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# IEA Shadow Monetary Policy Committee

## January 2016



Institute of  
Economic Affairs

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## **Shadow Monetary Policy Committee votes five / four to hold Bank Rate in January.**

In the first email poll of 2016, the Shadow Monetary Policy Committee (SMPC) voted to hold Bank Rate by a vote of five to four in January. The vote was preceded by the widely expected decision of the US Fed to raise interest rates at its December 2015 meeting.

Those voting for an increase in interest rates cited proliferating signs that asset price inflation is accelerating, that spare capacity was reducing, and that the future costs of leaving rates too low for too long will be seen in the next downturn when they will be too low to help alleviate the impact as much as creating room by raising them now would do.

The majority were concerned that price inflation remains too low to justify a rate rise without damaging the MPC's credibility at a time that growth was slowing. In addition, though growth in monetary variables was more solid, there was little to suggest that, as a result, an outbreak of inflation was likely in the next few years. This was especially the case as global conditions were suggesting slow growth was likely to persist, and could even worsen, with attendant persistence of low inflation.

The SMPC is a group of economists who have gathered quarterly at the IEA since July 1997, with a briefer e-mail poll being released in the intermediate months when the minutes of the quarterly gathering are not available. That it was the first such group in Britain, and that it gathers regularly to debate the issues involved, distinguishes the SMPC from the similar exercises carried out elsewhere. To ensure that nine votes are cast each month, it carries a pool of 'spare' members. This can lead to changes in the aggregate vote, depending on who contributed to a particular poll. As a result, the nine independent and named analyses should be regarded as more significant than the exact overall vote. The next two SMPC polls will be released on the Sundays of 31<sup>st</sup> January and 13<sup>th</sup> March 2016, respectively.

## **Vote by Roger Bootle**

**(Capital Economics)**

**Vote: Hold Bank Rate.**

**Bias: To raise, but not yet.**

## **Vote by Tim Congdon**

**(International Monetary Research Ltd.)**

**Vote: Hold Bank Rate.**

## **Vote and comment by Anthony J Evans**

**(ESCP Europe Business School)**

**Vote: Unchanged interest rate but reduce QE by £75bn.**

**Bias: Raise interest rates.**

### **Economy growing but inflation below target**

The economy is growing strongly and although inflation remains well below target it is commonly understood that this is caused by supply side factors. It is therefore sensible for policymakers to see through it. For reasons of consistency and communication it would be wrong to start raising interest rates before inflation returns closer to target, however a gradual tightening could occur by unwinding the stock of QE. Now that the US Federal Reserve has broken the taboo of exiting emergency interest rates, there is greater scope for the Bank of England to follow suit. And in the same way that tapering preceded changes to the Federal Funds rate target, it might be wise to follow a similar order.

### **Start to unwind QE**

Having said this, it is unlikely that QE will be completely unwound and that we will return to a simple “One Target One Tool” framework. Therefore it would also be sensible to consider how QE operates such that in future crises it is less of an ad hoc and discretionary option.

## Vote by Graeme Leach

(Legatum Institute)

**Vote: Hold Bank Rate.**

**Bias: To tighten.**

## Vote and comment by Patrick Minford

(Cardiff Business School, Cardiff University)

**Vote: Raise Bank Rate by ½%.**

**Bias: To raise Bank Rate.**

### What will happen to the euro-zone?

Policy, especially monetary policy, is overhung by the EU, our potential Brexit from it and its generally weak economic and political progress. While the Fed has just raised rates, these EU uncertainties seem likely to prevent our own MPC from following the Fed's lead.

### Political support exists

For a long time I have been urging friends and colleagues to take the continued existence of the euro seriously; many of them could not believe such a poor construction could survive intact for very long. But they reckoned without the sheer persistence of the elite of the EU who put this system in place. Now there is endless talk in euro-zone circles of new initiatives that will somehow improve the workings of the zone: these all have their ending in 'union' or 'pact', such as banking union, fiscal union and stability pact, a long alphabet soup of acronyms flying in their wake.

### Can these ideas save the euro?

We must start with Greece, 'the weakest link'. The situation in Greece is critical, even though now agreement has been reached with the rest of the EU on the terms of repayment for Greece's loans. The problem is that the economy faces serious supply-side problems, which have been stressed by the 'Troika'. But accompanying these problems is the lack of aggregate demand in the economy and the lack of any mechanism at the EU level to create aggregate demand growth, given that QE measures are not currently offered to Greece.

### German opposition to fiscal union

There is much discussion of this new Euro-Zone Architecture- of fiscal union, banking union and so forth. However, the key problem for implementation is that a major protagonist, Germany, is strongly opposed to much of it. In the absence of such implementation there will continue to be a lack of aggregate demand growth in the Euro-Zone.

### UK example of reform

The parallel of the UK is of interest. The UK was in a poor situation also in 1979, known as 'the sick man of Europe'. However, the Thatcher government, after dealing with high inflation by monetary and fiscal contraction, set about reforming the economy's supply-side after 1981-

2 and in the process used rather stimulatory demand policies, which helped to sustain support for the reforms. Over the period 1982-1993 taxes were cut by 5% of GDP while government spending was only cut by 2% of GDP; M4 growth averaged 11% per annum. The moral of this story is that hard reforms need to be accompanied by supportive demand policies.

### **Greece could yet have to reform outside of Euro**

If Greece fails to obtain satisfactory support of its aggregate demand from Euro-Zone policies, then it will need to consider creating its own aggregate demand policies outside the euro. Leaving the euro in a principled way in order to recover responsible fiscal and monetary policy in the face of its own situation should not create problems or 'chaos'. Given that Greece's debts have been rescheduled by the recent agreements, there is no need to change the status of these debts from their current euro denomination. So financial markets should not feel alarm that there would be default via devaluation. Instead they would welcome the advent of new effective demand management as a support for the ongoing reforms.

### **UK example**

The problems of Greece are echoed in a more moderate way in both Portugal and Spain, hence the new politics of those countries and their inability to generate a stable centrist government against the background of massive unemployment. Countries in Eastern Europe that have yet to join the euro, such as Poland and Hungary, see similar problems if they do join; they are managing OK with their own currencies, as of course one would expect.

### **High unemployment**

The euro's problem is that as crisis recedes and a sort of weak recovery takes hold that is unable to make much of a dent in the massive unemployment of southern Europe, public opinion in these countries will look for a way out. Their policymakers are in due course going to be forced to argue that returning to an independent monetary (and so also fiscal) policy outside the euro is not the move of a mad government bent on chaos but simple good housekeeping in order to make sure that aggregate demand conditions support the country's other policies. This was why the UK, Sweden and Denmark would not join; why Poland and most of eastern Europe also refuses. Over the next decade it will lead gradually to the euro-zone's break-up.

### **UK monetary policy**

So what does all this mean for UK policy? Our elite is determined to stay in the EU whatever the cost; in this respect they resemble their elite counterparts in the EU for whom the EU's survival at any price is the aim. However the upcoming referendum is going to be a hard test for them; logically the UK is better off out of the protectionist, regulationist EU just as it is better off out of the euro. So they will appeal to fear; but unfortunately for them this appeal cuts both ways. There is huge uncertainty about how the EU will develop from here and the possibilities inspire real fear; on the euro, on the politics of crazy

minority parties, on migration, and on the extent of general bullying of minority countries by the 'qualified majority' and its allies in the European Court and in the European Parliament.

#### **Referendum effects**

In terms of the macro outlook for the UK and monetary policy this means that 2016 is going to be a bumpy year. The immediate market reaction to an Out vote will be negative and this could affect growth. We doubt whether it will be long-lasting or have much overall effect over the course of the year. But it will influence monetary policy in two ways. On the one side it will lead to looser policy to protect growth; on the other if sterling drops and pushes up prices there could need to be a defensive tightening. Given the MPC's record of doing nothing, nothing will most likely continue throughout 2016.

#### **Policy stance distorted**

I disagree with the MPC's actions as always. It lost the chance a year or so ago to regain control of monetary conditions, which remain hugely distorted, biased against savers and small businesses and in favour of government and large borrowers. The government is now ending its 'war on bankers' and so we may see more bank credit aggression in coming months. With massive QE outstanding and zero rates filtering into other lending channels such as peer-to-peer, there is an increasing risk of losing control of the monetary aggregates during 2016. However currently the economy is muddling along with the distortions and inflation is being tamed by huge commodity over-capacity.

#### **Rates should be raised**

My position remains that rates should now be raised and QE rolled back, while bank regulation is eased. The last may indeed be happening behind closed doors. But the first two remain stuck in continued inaction, frozen in a sort of post-crisis aspic. Unfortunately it does not look as if the Fed's lead will be followed and the excuse will be the weak and threatening state of Europe.

## Vote and comment by David B Smith

**(Beacon Economic Forecasting)**

**Vote: Raise Bank Rate by 1/8%.**

**Bias: To raise Bank Rate.**

### Pre-Christmas ONS data dump

The New Year is traditionally a time for looking forward. This submission correspondingly presents a summary of the latest predictions from the Beacon Economic Forecasting (BEF) model of the UK and international economies before discussing the rate recommendation for 14th January. In line with its customary pre-Christmas sadism towards the macroeconomic forecasting community, the Office for National Statistics (ONS) released a mass of new and revised figures on 23rd December. These have not yet had time to be incorporated into either consensus forecasts or the political-economy debate. The new data included a revised set of national accounts for the third quarter of last year and new third quarter data for the balance of payments and the government accounts broken down by sub-sector and economic category. The new public accounts data mean that the first half of fiscal-year 2015-16 is now reasonably well documented. In addition to the new third quarter data, there have been extensive back revisions to previous ONS statistics. These generally go back to the first quarter of 2014. However, the revisions to the governmental accounts have gone back further, partly because of definitional changes. The new ONS statistics supersede the data incorporated in the 25th November Autumn Statement forecasts issued by the Office for Budget Responsibility (OBR). The OBR projections now look over-optimistic where both growth and the budget deficit are concerned.

### British growth prospects

In the light of the new official figures, it looks as if the 'headline' measure of UK real GDP measured at market prices rose by an annual average of 2.2% last year – which is rather weaker than the 'old' consensus prediction of 2.4% for 2015 – while the basic-price measure of non-oil GDP rose by 2.1%. The erratic path of North Sea output during 2015 masks the fact that in the year to 2015 Q3, the ONS data shows headline growth of 2.1% (itself revised down from 2.3%) but a yearly rise of only 1.8% in non-oil GDP. The BEF projections suggest that 'headline' GDP will rise by an annual average of 2.4% this year, 2.3% next year and 2% in 2018, although longer-term forecasts show growth averaging an arthritic 1.6% between 2019 and 2025. Both household consumption and total gross final expenditure (defined to also include government spending, investment and exports etc.) are expected to grow reasonably fast over the next few years. However, much of the gain to GDP is offset by a relatively rapid growth in imports, which are a negative item in the GDP identity. A key role of imports in an open economy is to plug the gap between aggregate supply and home demand. The Bank of England and Mr Osborne have, between them, proved themselves adapt at stimulating home demand. But many of Mr Osborne's fiscal measures – including his drip feed tax increases, additional complication of an already baroquely complex tax system, and such harmful nonsenses as the living

wage – have needlessly damaged the private sector’s ability to supply goods and services. Arguably, the Bank of England’s cheap money policies have also caused wasteful ‘mal-investment’ in the property sector, and further damaged potential supply.

### **UK inflation outlook**

The latest UK inflation figures show that the target CPI increased by a trivial 0.1% in the year to November, while the all-items RPI and the previous RPIX target measure both increased by 1.1% over the same period and the tax and price index (TPI), which adjusts the RPI for changes in the direct tax burden, rose by 0.5%. The latter is still well below the 2.4% rise in whole economy average earnings in the year to August/October but not as much so as the widely-employed comparison with the CPI would suggest. There seems to be a general acceptance that much of the downturn in CPI inflation since June 2014, when the yearly rise was 1.9%, has been the result of a reduction in the price of oil from US\$63.5 in December 2014 to US\$39 in December 2015, and that inflation will inevitably pick up as this becomes part of the base for the annual comparison. The BEF forecasts suggest that annual CPI inflation will average 0.5% in the final quarter of this year, 1.3% in late 2017 and 1.5% in the final quarter of 2018, on the assumption that the oil price averages US\$38.5 this year, US\$40 next year and US\$41.5 in 2018. The lagged effects of the rise in the Bank of England’s sterling exchange rate index from 87.3 (January 2005=100) in the end quarter of 2014 to 92.3 in the final quarter of last year, mean that UK inflation is expected to be less than the OECD average through to the end of 2017 but to exceed it by  $\frac{1}{4}$  a percentage point or so from 2019 onwards. This is largely because the sterling index is expected to ease to 90.3 in the final quarter of this year, 89 in late 2017, and 87.9 in late 2018. However, very large margins of error are attached to currency predictions.

### **Britain’s endemic twin deficits problem**

With the Autumn Statement forecasts already looking like a bad case of ‘rosy scenario’, there is scope for concern that Mr Osborne’s credibility in the financial markets will suddenly crack over the next year or so, given his persistent failure to achieve his fiscal targets. The £66.9bn cumulated Public Sector Net Borrowing (PSNB) in the eight months April to November, which compares with the £73.4bn recorded in the equivalent period of 2014-15, would yield an extrapolated figure of £79.5bn for fiscal 2015-16 as a whole on the usual naïve calculation. The new BEF forecasts show the PSNB coming in at £79.2bn in 2015-16, £56.9bn in 2016-17, £39.4bn in 2017-18 and £22.3bn in 2018-19. This is much slower progress than the numbers contained in the Autumn Statement, and gives rise to the question of when the patience of UK bond investors becomes exhausted, particularly if US interest rates go up again. A similar comment applies to the foreign exchange markets, given the UK’s already humungous negative net overseas asset holdings and the prospect of large current account balance of payments deficits as far ahead as the eye can see. The 23rd December ONS balance of payments release revealed that Britain had already clocked



up a £58.2bn current account deficit during the first three quarters of last year, although there were also some modest improvement in the deficit on the UK's net interest receipts, profits and dividends etc. This had shown a large surplus before the global financial crash but has been in substantial deficit subsequently – to the extent of £58bn in 2014 and £34.1bn in the first three quarters of last year, for example. The latest BEF forecasts show the overall current account deficit easing from £92.5bn in 2014 to £74.8bn last year, before coming in at £57.2bn this year, £64.4bn in 2017 and £70.2bn in 2018.

### Recent monetary trends

An important factor constraining inflation until quite recently has been the relatively slow growth of the M4ex broad money supply definition, which has always played an important role in the BEF modelling framework and still does in the latest version (this has recently been completely re-estimated using the new 2012 based national accounts). There is room for debate as to how far the weak monetary growth since the financial crash was the natural result of economic forces rather than the product of heavy-handed and cyclically-perverse regulatory initiatives (one suspects a bit of both). However, the risk now is that Mr Osborne is trying to ease the downwards regulatory pressure on money and credit at a time when the cyclical recovery is maturing, the animal spirits of lenders are rising, there are clear signs of excess in the property markets and the trade deficit indicates that excess domestic demand is sloshing over into imports. Certainly, the annual growth of 4.5% in M4ex in the year to October seems about right, given the inflation target and likely growth of productive potential. Any substantial upwards break in monetary growth might be, correspondingly, a cause for worry about its longer-term inflationary implications. However, annual M4ex growth is expected to settle in the 6¼% to 6¾% range from the final quarter of this year through to 2020 and should not pose a serious inflation problem, according to the new BEF forecasts.

### January Bank Rate decision

As far as Bank Rate is concerned, a 'pure' model-based forecast would yield a projection of an unchanged ½% right through to late 2017, before rising to ¾% in early 2018. However, this apparent precision is largely spurious, given that the standard error on the statistical equation concerned is ¾%, and a 'best guess' is that the end-December 2016 figure will end up somewhere between ½% and 1%. The 16th December increase in the US Federal Funds rate suggests that it is possible to introduce a ¼% rate increase without the sky falling in, provided the ground is well prepared first. Recent comments by Mr Carney suggest that the Bank of England might prefer to use its regulatory tools to control (and, possibly, allocate) the supply of credit rather than undertake a rate hike. This would represent a return to the credit-rationing policies of the 1960s and 1970s, which failed abysmally. Since interest rates will inevitably have to rise at some point, it is probably time to put down a marker and raise UK Bank Rate by a modest 0.125 basis points while indicating that any further tightening will be done gradually and in small steps. Meanwhile, Mr Osborne desperately

needs to turn his attention to both his own fiscal credibility – which means having the political courage to take on the public spending lobbies and less Bourbon-style meddling for political purposes – and improving the supply side through de-regulation and tax reform. Otherwise, the current policy mix risks ending up as just another UK demand-led, boom-bust, dash for growth well before the next general election.

## **Vote and comment by Peter Warburton**

**(Economic Perspectives Ltd)**

**Vote: Raise Bank Rate  $\frac{1}{4}\%$ .**

**Bias: To raise rates in stages to  $1\frac{1}{2}\%$ .**

### **Another year of policy inactivity**

As 2015 draws to a close, the Bank of England's MPC can congratulate itself on another year of studied inactivity. Yet this cannot be described as policy neutrality. The stark reality is that 0.5% Bank Rate and £375bn of asset purchases have not delivered a durable reflation of the economy. In the year to the third quarter of 2015, GDP at current market prices rose by only 2.1%, having peaked at a 5.4% increase in the second quarter of 2014. Prolonged ultra-easy monetary policy has delivered the worst of both worlds: an overall deceleration in nominal GDP and the return of the household saving ratio to its pre-crisis lows. The most recent observation of a 4.4% (gross) saving rate is wholly attributable to the adjustment for the change in pension entitlements. Saving that arises from the net acquisition of financial and property assets is currently running at zero.

### **Flow of funds**

Looking across the sectoral flow of funds, all that has changed from 3 years ago is that the household sector has switched from being a net lender to being a net borrower. Otherwise, the pattern remains that the overseas sector and the domestic private non-financial sector finance the government deficit. Simplistically, the capitalists are lending their surplus funds to the government for want of anything better to do with them. The Bank has achieved the very limited objective of persuading households to borrow more and save less, which has lessened the public sector deficit at the expense of the household deficit.

### **A failure of policy?**

The overwhelming evidence points to the failure of the entire framework of monetary policy. Discussions concerning the lowering of interest rates into negative territory are perverse in the extreme. The extenuation of emergency low interest rates has damaged the functioning of the economy and negative interest rates would compound the damage. The Bank's intransigence over Bank Rate has created a network of distorted incentives and financially-engineered corporate profitability.

### **Policy caution**

Minouche Shafik, the Bank of England's deputy governor for markets and banking, worries that we are wearing our car tyres to the bare minimum of tread before we replace them. She infers that, if the economy were more prosperous, then we would replace our tyres sooner. Alternatively, during the slump, consumers figured out those tyres didn't need to be replaced so soon and have since 'optimised' their behaviour. She uses this analogy to argue that monetary policy should proceed with caution – as if the last seven years had been characterised by reckless abandon.

### **Wrong policy conclusions**

Shafik cites two justifications for leaving Bank Rate at 0.5% for 81 months. First, she claims that "it is not the absolute level of Bank Rate that matters, but where it is relative to some 'equilibrium' rate that would maintain demand in line with supply in the economy and keep inflation close to target." Second, the weakness of nominal growth in the economy, notably wage inflation. On the first, she ignores the signalling transmission of low policy rates, whereby emergency settings convey the message that there is further economic trouble ahead. On the second, she neglects the impact of a massive expansion of labour supply to the UK economy over the past five years. Rather than examine the treads on the tyres, Shafik should observe the deep ruts in which those tyres rest. UK monetary policy is stuck in an increasingly deep rut, from which it is difficult, yet absolutely necessary, to change course.

### **Global economy could slow soon – time to raise UK rates so as to have room to lower them**

In all likelihood, the global economy will face the challenge of a material slowing of growth in 2017 or 2018 as the global credit cycle turns negative. A failure to raise UK interest rates before now opens the possibility that a new downturn may arrive while policy interest rates remain extraordinarily low, offering little scope for policy to be eased conventionally at that time. The future costs of leaving interest rates unchanged are mounting. The normalisation of UK interest rates is long overdue. My preference is for an immediate Bank Rate rise of 0.25%, with a minimum target of a 1.5% Bank Rate by end-2016.

## Vote and comment by Mike Wickens

(University of York)

**Vote: Raise Bank Rate by 0.25% and decrease QE to £250bn.**

**Bias: To unwind QE and slowly raise interest rates as the economy grows.**

### Fed acted as expected

Monetary conditions have evolved in the last month as predicted: the Fed has raised the Fed Funds Rate and the ECB continues with its policy of maximum monetary easing. The key decision for the MPC is therefore whether to align bank rate with movements in the dollar or the euro. Mr Carney, in a recent statement, has said that the Bank will not follow the Fed until the conditions in the UK economy warrant it.

### MPC wants to lift inflation

The case for continuing to hold bank rate at its current level is that the MPC wants to increase the rate of inflation. As key import prices are denominated in dollars, UK prices may be expected to increase in sterling terms following the Fed's move. Not raising rates would also help UK competitiveness vis-à-vis the United States. Nonetheless, in my view the Bank should raise rates.

### Commodity prices

This is because both UK economic growth and prices have been benefitting from the fall in commodity prices. This doubly benign scenario would continue if sterling did not depreciate with respect to the US dollar. Given its satisfactory rate of economic growth, the rate of inflation is not an issue at present. There is no point in trying to raise inflation with loose monetary policy. Rather, it is time to take advantage of the propitious economic environment to start to return interest rates to normal.

### Wrong economic theory

The MPC's problem is that it is using the wrong economic theory to guide its monetary policy. It is working on the assumption that inflation is due to demand shocks and so low inflation must be combated by a demand stimulus through loose monetary policy. The UK's low inflation is, however, due not to demand shocks but to positive supply shocks: lower commodity prices. As this stimulates economic growth, no further demand stimulus is required. The low rate of inflation can therefore be ignored. With the Fed raising rates, the opportunity exists to start to return interest rates to more normal levels by following the Fed.

## Vote and Comment by Trevor Williams

(Derby University)

**Vote: Hold.**

**Bias: To raise.**

### Inflation to remain low

The expected rise in price inflation may not occur after all in 2016 since oil prices may fall, and stay below, the level they fell to last year. This will pose a challenge for policy makers in the UK. Economic growth is healthy but has fallen below trend in recent quarters, and may stay below it during 2016 if events in the world unfold as expected. This means there will be no further reduction in spare capacity and hence some of the upward pressure on domestic price inflation will ease. With firms profit margins under pressure given low world trade volume growth, it is difficult to see why they will agree to above-price inflation wage increases, thus alleviating a key source of economy-wide inflation pressure. As a result, price inflation should stay under 2% through 2016, and remain around that pace into 2017, especially if the economy settles around 2% pa expansion.

### Rate on hold

On this basis, I would leave Bank Rate on hold for now. Monetary growth is decent but is not suggesting inflationary conditions lie ahead. This is not to say that credit growth is not strengthening, but we should keep some perspective, as levels remain well below those seen pre-crisis.

## **Policy response**

1. On a vote of five to four, the Committee voted to hold Bank Rate at 0.5%.
2. One member voted for a rise of  $\frac{1}{2}\%$ , two for a rise of  $\frac{1}{4}\%$  and one for  $\frac{1}{8}\%$ .

## **Date of next physical meeting**

**Tuesday, 12<sup>th</sup> January 2016**

## Note to Editors

### What is the SMPC?

The Shadow Monetary Policy Committee (SMPC) is a group of independent economists drawn from academia, the City and elsewhere, which meets physically for two hours once a quarter at the Institute for Economic Affairs (IEA) in Westminster, to discuss the state of the international and British economies, monitor the Bank of England's interest rate decisions, and to make rate recommendations of its own. The inaugural meeting of the SMPC was held in July 1997, and the Committee has met regularly since then. The present note summarises the results of the latest monthly poll, conducted by the SMPC in conjunction with the IEA and the *Sunday Times* newspaper.

### Current SMPC membership

The Secretary of the SMPC is Kent Matthews of Cardiff Business School, Cardiff University, and its Chairman is Trevor Williams (Derby University). Other members of the Committee include: Roger Bootle (Capital Economics Ltd), Tim Congdon (International Monetary Research Ltd.), Jamie Dannhauser (Ruffer), Anthony J Evans (ESCP Europe), John Greenwood (Invesco Asset Management), Graeme Leach (Legatum institute), Andrew Lilico (Europe Economics and IEA), Patrick Minford (Cardiff Business School, Cardiff University), David B Smith (Beacon Economic Forecasting), Akos Valentinyi (Cardiff Business School, Cardiff University), Peter Warburton (Economic Perspectives Ltd) and Mike Wickens (University of York). Philip Booth (Cass Business School and IEA) is technically a non-voting IEA observer but is awarded a vote on occasion to ensure that exactly nine votes are always cast.



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