

**RECENT DEVELOPMENTS
IN MACROECONOMIC ANALYSIS:
REVIVING THE CASE FOR STABILISATION POLICIES**

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ABSTRACT. This paper surveys developments in the positive and normative analysis of stabilisation policies over the past fifteen years as well as their influence on the actual conduct of policies. It is found that, from an analytical perspective, there is now a well-founded case for prudent stabilisation policies, with already successful applications in the area of monetary policy. On the fiscal side, however, better analysis has not translated yet into markedly improved policies due to serious political impediments. To conclude, the paper also briefly touches upon the potential macroeconomic benefits of recent changes in monetary policy regimes.

JEL Classification: E61; E63; E52.

Keywords: Stabilisation; Policy Mix; Monetary Policy.

RÉSUMÉ. Cet article procède à un survol des progrès accomplis dans l'analyse normative et positive ainsi que la conduite des politiques de stabilisation au cours des quinze dernières années. Il apparaît qu'il existe aujourd'hui de solides justifications analytiques à la poursuite de politiques de stabilisation dès lors qu'elles sont prudentes comme en témoignent les succès observés dans le domaine monétaire. Côté budgétaire, toutefois, les progrès de l'analyse n'ont pas débouché sur de meilleures pratiques en raison de sérieuses difficultés de mise en œuvre politiques. Cet article évoque enfin brièvement les bénéfices macroéconomiques qu'ont pu susciter les récents changements de régime de politique monétaire.

Classification *JEL* : E61 ; E63 ; E52.

Mots-clefs : Stabilisation ; *policy mix* ; politique monétaire.

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The dominant views among academic macroeconomists have shifted several times over the past forty years. After a period when economies were often perceived as potentially unstable and calling for some “fine tuning”, the pendulum swung back during the 1970s and 1980s to a vision of spontaneously self correcting, efficiently fluctuating economies that were systematically destabilised by activist policies. Over the past ten to fifteen years we have seen the emergence of a more nuanced view where macroeconomic policies can contribute to stabilisation, but with a much deeper awareness of their limitations.

Although the renewed case for stabilisation policies has clearly departed from earlier neoclassical advice, the underlying framework used to gauge the effectiveness of policies has greatly benefited from methodological improvements that distinctly bear the neoclassical mark. Indeed the vast majority of analyses of macroeconomic stabilisation policies have been done with computable dynamic general equilibrium models that were originally pioneered by Kydland and Prescott.² At the same time, the greater attention paid by academics to applied policy work has enabled a constructive meeting of minds with those policy makers who had never completely given up their instinctive beliefs in the usefulness and feasibility of some kind of imperfect macroeconomic stabilisation.

All in all, the past decade has been one of intellectual consolidation and search for credible stabilisation policies rather than major analytical breakthroughs. Far from being a lost period, this decade of consensus building, mainstreaming and rapprochement with policy makers³ has been associated with a significant, although uneven, improvement in the conduct of stabilisation policies as well as in the macroeconomic performance of OECD countries. More time will be needed, however, to pass judgement on how much of this better record is attributable to wiser policies as opposed to better luck, in the form of less protracted and frequent negative macro shocks, or changing structures of economies, making them less prone to cyclical fluctuations.

Given the constraints inherent in a short article, it will only be possible to cursorily review these three themes of: mainstreaming in macroeconomic analysis, the search for credible policies and improved policy frameworks and performance.

■ MAINSTREAMING IN MACROECONOMIC ANALYSIS: TOWARDS A RENEWED CASE FOR STABILISATION POLICIES

Looking back at the late 1980s and early 1990s, the situation was one of strong support for price stability and confidence about its soothing influence on output fluctuations as well as its positive contribution to long-term growth. In contrast, the feasibility of discretionary short-run output stabilisation was met with deep scepticism.

2. This methodological progress was also enhanced by technical change, in the form of more powerful ICT equipment.

3. See McCallum (2001) for an analysis of such a rapprochement in the area of monetary policy.

Over the past decade or so, the virtues of price stability have been further documented and elaborated. A growing school of thought has shed new light on the welfare costs of inflation in a context of nominal rigidities. Moving beyond the analysis of inflation costs traditionally associated with the seignorage tax, these authors⁴ have argued that because sticky prices are inherently costly to adjust, moderate inflation may still entail large misalignments of relative prices and onerous misallocations of resources.⁵

From a welfare perspective, there is thus a need to minimize the aggregate fluctuations of the stickiest prices. Following Wicksell's early intuition, this line of thought suggests focusing stabilisation efforts on aggregate nominal wages and core inflation, while leaving aside commodity and asset prices, which tend to be spontaneously flexible. This benign neglect for asset and commodity prices may in actual fact find some attenuation.⁶ Indeed, and while remaining inappropriate targets for price stabilisation, commodity and asset prices may at times provide crucial information about incipient inflationary pressure.⁷

In practice, a positive rate of inflation has been deemed optimal to accommodate a number of nominal asymmetries that are irremediably part of economic life. These asymmetries may stem from mismeasurement, with price statistics often confusing product quality improvements for higher prices. They could also emerge in situations where the degree of nominal inertia proves significantly greater for wages than for prices, calling for a quantum of positive inflation to "grease the wheels" and allow for more real wage flexibility. A measure of positive long-run inflation may finally provide an "insurance policy" to cope with the inherent asymmetry of monetary policy instruments in periods of deflation, once the zero bound for short run interest rates becomes effective.⁸

In all, after fifteen years of progressive institutional strengthening of central banks and a prolonged period of price stability within most of the OECD area, there now seems to be a consensus among public opinion, policy-makers and academics for low and stable inflation.

In contrast, the case for output stabilisation had become rather controversial in the late 1980s and was facing a fair amount of criticism. Since then, substantial efforts have been made and progress achieved in establishing the need and possibility of output stabilisation through appropriately designed macroeconomic policies.

The criticisms levelled in the 1980s against fine-tuning policies by the new classical school are well known: because agents' expectations are rational, wages and prices are prone to react

4. See for instance Woodford (2003) for a systematic and powerful presentation of the welfare costs associated with moderate inflation in the context of sticky, and thus costly to adjust, prices.

5. The OECD has found that the benefits from low inflation as a result of a more efficient allocation of resources can be large. The empirical work suggests that the reduction in the level of inflation between the 1980s and the 1990s boosted GDP per capita by about 2 per cent by encouraging stronger investment. And the reduction in the volatility of inflation is estimated to have increased OECD GDP per capita by a further 1^{1/2} per cent. For details, see OECD, 2003a.

6. Bean (2003).

7. For example, in Japan during the late 1980s, exceedingly high and rising asset prices provided the only indication of overheating pressures.

8. See Summers (1991).

quickly to demand disturbances, making stabilisation policies redundant. In this context, output fluctuations are seldom likely to originate from the demand side. Going further, the Real Business Cycle (RBC) School asserted that there is a strong presumption that most fluctuations around trend output are supply driven and therefore spontaneously optimal. Against this background, stabilisation policies are bound to unwittingly aggravate economic fluctuations, or worse to engineer over-expansionary/inflationary policies as cynical policy makers pander to the electoral cycle instead of adhering to sound long-run policies.

Even among those academics and policy makers who could see a case in theory for stabilisation policies, many worried about a lack of feasibility: policy lags of the recognition, action or implementation varieties were seen as long enough to preclude any meaningful attempt at smoothing conjunctural fluctuations.

Over the past decade or two, however, various strands of work have converged to re-establish a prudent case for stabilisation policies, which may be both needed and, under certain conditions, feasible.

The need for stabilisation policies

From a theoretical perspective it has been recognised that in a context of imperfect competition, agents' rationality is compatible with wage and price nominal inertia. Economists from the New Keynesian school have suggested a variety of factors that may prevent the continuous adjustment of wages and prices.⁹ These potential impediments span across a wide spectrum, from short-term, administrative, "menu costs", to adjustment costs associated with less stable relations between firms and their customers, not forgetting "staggered price setting" induced by a context of costly and "sticky" information.¹⁰ Price rigidities may also reflect "deeper" adjustment costs such as encountered in "tooth-pasting" models¹¹ where production capacities cannot be withdrawn in "high cost/low profitability" states of the world, for lack of efficient resale equipment markets, thus leading to lower prices than warranted by long-term equilibrium. It has also been suggested that in practice, agents' rationality may be more complex than hypothesized in highly simplified optimising models¹² thus justifying a substantial amount of nominal wage and price inertia in actual economic life.

Furthermore a body of empirical evidence has corroborated the existence of substantial nominal rigidities. A wide consensus has indeed emerged about the limited power of flex-price models to capture the broad stylised facts. It appears, for instance, that calibrated models featuring fully flexible prices do not replicate suitably a number of well established stylised

9. See Blanchard and Kyotaki (1987) as well as Mankiw (1985) for early examples of New Keynesian frameworks.

10. See Eden (2005) for a thorough and up-to-date review of nominal rigidities and their economic consequences.

11. See, for instance, Dixit and Pindyck (1994).

12. See Bewley (1999), who conducted hundreds of interviews with business executives, labour leaders and professional recruiters during the early 1990s and then attempted to reconcile their answers with various theories of nominal rigidities. Ultimately, the author finds that only a "psychological" account of downward nominal rigidity survives scrutiny, namely the need felt by U.S. employers to support the morale of employees by forsaking nominal wage cuts.

facts, such as output responding early and strongly to monetary impulses while prices react much later.¹³ In all, empirical evidence seems to suggest that in a context of price and nominal wage inertia output fluctuations are not automatically supply driven but may also emanate from the demand side.

Having documented the existence of real demand fluctuations, New Keynesians have also produced ingenious models suggesting that such fluctuations were inefficient from a welfare perspective, thus calling for macroeconomic stabilisation policies.¹⁴ New Keynesian models suggest indeed that although it may be less costly and therefore optimal for individual producers to allow quantities to fall rather than prices in the face of shocks, this behaviour is bound to generate negative externalities for the rest of the economy since aggregate demand facing other economic agents will be reduced.

The feasibility and effectiveness of stabilisation policy

A substantial body of evidence has been developed over the past decade that suggests a measured, but realistic case for feasible stabilisation policies. The evidence sheds useful light on the operation of stabilisation policies in a context of rational expectations and long policy lags.¹⁵ In the context of the original Lucas framework, with fully flexible prices and forward-looking rational expectations, macroeconomic policies can only impact fugitively on output, through unexpected policy moves. Such violations of the principle of “intertemporal consistency” would only produce higher average inflation.

However, once a measure of nominal inertia finds its way back into the general framework, the role of agents’ expectations is reversed: rather than impeding the effectiveness of stabilisation policies, rational expectations help bring the consequences of sound and predictable policies forward, while contributing at the same time to overcome the long policy lag problem.

The leverage imparted to stabilisation policies by rational agents can best be illustrated in the context of monetary policy. Should, for instance, a small rise in the short-run policy interest rates signal the beginning of a prolonged period of monetary tightening, private expenditure retrenchment would start in earnest on the basis of the whole predicted sequence of interest rate increases. In a world of well-informed economic agents operating in highly sophisticated markets, even small initial policy moves should impact quickly, thus attenuating the action lag of monetary policy.

13. Christiano *et al.* (1999) find, applying a VAR methodology to US data, that a negative monetary policy shock generates a sustained decline in real GDP after two quarters while the GDP deflator remains flat one year and a half before it starts declining. Walsh (2003), simulating a variety of flex-price calibrated models, notes that “they fail to capture the short-run behaviour that seems to characterise modern economies” and that “although systematic monetary policy can have real effects with flexible prices, simulations suggest that these effects are small, at least at moderate inflation rates”.

14. See Walsh (2003) for a review of such models.

15. See Woodford (2003) for a magisterial synthesis on the conduct of monetary in a context of rational expectations and nominal inertia.

In this more policy-friendly context, the requirements of intertemporal policy consistency are not, however, abolished. To preserve its predictability, monetary policy should not react, for instance, to exogenous shocks on the basis of "discretionary optimization". In more concrete terms and contrary to intuition, policy rates should not react fully to the new information set, as they would in the case of purely forward-looking optimization. Rather, policy rate setting should be in part history-dependent and thus show some degree of persistence in the face of shocks. A lack of persistence in policy rates would indeed have a detrimental impact on what can be achieved later through rational private sector expectations, because a less predictable policy course leads ultimately to a blunted response by private agents. As summarised by Woodford: "When the private sector is forward-looking, any purely forward-looking criterion for policy is almost invariably sub-optimal"¹⁶.

More generally, it appears likely that, to be fully effective, stabilisation policy needs to be constrained by rules and principles that make it predictable and well integrated by other economic actors.

A more serious impediment of stabilisation policies that cannot be alleviated by the skillful use of market expectations is the so-called recognition lag. Identifying excessive departures from optimal output in a timely fashion remains an art rather than a science. It is, for instance, fair to say that in many cases output gap indicators failed to identify the extent of overheating prevailing in OECD economies during the late 1990s, while price pressures were often hardly visible.¹⁷ Adding insult to injury, a "politically naïve" use of fashionable stochastic output gap indicators, inspired by the RBC theory, often led to a very bad performance at decision time¹⁸, aggravating the procyclical bias of fiscal policy in a number of countries.

The canvassing of a large array of conjunctural evidence may contribute to lessening recognition problems in the future. Even so, a dose of good luck and good judgment will still be needed.

■ The search for credible stabilisation policies

While forward-looking rational agents can enhance the effectiveness of macroeconomic policies, it has to be remembered that this will only be the case if policies are credible. Among the multiple ingredients of policy credibility, predictability (cf. *supra*) and optimal use of policy instruments take pride of place.

16. In practice, small policy rate moves, relative to the purely forward-looking case would be complemented by a greater reactivity of private sector expenditure to expected future interest rate changes. Having gradual policy rate moves, while playing on private sector leverage would thus reach outcomes in terms of price and output stability that are similar to those of the pure forward looking case. But instrument volatility would be reduced, thus enhancing welfare.

17. For a detailed discussion of the consequences of output gap mis-measurement on policy outcomes, see Orphanides (2003).

18. The use of stochastically filtered output, at decision time, combined with the ingrained habit of forecasters to predict a return to average growth rather than average output has resulted in practice in highly pro-cyclical and complacent trend output estimates at the peak of the past cycle. See Cotis, Elmeskov and Mourouganne (2004, forthcoming).

Establishing predictability: the role of accountable policy makers and transparent policy processes

At a basic level, being predictable requires policy makers to communicate their intentions to the outside world through clear objectives and a transparent framework, including well-specified rules for making decisions, or at a minimum through a consistent reaction pattern across time. Being predictable also requires accountable policy makers who have both the means and the incentives to follow agreed rules and meet targets.

This search for predictability may conflict with the unavoidable vagaries of the political process, which are conducive to abrupt changes in policy. To avoid this and to be conducive to intertemporal consistency, certain objectives and rules may have to be elevated to quasi “constitutional” status and policy makers given well-defined and long-lasting mandates.

Firmness and commitment to objectives and rules may not be enough, however, to ensure policy predictability in a stochastic world, where new types of shocks may emerge. It is, for instance, of particular importance for the public not to mistake what may be a warranted policy response to an unusual shock as a destabilizing change in the reaction function of policy makers. A number of authors¹⁹ have thus argued that greater transparency about underlying analysis and policy process may considerably enhance policy predictability.

Optimizing the choice of policy instruments

Finding the appropriate mix of instruments to minimize “unwarranted” fluctuations in prices and activity has been a perennial challenge for macroeconomics.

Compared to the consensus prevailing in the heydays of Keynesian stabilisation policies there has been a marked de-emphasizing of the role of discretionary fiscal policy among academic economists. This lesser emphasis on fiscal policy may stem from a variety of reasons²⁰, such as a less obvious need for discretionary stabilisation in those countries where tax rates and automatic stabilizers are already large and the countervailing role that forward looking expectations may play to weaken the effectiveness of tax cuts through a more or less pronounced mechanism of Ricardian equivalence.²¹ Also, long implementation lags²² and uneasy reversibility of deficits may have made fiscal instruments quite unwieldy for conjunctural stabilisation purposes.

On the other hand, monetary policy has in theory the capacity to impact faster on economic activity and prices, provided it has achieved adequate credibility (cf. supra) supported by well

19. See, for instance, Svensson (2003) and Woodford (2003).

20. See Auerbach (2003).

21. See De Mello, Kongsrud and Price (2004). Tests of the Ricardian equivalence hypothesis are notoriously difficult to carry out. Bearing in mind the various caveats, it seems nonetheless that when a panel data approach is used to estimate an OECD-wide reduced form savings equation, the findings are compatible with a significant degree of Ricardian equivalence, with the renowned exception, however, of the U.S.

22. The length of the implementation lag can be partly overcome, as illustrated by recent developments in the U.S. where tax cuts were backdated and cheques sent to reimburse for taxes already paid.

working transmission mechanisms.²³ Indeed, the consensus among policy makers is one where monetary policy is the first rank instrument to stabilise prices and output. In the face of aggregate demand fluctuations, stabilisation is facilitated by the fact that prices and output move in tandem. In the case of short-term supply-side disturbances, output and price stabilisation is made easier if a credible monetary policy has succeeded in anchoring long-term inflation and wage expectations at a low and stable level.

The contemporary academic literature thus marks the triumph of monetary policy as the choice vehicle for macroeconomic stabilisation. However, given recent developments in the academic literature as well as in actual policies, the label "monetary policy" increasingly looks like an outdated misnomer to be replaced by "interest rate policy". Indeed monetary aggregates are no longer considered a central tool of macroeconomic policy, although they may remain useful as indicators of long-term inflationary risks alongside credit aggregates and asset prices.

In this intellectual framework, prices and short-run output are determined in the goods market through the savings investment balance. More specifically, the price level can be seen as a function of the gap between a Wicksellian neutral long-term real interest rate and the nominal policy interest rate.²⁴ In this context, money, which is endogenous, loses most of its singularity as a combined medium of exchange and financial asset. Policy impulses run therefore, through the yield curve, to future expected policy rates to long-term market rates.

Discretionary fiscal policy is now typically devoted to long-term purposes such as ensuring the long-run sustainability of public finances. Its use as an instrument of stabilisation policy is in any case redundant when the central bank is trying to minimize a loss function where both price and output stability is jointly considered. If, for instance, in such a context, fiscal policy contributes to displace the output gap from the desired course chosen by the central bank, a countervailing change in policy interest rates would follow. At the same time monetary policy should take into account the contribution of automatic fiscal stabilizers, which can be credited with short lags and a countercyclical impact.

This optimal policy-mix admits one important exception: when deflation is a risk and the policy rate is at or moving towards the zero bound. In such a situation, the Keynesian case for activist fiscal policy in the presence of liquidity traps remains valid. In a context of durably low inflation, this special policy-mix case may paradoxically acquire a new life. Given the methodological difficulties to account properly for product quality improvements in price indexes, deflation may be setting in as soon as measured inflation enters the 0 to 1 per cent range. In this context, as the recent U.S. experience showed, having room to support activity

23. This caveat is not without importance, knowing for instance that in the euro area, transmission channels directed to household spending seem to be blunted in comparison with other OECD economies that benefit from flexible and well functioning mortgage markets. See Catte, Girouard, Price and André (2004).

24. More precisely the price level emerges from the expected sequence of future gaps between policy and "Wicksellian" rates.

on the fiscal side may be important, provided long-term sustainability is not severely compromised.

■ IMPROVED POLICY FRAMEWORKS AND PERFORMANCE

During this period of intellectual convergence between academics and policy makers, many attempts have been made over the past decade to improve macro policy economic frameworks. The progress achieved has been impressive in the monetary policy field while improvements in the conduct of fiscal policy have been considerably more modest than initially hoped for.²⁵

Major improvements in monetary frameworks and institutions

A widespread trend has been observed towards “monetary constitution” and independent central banks, as the institutional arrangements of the European Monetary Union amply testify. The longing for predictability has also led to the appointment of “conservative”²⁶ central bankers with a proven record of intertemporal consistency.

The past fifteen years have also seen the steady development of monetary frameworks incorporating more or less explicit objectives and targets. Starting with New Zealand, Canada, the U.K. and Sweden, an increasing number of central banks have adopted inflation targeting systems, with a view to achieve a precise numerical inflation target, representative of price stability. Without setting a precise inflation target, central banks such as the Federal Reserve Board and the European Central Bank have exhibited systematic reaction patterns across time that can be relatively easily captured through reaction functions of the type pioneered by John Taylor.²⁷ Given these more or less explicit inflation and output objectives, educated observers are in a position to assess whether the short-run policy interest rate is appropriately set or not.

This task has been eased further since. More and more central banks are making their inflation – and sometimes output – forecasts public, alongside margins of errors as well as the underlying econometric models used. Policy deliberations are also getting increasing exposure, thus enabling experienced outsiders to verify that central bankers are honestly struggling to apply a stable set of rules and principles to a volatile macroeconomic environment, rather than indulging in arbitrary policy innovations.

Despite the progress achieved in strengthening monetary policy frameworks and placing them on sounder analytical foundations, it would still be naïve to forget how much of a chal-

25. This is perhaps not surprising given the long list of distinguished academic economists who have also worked within a central bank.

26. Following the word used in Rogoff (1985).

27. These reaction functions, known as Taylor rules, describe the setting of the short-term policy rate as a function of a neutral real interest rate, the gap between actual inflation and an explicit or implicit inflation target as well as deviations of output from trend.

lunge the art of real time central banking remains. A testimony to this perennial challenge is the number of outsiders that do not concur with the decisions taken by monetary policy makers.

Improving fiscal frameworks and institutions: Sisyphus' stone?

Several fiscal frameworks were tentatively implemented in the form of spending targets as in the U.S., the Netherlands and several other countries, or public deficit rules as in the case of the European Stability and Growth Pact. In both cases the objective was twofold: improving the long-term sustainability of public finances by restraining the long-term growth of expenditures and placing a ceiling on public deficits while preserving a short-run stabilisation role for fiscal policy. Spending rules were aimed at avoiding a pro-cyclical relaxation of public expenditure growth during good times, while the perspective of a deficit ceiling, associated with financial penalties, sought to deter potential culprits from engaging in the type of ill-fated procyclical fiscal relaxation witnessed in the early and late 1990s.

These attempts, which were ultimately aimed at keeping structural budget deficits on a reasonable track, have not fully succeeded so far despite some success stories among mid-sized economies such as Australia, Canada or Spain. Enforcement difficulties and political pressures have led to large gaps between objectives set for structural deficits and their outturns. In this context, the capacity to meet fiscal objectives has remained vexingly weak. As practitioners often say, not without exaggeration: "there are no fiscal policies but only fiscal outcomes".

One of the obvious difficulties facing fiscal policy makers stems from their multifaceted ambitions, which encompass allocative, redistributive and possibly stabilisation objectives. Allocative and redistributive processes, which generally lie at the heart of the political agenda, are rarely conducive to well-ordered and smooth processes. As a result, "macro budgetary" commitments are hard to meet. This may explain why attempts at spending targets and deficit rules even when backed by more flexible and effective budgetary institutions have generally proved short-lived or been circumvented in many OECD countries.²⁸

Difficulties are also compounded by the imperfect quality of available information. The transparency of budgetary information often remains limited, despite recent progress, while deficit forecasts often tend to be unreliable due to difficulties to foresee accurately tax receipts and recent trends in expenditures.

All in all, fiscal outcomes have not always featured the benign characteristics that were officially sought. In Europe, for instance, fiscal policies over the past few years have not tended

28. In the case of the US, for example, a spending rule which allowed substantial fiscal consolidation over the 1990's was later allowed to be deactivated.

to be stabilising. Rather, there has been a propensity for fiscal policy to amplify cyclical economic upswings and often a difficulty to support activity during downswings.²⁹

Faced with such a disappointing performance, a number of European policy-oriented academics have debated the potential benefits of somehow disconnecting fiscal policy from the short-run political process. In euro area countries, several proposals have been tabled for independent fiscal supervisors, which would constrain Parliamentary and governmental discretion.³⁰ Whatever the theoretical pros and cons of these proposals are, it seems nonetheless quite unlikely that, in practice, elected representatives would accept to delegate such core elements of their mandates to technocratic bodies. At the end of the day, there may not be other remedies than determined political leadership, successful pedagogy and, ultimately, a strong sense of public ownership to ensure the long-term sustainability of public finances.

Did improved monetary policy translate into better macroeconomic performance?

Because monetary policy plays *primus inter pares* in the area of stabilisation policies there has been a natural tendency to link the improved monetary settings with the improved macroeconomic performance observed over the past decade, in the form of less volatile output growth and inflation, higher trend growth and lower inflation³¹ (see TABLE 1). And to some extent, empirical work supports this view (see e.g. Bernanke, Gertler and Watson, 1997). But it is still too early to be more affirmative. More recent work from Watson (see Stock and Watson, 2003) has failed for instance to spot a clear contribution from monetary policy to improved economic performance. Recent developments in oil and commodity prices may ultimately provide a safer test to disentangle whether progress has stemmed from better policy frameworks or from sheer luck.

Likewise, the jury is still out on the different institutional arrangements for conducting monetary policy. While there is considerable evidence that economic performance has improved in those economies that have adopted an inflation target compared to their earlier record, there is no conclusive evidence that inflation targeting outperforms other monetary policy regimes.³²

J.-P. C. ³³

29. OECD (2003b).

30. See, for instance, Wyplosz (2002); Hallett, Lewis and Von Hagen (2004).

31. See, for instance, Romer and Romer (2003).

32. See, for example, Corbo *et al.* (2002); Ball and Sheridan (2003). Here to, discerning an empirical effect is hampered by the short sample available, the difficulty separating the effects of inflation targeting from the generally favourable economic conditions prevailing in the 1990s and the absence of an appropriate control group of non-inflation targeting central banks.

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Table 1 - The major OECD economies are now more stable and open

	1974-83	1984-93	1994-2003	1974-83	1984-93	1994-2003
	Average annual CPI inflation ¹			Inflation variability ²		
United States	8.45	3.80	2.45	3.15	1.00	0.58
Japan	7.77	1.73	0.02	6.26	1.05	0.81
Germany	4.80	2.49	1.41	1.40	1.72	0.63
France	11.27	3.68	1.58	1.81	1.73	0.56
Italy	16.69	6.41	2.94	2.50	2.05	1.20
United Kingdom	13.74	5.90	1.66	5.66	3.11	0.60
Canada	9.45	3.96	1.85	1.94	1.30	0.82
Euro area	10.70	4.53	2.14	1.48	1.32	0.64
Australia	11.43	5.64	2.63	2.54	2.89	1.54
New Zealand	13.88	7.36	1.98	3.03	5.54	1.06
	Output variability ³			Maximum change in output gaps		
United States	2.77	1.86	1.25	9.66	3.92	4.40
Japan	1.93	2.01	1.51	5.71	6.05	5.02
Germany	2.07	1.93	0.96	7.75	7.60	3.62
France	1.39	1.55	1.19	5.61	6.18	4.16
Italy	2.66	1.41	0.96	6.44	4.63	2.83
United Kingdom	2.20	2.02	0.82	7.57	8.69	3.63
Canada	2.30	2.46	1.48	8.57	7.97	4.63
Euro area	1.65	1.77	0.96	5.46	5.90	3.23
Australia	1.74	2.25	0.77	6.72	5.92	3.50
New Zealand	5.04	2.87	1.73	2.53	9.37	3.97
	Interest rate volatility ⁴			Market openness ⁵		
United States	0.78	0.27	0.13	17.81	19.23	23.77
Japan	0.57	0.17	0.06	25.96	19.69	19.38
Germany	0.36	0.19	0.11	52.32	55.79	58.47
France	0.50	0.30	0.16	41.34	43.00	48.96
Italy	0.52	0.43	0.18	45.05	39.97	50.21
United Kingdom	0.66	0.38	0.12	54.37	51.68	56.06
Canada	0.55	0.37	0.21	49.18	53.65	76.77
Euro area			0.24	57.61	56.32	64.45
Australia	0.77	0.52	0.14	30.63	34.31	41.12
New Zealand	0.59	0.84	0.26	57.13	56.54	61.40

1. Harmonised CPI for the European Union countries.

2. Standard deviation in annual average inflation.

3. Standard deviation in annual real GDP growth.

4. Measured as the average absolute monthly change in short-term interest rates.

5. Measured as nominal exports plus nominal imports as a percentage of GDP.

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