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Is globalisation reducing the ability of Central Banks to control inflation?

IN-DEPTH ANALYSIS

Abstract

That increasing globalisation, meaning greater integration in the financial markets, full capital mobility and deeper trade links at all levels, might reduce or eliminate our ability to conduct an independent (country specific) anti-inflation policy is an old concern.

There are good ad hoc and formal analytic reasons for that point of view. However it turns out that commodity prices, common productivity trends and integrated labour markets, pose little systematic threat to inflation or our ability to control it. Integrated financial markets, open credit markets and common excess leverage facilitated by world markets are quite a different matter however.

Our standard economic models show that independent monetary policies are ineffective in such conditions, if fixed or pegged exchange rates are imposed for internal stability. But they assume that monetary policy is the only instrument available for inflation control. There are other ways to control inflation, or to reinstate that control, if we relax that restriction. Extending conventional policies to include the use of reserves, or to vary the composition of assets used to carry it out, is one approach. To coordinate those policies with fiscal policy is another. To use financial regulation as an explicit policy instrument to control credit and leverage is a third. All three approaches require structural reforms to the policy instruments and/or policy institutions, and a degree of internal coordination.

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EXECUTIVE SUMMARY

The question reviewed in this paper is: to what extent is it true that globalisation (which I take to mean full financial and trade integration) reduces a Central Bank's ability to control inflation, and if so why? The answer appears to be no. It is true that under such conditions traditional forms of monetary policy are likely to be ineffective. But there are a number of other types of policy which, conducted either in combination with or as extensions of those policies, are quite capable of acting to control inflation in the same circumstances – albeit with varying degrees of efficiency. But they all require some reform or modification to the way we normally conduct anti-inflation policies.

There are other factors that may render inflation hard to control or unavoidable: rising commodity prices, integrated labour markets, or common productivity trends, for example. But they do not pose a large or systemic threat to inflation, and are unlikely to follow from globalisation per se.

The argument runs as follows:

- The loss of the ability to control inflation comes from the conflict between the desire to maintain a fixed (or near fixed) exchange rate for internal stability, and perfect capital mobility for financial stability, in a world of integrated financial markets.
- To achieve both, monetary policy has to be dedicated to serving these two targets; which rules out using an independent monetary policy to control inflation.
- Thus, the traditional set up which shows the conflict between domestic targets (inflation) and global targets (financial stability) leads to inflation that cannot be controlled.
- This approach however assumes that the only policy available is monetary policy. This is not true; there are other policies, or modifications to that policy framework, that can be used.
- The strategic alternatives are to relax the rigidity with which the goals of the underlying framework are pursued; or to surrender one of them to allow an independent monetary policy to operate freely; or to adopt structural changes in either the economy or the policy process so that inflation control is reached by other means.
- One possibility is to use reserves or a wealth fund to change the composition, risk profiles, or relative supply (and hence cost) of the assets that could be traded. This opens up space for normal monetary policies to work.
- Another is to bring additional policies into play. Fiscal policy can also control inflation through the markets for goods and services, rather than via the financial markets. This requires careful coordination however.
- A third is to attack the drivers of inflation through the credit and asset markets to reduce the dependence on global cycles and excess leverage. This calls for financial regulation to be used as a (cyclical or structural) policy instrument.

Hence there are a number of ways to control inflation in individual economies while preserving exchange rate stability and financial integration. But they all require reforms to the policy instruments or policy institutions.

1. INTRODUCTION

The question, or fear, that globalisation may have rendered Central Banks unable to control inflation is an old one. It is perhaps best reviewed using the analytic framework of the "impossible trinity" or trilemma of monetary policy – which we can extend, in a modified form, to the Triffin dilemma in order to highlight the inherent conflicts between domestic and global policy objectives more generally.

The impossible trinity holds that policymakers cannot achieve their three top priorities – an independent monetary policy (hence an independent control of inflation), a fixed or stable exchange rate, and free unrestricted capital flows – all at the same time. At best, they will have to choose two out of the three[1]. Or, failing that, accept reaching only incomplete and variable degrees of success in each one. The Triffin dilemma, in an international/globalised context, holds that the attempt to reach highly prized global targets, such as stability and efficient functioning in the world's financial markets, will necessarily lead to an inability to achieve some of the goals of domestic policy – such as inflation – in the leading, hegemon economies at least[2].

To appreciate how this inability to control inflation can arise as a result of globalisation, one has to recognise that it can happen in a number of different ways:

a) The globalisation of markets with free capital flows will typically shrink and ultimately eliminate the Central Bank's freedom of manoeuvre for its policy instruments (interest rates usually, but also for reserve ratios, monetary aggregates or targeted exchange rates);

b) Globalisation with free capital movements can damage the transmission mechanism by which the Central Bank influences inflation, rendering the policy instruments ineffective (for example when the interest pass-through rate becomes internationally competitive[3]);

c) Also because external events over which the Central Bank has no control are actually the driving force behind inflation: for example, from commodity price movements, global wage competition, or from technical change and productivity trends.

For the purposes of answering this question, I will take it that low and stable inflation is the objective of the Central Bank's monetary policy – although in reality Central Banks usually have more extensive mandates and perform other necessary functions that have an impact on the effectiveness of monetary policy and inflation control. Similarly, I will take it that the policy instrument is the policy interest rate, linked to market rates, although Central Banks all have other instruments to hand (reserve ratios, discount rates, unconventional policies that act on market rates directly). This is for convenience since the results and conclusions drawn below are not in fact affected by a change of instrument. Third, I will assume that globalisation principally means greater financial integration, although the smaller elements to do with trade will be affected through the exchange rate. Finally the arguments used will apply as much to the control of positive inflation, as they do in reverse to control deflation.

[1] Obstfeld et al. (2005), Klein and Shambaugh (2013), Aizenman (2013)
[2] Triffin (1960)
[3] Meaning the impact of an interest rate change as a proportion of its potential impact on inflation or investment is reduced by global competition.

2. THE BENCHMARK CASE: THE LOSS OF INFLATION CONTROL

2.1 The impossible trinity and inflation control

The impossible trinity or trilemma of monetary policy states that policymakers cannot reach their three main priorities – an independent monetary policy and hence a proper control of inflation, a fixed or stable exchange rate, and free unrestricted capital flows – all at the same time. Policymakers must choose which two out of those three goals/characteristics they wish to achieve at any point of time. This is illustrated in Figure 1.

In that figure, one can choose the best position. Each point of the triangle represents one of the characteristics desired in the policies finally chosen; and each side, being a line that goes through two of the three required properties, represents the combination of two characteristics that one might choose. But one cannot be on all three sides simultaneously.

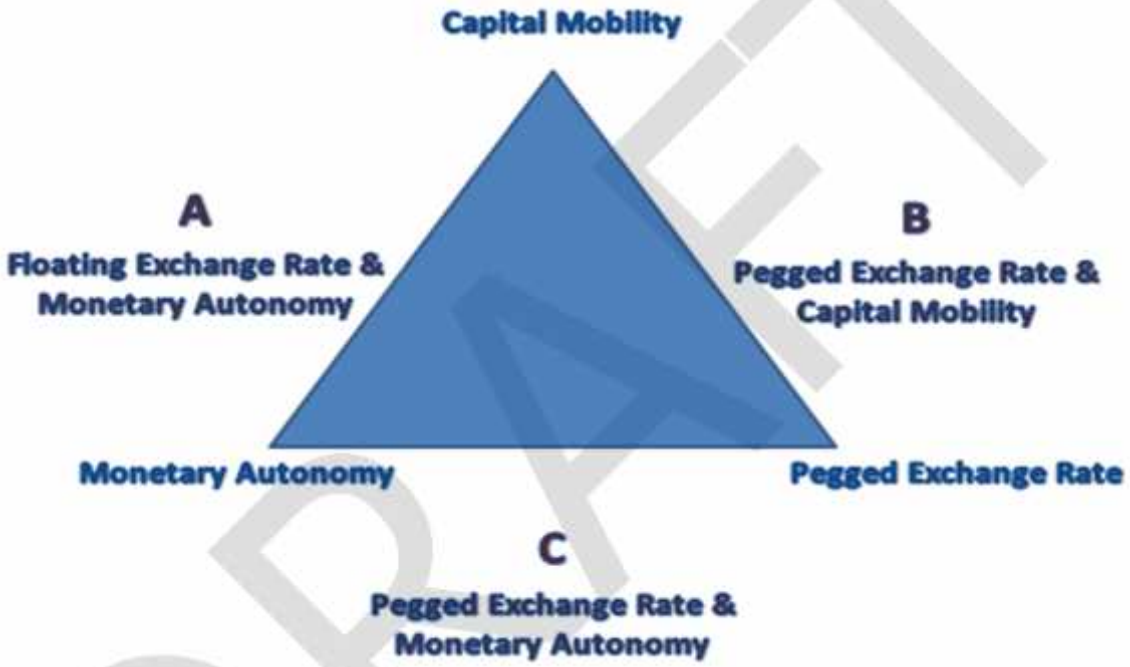

Figure 1: The open economy policy trilemma

Source: Klein and Shambaugh (2013)

The left side of the triangle, marked A, reflects an economy with an independent monetary policy and hence the ability to control inflation, and full capital mobility, but with a flexible (and potentially unstable) exchange rate. On the right, B represents an economy with a fixed exchange rate and capital mobility, but no independent monetary policy and therefore no apparent ability to control inflation. And C shows an economy with fixed exchange rates and an independent monetary policy (and ability to control inflation), but no capital mobility (closed capital markets, with limited financial integration and little currency convertibility). But nowhere in the figure can we get all three properties at once. On the other hand, any of the positions along lines A or C will allow a full, normal ability to control inflation.

That said, there is also nothing to stop us choosing an interior point in the triangle – with the result that we get restricted exchange rate flexibility, regulated/partial capital mobility, or limited monetary independence (and hence an incomplete ability to control inflation). By varying this position, we can get more of one or two of the desired properties at the cost of less of one of the other two. India has been a prominent case in point; but is now veering towards A, liberalising capital flows and adopting more independent monetary policies as inflation becomes politically more problematic while FDI is remains a priority.

2.2 Different monetary configurations with financial integration

Hence the question posed here is asking if globalisation necessarily or would normally push economies towards some point on, near or even towards the side marked B. And if so, what mechanism would that make that happen? In reality, the outcomes are rather more varied. Many large and advanced economies have chosen to be on or near line A: the US, Japan, Australia, the UK, Norway, Sweden. Others (Switzerland) would normally be in this group, but have chosen to limit their capital inflows to limit the movement in their exchange rates.

By contrast, some economies have chosen to limit capital inflows so as to be on or near line C. These are often emerging market or developing economies whose financial markets and general level of development are not deep or resilient enough to cope with the kind of rapid in or outflows of short term capital that have been seen in recent years. Examples would be Brazil, Malaysia, Thailand; and, of course, China who maintains an array of capital controls, a currency which is not freely convertible, and an exchange rate pegged (if occasionally adjusted) to the US dollar. This arrangement has left China able to control inflation – even if this has not always been done by conventional means. China, moreover, has plans to allow her currency more flexibility and become more widely traded (convertible) on world markets. This would appear to signal a move from line C towards A, although how much liberalising of the capital markets would be involved is unclear since the plan also includes maintaining separate onshore and offshore capital markets to preserve financial stability internally. It may therefore turn out to be a move along line C, in the direction of A.

The cases most directly related to this paper lie along B, having no independent monetary policy available to the Central Bank and hence no ability of their own to control inflation. This describes the economies of the Eurozone currency union; those who have adopted the currency of another country (Ecuador, Montenegro, Zimbabwe); and those who run their currency using a strict currency board (Hong Kong, Argentina in the 1990s, the Baltics before the Euro, some smaller Caribbean islands). But the Eurozone itself has run a flexible exchange rate and formally lies on line A. However, to the extent that the ECB tries to keep the Euro's effective exchange rate constant enough to prevent inflation while maintaining competitiveness, the Eurozone as a whole may have moved in the direction of B.

2.3 How financial integration removes the ability to control inflation

Consider a small economy under the monetary arrangements defined by line B. If there is perfect capital mobility, and domestic and foreign bonds are perfect substitutes (not always the case in practice, but generally assumed for small economies), then arbitrage will ensure domestic interest rates equal to foreign rates on comparable bonds. If the home Central Bank then decides to raise its interest rates – to curb inflation say – by contracting the money supply, this will trigger new purchases of domestic bonds to secure higher yields. If there are no exchange controls (full convertibility applies), the additional funds to do this must come from abroad. That puts upward pressure on the exchange rate as capital flows in. If the Central Bank does nothing, the commitment to a fixed exchange rate will be broken and the home economy will shift to line C with a flexible (or perhaps a partly flexible or adjustable) exchange rate.

However, if the Central Bank wants to retain its fixed exchange rate regime – the commitment was credible – the Central Bank must sell foreign currency and buy back its own, and go on doing so until the original exchange rate value is regained. That of course reverses the initial monetary contraction and returns domestic interest rates to their initial values. The upshot is that the ability to control inflation through higher interest rates (equivalently through changes in the banks' reserve requirements since any liquidity absorbed by higher reserves can be replenished at no risk, from the capital inflows), has been lost.

It would appear capital mobility and hence globalisation is indeed the culprit here; although in reality it is possible to argue that retaining a rigid fixed exchange rate regime is equally responsible in so far as the removal of either would restore our ability to control inflation in the usual way. Notice also that these arguments are reversible. It would not be possible to reverse low inflation or deflation with a monetary expansion under fixed exchange rates.

Thus if we wish to regain the ability to control inflation under globalisation, we need to look elsewhere for the means to do it. There are three basic options:

a) To relax the rigidity with which the policy priorities are imposed, to end up in a position inside the triangle with a partial version of one or more of them: either constrained but adjustable exchange rates, or partial capital controls and regulation, or a limited degree of autonomy in monetary policy setting[4];

b) To choose a different regime somewhere on lines A or C if, or when, inflation or periods of deflation become a problem. This would of course involve giving up a strict adherence to free and unregulated capital flows, or fixed exchange rates, to regain the ability to control inflation when needed through an independent monetary policy;

c) To adopt structural changes within the domestic economy, so that it or its bond markets work in a way that allows inflation control to be reasserted through other mechanisms, not through monetary policy alone.

These three options imply revised priorities, institutional reform, and structural reforms in the economy respectively. We have already dealt with option a). We review b) and c) under those headings next, but note some limits on what can be done ("unavoidable" and hence uncontrollable inflation, especially from external sources) in section 6.

2.4 The Triffin dilemma extension

The Triffin dilemma highlights the conflict between domestic goals (low inflation) and global goals (financial stability) for any economy that wishes to support the latter as well as the former. To achieve the latter under financial integration, a country needs to ensure that sufficient currency is made available to its trading partners for the latter to make their payments. Financial stability system-wide therefore requires at least one or more of the larger economies, in trade terms, to run a trade deficit to make sure that the others have the financial resources to satisfy their demand for reserves and payments. The implied increase in money supplies will generate inflation, a current account deficit and a falling exchange rate. This implies an extension of the dilemma described above, with extra inflation added at least for some. It illustrates that the inability to control inflation may come from the conflict between domestic goals and the desire for financial stability in world markets.

[4] This has been called "rounding the corners" of the trilemma (Klein and Shambaugh, 2013), but it is really a question of how to choose the preferred position in Figure 1.

3. IS IT POSSIBLE TO RESTORE THE ABILITY TO CONTROL INFLATION UNDER FINANCIAL INTEGRATION?

3.1 Empirical support for the "globalisation reduces the ability to control inflation" hypothesis

The definitive empirical study of the loss of monetary autonomy in practice, and hence the ability to control inflation, was carried out by Obstfeld, Shambaugh and Taylor (2005) on data for the developed (advanced, or OECD) countries in three distinct regime periods with different monetary arrangements: the Gold Standard (1870-1914, 15 countries, de facto fixed exchange rates and free capital movements); the mature Bretton Woods era (1959-1970, 21 countries, fixed exchange rates with extensive capital and currency controls); and the post-Bretton Woods era: 1973-2000, 103 countries with a mix of fixed (pegged) and flexible (unpegged) exchange rates, varying hegemon currencies and varying degrees of capital controls year-by-year. This gives us a full range of regimes in the sense of Figure 1.

After a careful econometric analysis, and even more careful data analysis to identify, define and measure the degree of exchange rate flexibility and effective degree of capital controls that applied in each country in each period, Obstfeld et al. conclude that a loss of ability to control inflation was in fact observed in those countries and periods where fixed exchange rates but free capital movements/financial integration (regime B) were operating – exactly as section 2.3 predicts. Nevertheless the ability to inflation control remains in the countries operating under regimes A and C, with flexible exchange rates and/or capital controls, since those regimes eliminate any need for a reversal of an independent monetary contraction or expansion of the type in the example in section 2.3.

3.2 Policy variations that may restore the ability to control inflation

These results were confirmed in later studies (Aizenman, Chinn and Ito 2010, Aizenman and Ito 2011, Aizenman 2013) that extend the data up to 2010, and to a new range of emerging market economies and other developing countries. The same conclusions appear. But several new variations emerge as ways to restore inflation control.

i) The first is to sterilise[5] the capital inflows that follow from the monetary contraction example studied in section 2.3, by buying foreign currency bonds with the stock of money removed from circulation in the money supply contraction. This will stabilise the exchange rate temporarily and transfer the re-expansion of the domestic money supply abroad. But it is unlikely to work for long because it would widen the foreign-domestic interest rate differentials further. One could expect further capital inflows therefore.

ii) A variation on this idea is to hold a higher level foreign exchange reserves within the banking system by buying the foreign currency inflow directly. That will again stabilise the exchange rate and transfer the implicit monetary re-expansion abroad, but without creating further increases in the interest rate differential. So the period of monetary autonomy can be made to last longer.[6] A more secure way to do the same thing is to have the country's sovereign wealth fund buy the foreign currency inflow and use it to buy foreign assets to be held within the fund, thereby stabilising the exchange rate and sterilising the implicit re-expansion of the money supply. If these foreign assets are more widely dispersed, having different maturities, risk profiles and more uncertain revenue streams than the government bonds sought by the capital inflows generated by small interest rate differentials, then the market interest rate differentials will not widen further, and will be less prone to create and

[5] Discussed in Grenville (2013)

[6] Aizenman and Ito (2011). If foreign owners of domestic currency were subsequently to decide to sell their holdings as surplus to requirements, the upward pressure on the exchange rate would be removed and the incipient re-expansion of the domestic money supply negated.

may actually deter the capital inflows that remove the space for monetary policy autonomy in the first place.

iii) This last point opens the way to a more systematic set of policies that could preserve, or at least reinstate, the ability to control inflation under full financial integration and fixed exchange rates. The key is the assumption of perfect substitutability between assets in the argument of the example in section 2.3. If that were removed or significantly weakened, there would, in normal circumstances, be sufficient space to reassert control over inflation using conventional policies. The sovereign wealth fund idea provides a mechanism by which we can insert frictions between the perfect substitutability of assets, systematically and as a matter of policy, to create a degree of imperfect substitutability at times and to an extent that we choose. Capital mobility will remain free as before, legally and physically, but market conditions can now be altered so that the degree to which that freedom is actually used in practice is chosen to suit our policy needs at the time (in particular with respect to inflation). Essentially what the sovereign wealth fund is doing is altering the composition of assets held in the economy, not only between domestic and foreign, but between degrees of risk, liquidity, and uncertainty of returns. That alters the supply and hence the cost of acquiring assets equal to those that would justify moving capital between jurisdictions for small interest rate differentials. Some might argue that this infringes free capital mobility; but it does so through market mechanisms and if the ability to control inflation is important such an infringement may be the necessary price to pay.

iv) An easier way to get the same effect, for those countries not in a currency union or not living under strict currency board, is to declare a fixed exchange rate band (rather than a point fixed exchange rate). If that band is relatively narrow, it operates as if the economy had a de facto fixed exchange rate - yet implies a degree of uncertainty about the precise value that can be expected at a specific date in the future. This may be sufficient to insert a wedge between the returns to be expected from holding domestic and foreign bonds larger than the interest rate differentials created by the independent use of monetary policy in normal times.[7] For those in a currency union, this option is only available for the union's external exchange rate and hence the ability to control union inflation, not for the ability to control individual country inflation rates.

4. THE POSSIBLE USE OF POLICIES OF STRUCTURAL CHANGE

i) One observation in Obstfeld et al (2005) is that, even if there is no monetary autonomy in an economy with a fixed exchange and free capital movements (so that interest rates are tied down), real interest rates are not fixed. That does not allow us to leave things as they are in the hope that varying real interest rates will control inflation for us, since an increase in inflation would make the real interest rate move the wrong way: higher inflation would mean lower real interest rates, so higher investment demand and borrowing by households – the opposite of what we want. But it does encourage the thought that we could engineer real interest rate change that go in the right direction. Structural reform policies, although traditionally aimed at creating greater competitiveness, would if successful lower the price level relative to the trading partners and therefore lower the inflation rate in the process. That is helpful in itself, but it would also raise the real interest rate and hence lower the demand for investment goods and household loans as increased nominal interest rates might have done.

However, whether this is actually helpful as a practical policy is another question. Attempts to get structural reform policies accepted and implemented have not been a great success,

[7] To the extent that transaction fees, taxes or regulation play a role, then the wedge will be larger. If the band is adjustable, or not fully credible, then the wedge will be larger again as a currency risk premium must be added. But in that case destabilising speculation may become a danger.

especially in Europe. Worse, they take a long time to become effective and produce the desired outcomes – probably 6-8 years at least in the best circumstances (see Hughes Hallett and Oliva Martinez 2015). So this is not a practical proposition for dealing with periodic bouts of inflation.

ii) A more useful structural innovation might be to start coordinating fiscal and monetary policies explicitly. The traditional analysis considered so far assumes monetary policy is the only weapon we have available for controlling inflation. This is not true; fiscal policy, if less effective, could also be used. Fiscal contractions on their own lower aggregate demand and put downward pressure on prices in the medium term. And also lead to lower interest rates in the short term. If such a policy were paired with a monetary contraction, the lower interest rates induced by the fiscal contraction could be constructed to balance the higher interest rates from the monetary contraction, such that the net effect is zero. It would then be possible to control inflation without the interest rate rise that induced the capital inflow in section 2.3, eliminating the need for the self-defeating re-expansion of the money supply to preserve the exchange rate.

The only difference from the traditional analysis is that inflation would now be controlled through reductions in aggregate demand rather than through the financial markets. But it still uses an independent monetary contraction, paired with fiscal interventions, to produce a change in the policy mix. This is as we might expect: we need two instruments (monetary and fiscal) to achieve two targets (lower inflation; and no change in the exchange rate), given a world of financial integration and globalisation.

iii) The fear that this approach could be costly to implement because it involves a double contraction is unfounded because each contraction would be roughly half the size of that required in section 2.3 to get the same effect. But the policies themselves would have to be carefully calibrated to match.

The problem, if there is one, is that a small country used to borrowing easily on the international capital markets might find it difficult to create a fiscal contraction large enough to create downward pressures on domestic interest rates large enough to match the upward pressures being created by the monetary contraction. There may nonetheless be scope to use budget savings (foreign currency reserves) to prevent a consequent exchange rate rise.

5. A VIEW FROM THE CREDIT AND ASSET MARKETS

A more recent set of papers provide a different perspective on the trilemma which implies that financial integration/globalisation reduces an economy's ability to control inflation (Rey 2013, 2015). The argument here is that extensive financial integration means that assets of all kinds, risky and otherwise, have developed strong components in prices or yields. Given free capital flows, that means in turn that credit flows in different economies show similar pro-cyclical patterns and volatilities. This can be seen in the data (Rey 2013). As a result there are strong global financial cycles, which tend to lead to excess credit growth in boom periods and credit collapse in bad times depending on the cyclical position of the country at issue but irrespective of exchange rate regime in place (this effect will be enhanced if the national cycles become more synchronised through the globalisation of trade[8]). Thus, when capital is mobile, the world financial cycle will typically constrain domestic monetary policies whatever the exchange regime. This then makes the case for throwing sand in the wheels of the domestic financial and credit markets, discussed in the analysis introducing risk and imperfect asset substitutability (Section 3 part iii) above).

[8] Conditions for this further synchronisation to take place are laid out in Hughes Hallett and Piscitelli (2002)

There are a number of ways we can deal with this: targeted capital controls; policies undertaken to restrain the drivers of the world financial cycle (this would require coordination between the major economies and central banks, which seems unlikely); macro-prudential policies to restrain cyclical increases of credit and leverage in recipient economies; weaken the transmission of systemic excess credit/leverage using financial regulation; weaken the transmission of world financial cycle effects by throwing sand in the wheels as above. If we ignore the first as inconsistent with financial integration, and the second as unrealistic, the three remaining options are all possible. The third is already set to be introduced as part of the Basel III banking regulations. The fourth is implied by the new supervision and financial regulation systems appearing in most advanced economies: the US and UK for example. The fifth was discussed in section 3, part iii). Some aspects appeared in the bail-out plans of Ireland or Spain, recent policy in China, and are now under consideration in Sweden.

The novel feature about the policies in this approach is that they deal with inflation in financially integrated markets by attacking a root cause (but not the only cause) of inflation directly in the credit markets, rather than indirectly by creating space for independent monetary policies.

6. DO WE NEED TO CONTEND WITH UNAVOIDABLE INFLATION?

Is it the case that some inflation pressures are unavoidable in that they come from outside the economy, and are therefore beyond our control? More specifically, are commodity price changes large enough to influence domestic prices and hence inflation? If so, are we still able to control domestic inflation? Similarly does the integration of production processes (network production) mean that it is more difficult to control domestic inflation?

i) Commodity prices: It is certainly the case that rising commodity prices have at times increased domestic inflation which Central Banks have found very difficult to control - a prime example being the period before 2008 when most OECD and Euro-economies faced rising prices for energy and basic commodities and were unable to prevent themselves breaching their specified upper limits on inflation. But this can also happen in reverse; since 2012, oil/energy prices have fallen 50% and, allied with a slowdown in emerging markets and falling prices in network production, this has lead to active deflation in most economies. So it can cut both ways.

On the other hand, the impacts may not be so large numerically. In which case, the loss of ability to control inflation on this score, as seen in recent events, becomes a less pressing issue. For example, if oil (or other commodity) prices fall 50% but only make up 5% of the price index, then prices will drop 2.5%. That is comparable to the inflation target itself, and is of course a one-off event (commodity prices cannot go on falling for ever). The impact may be more serious for energy prices since they affect many production processes. But other commodities do not, and even then, unless we are price level targeting, the effect is transitory. More serious is if these temporary inflation spikes get into the wage bargaining process. That could then induce a wage-price spiral.

If it possible to control this kind of external shock? Most Central Banks in fact target a consumer price index that excludes the prices of certain key commodities and taxes in order to exclude the external factors they cannot control – see Table 1 below for an illustration of how this has been done in the past. If that is acceptable, because those elements of inflation cannot be controlled anyway, then we still have the ability to control the remainder and price shocks of this kind are insulated from the wage-price setting process.

ii) Wage inflation: Has globalisation cost us the ability to control wage inflation? In fact labour mobility itself is not so large and, more to the point, has not increased very much in quantitative terms for the past few decades. So it is hard to argue that globalisation in the

sense of more integrated labour markets, has had much effect on wage inflation. But what can, and clearly has had an effect is the capital mobility which comes with financial integration and a currency union. The effect however is one way. Capital mobility carries the threat of moving financial or physical capital to lower cost production facilities elsewhere. So the effect, if any, is downward pressure on wages rather than upward on inflation.[9] That is good for inflation and employment, if less good for earnings and the income distribution. In-migration and productivity growth would lead to the same effect; so none of these aspects pose a threat to the ability to control inflation – unless we are concerned to raise prices to bring a period of deflation to an end.

Table 1

Operational Aspects of Inflation Targets

Country (date of adoption)	*Target Series Definition*	*Target Level (percentage annual inflation)*
Australia (1993)	Underlying CPI (excluding fruit and vegetables, petrol, interest costs, public sector prices and other volatile prices)	2–3
Canada (February 1991)	Core CPI (excluding food, energy and first-round effects of indirect taxes)	1–3
Finland (February 1993)	Underlying CPI (excluding government subsidies, indirect taxes, housing prices and mortgage interest payments)	about 2
Israel (December 1991)	CPI	8–11
New Zealand (March 1990)	Underlying CPI (excluding changes in indirect taxes or government changes, significant changes in import or export prices, interest costs and natural disasters)	0–2 (until November 1996; 0–3 thereafter)
Spain (January 1995)	CPI (excluding first-round effects of indirect tax changes)	below 3
Sweden (January 1993)	CPI	2 ± 1
United Kingdom (October 1992)	RPIX (RPI excluding mortgage interest payments)	lower half of 1–4 until spring 1997; 2.5 or less thereafter

Source: Bernanke and Mishkin (1997)

[9] See for example, Freeman (1995).

7. CONCLUSIONS

It is true that the ability to control inflation may be lost in conventional models of monetary policy, but it is not necessarily the result of globalization as such. The traditional view is the result of the perception that monetary policy is the only instrument for controlling inflation. But there are many other ways of controlling inflation, or reinstating that control. Extending conventional monetary policy to include the use of reserves, or vary the composition of assets used to carry it out, or adopt exchange rate target bands, is one approach. Coordination of those policies with fiscal policy is another. And to use financial regulation as an explicit policy instrument to control credit and leverage directly is a third. But they all require reforms to the policy instruments or policy institutions.

REFERENCES

- Aizenman, J, M.Chinn and H Ito (2010) "The Emerging Global Financial Architecture: Tracing and evaluating new patterns of the trilemma configuration", Journal of International Money and Finance, 28, 615-41.
- Aizenman, J and H Ito (2011) "The Impossible Trinity, the International Monetary Framework and the Pacific Rim", Working Paper, University of California Santa Cruz, November
- Aizenman, J (2013) "The Impossible Trinity: from the Policy Trilemma to the Policy Quadrilemma", Global Journal of Economics, 2, 135.
- Bernanke, B and F Mishkin (1997) "Inflation Targeting: A new framework for monetary policy?" Journal of Economic Perspectives, 11, 97-116.
- Freeman, R (1995) "Are Your Wages Determined in Beijing", Journal of Economic Perspectives, 9, 15-32
- Grenville, S (2013) "The Impossible Trinity, Yet Again", VoxEU, 26 November
- Hughes Hallett, A and L Piscitelli (2002) "Does Trade Cause Convergence?", Economic Letters, 75, 165-70
- Hughes Hallett, A and J C Oliva Martinez (2015) "The Importance of Trade and Capital Imbalances in the European Debt Crisis", Journal of Policy Modelling, 37, 229-252
- Klein, M and J Shambaugh (2013) "Is there a dilemma with the trilemma?", Discussion Paper 19641, National Bureau of Economic Research, Cambridge, MA.
- Rey, H (2013) "Dilemma not Trilemma: The global financial cycle and monetary independence", VoxEU, 31 August 2013
- Rey, H (2015) "Dilemma not Trilemma: The global financial cycle and monetary independence", Discussion Paper 10591, Centre for Economic Policy Research, London.
- Obstfeld M, J Shambaugh and A Taylor (2005) "The Trilemma in History: Tradeoffs among exchange rates, monetary policies and capital mobility", Review of Economics and Statistics, 87, 423-38.
- Triffin, R (1960) "Gold and the Dollar crisis" New Haven: Yale University Press.