons behind central banks' inadequate reaction to unsustainable credit booms

After the global banking crisis central banks were criticized for keeping interest rates too low for too long (Taylor 2007). However, it is worth reminding that they were not insulated in their stance on the economy. To a large extent their benign approach was shaped by the overriding beliefs of the day which tended to neglect the risks associated with the high rate of growth in credit and private sector indebtedness.

1.1. Neutrality of money assumption

Since the 1970s and the 1980s, macroeconomic textbooks and general equilibrium models have assumed that money is merely a 'monetary veil' exerting no influence on the real economy. Strong self-regulating properties of the market economy have been taken for granted. The relatively long period of the Great Moderation (i.e. of stable economic growth) appeared to prove such assumptions correct for advanced economies. Moreover, it seemed to strengthen the premise that keeping low and stable inflation is a sufficient condition for keeping the economy in equilibrium.

The universal adoption of the rational expectations hypothesis gave rise to the presumption that households and firms know the most probable course of events in the economy. In such a model world economic agents' expectations and decision are coordinated so as to keep the economy on an equilibrium growth path (Frydman, Goldberg 2008). Under such assumptions the only task for monetary policy was to stabilize inflation at a level, which is low enough to avoid distortion of agents' rational decisions. Conductive active monetary policy was justified by price stickiness and nominal rigidities in the labor market. Central banks were expected to adopt countercyclical interest rate policy to support economy's self-regulating mechanisms.

The other hypothesis universally present in macroeconomic textbooks and general equilibrium models was the loanable funds theory which states that banks play only the role of financial intermediaries loaning out savings deposited with them (Robertson 1934).

It implies that economic agents lend to each other (using banks intermediation) goods which they did not purchase, as they deposit instead a part of their incomes. If this was the case, money would indeed be merely a 'monetary veil' of the real economy.

Last but not least, accepting the rational expectations hypothesis would allow concluding that it was impossible to have unsustainable lending booms, because the rate of credit would keep adjusting itself to the rate of GDP growth.

The empirical data contrast with such conclusion. If the supply of loans depended on the supply of savings (as in Loanable Funds Theory), the volatility of credit supply would depend on the volatility of GDP growth. However, in the run up to the global banking crisis the former grew much faster than the latter (Jakab, Kumhof 2015).

In reality even though banks do use their customers' deposits as a source of funding loans, the total increase in money supply is a product of rising in bank lending as banks possess the ability to create deposit money *ex nihilo* through extending credit (McLeay et al. 2014). A less frequently mentioned fact is that interbank deposits can be also created by banks themselves, e.g. on the repo market (Hoening 2013; Sławiński 2015). These deposits constituted a major source of funding that helped fuel mortgage booms in several countries before 2007.

Despite acknowledging the divergence between the actual money creation mechanism and its typical textbook presentation central banks shied away from decisive action, because they accepted low inflation as a proof that the economy was on an equilibrium growth path. What they seemed keen to downplay was the fact that stable and low level of CPI coexisted with mortgage lending booms which produced asset price inflation instead. As a consequence central banks did not conduct monetary policy restrictive enough to adjust growth in mortgage loans to the rate of growth in the GDP and the supply of savings in the economy (Turner 2015).

Another important reason why central banks underestimated the risks associated with lending booms was also their confidence in newly created methodologies for estimating and managing risk that were expected to enable commercial and universal banks to adjust potential losses to their capitals which was supposed to shield at least advanced economies against banking crises.

1.2. Belief that financial system development stimulates economic growth

In the first half of the 1990s, central banks began to embrace inflation targeting strategy as their strategy. The important factor which weighted heavily on its implementation and execution was publications which argued that financial development stimulated economic growth far more than had previously been assumed (Levine 1997; 1991) This helps to explain why – despite empirical findings showing that in advanced economies 4–5% inflation had no adverse

effect on economic growth – central banks would set their inflationary targets much lower at 2–2.5%. Inflation at this level was expected to shield the real rate of return in the banking system (Altig 2003).

All this had a negative impact on the conduct of monetary policy and narrowed the space for central banks reactions. As inflation was stabilized at a very low level central banks also kept their interest rates lower than they would have if their inflation targets had been set at, for example, 4%. This is why during the Great Recession central banks reached the zero lower bound so rapidly.

Recently, there have been proposals to raise inflation targets to 4% (Blanchard et al. 2010; Ball 2014) but central banks remain unenthusiastic as they are afraid that a radical change of their inflationary targets would erode their credibility. More importantly the continuing stagnation in developed countries makes a 4% inflation rate a highly unlikely target any time soon. What testifies in favor of central banks is that only after the crisis did empirical research show that the development of financial system contributes to economic growth but only to a certain level beyond which it impedes growth (Cecchetti, Kharroubi 2015).

2. Symptoms of central banks approaching the limits of monetary policy effectiveness

Mortgage booms became unsustainable as a consequence of central banks' inadequate measures taken to contain them. Their crash spurred credit deadlocks which brought credit and money creation to a halt. As the precipitous fall in house prices prevented households from refinancing their mortgage loans (due to their negative net wealth), their only option was to repay their mortgage debt out of their current incomes. A balance sheet recession ensued, i.e. chronic weakness of the domestic demand (Koo 2013). The necessity of deleveraging by households made central banks unable to revive demand for loans despite cutting interest rates to zero.

Facing both the balance sheet recession and the zero lower bound, central banks resorted to quantitative easing (QE) programs. While their effectiveness in alleviating balance sheet recessions proved satisfactory (Sławiński 2016), they turned out to be insufficient to contain the symptoms of secular stagnation. Even less effective was the introduction of negative interest rates on banks liquid reserves held at the central bank. Under such circumstances, it was only a matter of time before central banks would have to be confronted with the question of the so called helicopter money drops, i.e. budget deficit overt money financing.

2.1. The limited effectiveness of quantitative easing programs

Contrary to a widespread belief – especially right after the launch of quantitative easing (QE) programs – they have nothing to do with massive money printing. If it was the case, they would have brought a substantial rise in nominal demand and inflation which did not occur. Instead, QE programs produced a sharp rise in banks liquid reserves held with central banks. They do not count as money supply as they are not spent on goods and services, but only serve as means of payments in interbank settlements.

QE programs do cause an increase in money supply, but in an indirect way. In the US, UK and the Eurozone they facilitated economic recovery which revived credit and money creation. There are several channels through which QE programs contribute to economic recovery.

The first and foremost is fiscal channel as QE reduces the cost of public debt service and creates the space for at least some fiscal expansion despite the governments' deleveraging efforts. QE programs constitute massive central banks' intervention on secondary treasury bond markets which lead to an increase in their prices and a fall in long-term interest rates, effectively making public debt less costly to service.

Lower debt service costs are not the only reason why QE programs enable fiscal easing. The stock of the government debt which is bought and held by a central bank ceases to bear any burden for the state budget. This is because the central bank effectively returns any interest payments to the government through seigniorage. Principal payments are also effectively returned through reinvestment in government papers. Hence, the treasury bonds held by a central banks became *de facto* zero-coupon perpetuities (Sławiński 2016).

The word *perpetuities* is adequate, because under secular stagnation central banks are unlikely to sell these securities as this might cause a fall in their prices and a rise in long-term interest rates further undermining protractedly weak recovery. For this reason, the Federal Reserve and the Bank of England continue reinvesting principal payments obtained from governments despite having phased out their QE programs.

The second channel through which QE programs aid economic recovery is the intensification of *carry trade* conducted by universal banks which use their excess liquid reserves to buy assets on global market in search for higher yields. The additional supply of the currency issued under QE program creates a downward pressure on the exchange rate. This was the case with US dollar and the pound sterling in 2009, the Japanese yen in 2013, when the Bank of Japan vastly increased its QE program, and with the euro in 2015 when the ECB launched its QE after a long delay.

The third way is the risk channel. If, apart from treasury papers, a central bank purchases also risky structured bonds, (such as CDOs and MBSs) from

banks, it reduces the volume of their potential losses. This, in turn, releases a part of banks' capital and increases their lending capacity. Banks are able to extend more credit lines to leveraged investment funds, e.g. hedge funds, which are very active on the stock exchanges. The resulting rise in stock prices induces wealth effect which raises households propensity to spend.

The overall outcomes of QE programs were positive but limited. They brought about economic recovery in the US, UK and in the euro zone (Sławiński 2016), but it did not make them return to their pre-crisis growth paths. The clearest example is Japan whose QE programs (conducted from 2001) have been shielding the economy from a protracted recession, but failed to prevent the potential rate of the GDP growth from falling. Even in the US economy which seemed to be on the right track toward pre-crisis rate of growth the productivity remained disappointingly low.

2.2. Challenges related to negative interest rates

The term 'secular stagnation' was coined by Alvin Hansen who worried in the late 1930s that the American economy would enter a long period of persistently low economic growth due to the falling fertility rate and the slowing pace of technological progress (Hansen 1939). The actual course of events was different than conjectured by Hansen as World War II reversed demographic trends and accelerated technological inventions. Hansen's concept of secular stagnation was recently revisited by Larry Summers (Summers 2014; 2013) who pointed out that slowing birth rate in the developed economies and their persistently low rate of productivity growth may be a symptom of the decelerating pace of technological progress, despite IT revolution (Gordon 2014).

The key symptom of advanced countries entering secular stagnation is the protracted excess of savings in their economies. This creates a situation in which the natural interest rate (which would facilitate equilibrium in the economy) is markedly negative (Summers 2014). For this reason central banks started to adopt negative interest rates on deposits held with them by commercial banks, i.e. they applied negative interest rate only to bank liquid reserves². The question is whether commercial banks would ever be in a position to pass such negative interest on the pricing of their loans and deposits.

One obstacle is that households and firms can escape into cash which means that the interest on retail deposits is bounded below by the costs of holding and using cash. The other major obstacle is banks' profitability. They cannot offer interest on deposits substantially below zero as they would lose their liabilities. Instead, banks cut their profits, which may reduce their capital and lending capacity. They also tend to charge additional fees making their lending more expensive.

² The first was the Danmarks Nationalbank in 2012, which was followed by the ECB and the Swiss National Bank in 2014, the Riksbank in 2015, the Bank of Japan and the National Bank of Hungary in 2016.

It has been suggested that scrapping cash or substituting it with electronic money would enable substantial decline in interest rates (Agarwal, Kimball 2015). An obstacle which is more important than these technicalities is the uncertainty of households' reactions to subzero deposit and lending rates. Such desperate solution seems poorly justified given the recent experiences with negative central bank deposit rates in several countries which did not overcome economic stagnation and depressed expectations.

2.3. Helicopter money

As pointed out above, the most characteristic symptom of a secular stagnation is the presence of excessive savings on bank accounts. During a balance sheet recession it can be traced to households' net debt repayments. Once the balance sheet recession morphs into secular stagnation, chronically excessive savings are chiefly attributed to firms' profits which are not absorbed by investment.

If the economy is to avoid a deep and protracted recession, there has to be a way to borrow and spend the stockpiled savings. Under a secular stagnation the only possible solution is for the government to step in as has been the case in Japan since its stock and mortgage markets crashed in 1990. The Japanese government keeps borrowing excess savings from banks (by selling them treasury papers) to finance its budget deficits. To some extent such 'recycling' of excess savings has been successful as it prevented the Japanese economy from sliding into a deep and prolonged recession, but the cost was a steep increase in public debt which cannot be repaid in a conventional way.

This is why since 2013 the Bank of Japan has been purchasing more treasury paper than the government issues which effectively amounts to a partial withdrawal (cancellation) of public debt. If one public authority (the central bank) holds liabilities of another authority (the government) this share of public debt is merely an accounting record.

Central banks in other countries have also used QE programs for *de facto* restructuring of their public debt, but so far none of them has been willing to follow the Japanese example of running large budget deficits in order to stabilize effective demand in their economies. Thus, a question arises how to activate excess savings in the developed economies if absorbing them by issuing public debt is not a viable option? The proposed solution is financing budget deficits with overt money financing, as it does not require a rise in public debt. In economic literature this is known as 'helicopter money' (Buitier 2015) to underline that this share of money supply is not created by bank credit but rather through money issue directly by the central bank³.

³ In technical terms this would amount to the government selling zero-coupon perpetuities.

In the past, such measures were put forward by Milton Friedman in the late 1940s, when he was an advocate of the ‘narrow banking’ (Friedman 1948; Sławiński 2015), and by Ben Bernanke in 2003 when he proposed to use overt money financing to fund tax cuts during the recession after the dotcom bubble burst (Bernanke 2015). The possible advent of the secular stagnation in the advanced economies has recently caused the renewed interest in concept of using helicopter money, whose the most pronounced supporter is Adair Turner (2015, 2016).

Turner’s point is that overt budget deficit financing is not as controversial as it is commonly perceived. If it were made a part of inflation targeting strategy, helicopter money would be a supplementary source of money creation. This would help the central bank to stabilize money supply and inflation, if the supply of money created by commercial bank loans grew markedly below the rate of growth in the demand for money consistent with the GDP potential.

From an operational point of view the plan looks uncontroversial, but there might be an important political economy issue. If overt money financing is to remain strictly reserved for the occasional tackling of shortages in money supply created by bank credit, the government should remain completely isolated from any decisions on helicopter money created by an independent central bank. The potential problem is that every government wishes they could count on budget deficit money financing as a stable source of funding and might want to exert a political pressure in this direction. This is why Turner proposes to use such a solution only for countries with a long history of central bank independence. He also does not recommend helicopter money for small open economies where exchange rate fluctuations influence have a relatively strong impact inflation and inflation expectations.

The potential candidates for resorting to helicopter money are several euro zone countries, but any specific measures are unlikely to be taken soon, being ruled out by TFEU (Treaty on the Functioning of the European Union)⁴. However, the ECB might at some point in the future request the European Court of Justice to consider accept overt money budget deficit financing as an unconventional monetary policy tool (fully integrated into inflation target strategy) as was the case with the ECB’s quantitative easing program (Sławiński 2015). An important obstacle to such a solution would be that helicopter money amounts to partial income distribution among member countries, which has been always opposed by Eurozone creditor countries.

⁴ Section 123 of the Lisbon Treaty prohibits budget monetary financing.

Concluding remarks

It might seem that the global banking crisis and the scale of the recession it caused (the largest since the Great Depression of the 1930s) have substantially elevated the role of central banks. It is in a sense true. It proved that central banks did learn the lesson of the 1930s, when they failed to provide banks with sufficient liquidity. In 2007, central banks took a bold decision to inject unprecedented amounts of liquid reserves into the banking system in order to prevent runs on the interbank deposit market caused by worries of universal banks' insolvency resulting from their losses on the illiquid structured bond markets (Bernanke 2015; Morris, Shin 2008; Reinhart 2008). Central banks were rightly praised for their success in containing the global liquidity crisis.

The deepening of the crisis, after the Lehman Brothers' collapse prompted the Federal Reserve, the Bank of England and later the European Central Bank to launch quantitative easing (QE) programs which alleviated balance sheet recessions in the relevant economies. These measures are frequently appreciated as a success of central banks despite the decreasing effectiveness of QE programs and their quasi-fiscal character (Orphanides 2015).

The impression of central banks' effectiveness and their growing importance would probably have lasted longer had the advanced economies smoothly returned to their equilibrium growth paths. Unfortunately, the burden of soaring private and public debt and the decreasing rate of potential GDP growth led to the general awareness that central banks would become short of effective instruments to prevent a potential secular stagnation, which might be caused by demographic trends, rising inequalities, and decreasing rate of technological progress.

The limits to the monetary policy effectiveness can be derived from the very nature of the secular stagnation. Its main feature is that the excess of the desired savings in the economy (in relation to the desired investment) is such significant that a central bank – wanting to equate these volumes – would have to set the interest rates at such deep negative level, that it would require eliminating paper money and risking serious disruptions in financial intermediation (Summers 2015), which would not be an acceptable measure.

Therefore interest rate policy in such circumstances is unlikely to be capable of reinvigorating growth. This poses a question about the new mechanism which may enhance borrowing and spending under such circumstances. The main tool used by central banks to engineer economic recovery was QE programs. Yet, the experiences of Japan, US, UK and Europe illustrated their limited and decreasing effectiveness. Additionally, QE programs result in overvalued asset prices⁵ exposing

⁵ Its main symptoms are the elevated level of stock indices despite the historically lowest level of the rate of productivity growth and the negative risk premiums on treasury bond markets despite the unprecedentedly high levels of public debt.

developed countries economies to the risk of a financial turbulence which might trigger a recession.

The main problem is, however, that the QE programs are not able to overcome the pessimism of long-term expectations leading to the low level of investment. The most worrying element of Japanese experiences was that after a decade of deleveraging (when households were repaying their mortgage loans) the demand for credit has never recovered as economic agents lost their faith in the bright prospects for their economy.

The tool to overcome in Japan and Eurozone the negative feedback between the pessimism of long-term expectations and economic stagnation might be launching helicopter money drops to partly finance the government spending. It is clear that such programs would be in fact an element of fiscal policy conducted behind the shield of central bank independence. This perceived contradiction is not only possible to achieve but may also help to eliminate moral hazard (in relation to fiscal easing) on part of the government.

In the 1930s, it has been largely thanks to the active use of fiscal policy (leading to income redistribution) which stimulated consumption and investment and helped to combat the economic stagnation after the Great Depression. Similarly, it was fiscal policy, which facilitated steering advanced economies toward their equilibrium growth path after World War II. This created conditions enabling monetary policy to be perceived as a sufficient stabilization tool. This perception has changed during the last decade, as the recent banking crisis and the Great Recession have probably pushed the developed economies toward a long period of stagnant economic growth.

Under secular stagnation monetary policy may cease to be a sufficiently effective tool for conducting counter-cyclical policy. Therefore, under such depressed conditions, it may become necessary, that a monetary policy temporarily acts as an instrument supporting fiscal policy. This can be achieved without challenging central banks independence, which can be illustrated by the QE programs of quasi-fiscal character. Similar proposals include employing helicopter money in order to finance budget expenditures. Hence, if the advanced economies enter a long period of chronically deficient domestic demand, we may witness the increasing role of fiscal policy and the decreasing importance of monetary policy, even if central banks are efficient in using new unconventional tools.

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Summary

During the Great Moderation, when advanced economies entered a relatively long period of a stable growth, it was believed that monetary policy is a sufficient tool for keeping the economy on its equilibrium growth path. Nonetheless, if recent worries on the advent of secular stagnation (with its chronic demand weakness and permanent excess of savings) materialize, monetary policy may be rendered to be ineffective as an instrument stabilizing economy. This may set the scene for a return of an active fiscal policy in a similar manner as it was in the 1930s during the Great Depression. If the advanced economies fail to escape a secular stagnation, central banks will still remain independent, however their monetary policy might become an auxiliary tool for supporting fiscal policy (as it is with quantitative easing programs). It may even become an integral element of fiscal policy, especially if budget deficits get partially financed with overt money creation in line with recent proposals.

Keywords: monetary policy, secular stagnation, money creation