### Andrzej Sławiński, Jerzy Hausner

### The evolving impact of labour markets on monetary policy

#### Abstract

*Objectives*: The aim of this paper is to address the cycle from monetary policy becoming the main instrument of macroeconomic stabilisation to the current unexpected decline in its effectiveness.

*Research Design and Methods*: This article analyses how preventing the risk of wage-price spirals unwinding became the main task of central banks. Such a perception of monetary policy role was a natural consequence of the Great Inflation of the 1970s and the substantial costs of disinflation of the 1980s. Then this paper highlights the causes behind the recent unexpected emergence of persistently low inflation. Among the most important causes of this were structural changes which took place also in labour markets, being the outcome of the twilight of traditional manufacturing and increasing globalisation.

*Findings*: The structural weakening of the bargaining position labour creates situation in which the period when monetary policy was focused on preventing wage-price spirals has ended. If advanced economies are entering a long period of low inflation and low interest rates, it will necessitate a reformulation of the role that central banks play in stabilisation policies.

*Recommendation*: This paper postulates that central banks should acquire a pivotal role in the macroprudential policy. The main argument is that the independence of central banks, which they obtained when fighting inflation, would increase the effectiveness of the macro-prudential policy.

*Contribution*: Usually success in lowering and stabilising inflation is attributed mainly to the changes in the way in which central banks have been conducting their monetary policy since the early 1980s. This article highlights the fact that the role which was played in this process by the substantial weakening of the labour bargaining position is still underappreciated.

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### Introduction

Central banking is three hundred years old. However, monetary policy is much younger; its

Andrzej Sławiński Department of Quantitive Economy Warsaw School of Economics al. Niepodległości 128 02-554 Warszawa aslawi@sgh.waw.pl beginnings are connected with the Great Depression of the 1930s, when central banks' monetary easing was supporting fiscal policy in pulling economies out of deflation and stagnation. Only the inflationary

Jerzy Hausner Department of Public Administration Cracow University of Economics ul. Rakowicka 16 31-510 Kraków hausnerj@uek.krakow.pl pressures of the second half of the 1960s and the Great Inflation of the 1970s elevated monetary policy to the role of the main tool of stabilisation policy.

Central banks gained prominence during the period of Great Moderation (from the mid-1980s to the mid-2000s), when they successfully stabilised both inflation and economic growth. The unexpectedly difficult period for central banks began after the Great Recession which followed the global banking crisis of 2007–2009. The recovery was surprisingly weak and brought a long period of atypically low inflation and low interest rates. Hitting the interest rate zero lower bound made monetary policy problematic. If the future brings a long period of persistently low inflation and low interest rates, central banks may face a challenge of reformulating the role they play in stabilisation policy.

What makes the scenario of protractedly low inflation probable are the forces of globalisation (international price competition and the outsourcing of production to low-cost countries), technological change (augmenting the role of investing in intangibles), the aging of societies (decreasing growth potential), and structural change in labour markets (reducing wage shares).

The goal of this paper is not to analyse all of those factors. Its focus is limited to demonstrating that the cycle from monetary policy becoming the key element of stabilisation policy to the recent unexpected erosion of its effectiveness mirrors broadly the structural change which has taken place in labour markets, i.e. the evolution from the post-war substantial strengthening of labour's negotiating power, which facilitated the advent of the Great Inflation in the 1970s, to the subsequent substantial weakening of the bargaining position of labour, which produced the recent surprisingly low wage growth in advanced economies.

The importance of labour markets for monetary policy is illustrated by the fact that since the Great Inflation of the 1970s central banks have been perceived as institutions which are required to contain the risk of the wage-price spiral unwinding, which might accelerate inflation. While such a perception of central banking was dominant till the mid-2000s, the bargaining power of labour has been declining steadily since the 1980s, which reduced the risk of wage inflation. The spectacular symptom of this change was that during the recent economic recovery, after the Great Recession caused by global banking crisis of 2007–2009, the rate of growth in wages stayed unexpectedly low despite the fall of unemployment rates to the lowest levels in history.

The remainder of this paper is organised as follows: section 2 summarises briefly the evolution of monetary policy until the 1970s, when the two oil crises and the subsequent stagflation put the labour market in the centre of thinking on the role of central banking. Section 3 highlights the structural changes which caused the flattening of the Phillips curve, i.e. the weakening of the impact which changes in unemployment exert on the rate of wage growth. Section 4 analyses the Japan's experiences over the last three decades, where the changes on labour markets played an important role. Section 5 underlines the factors which increase the likelihood that developed countries may enter a period of persistently low inflation and section 6 outlines some policy conclusion.

### The emergence of wage-price spiral risk

Under the gold standard (1870–1914) central banks did not conduct monetary policy in its modern sense. They were rather managing the gold standard system instead, as it was believed that the functioning thereof automatically secured price stability. Central banks were changing interest rates rather to trigger short-term international capital flows – in order to stabilise their gold reserves and the money supply – than to impact directly the decisions of economic agents on borrowing, spending or investing. It was believed that stabilising gold reserves was sufficient to stabilise both money supply and inflation.

The smooth functioning of the gold standard system was facilitated by the fortunate timing

of successive discoveries of gold which made the rate of growth in gold and money supply more or less adjusted to the rate of growth in the demand for money consistent with the long-term growth of GDP (Cassel, 1936). Additionally, the absence of exchange rate risk facilitated long-term capital flows from surplus to deficit countries, which kept their balance of payments in equilibrium. This enabled a uniform rate of growth in gold reserves in all countries participating in the system. Under such favourable conditions it was sufficient for central banks to hike (or cut) interest rates in order to trigger short-term capital inflow (or outflow) when it was necessary to stabilise gold reserves.

The period when central banks started to conduct monetary policy in the modern sense – using interest rate policy directly to manage aggregate demand – was the Great Depression of the 1930s. However, in that period of massive unemployment and depressed expectations even cutting interest rates to zero could not be sufficient to bring about reflation. Consequently, at that time, expansionary monetary policy was only supporting fiscal expansion being the main tool for pulling economies out of stagnation (Koo, 2016).

Only after World War II, during the period of long and strong recovery in the 1950s and the 1960s, did monetary policy steadily gain importance due to the mounting inflationary pressures. Until the mid-1960s central banks were efficiently stabilising inflation in spite of the fact that they were dependent on governments. The factor facilitating the effectiveness of monetary policy was the Bretton Woods system of fixed exchange rates. Governments tended to accept central banks interest rates hikes when an excessive domestic demand was producing the threat of a substantial widening of the trade deficit and a subsequent currency devaluation.<sup>1</sup> In the 1950s and 1960s the task of stabilising inflation – despite the strong demand growth – was aided by the high rate of productivity growth. The supply of goods and services was catching up with the growth in wages. In Europe and Japan, the rise in productivity was at that time higher than in the US, due to the massive inflow of American direct investments which enabled the narrowing of the technological and managerial gap between the US and other developed economies (Bergeaud *et al.*, 2014)

In the mid-1960s, however, this strong economic growth brought about increasing inflationary pressures. Initially it was believed that central banks could cope with this situation relatively easily. Due to the historical stability of the Phillips curve – illustrating the relationship between the rate of unemployment and the rate of growth in wages (Phillips, 1958) – central banks believed that there was a stable trade-off between the rate of GDP growth and wage inflation and that they could choose between different combinations of both.

Milton Friedman and Edmund Phelps warned that this trade-off would not be stable if central banks tried to exploit it. They argued that central banks attempting to reduce the rate of unemployment to below its natural level, by way of monetary expansion, would lead to a temporary growth in employment at the cost of a permanent rise in inflation, due to the increased inflationary expectations (Phelps, 1967; Friedman, 1968).

Friedman's assumption was that central banks are inflation biased, i.e. they tend to increase money supply in order to engineer an illusion of money – a situation in which workers take nominal growth in wages for real, which induces them to enter labour market or work longer hours. The source of the money illusion is the adaptive character of inflationary expectations. Employees use the initial rate of inflation to assess the real growth in their wages. However, with the passage of time they realise that inflation was rising alongside with wages. This induces workers to leave the labour market or reduce their working hours,

<sup>&</sup>lt;sup>1</sup> Actually, in the 1950s, the Federal Reserve Bank (for example) was conducting its monetary policy in a manner which was almost the same as in the 1990s, when central banks adopted an inflation targeting strategy (Romer & Romer, 2002).

which ends the short-term recovery engineered by the central bank's monetary expansion.

Friedman's main conclusion was that the longterm Phillips curve is vertical, because central banks' renewed attempts to accelerate economic growth through monetary expansion tend to push up inflationary expectations while unemployment constantly returns – after each brief recovery – to its natural rate. Consequently, Friedman's proposal was to impose a policy rule requiring central banks to increase money supply at a stable rate, adjusted to the rate of growth in the demand for money consistent with the potential (long-term) rate of GDP growth (Friedman, 1968). Hence Friedman's general message was that central banks should control money supply to shield the economy from wage-price spirals.

In the 1970s such spirals did emerge in the advanced economies, which led to the Great Inflation, the highest in peacetime. However, the wage-price spirals were not triggered by attempts of central banks to accelerate money supply and GDP growth. They were put in motion by two sharp rises in oil prices: the first triggered by the Yom Kippur War in 1974 and the second prompted by the Iranian Islamic revolution in 1979. Additionally, the oil shocks coincided with a sharp increase in food prices. The resulting sharp rise in the cost of living led to wage demands at a time when trade unions were still strong, due to the dominance of traditional industries characterised by the concentration of production and mass employment.

In the 1970s the unwinding of the wage-price spirals was not effectively resisted either by central banks or corporations.

Central banks did not tighten their monetary policy enough to suppress the wage-price spirals, because they were dependent on governments, which were worrying that an excessive monetary tightening might cause a sharp rise in unemployment (Tobin, 1982).<sup>2</sup> Some economists argued that the rising inflation resulted mainly from quasioligopolistic pricing of large corporations and the bargaining power of trade unions, which was strong at that time. Therefore they advocated price controls (introduced in the US in the early 1970s) and incomes policy rather than monetary policy tightening to directly contain inflationary pressures (Nelson & Schwartz, 2007).

Corporations were succumbing to wage demands due to the strength of trade unions. Additionally, in the 1970s firms could still afford to raise the prices of their products, as they were not yet exposed to the strong pressure of international price competition. They also, rightly, assumed that central banks would conduct accommodative monetary policy allowing for a rise in prices to shield (at least partially) corporations' profits from being squeezed by the increasing labour costs.

The accommodative monetary policy of central banks in the 1970s did not secure economic growth. The uncertainty caused by industrial conflict, rising inflation, profit squeezing and productivity slowdown led to the stagflation: high inflation combined with economic stagnation (Glyn, 2006). In the 1970s the long-term Phillips curve in the UK indeed became vertical, as predicted by Friedman. Inflation grew from 5% to 25% while the rate of unemployment remained almost unchanged (Bean, 2006).

## The weakening of the bargaining power of labour

The experiences with stagflation in the 1970s brought about a change in thinking about the role of monetary policy. The monetarist views prevailed: central banks adopted the strategy of controlling money supply. The goal was to stabilise medium and long-term inflationary expectations, the main factor feeding the wage-price spirals.

independent from national governments, could tighten their monetary policy sufficiently to tame wage-price spirals.

<sup>&</sup>lt;sup>2</sup> The two exceptions were the Bundesbank and the Swiss National Bank which, being at that time

The belief that central banks should focus on stabilising inflation was strengthened by the rational expectations revolution. Assuming that expectations are rational led to the conclusion that the trade-off between inflation and economic growth was very small (Lucas, 1972) or non-existent, due to time inconsistency of expectations (Kydland & Prescott, 1977). This augmented Friedman's conclusion that central banks should invest in their credibility as institutions genuinely committed to stabilising inflation. Credibility in achieving the announced target was perceived as the main asset of central banks.

To enable central banks to be effective at stabilising inflation they were given independence from governments. The main argument for doing that was the concept of the vertical longterm Phillips curve (Goodhart, 2017), which amounted to a message for the political class that stabilising inflation by central banks would not harm medium- and long-term economic growth prospects. The political consent for giving central banks independence was also possible due to the exceptionally low level of public debt in the 1990s, which made governments less concerned that potential interest rate hikes might significantly increase the costs of servicing public debt (Goodhart & Lastra, 2018)

The monetary policy tightening in the 1980s did reduce inflation in the developed economies, although initially that was achieved at the cost of substantially increased unemployment and decreased rates of GDP growth (Wojtyna, 2004). The important cause of the high costs of disinflation was the rigidity of inflationary expectations, which prevented inflation and wages from falling in line with the reduced rates of growth in money supply. The resulting weakening of the effective demand squeezed corporate profits, investment and employment.<sup>3</sup>

Despite the significant costs, the disinflation of the 1980s was a spectacular success. Central banks managed to stabilise inflation expectations and gained credibility as institutions genuinely committed to stabilising prices. The success of disinflation forced (in a sense) central banks to abandon monetary targeting and to adopt an inflation targeting strategy, because the lower inflation was the weaker was the impact of money supply on the rate of growth in prices (De Grauwe & Grimaldi, 2001).<sup>4</sup>

Especially during the period of the Great Moderation (from the mid-1980s to the mid-2000s), central banks became highly respected for stabilising both inflation and economic growth. Occasionally there were violent currency and banking crises, followed by sharp recessions, but those occurred in the emerging economies (e.g. the Mexican Crisis in 1994 and the Asian crisis in 1997). Therefore it was believed that such crises were not possible in the advanced economies, with their highly developed financial systems.

While an important source of central banks' success in reducing and stabilising inflation was undoubtedly their much-improved credibility, there were also the structural changes in economies and labour markets which contributed greatly to the disinflation.

Behind the flattening of the Phillips curve was globalisation, with its sharply intensified price competition. Corporations could not afford to raise wages and prices without exposing themselves to the risk of losing their markets. The massive

<sup>&</sup>lt;sup>3</sup> Had expectations been rational (as claimed by the New Keynesian Synthesis), there should not have been significant costs of disinflation, as prices and wages would have adjusted fully to the monetary policy tightening by central banks. The significant costs of disinflation

in the 1980s illustrate that economic agents' expectations are not rational but adaptive, as was assumed by Milton Friedman.

<sup>&</sup>lt;sup>4</sup> The additional factor forcing central banks to abandon monetary targeting was the development of financial markets. Corporations could keep their money holdings not only in the form of traditional bank deposits but also in (for example) the form of treasury bills or deposits held on the repo markets. Due to such changes monetary aggregates ceased to represent accurately the money supply. This is why the Governor of the Bank of Canada said "We didn't abandon monetary aggregates, they abandoned us" (Mishkin, 2000).

outsourcing of production to China and other emerging economies substantially weakened the bargaining power of labour in advanced economies.

Among the structural factors which also contributed to the flattening of the Phillips curve was the twilight of traditional manufacturing characterised by mass employment and production concentration, which had created a favourable environment for strong trade unions. In the postindustrial economies, dominated by the service sectors, the density of trade unions was falling sharply. The weakening of the bargaining position of labour was accelerated by the legal changes resulting from the firmly held belief that trade unions were overly powerful (Heller, 1976).

The declining bargaining position of trade unions contributed to the emergence of the productivitywage gap from the 1970s onwards, when the rate of growth in wages started to lag behind the rate of productivity growth (Zawodny, 1999), causing a steady decrease in the share of labour in GDP, particularly in advanced economies (Ciminelli *et al.*, 2018; IMF, 2017; OECD, 2015). The share of labour has been falling more than might be attributed to skill-biased technological change (Onaran *et al.*, 2015).

All this resulted in a fundamental change to the labour markets. The risk that wage-price spirals might lead to a substantial acceleration of inflation was considerably reduced. However, despite the flattening of the Phillips curve, central banks were still perceived as institutions which were required to be ready to hike interest rates in order to prevent the developing of wage-price spirals and to shield the economy from the potentially significant costs of disinflation. Such an approach to monetary policy was perceived as the best practice in central banking until the outbreak of the global banking crisis. A stark illustration is the ECB's decision to hike interest rates in 2008 in spite of the fact that the eurozone was entering a recession (Hausner & Sławiński, 2018).

After the global banking crisis of 2007–2008, followed by the Great Recession, interest rates

hit the zero lower bound and monetary policy became much less effective. During the subsequent recovery central banks faced the 'puzzle' of the lack of inflation (Coibion & Gorodnichenko, 2015; Tarullo, 2017). Such a course of events was unexpected. Under the policy of *forward guidance*, central banks conditioned their interest rate hikes on unemployment falling to some predetermined levels, but they delayed such hikes because the projected inflation stayed usually well below the central banks' targets (Bednarczyk, 2016).

For central banks the important question is what their role will be if the future brings a period of persistently low inflation and low interest rates. To some extent the answer can be derived from Japan's experiences with chronic stagnation after the crash of its stock and mortgage markets in 1990.

# The role of the labour market in Japanese stagnation

Initially economists assumed that the long Japanese stagnation resulted from a series of policy mistakes (Posen, 2012). However, due to the unexpected length and depth of the Great Recession, following the outbreak of the global banking crises of 200–08, economists changed their views on Japanese stagnation. They started to focus on the similarities between developments in Japan and other advanced economies. The main similarity was the consequences of the long deleveraging period (of net-debt repayments) forcing households and firms to repay their mortgage debts at the cost of reducing their current expenditures, which pushed a number of economies into balance sheet recessions.

In Japan the resulting protracted stagnation created a necessity for fiscal expansion. Someone had to borrow and spend the savings which were accumulating in banks as the result of the net debt repayments, otherwise the Japanese economy would have fallen into a deep and prolonged recession. The protracted stagnation and the entrenched pessimistic expectations made the government the only candidate willing and able to recycle the excess of savings into the economy.

It is worth also underlining that fiscal expansion contributed to money creation in the period when banking crisis halted the credit and deposit money creation in commercial banks. Without fiscal expansion money supply would have shrunk, as during the deleveraging period more deposit money was destroyed due to the net loan repayments than created due to the new bank lending (McLeay et al., 2014). To the extent to which the government was using the borrowed savings to fund its current spending, it was effectively converting those savings into money and replenishing households' and firms' money balances<sup>5</sup>. The scale of the fiscal expansion is illustrated by the fact that in the 1990s the budget balance in Japan went from a 2% surplus to an 8% deficit (Akram, 2016).6

However, while the unprecedented fiscal expansion did save the Japanese economy from falling into a deep and protracted recession, it did not shield it from deflation, which added to the chronic weakness of the domestic demand. Falling prices incentivised households to postpone their spending on durable goods. Deflation pushed up real interest rates (despite their zero nominal level), which induced firms to postpone investments. In accordance with Irving Fisher's hypothesis, deflation made debt repayment increasingly costly, as nominal wages were falling while interest and principal payments stayed unchanged (Fisher, 1933).

Hitting the interest rate zero lower bound made conventional monetary policy ineffective. Therefore the Bank of Japan (BoJ) decided to follow Ben Bernanke's advice by launching a quantitative easing programme (QE) as a substitute for interest rate cuts (Bernanke, 1999). In 2001 the BoJ started to purchase treasury bonds, which kept long-term interest rates at a low level. The other positive outcome of the BoJ's QE was an increase in the liquid reserves of commercial banks, which helped them to weather the difficult period after taking substantial losses during the Asian crisis of the late 1990s (Schaltegger & Weder, 2013).

The QE programme was phased out in 2005 when the global recovery also embraced Japan. However, the global financial crisis of 2007–2008, followed by the Great Recession, forced the BoJ to relaunch its QE programme. The qualitative change took place in 2013, when the BoJ started to buy much more treasury bonds than were issued by the government. This indicated that the Japanese authorities decided to withdraw a large part of the public debt from the market.

It is not often recognised that QE programmes are *de facto* a tool for reducing public debt. They effectively convert treasury bonds, which are in the assets of a central bank, into zero-coupon perpetuities bearing no cost for the government. The reason is that central banks are required to pay the seigniorage to their governments. That way they give back interest payments to the budget. Additionally, central banks also return to the budget principal payments, by reinvesting them in new government bond issuances (Paris & Wyplosz, 2014; Buttiglione *et al.*, 2014; Sławiński, 2016).<sup>7</sup> It is highly unlikely that in the foreseeable future the BoJ will start to sell the treasury paper from its assets, as that might cause a rise in long-term

<sup>&</sup>lt;sup>5</sup> This was in fact in line with Milton Friedman's reasoning when he proposed creating a budget which would be balanced when the economy was growing at a potential rate. He proposed that when the economy grew above its potential, the budget surplus should be invested in the capital market in order to eliminate the economy grew at below its potential the government should use the savings invested on the capital market to finance its deficit spending. Thus this was nothing other than converting savings into money in order to replenish money supply and to adjust it to the demand for money consistent with the potential rate of growth (Friedman, 1948).

<sup>&</sup>lt;sup>6</sup> Some authors offer a somewhat different assessment of the Japanese experiences (Ciżkowicz *et al.*, 2015).

<sup>&</sup>lt;sup>7</sup> The Federal Reserve Bank officially phased out its QE programme of purchasing treasury paper in 2014. Nonetheless, in 2017 it decided to reduce the reinvesting of principal payments.

interest rates harming the protractedly weak growth in Japan.

The worrying feature of the Japanese experiences was that despite highly expansionary fiscal policies and the unprecedentedly large scale of the QE programmes the economic recovery was disappointingly weak. It started to be realised that the important reason for the protracted weakness of domestic demand was the unexpectedly low growth in wages in spite of unemployment falling to its historically lowest levels. The main reason behind that phenomenon was the structural changes on the Japanese labour market, especially the shift towards non-regular jobs.

The incidence of non-regular jobs in different branches of the Japanese service sector is, on average, well above 50% (Sommer, 2009). The overall share of part-time workers in Japan grew from 15% in 1990 to 30% in 2014 (Kuroda, 2015). Japanese workers' shrinking bargaining power coincided with a fall in unionisation from 25% in 1991 to 18% in 2014 and the sharp decline in the average number of strikes from 707 per year in the 1980 to 63 in the 2000s (Porcellachia, 2016).

The IMF suggests that the recipe for overcoming wage stagnation in Japan is through strengthening the bargaining power of labour and increasing a minimum wage (Arbatli *et al.*, 2016). Blanchard and Posen recommended reintroducing wage indexation as the sharp weakening of the bargaining power of labour minimised in Japan the risk of the emergence of wage-price spirals, such as they were in the 1970s (Blanchard & Posen, 2015; Posen, 2015).

The shift toward non-regular jobs is present also in other advanced economies: for example, the share of non-regular jobs in the European Union is above 40% (European Parliament, 2016). That is why in 2017 the total number of hours worked in the Eurozone was still below its pre-crisis level. This was, in turn, the reason for slow wage growth despite the relatively strong recovery (European Commission, 2018).

### Discussion

The weakening of the bargaining position of labour will probably continue, due to the technological change (Vandaele, 2018) and the still dominant view supportive for further reducing job protection and cutting unemployment benefits (Ciminelli *et al.*, 2018; OECD, 2017). While this may increase labour mobility and the flexibility of economies, the cost will be a further decrease in the bargaining power of labour, especially in the context of globalising service markets (Szafranek & Hałka, 2018).

The structural changes in the labour market are an important factor but not the only factor making probable a scenario that advanced economies may enter a period of persistently low inflation and low interest rates. During the recovery after the Great Recession Larry Summers returned to the concept of secular stagnation which had been put forward by Alvin Hansen, who had emphasised in the late 1930s that the decline in population growth and the slowdown in technological progress might have significantly hampered the rate of economic growth in the United States (Hansen, 1939). Larry Summers underlined that the rate of growth in the mid-2000s was mediocre, despite the lending boom on the mortgage market. He interpreted such a situation as a symptom of structural deficiency of demand mirrored by the excess savings in corporate sector (Summers, 2014). Empirical research confirmed that the aging population (Gagnon et al., 2016) and declining business dynamism (Decker et al., 2016) have been lowering the rate of economic growth after the Great Recession.

Furthermore, it turned out that the chronic excess of savings in corporate sectors (reflecting the prolonged paucity of investment) has been present in advanced economies since the early 2000s (Gruber *et al.*, 2015) and has contributed to the sharp and permanent fall in natural interest rates and potential rates of growth in advanced economies (Holston *et al.*, 2016). In Japan the excess of savings in the corporate sector and a large negative GDP gap can be traced as early

as the 1970s (Fukao *et al.*, 2014). Robert Gordon underlines the supply-side factors of the persistently lower GDP growth in the US since the 1970s. Among the most important headwinds to growth he enumerates the decline in the rate of productivity growth, the slowing contribution of university education, and income inequality – being a result of changes which have taken place in the labour market (Gordon, 2016 & 2014).

### Conclusions

If the fall of the share of labour (OECD, 2015) and other structural factors bring about a protracted period of low inflation and low interest rates, central banks will have much less scope for conducting their monetary policy effectively. They will have to reformulate their role in stabilisation policies.

This will reopen the issue of a closer coordination of monetary and fiscal policies especially in the period of greatly increased levels of public debts in many advanced economies. The challenge might be again fiscal dominance (Blommestein & Turner, 2012). During periods of prolonged stagnation such fiscal dominance may acquire strong forms, as was seen during the protracted stagnation in Japan after 1990. We may witness a return to the use of QE programmes as tools of public debt reduction.

The global financial crisis of 2007–2009 forced central banks to revise some crucial assumptions adopted in their general equilibrium models. They cannot afford to focus only on price stability, as was the case during the Great Moderation (Lucas, 2003). Nowadays central banks have to take into consideration the fact that economies may implode during a serious financial crisis (Blanchard & Summers, 2017). This creates the need to use macroprudential policy as a tool for reducing systemic risk.

Some economists worry that this might compromise central banks independence (Ball *et al.*, 2018). Such concerns are partially justified. By taking responsibility for regulatory mistakes central banks may put at risk their credibility. Nonetheless, even the short recent experiences with conducting macroprudential policy shows that when supervisory authorities are dominated by government entities they tend to delay tightening their polices, even during evident credit booms. Under the circumstances central banks should play a decisive role in conducting macroprudential policy to shield it from political cycles (Borio, 2015). Therefore central banks should use their independence and credibility – the assets they won when fighting inflation – as weapons for macroprudential policy, the importance of which may rise during a period of persistently low inflation.

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