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Bibow, Jörg

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Inflation Persistence and Tax-Push Inflation in Germany and in the Euro Area: A Symptom of Macroeconomic Mismanagement?

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Jörg Bibow, Franklin College, Switzerland

Inflation Persistence and Tax-Push Inflation in Germany and in the Euro Area: A Symptom of Macroeconomic Mismanagement?

Hans-Böckler-Straße 39
D-40476 Düsseldorf
Germany
Phone: +49-211-7778-331
IMK@boeckler.de
http://www.imk-boeckler.de

Hans Böckler Stiftung
Fakten für eine faire Arbeitswelt.

Inflation Persistence and Tax-Push Inflation in Germany and in the Euro Area: A Symptom of Macroeconomic Mismanagement?

Jörg Bibow*

Overview and summary of results

This study challenges the widely-held view that the persistence in inflation as measured by the Harmonized Index of Consumer Prices (HICP) and observed in the euro area since 2001 may have been foremost a reflection of "structural rigidities" in labor and product markets. Accordingly, structural reforms that eliminate these rigidities are presented as necessary and sufficient conditions for boosting growth and purging inflation persistence, too. This view misses a peculiar fact about today's variety of "stagflation" with series of hikes in indirect taxes and administered prices featuring prominently in it. Reflecting governments' consolidation efforts in view of stagnation-induced budgetary pressures, the result is: "tax-push inflation", i.e. a persistent and sizeable upward distortion in headline inflation. Since inflation "above two percent" has, in turn, forestalled more growth-supportive monetary policies, the euro area has become stuck in a vicious circle of protracted domestic demand stagnation and budgetary pressures that continue to nurture tax push. The alternative hypothesis put forward here thus stresses systematic macroeconomic policy failures as the cause of both stagnation and inflation persistence. For while it is true that headline inflation has proved surprisingly persistent in recent years, the same does not hold for measures of core inflation which better capture the true underlying demand situation and also provide a more accurate picture of the responsiveness of prices to market forces. It is found that tax-push inflation, a key symptom of macroeconomic mismanagement, may at times have contributed up to a third of overall headline inflation. Stripped of this factor and the impact of energy prices core inflation in the euro area has declined markedly in response to stagnation and today barely exceeds one percent. Effectively, then, the Maastricht regime of "stability-oriented" monetary policies protected by "sound public finance" safeguards has led to perverse results: both budget deficits and headline inflation turned out excessive. They turned out excessive not due to fiscal profligacy and deficit spending though, but protracted stagnation caused by systematic domestic demand mismanagement. Paradoxically, the supposed monetarist wisdom underlying this regime has not yielded stability but some unpleasant Keynesian arithmetic instead, whereby tighter money now has led to higher inflation

* Address for correspondence: Franklin College, Via Ponte Tresa 29, 6924 Sorengo (Lugano), Switzerland, phone 0041.91.9852288, e-mail jbibow@fc.edu. The author gratefully acknowledges financial support for this project by the Macroeconomic Policy Institute (IMK) at the Hans-Böckler-Foundation, helpful comments and advice from Gustav Horn and Claudio Dos Santos, and the hospitality of the Levy Economics Institute where most of the research was carried out.

today. The regime urgently requires a fundamental overhaul – with the primary objective of refocusing macroeconomic policies on stabilization and GDP growth. Appropriate structural reforms can only complement more successful macroeconomic management, but cannot substitute for it. In fact, continued one-sided focus on structural reform without macroeconomic policy reform will further magnify already existing risks of sliding into a deflationary spiral.

1. The issue: Inflation persistence

Despite protracted stagnation in Germany and much of the euro area since 2001 inflation as measured by the Harmonized Index of Consumer Prices (HICP) has proved conspicuously persistent, as many commentators observed. They point out that while mainstream economic theory would predict declining inflationary pressures in a stagnating economy, inflation in the euro area has barely fallen at all, stubbornly staying "above two percent" in all these years. From early on this stickiness in inflation developments was widely considered as yet another piece of evidence of the euro area's allegedly all-pervasive "structural rigidities" (OECD 2002, Economic Outlook 72). Labor market rigidities and misguided wage policies in particular are seen as the root cause of all troubles, hindering "stability-oriented" monetary policies and preventing the timely control of inflation. While the ECB's (2004) "Inflation Persistence Network" (IPN), especially initiated to investigate the phenomenon, has focused on microeconomic pricing policies in product markets, rigidities in labor markets as the supposed ultimate culprit never seem to be too far from the mind of the ECB's Chief Economist Otmar Issing, in particular.[1]

No doubt the inflation persistence issue is of utmost importance to the ECB. For not only has HICP inflation proved surprisingly sticky, the ECB has also persistently failed on its "primary" (or, according to the late Wim Duisenberg even, "sole") objective

[1] For instance, in his Dinner Speech at the conference on "Inflation persistence in the euro area" on 10 December 2004, Issing comments that "The IPN reports that prices in the services sector across all countries are generally stickier than in other sectors, [adding] be it due to rigid wage developments or to the specific market structure with generally less severe competitiveness pressure"; with the wage-setting side not being studied by the IPN at all. Issing there also asserts that "flexibility at the micro-level ... facilitates the conduct of monetary policy" and that "a smoother conduct of monetary policy may be facilitated by further implementation of structural reforms that may tend to reduce the degree of persistence in inflation."

of maintaining price stability, which the bank itself defined as inflation "below (but close to) two percent" for by now six years in a row. This ongoing monetary policy failure represents another big surprise and has led some observers to conclude that the ECB might take too lax an attitude towards its price stability goal and pay too much attention to output stabilization (CEPR 2004). There certainly is a widespread concern that the persistent over-shooting of the inflation ceiling presents a credibility problem to the ECB (IMF 2005). And, more generally, observers tend to interpret the persistence in inflation as an excuse for the ECB for refusing to take decisive action to bolster domestic demand. For instance, the OECD (2005) in its latest survey of the euro area again observed that: "in the recent downturn inflation has failed to come down decisively, and this has limited the scope for monetary policy to support economic activity in the short run".

The trouble with the popular "inflation persistence theme" and its supposed labor market roots is that there really is no basis for the view that wage inflation may be to blame for the failure of HICP inflation to decline any faster.[2] Since the mid1990s wage trends in the euro area have been remarkably stable. Moreover, if anything, wage inflation has not been too high, but perhaps excessively low; with household consumption representing "a key missing link .. for a more vigorous, self-sustaining recovery" (IMF 2005, p. 8).[3] Meanwhile, wage inflation has shrunk to extraordinarily low levels by any historical or international standard. The ECB (like the Bundesbank before it ever since 1996) is notorious for referring to "historically low"[4] interest rates, which euro

[2] This might explain why more recently at least the IMF (2005) has started to back off from this position, acknowledging that "wage moderation" has not paid off as expected and putting more emphasis on product market rigidities as the new culprit. The one-sided emphasis on structural rigidities is also at odds with the empirical finding that inflation in the euro area is, if at all, only moderately more persistent than in the US, presumably the flexible economy par excellence (IMF 2003).

[3] There is no convincing evidence that "Angstsparen" might be behind this missing link, an idea that has been much heard of in public debates in Germany in recent years. Private households' saving rate is well below the level of the early 1990s, and it bounced back only mildly since 2000; which most likely reflects a substantial redistribution of incomes towards the well-off. Rather than reflecting a diminished disposition toward spending, stagnant or shrinking consumption in Germany (even more so than elsewhere in the euro area) has reflected stagnant or shrinking real disposable incomes. On the euro area, the IMF rightly observes that "reticent consumption growth has moved in line with small gains in disposable income, limited by modest wage earnings and unfavorable price shocks. On the domestic front, these have included unusually large administered price hikes, which cut some 0.7 and 0.4 percentage point off real disposable incomes in 2004 and 2005, respectively. In tandem with increasingly uncertain benefit prospects, consumers have been disinclined to reduce saving rates, unlike in previous recoveries" (IMF 2005, p. 8-9).

[4] In fact, recently Mr Trichet has described the rate as "historically extremely low" (Bloomberg, 21 September 2005).

area central bankers keenly interpret as indicating the good quality and non-growth-restraining character of their policies. If indicators of good quality are that easy to be had, do not miss that wage increases in the euro area have slumped to a historical low of around two percent, while wage increases in Germany are even in the vicinity of zero.

The point is however that while memories of 1970s-style "stagflation" may still be haunting some important European policymakers, it is not clear that more than mere fantasies are involved here. Today, wage pressures are notable for their absence; if anything, they point in the downward direction. The conventional inflation persistence theme stressing labor market rigidities is based on a very flimsy empirical basis.

Therefore, the analysis in this paper sets out to fundamentally challenge the conventional wisdom on inflation persistence in the euro area, offering an alternative hypothesis for the peculiar type of "stagflation" observed in recent years that stresses systematic macroeconomic policy failures as the cause of both stagnation and inflation persistence. In short, *inflation persistence arose not despite, but because of stagnation; given the euro area's peculiar macroeconomic policy regime*. The alternative hypothesis put forward here implies that a more coordinated and more growth-oriented macroeconomic policy mix would have forestalled one of the key drivers behind price trends in recent years: a series of hikes in indirect taxes and government administered prices owing to consolidation efforts undertaken in view of the Stability and Growth Pact. While the analysis thus unearths a fundamental regime flaw, the more immediate concern is that deflation risks are looming high in Germany and the euro area at large. Popular excitement about the persistence in headline inflation seems to have nourished oversight of the crucial fact that underlying market inflation is in the high-danger zone.

The analysis proceeds as follows. The next section provides a general overview on how governmental measures can affect prices, which serves to narrow down the first part of the hypothesis of this paper, namely that SGP-imposed budgetary pressures due to protracted stagnation have led to a sizeable upward distortion in headline inflation since 2001. Section 3 then turns to the measurement issue, focusing on the "ECB proxy measure" of the phenomenon at hand for the euro area as a whole, while sections 4 and 5

explore more closely the situation in Germany and other euro area countries, respectively, taking national measures and studies into account as well.

A discussion of the relevance and implications of the matter in the light of monetary theory follows in section 6, focusing on the coordination and interaction between fiscal and monetary policies and the distinction between "core" and "headline" inflation measures. Section 7 then provides an account of the ECB's prominent role in the genesis of inflation persistence, emphasizing the bank's part in first provoking the slump and then failing to overcome it by an equally decisive use of its interest rate weapon. Contrary to the idea that inflation in excess of "two percent" might have excused the ECB from boosting domestic demand, the bank's notorious reneging on this part of its mandate turns out to have dealt a blow to its primary price stability objective too. As a consequence, Germany and the euro area are today at danger of drifting into deflation, as section 8 argues. This is especially the case, if structural reforms further undermined downward wage rigidities while at the same time weakening demand and confidence.

This highlights systematic macroeconomic policy failures as the ultimate cause of inflation persistence in a stagnating economy suffering from stagnation-induced budgetary pressures – the second part of the alternative hypothesis put forward here. Further support for this hypothesis is provided by means of simulation exercises undertaken in section 9 that illustrate how systematic macroeconomic policy failures can cause "tax-push inflation". Section 10 concludes the analysis and offers some policy recommendations.

2. Governmental measures that affect prices: administered prices, indirect taxes, and the concept of tax-push inflation

Governments affect prices in multifarious ways. Most directly this is the case when governments determine the pricing policies of enterprises they own themselves. Traditionally, state-owned enterprises have featured mainly public utilities in network industries like telecommunications, postal services, television and radio stations, electricity and natural gas, and public transportation. Public-funded education systems and research and development institutes are another case in point. Furthermore, often

local governments act as the sole providers of certain mainly housing-related services like water supply, refuse collection, and sewerage collection for which they directly set the charges or tariffs. Direct price-setting is also involved when public offices charge fees for services such as issuing passports, driving licenses or other certificates.

In many cases, though, government influence on prices may be more indirect in nature. In particular, governments may control or restrict the pricing policies in certain industries or services through laws and regulations. These may for instance require certain privately-owned firms to get government-approval for any price changes. Traditionally, such regulations have typically applied to many of the above industries, if not state-owned, as well as the following: rents, health services and health insurance, as well as insurance more generally. Of course, even regulations that do not directly concern prices can still have indirect price effects, namely through affecting the cost of production. Environmental or safety regulations are a case in point here.

Indirect taxes (and subsidies) provide another important channel through which governments may decisively influence price developments, both directly in case of consumption taxes as well as indirectly when levied on producers at intermediate stages of production. Consumption taxes may include specific indirect taxes on particular products as well as value-added taxes on goods and services in general (although not all items may be subject to a uniform tax rate and some may even be tax-exempt).

The former category typically features excise duties on alcohol and tobacco as well as energy products. The point here is that the tax-component in prices may be especially large, even exceeding 50 percent, so that government policy may easily represent the predominant price-determining factor. On the other hand, market forces may still play a crucial role too though, especially in the case of energy products. As to the latter, even though VAT rates rarely exceed 20 percent and are often far lower than that, changes in VAT rates are even more prone to impact conclusively on price developments since they apply to a large share of the overall consumption basket.

And this highlights that it is really *changes* in tax rates as well as *changes* in fees, tariffs, or otherwise (government) “administered” prices that are of key interest here. At any time, the structure and general level of prices will be partly shaped by government

influences of all kinds. In general, government policies may affect prices (and hence the general purchasing power of consumers' disposable incomes and value of wealth) in either direction. A state-owned monopolist may charge below market-price to subsidize the consumption of the particular good or service at hand. Or, it may mark up lusciously so as to maximize government revenue. The key issue here is the role of changes in government policy, particularly hikes in indirect taxes and administered prices with a view of raising revenues, in determining price developments.

An important complication arises here since increases in indirect taxes and administered prices may in principle be due to various motivations. For instance, taxes on alcohol and tobacco products may be raised to curb consumption for health reasons, just as taxes on energy products may be raised to curb consumption for environmental reasons. Or it may be government policy to implement a deliberate shift away from direct taxation (or social security contributions or other charges that add to non-wage labor costs) toward indirect taxation. In fact, more than one reason may be at play at any time and in any particular case.

The hypothesis investigated in what follows is that the revenue-raising motive has been key to the conspicuous upward distortion in headline inflation observed in recent years reflecting numerous hikes in indirect taxes and administered prices. Such measures, moreover, have owed to SGP-imposed budgetary pressures affecting more and more euro area governments as a first-rate macroeconomic policy failure maneuvered the euro area into protracted stagnation. While it is widely held that market liberalization had marked disinflationary effects during the 1990s, governmental measures seem to have turned "inflationary" since the start of this decade. They have not been inflationary in the conventional sense of a government spending boom firing the printing press though. Quite the opposite – the driving mechanism has been a budgetary crunch.

To be sure, when viewed individually, *one-off* increases in indirect taxes and administered prices involve price *level* effects only, at least as far as their direct impact is concerned. And a related fear is that they may induce compensatory wage increases, in particular, and through such "second-round effects" turn into inflation proper. So let me emphasize that this is not what is meant here when referring to the phenomenon of "tax-

push *inflation*". Rather, the term describes the possibility that a *whole series of hikes* in indirect taxes and administered can give rise to a *persistent* upward distortion in measured inflation over an extended period of many years; particularly if the budgetary pressures that nourish it – according to our hypothesis – do not go away.

Accordingly, the term "tax-push measures" is used to refer to any particular individual measure that may be primarily driven by budgetary pressures when the hikes in indirect taxes or administered prices involved push up the price level, while the term "tax-push inflation" is reserved to describe the inflationary phenomenon that a whole series of such measures can give rise to over an extended period of many years.

The above discussion makes it clear that it will not be easy to either measure precisely the magnitude of tax-push inflation at any time or to substantiate conclusively budgetary pressures resulting from a macroeconomic policy failure as its cause. Not only can motives other than budgetary pressures be at work too. The whole variety of government influences on prices can undergo fundamental changes over time as well. For instance, industries may be privatized or (re-) nationalized, regulations be changed or repealed (markets be "liberalized", as it were). Certain taxes, fees or charges be abolished, or new ones introduced. Public services that were tax-financed previously may become subject to new specific fees, like university tuition fees or road toll (Straßenmaut). Health insurance coverage may be reduced instead of raising premiums (either of regulated private providers or of the public sector health funds), with such quality-reducing measures being similarly hard to measure precisely as quality-enhancing ones. There is thus no denying that multifarious factors complicate the task of arriving of what may be properly regarded as "market-determined" inflation – as opposed to government-determined (or "tax-push") inflation. Yet, it is of great interest to policymakers, trying to come to grips with the true underlying market situation, to have as clear as possible an idea of what inflation would be absent tax-push at any time.

Another caveat must be added here. For what has just been referred to as market-determined inflation may not be wholly independent of tax-push inflation. For instance, market forces behind general wage trends in the economy are likely to affect public sector wage-setting too. Similarly, energy price increases driven by market forces

increase public sector expenses too, and may be passed on in higher public transportation fares, for instance. At the same time, it is well possible that tax-push inflation may not only distort consumer prices upwards, but thereby also help to keep wage inflation up; those much-feared – supposedly negative – second-round effects.

In a way, however, such interdependencies between market forces and the tax-push issue also help to further pinpoint the hypothesis. For there exists a sizeable amount of research on the role of regulated or government administered prices in explaining price "stickiness" and "inflation persistence". Research on the U.S. situation appears to confirm that the lagged adjustment of regulated prices is part of the overall stickiness of prices and persistence in inflation trends (Dexter *et al*. 2004). In an upswing this factor tends to dampen any acceleration in inflation driven by market forces. The opposite seems to hold in a downswing. Researchers in the ECB's inflation persistence taskforce have identified this factor as playing a role in the euro area as well (Lünnemann and Mathä 2005). Yet, their perspective is one of simply treating the government's contribution to the supposed inflation persistence as reflecting notorious rigidities – which one just needs to get rid of to solve the whole problem.

This view may be far off the mark though. Not any obscure rigidities may be at work here, but budgetary pressures. More precisely, what we are observing may be a symptom of the counterproductive interaction of macroeconomic policies within the Maastricht regime. The budgetary embarrassment this involved set in motion the very mechanism that is causing tax-push inflation.

It is thus of some interest that the ECB itself has not failed to notice that indirect taxes and administered prices have given rise to upward pressures on the HICP measure of inflation, which the bank aims to keep "below two percent". The ECB even set out to design a measure of this phenomenon – which may be a good starting point here.

3. The ECB's proxy measures of the two key constituents of tax-push inflation

No reliable estimate of the effects of changes in administered prices and indirect taxes on HICP currently exists for the euro area, as only a few member countries regularly

compile such estimates. In view of this deficiency the ECB designed a "proxy measure" that is meant to provide at least a rough estimate of the direct impact of governmental measures on prices by quantifying their contributions to annual HICP inflation.[5]

As far as administered services prices are concerned, the following sub-components (based on the lowest level of HICP aggregation available) were included in the ECB's "very rough and partial measure" (ECB 2003, p. 35; with 2003 HICP weights shown in brackets): refuse collection (0.5%), sewerage collection (0.5%), medical and paramedical services (0.9%, dental services (0.6%), hospital services (0.7%), passenger transport by railway (0.4%), postal services (0.2%), education (0.9%) and social protection (0.9%). In 2003, their aggregate HICP weight was 5.6%, accounting for 13.6% of the services component. By 2005, these values have increased slightly to 5.8% and 14.3%, respectively.

As will be seen further below, compared to some existing national measures, the ECB's "synthetic administered price index" has a very low weight. This owes to the fact that significant differences exist as to governmental measures' influence on prices across the euro area. So the ECB's proxy measure is a kind of "smallest common denominator". Moreover, at the euro area level a kind of diversification effect arises due to the fact that governmental measures will usually differ in timing and degree, and perhaps even direction, across euro area countries. As far as its informative value for the common monetary policy is concerned, the ECB's proxy measure should pick up the broader trends in the areas of health care and social protection, education and public services, as well as non-rent housing costs. But to get a better idea of what is actually happening to administered prices and how that relates to the budgetary situation and SGP-induced budgetary pressures, a closer look at the country level will be necessary.

Regarding the price impact of changes in indirect taxation, the ECB's proxy measure seems even more problematic. Ideally, one would like to have a comprehensive

[5] The HICP, which has 12 groups of goods and services according to consumption, is required at the four-digit COICOP (Classification of Individual Consumption by Purpose) level. The ECB (2004, December MB, p. 8) observed that a more detailed breakdown at euro are level "could also facilitate the derivation of additional measures required for economic analysis, in particular the isolation of the effect of changes in indirect taxes on the HICP ("HICP Constant Tax") and administered prices". Eurostat is currently piloting a HICP Constant Tax project that should yield first results in 2006.

measure that fully captures the direct price effects of *changes* in all indirect taxes (and subsidies). When the ECB first discussed this factor in the March Bulletin of 2003, it used a synthetic measure that aggregates country information on value added tax (VAT) as well as energy and tobacco excise duties. While no further hints on the precise calculation of the synthetic measure were provided, the stated underlying assumption was that half of the energy and tobacco price components were tax-related.

The difficulty here is that while energy and tobacco are clearly subject to heavy taxation, especially energy prices tend to be subject to volatile market forces too; with oil prices as the key factor behind energy price trends. Hence including the whole product price may greatly distort any measure of supposedly government influences on prices unless world prices remain stable over the relevant period. Clearly, this problem would merely be mitigated if only some proportion – reflecting the tax component in price – were included in the measure. To properly quantify the price effects of changes in indirect taxes more sophisticated methods of separating government and market influences are needed. They are not available at the euro area level.

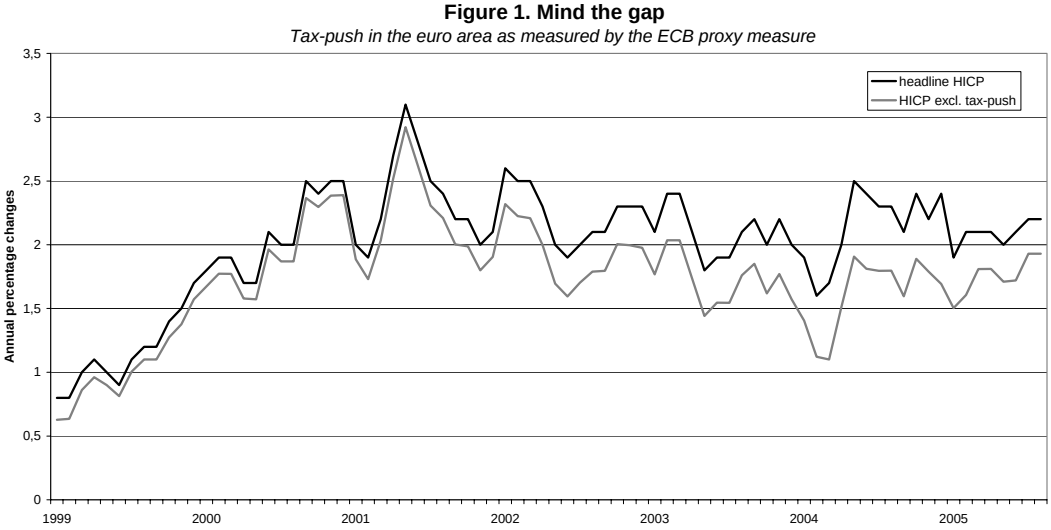
Further difficulties arise as far as VAT is concerned. To begin with, typically not all products and services are subject to a uniform tax rate, while VAT rates moreover vary a lot across the euro area. The corresponding aggregation issues may be solved however as long as the expenditure components subject to VAT can all be separated. Another issue concerns the extent to which changes in indirect taxes are actually passed on in price. The conventional assumption in quantifying the theoretical price impact of changes in indirect taxes is one of full pass-through to consumers. A price index net of such tax measures would thus deduct the postulated full pass-through effect. Given that the aim is to separate market forces and government influence, this convention seems appropriate. For even if retailers are not in a position to pass on increases in indirect taxes, a gap that is correctly quantified in this way nevertheless arises between what consumers pay and what retailers get due to the tax measure(s) at hand. And this gap properly captures by how much headline inflation misses to properly reflect the underlying market situation – which should be the key concern to monetary policy.

When the ECB returned to the issue in the January Bulletin of 2004 it noted that in 2002 and 2003 average VAT rates had remained broadly stable, energy taxes only risen slightly, while tobacco prices had "increased significantly driven primarily by the higher taxation on tobacco products" (ECB 2004, p. 27). In fact, while world tobacco prices (in US dollars) have been fairly stable or even falling, several euro area countries have resorted to sizeable tobacco tax increases, which had the effect that tobacco price increases have contributed significantly to HICP inflation in recent years.

Given this background, and for lack of any better euro-area-wide data on the indirect-tax situation in particular, the ECB's own analysis of the issue suggests that for the analysis of recent years a rough and ready measure of tax-push inflation may be constructed by adding up the two components: (1) administered prices within the service component of HICP and (2) tobacco prices. It must be stressed that the former represents no more than a crude and narrow proxy of government administered prices (GAP inflation) while the latter is an even cruder proxy of changes in indirect taxes and subsidies (IT inflation). The results for the period since 1999 are shown in Figure 1.

Figure 1. Mind the gap

Tax-push in the euro area as measured by the ECB proxy measure



Sources. ECB, Eurostat (August 2005)

Note. The ECB proxy measure estimates the direct price effects of tax increases on tobacco products and of a narrow range of administered prices within the services sector (aggregate HICP weight of 5.8% in 2004).

Figure 1 indicates that a marked acceleration in tax-push inflation has occurred since 2001. While an extension of coverage (concerning health, social protection and education services) may have contributed to tax-push inflation until early 2001,

subsequent rises were no statistical artifacts at all. If anything, given the low coverage overall, one might suspect that a broader and more precise measure of tax-push inflation would underline the quantitative relevance of this contributing factor to HICP inflation. On a rise since 2001, tax-push inflation according to this proxy measure seems to have contributed roughly 0.5 percentage points to HICP inflation in 2004 overall. At its peak in December 2004, it contributed no less than 0.7 percentage points, with HICP inflation running at 2.4 percent at that time.

Since January 2005, tax-push inflation, at least for the time being, has fallen back to between 0.3-0.5 percentage points; continuing to keep headline inflation stubbornly above 2 percent. But with budgetary pressures and SGP-imposed consolidation attempts looming across the euro area with ever fewer exceptions among member countries, our hypothesis suggests that tax-push inflation might continue to play a prominent role in years to come, too.

This result raises a number of interesting questions. One question is whether tax-push inflation has been uniformly spread across the euro area, or whether some member countries might have contributed significantly more than others to the aggregate outcome (apart from country-size effects in HICP). This approach might yield some evidence on the key issue whether countries that have struggled more with the SGP constraint and budgetary slippage in the course of protracted stagnation have also contributed relatively more to this upward distortion in headline inflation. While budgetary pressures due to a fiscal squeeze are not the only candidate cause of tax-push inflation, a look at the country level might thus help to identify and substantiate budgetary pressures as the prime mover behind the phenomenon.

Note that a look at the country level might also be useful to evaluate the extent to which the above proxy measure captures the true situation in any particular country. For this purpose the “ECB proxy measure” may be calculated for individual countries and then compared with alternative national measures that are available for those countries. Among other things, this exercise might also help to discern “best practice” in this field and perhaps yield fruitful advice both for individual countries as well as euro area

authorities. The analysis will first turn to Germany and then investigate the situation in other euro area countries.

Finally, there is the issue of how the monetary authorities should treat the phenomenon at hand. One extreme answer is that it does not matter at all which particular prices might be the chief contributors to any rise in the price index since relative price changes are of no concern to monetary policy, so that the monetary authorities should always fight inflation no matter what. Seen from this perspective, then, our study can only have some limited informative value, at best.

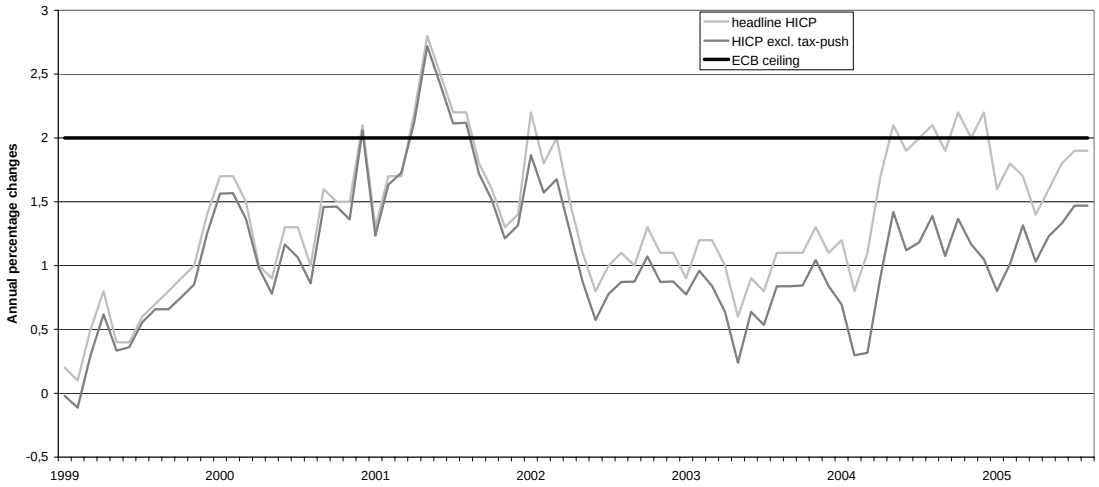
Another response might however be that the monetary authorities should be careful in judging the truly market-determined underlying inflation trends at work and not respond to factors that cannot be controlled by use of the usual monetary armoury; or at least not without causing *unnecessary* damage in areas of the economy other than the one behind the tax-push phenomenon. In this case, only second-round effects should be of any concern at all and direct price effects treated as noise. A complication arises however if noise of the tax-push kind systematically distorts inflation in one direction: upward, as in recent years. Rather than ignoring such a systematic distortion, it then seems vital to properly investigate its underlying causes.

The matter coming to the forefront here concerns the interaction and coordination between monetary and fiscal polices. As we shall see in sections 6 to 8 below, the tax-push phenomenon gets to the very heart of the macroeconomic policy regime design that characterizes the euro area today.

4. Measuring tax-push inflation in Germany

Figure 2 shows a sizeable contribution of tax-push inflation based on the ECB proxy measure and suggests that Germany may have played a prominent role in the phenomenon since 2001. National measures are available to further investigate the matter.

Figure 2. Tax-push in Germany according to the ECB proxy measure



Source. ECB, Eurostat (August 2005) Note. The ECB proxy measure only captures the role of tobacco products and a narrow group of administered prices within the services sector (aggregate HICP weight of approx. 7%).

The German Council of Economic Experts (GCEE) first addressed the issue of administered prices in its annual report of 1976/7. Since then it has regularly updated the concept which today provides a rather comprehensive measure of government influence on prices; in fact, perhaps too comprehensive in some respects.

The measure distinguishes four groups of goods and services, with different degrees of government influence on prices. Group 1 includes “directly administered” goods and services prices, that is, prices directly set by government bodies. Examples include radio and TV as well as other license fees. They also include important services related to housing, like sewerage and refuse collection fees. This group currently has an overall weight of 7.6%. Group 2 includes “partly administered” prices, referring to cases where government bodies have significant regulatory rights in setting prices. Examples include electricity, postal services, telephone services, as well as a variety of health care services. This group has an overall weight of 11.1%. Group 3 of “quasi-administered” prices includes goods and services that are subject to specific indirect taxes, like alcohol and tobacco as well as gasoline and heating oil. This group has an overall weight of 9.5%. Finally, group 4 of “indirectly administered” prices includes agricultural products that are subject to agricultural regulations (the EU’s Common Agricultural Policy, in particular). This group, which is divided into two sub-groups and only includes

unprocessed products, has an overall weight of 3.6%. This approach yields an overall weight of administered prices of nearly one third of the overall consumer price index.

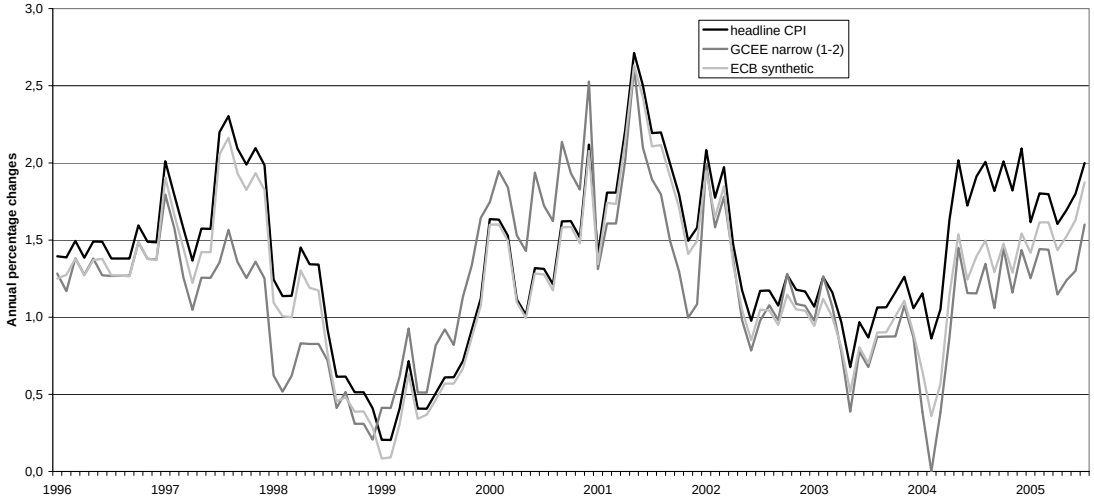
The GCEE measure's key advantage is that it is fairly comprehensive thanks to the high level of product disaggregation available in Germany's price statistics. The calculation of groups 1 and 2 with a combined weight of 19% in the national CPI is exemplary, providing a reasonable and comprehensive measure of GAP inflation. Some important problems and limitations relate to groups 3 and 4 though.

The trouble with group 3 is that it includes the total prices of the relevant goods and therefore fails to capture the precise price effects that are really attributable to *changes* in the specific indirect taxes these goods are subject to. This can be very problematic in case of volatile (net) prices. Given the high volatility of oil prices since the late 1990s, the overwhelming impact of this factor in view of the high index weight of energy can greatly distort the measure. It may thus be advisable to leave group 3 aside. Admittedly, an important downside to completely excluding this (partial) measure of IT inflation is that tobacco products are thereby also excluded, and hence the effects of increases in the relevant taxes too, which have played such a prominent role in recent years. As a compromise (in line with the ECB proxy measure) it might therefore make sense to include at least tobacco prices (as one key item of group 3. The case for not taking group 4 into account is even stronger. The price impact of regulations in this area has not only declined over time, which the GCEE has taken this into account by reducing the coverage and weight of this group from originally around 10%. Given the dominant role of CAP this group is unlikely to reflect *national* budgetary pressures well.

Finally, another grave shortcoming of the GCEE's measure is that VAT changes are not captured at all. This is not any serious problem only as long as average VAT rates remain constant. German VAT rates were last changed on January 1, 1993, and again on April 1, 1998. With the possibility of a two-percentage point increase in VAT perhaps as early as in January 2006, this source of tax-push inflation may however become very alive again in the near future. It is practice in Germany that the Federal Statistical Office Destatis publishes an estimate of the theoretical price impact of the measure (assuming full path-through). In a press release of 12 July 2005, the Destatis announced that the

prospective measure would raise measured inflation by 0.9 percentage points. The impact on the HICP for the euro area would thus be approximately 0.3 percentage points.

Figure 3. Comparing measures of administered price inflation in Germany
GCEE (narrow index) versus ECB (synthetic index)



Sources. ECB, Eurostat, Destatis (German CPI, 2000=100)

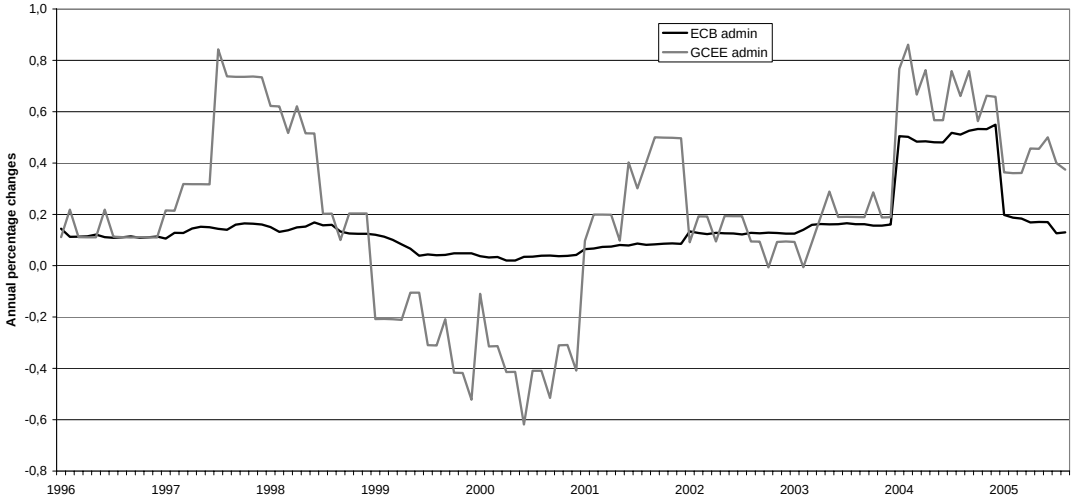
A comparison between the ECB's synthetic index of administered prices applied to Germany and the GCEE's "narrow index" (including groups 1 and 2 only, which actually provide a broad index of GAP) for the period since 1999 shows a number of things (see figure 3).[6] To begin with, the GCEE's measure, being significantly more comprehensive as regards administered prices, indicates that, if anything, the ECB's proxy measure underestimates the magnitude of tax-push inflation in Germany since 2001. In particular, the GCEE's narrow measure shows an upward distortion of up to one percentage point in 2004.

Furthermore, the GCEE's measure highlights that tax push significantly distorted headline inflation upwards in 1997-1998, when Germany undertook some last-minute efforts to bring its deficit ratio below three percent, but then actually slowed the acceleration in inflation in 1999-2000, when GDP grew relatively strongly and budgetary pressures, for a while, seemed a problem of the past. Figure 4, which compares the

[6] As expected, due to sharp energy price movements excluding group 3 from headline inflation as well greatly distorts the picture. By contrast, the fact that we need to rely here on the national CPI whereas the ECB proxy measure refers to HICP is of little significance as the two indices of consumer prices show only mild deviations in Germany's case.

contributions of administered prices to headline inflation according to the GCEE's narrow index and the ECB's "synthetic administered price index" only, reveals that another sharp reversal in tax push then occurred in 2001, as Germany's economy tanked and perpetual conflicts with the SGP's ceiling started.

Figure 4. Assessing the contributions of government administered prices in Germany
GCEE (narrow index) vs. ECB (synthetic index)



Sources. ECB, Destatis (August 2005)

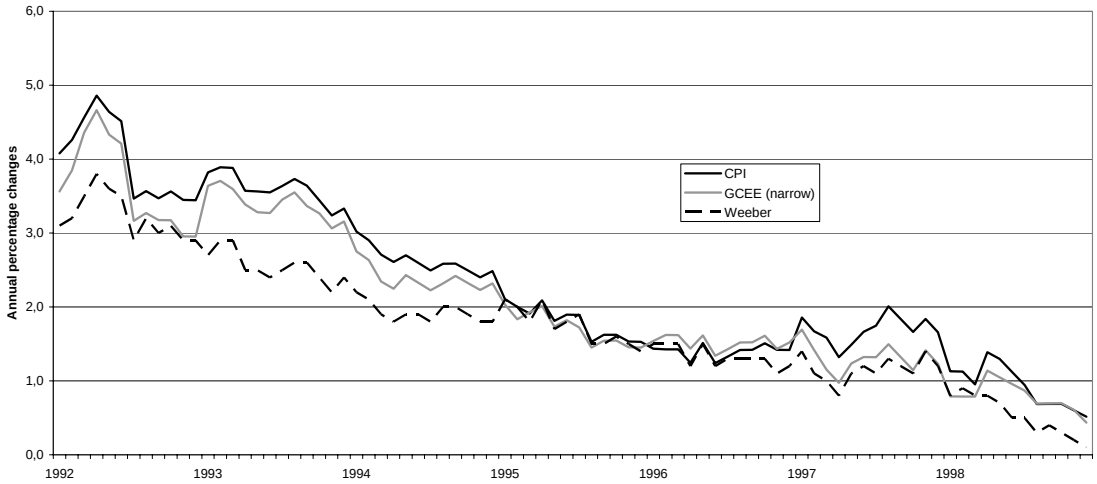
The case of Germany is of even greater interest though, as a closer look at another episode in its recent history shows. Conditions of budgetary stress had also occurred in the early 1990s following German unification. By mid 1991, a major attempt at fiscal consolidation started that intensified in subsequent years. To investigate the role of tax-push inflation during this earlier episode, it is informative to compare the GCEE's measure with an alternative index developed by Weeber (1994, 1997, 1998).

Apart from excluding agricultural products, which we have put aside by focusing on the GCEE's narrow index, Weeber's measure differs in a number of important ways from the GCEE's measure. On the one hand, rather than including the full price of products that come under the GCEE's group 3, such as tobacco, gasoline and heating oil, only the tax share in their prices enters into Weeber's calculations. This reduces the overall weight of group 3 products to 5.5% (roughly 60% of their weight within the GCEE's broader index). On the other hand, Weeber's index includes the VAT share on all remaining products, whereas VAT is completely ignored in the GCEE's measure. One would thus

expect that especially around times of VAT changes or changes in other indirect taxes that are not captured in the GCEE's narrow index, Weeber's index should yield a more precise picture of the actual situation.

Figure 5. Rivisiting the 1990s

Unification, budgetary pressures, and tax-push inflation in Germany



Sources. GCEE (narrow index), Destatis, Weeber 1998
Notes. 1991=100, West Germany

Figure 5 shows the results of this comparison. Both measures indicate that tax push was calm around 1995-1996. Both before and after the two measures deviated markedly at times. As expected, they deviated the most around the times when VAT increases occurred (January 1, 1993, and April 1, 1998). Other measures that explain the deviation in the early 1990s include energy tax increases on July 1, 1991 and again on January 1, 1994, which are not captured by the GCEE's narrow index.[7]

The overall picture that appears from this investigation is that tax-push inflation has played an important if not decisive role in Germany at three highly critical junctures in recent history. First, it is worthwhile to recall that the Bundesbank's extraordinarily aggressive monetary tightening (short-term nominal interest rates reached 10 percent) that occurred in response to unification, more precisely after mid 1991, was motivated by

[7] The GCEE's revised index (2000=100) of today shows a significantly larger tax-push contribution than its contemporary version. This may be partly due to its all-German nature. But it may also reflect the fact that since the annual report of 2000/01 the GCEE's index captures non-rent housing costs, which played an important role in the early 1990s. Weeber's index included a proxy measure for non-rent housing costs. While underestimating the actual impact of this factor, this difference in coverage is another factor behind the deviations in the early 1990s when compared to the GCEE's old index (1991=100).

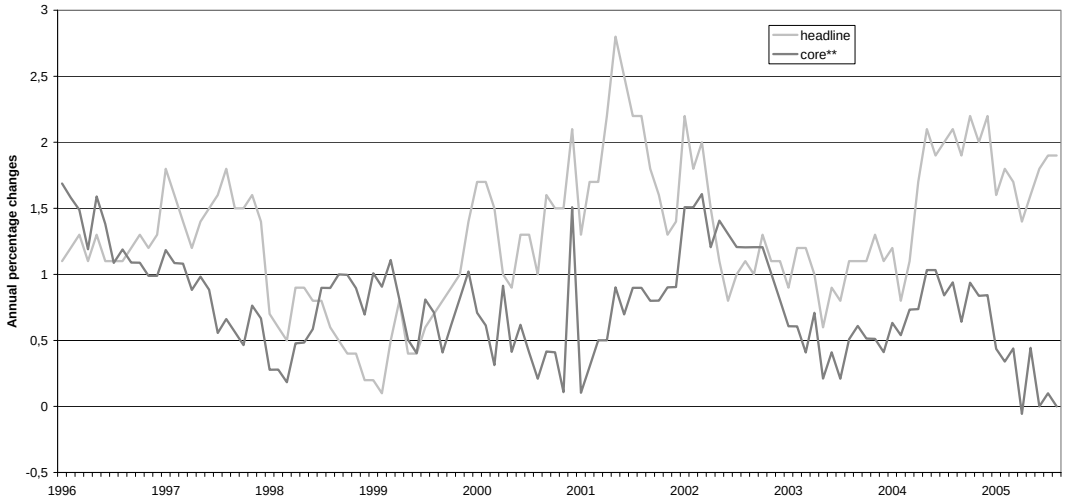
rising inflation.[8] Yet, while *headline* consumer price inflation peaked at just below 4 percent in Western German in 1992, the underlying market-determined rate of inflation was merely running at around 3 percent, barely higher than during the 1980s (except for the oil price slump in 1986) and remarkably tame; a tameness at the price front which a look at producer price inflation (stable around 2 percent) confirms too.

The second occasion around the time of the "Maastricht test" in the spring of 1998 was characterized by a public debate about the Bundesbank's role in fostering employment and reducing Germany's high unemployment (which peaked in the winter of 1997 after roughly 2 million job persons out of work in *Western* Germany). The official Bundesbank position at the time was that all unemployment was structural and that the Bundesbank had done its job by focusing on price stability (see Hesse and Naujokat 1998, for instance). In fact, after cutting interest rates in an extraordinarily sluggish way between September 1992 and 1995, the Bundesbank then even hiked interest rates again in October 1997 – despite stagnant domestic demand. This is of interest as the phenomenon of protracted domestic demand stagnation has plagued Germany ever since.

Seen in this light, recent developments are really the third occasion within 15 years that has stability-oriented monetary authorities facing highly distorted headline inflation numbers when trying to come to grips with the true underlying situation (cf. Bibow 1998, 2003, 2005a). To comprehend how very low current market-determined underlying inflation trends in Germany really are, it may be appropriate to use a core consumer price inflation measure that in addition to the OECD's practice of excluding alcohol, tobacco, food and energy prices, also excludes the GCEE's "narrow index" (groups 1 and 2).

[8] A further reason was monetary growth in excess of the Bundesbank's target – another curious repeat of which, albeit for different reasons, also contributed to lead the ECB astray in recent years.

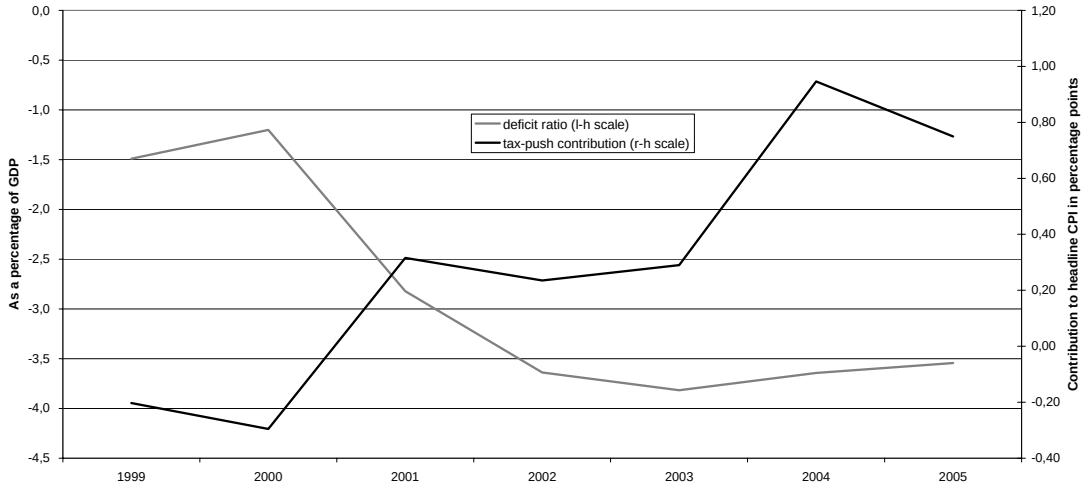
Figure 6. Market-determined core inflation in Germany



Sources. Eurostat, Destatis (August 2005)
Notes. Headline HICP for Germany, core exludes energy, food, alcohol and tobacco as well as administered prices (GCEE's narrow index)**

Figure 6 shows a market-determined core inflation of near-zero, which is in line with wage inflation in Germany. The question of relevance of our findings for monetary policy will be further discussed in section 6 below. Here we conclude that Germany features prominently among euro area countries with significant tax-push inflation. As stagnation brought Germany into notorious conflict with the SGP, tax-push inflation soared (see Figure 7).

Figure 7. Germany's notorious SGP troubles and tax-push inflation



Sources. OECD (Economic Outlook no. 77), GCEE, Eurostat
Notes. The synthetic measure of tax-push inflation includes the GCEE's narrow index (groups 1 and 2) as well as tobacco prices (2005: Jan-Aug). 2000 deficit ratio excluding UMTS revenues.

5. Measuring tax-push inflation in other euro area countries

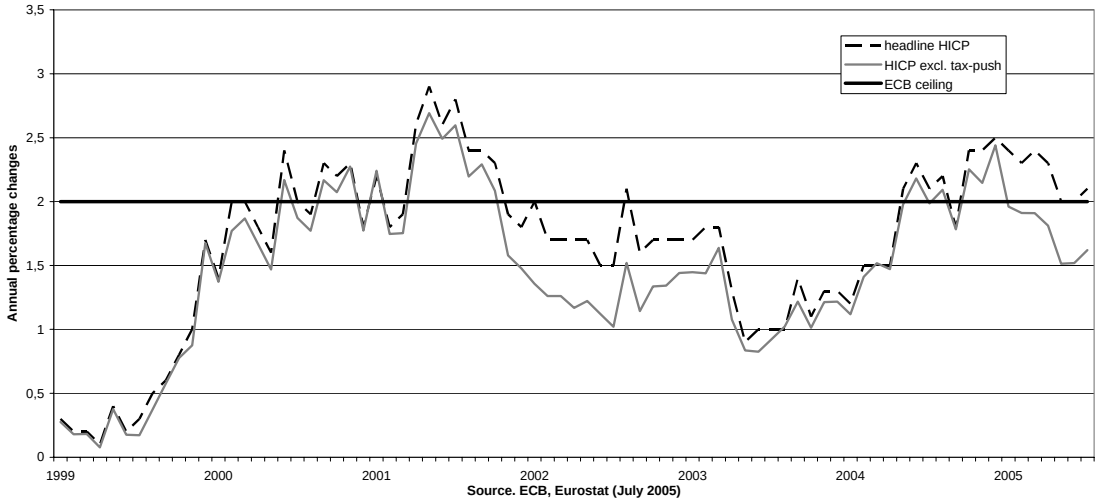
Austria.

Since entering the EU in 1995 Austria has experienced one of the lowest inflation rates, averaging just 1.5 percent per year. Since the start of EMU Austria has been second only to Germany among euro area countries, which has benefited Austria's competitiveness: except for 2003, net exports have added significantly to GDP growth (OECD 2003).[9] Since the late 1990s Austria's current account balance has swung from a deficit of around two to three percent of GDP to a small surplus. Domestic demand was strong in the years 1998-2000, but plunged in 2001.

In this context, it is of some interest that Austria pursued an anti-cyclical consolidation strategy in the 1990s. Fiscal stance was expansionary in 1992-95, consolidation with a view of meeting the Maastricht budget deficit criterion only took place in 1996-97 (Bibow 2004c). A new government then changed course in 2000, enacting a sharp fiscal retrenchment that improved the "structural balance by $2^{3}/4$ per cent, marking the largest improvement within the OECD" (OECD 2003, p. 43). While Austria attained a small budget surplus in 2001, domestic demand plunged. Increases in indirect taxes featured prominently in the consolidation effort: "mainly, the package consist[ed] of increases in indirect taxes – the tobacco tax, vehicle insurance tax, levy on electricity", as the OECD (2001, p. 43) noted. A small budget deficit has re-emerged since, but Austria is still among those few EU countries that are not facing severe SGP-imposed budgetary pressures yet. Interestingly, Austria's role in the tax-push phenomenon in the euro area has been unusual, too.

[9] Austria even gained in competitiveness relative to Germany since 1995 (Fluch and Rumler 2005). In addition, the country is the foremost beneficiary of the latest EU enlargement (Breuss 2001).

Figure 8. Tax-push in Austria according to the ECB proxy measure



Source. ECB, Eurostat (July 2005)

Note. The ECB proxy measue only captures the role of tobacco products and a narrow group of administered prices within the services sector (aggregate HICP weight of approx. 5.5%).

Figure 8 shows that according to the ECB's proxy measure, which in Austria's case includes administered service prices with an aggregate HICP weight of 5.5 percent, tax-push inflation contributed significantly to Austrian headline inflation between October 2001 and February 2003, but then stayed calm until the fall of 2004. Since October 2004, however, its contribution is on the rise again, currently running at 0.5 percentage points.

No official index of government administered prices (GAP) or tax-push inflation exists in Austria. Statistics Austria has however published information on the matter on special occasions, most recently on 21 January 2004 (Statistics Austria 2004). According to the "Sonderauswertung VPI 2003", which is based on the national CPI[10], fees and administered prices added: 0.418 percentage points to headline CPI in 2000, 0.681 percentage points in 2001, 0.376 percentage points in 2002, and 0.072 percentage points in 2003. For 2004 Fluch and Rumler (2005) report a contribution close to 0.3 percentage points.[11] Compared to the ECB proxy measure, the national measure is more comprehensive as far as administered prices are concerned (8 percent share in overall prices compared to a 5.5 percent share), while tobacco (and hence the impact of tobacco

[10] Since the fall of 2004 a significant gap has opened up between the inflation measures based on the national CPI and the HICP, largely owing to accelerating housing costs and differences in their treatment in the respective inflation measures. While the HICP has a larger coverage of goods and services overall, the relative weight of housing costs in it is significantly lower than in the national measure, with owner-occupied housing partly covered by the national measure but altogether excluded from the HICP (see Statistik Austria 2005, Haschka 2005).

[11] At the start of 2004, the "Krankenschein – Ambulanzgebühr" was abolished.

tax increases) remains excluded. Specific indirect taxes on energy are also excluded, as are the regulated (rather than administered) prices of the liberalized network industries (telecommunications, gas and electricity).[12]

While GAP inflation is currently on the rise as well (due to health reform measures, reduced health insurance compensation for dental services, in particular), the sharp increase in tax-push inflation since January 2005 indicated by the ECB proxy measure largely reflects the rise in tobacco taxes that came into effect at the start of the year (with further increases being scheduled in coming years).

Note then the following features about Austria's role in the tax-push phenomenon:

(1) Tax-push started early in Austria, as the country supposedly adhered to the rules and embarked on fiscal consolidation in what were supposedly "good times". As a result, while the acceleration in inflation until mid-2000 was "more or less equal to that in other European countries, .. higher indirect taxes – implemented as part of the fiscal consolidation program – then lifted the rate of consumer price increases by another $^{1}/_{2}$ percentage point to about $2^{3}/_{4}$ per cent" (OECD 2001, p. 36);

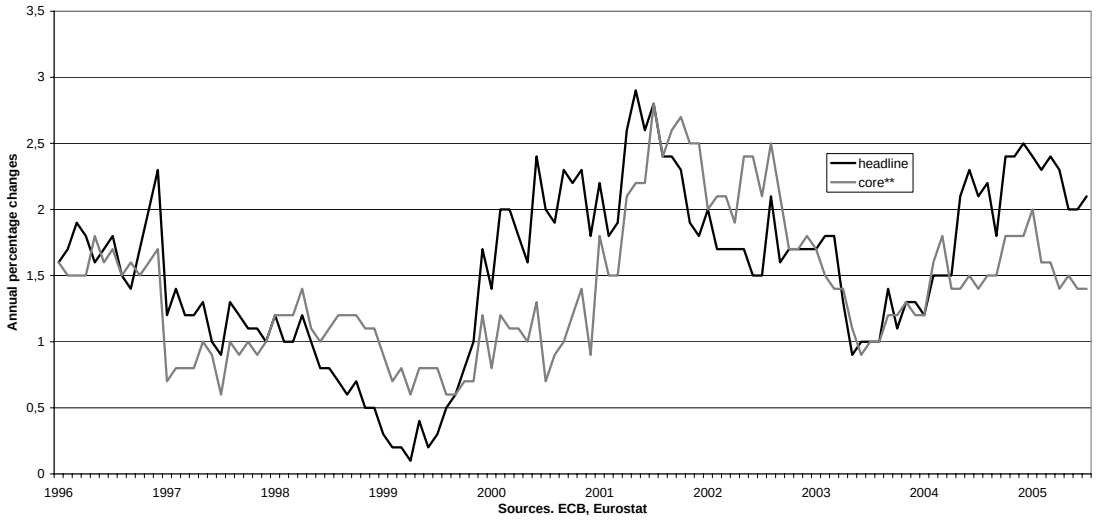
(2) peaking early by adding almost 0.7 percentage points in 2001, it also proved temporary at that time, so that the falling out of the index of the early measures subsequently contributed to the decline in Austrian inflation whereas tax-push gained prominence elsewhere over 2002-2004 – Austrian inflation decoupled from euro area developments in this phase (Fluch and Rumler 2005);

(3) while Austria thus dampened inflation persistence until mid-2004, more recently, the country may have started to converge to the average despite having a significant margin left before facing official "excessive deficit" procedural troubles. The aims of achieving a balanced budget while reducing income and corporate tax burdens may well give rise to further tax-push doses, as one-off consolidation measures are

[12] Considering product market liberalization since the late 1990s, a more comprehensive analysis of government influences on price developments reveals that while liberalization of telecommunications reduced overall inflation since 1998, the inflation dampening effects of liberalizing electricity and gas markets were counterbalanced by the introduction of energy taxes or rises in tariff charges (Pollan 2004, Fluch and Rumler 2005). The corresponding privatization proceeds have played an important role in Austria's consolidation. According to the OECD (2003, p. 46), cuts in infrastructure investment in recent years were "largely due to spin offs of public sector units into the enterprise sector and privatizations".

becoming harder to get by, too. But given the country's weight in the HICP of just 3.1 percent, Austria will continue to have a limited impact on euro are price developments.

Figure 9. Market-determined core inflation in Austria



Sources. ECB, Eurostat

Notes. Core exludes energy, food, alcohol and tobacco as well as administered prices (ECB synthetic index).**

Figure 9 summarizes the situation. After a sharp recession-induced rise in 2001, Austria's market-determined underlying inflation declined swiftly in subsequent years and is currently running at just over 1 percent – reflecting low and stable wage inflation. Headline inflation is twice that level, reflecting soaring energy prices and tax-push inflation.

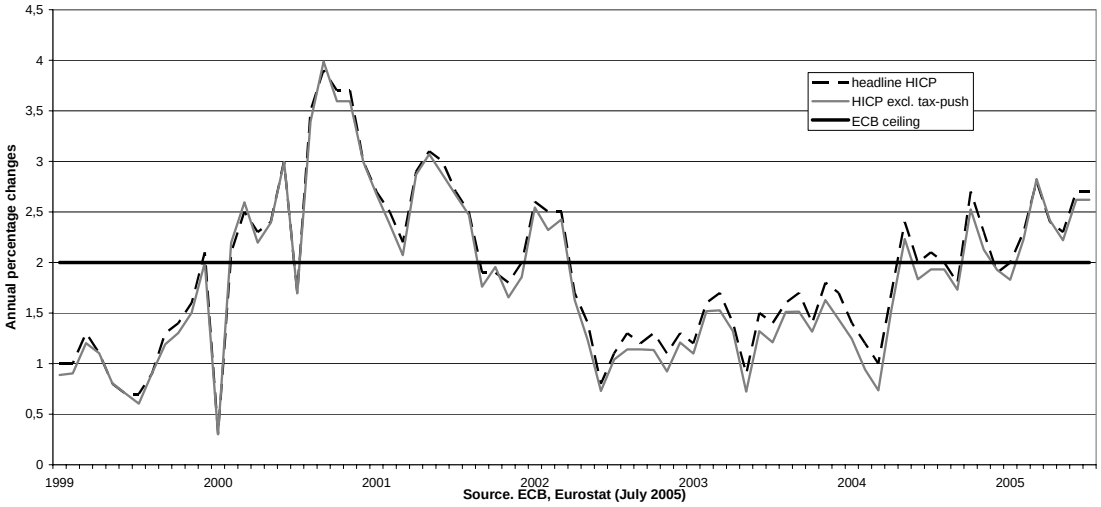
Belgium

Headline HICP inflation accelerated even more sharply in Belgium in the years 1999-2000 than in the euro area as a whole, reflecting the pronounced short-term sensitivity of consumption prices in Belgium to fluctuations in the oil price, which, in turn, is "largely attributable to the relatively lower excise duty on petrol, diesel and heating oil, and to the greater weight of those products in the consumer price index" (BNB 2004, p. 32). In 2002 and 2003, Belgium's headline inflation then fell sharply and well below the euro area-wide measure.

In view of its very high debt ratio Belgium was under special pressure to consolidate in order to qualify for EMU, cutting its deficit ratio to 2 percent by 1997. Greatly benefiting

from a sharp reduction in the interest burden, Belgium's budget balance subsequently moved into a small surplus (Bibow 2004c). Even today, Belgium's budget shows only a small deficit so that the country is under no immediate SGP-imposed pressures; while its debt ratio has declined to around 90 percent in the meantime. Belgium's weight in the HICP measure for the euro area is 3.34 percent.

Figure 10. Tax-push in Belgium according to the ECB proxy measure



Source. ECB, Eurostat (July 2005)

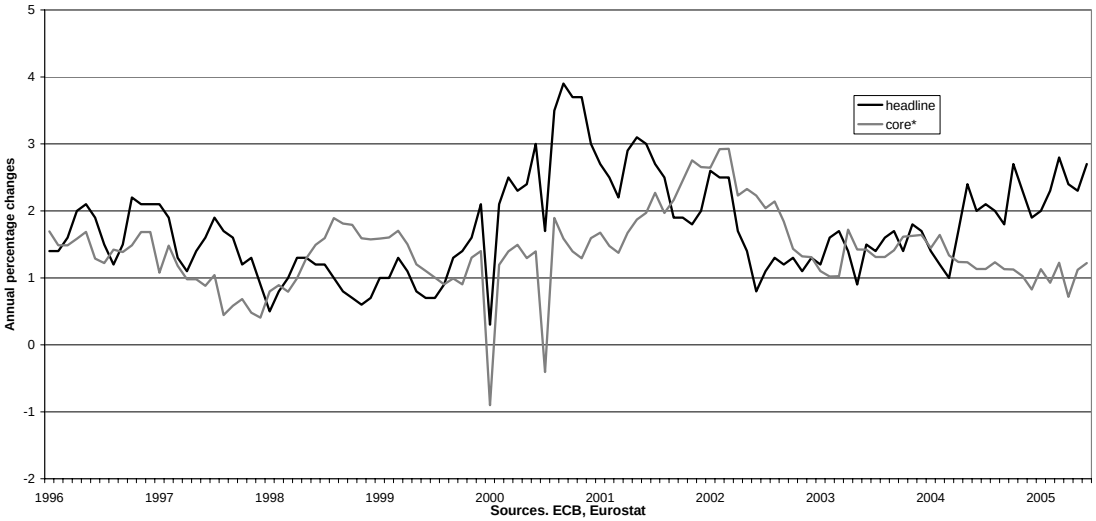
Note. The ECB proxy measure only captures the role of tobacco products and a narrow group of administered prices within the services sector (aggregate HICP weight of approx. 3%).

According to the ECB proxy measure (see figure 10), tax-push inflation has only played a minor role in Belgium since 1999, except for the time between March 2003 and October 2004 when tobacco prices added to the otherwise small and stable contribution of administered prices. Note that the administered service prices included in the ECB proxy measure only have an aggregate weight of 3 percent, about half the euro area average.

While no official index of GAP or tax-push inflation exists in Belgium, research on the matter by the National Bank of Belgium yielded results that differ decidedly from what the ECB proxy measure indicates. The key feature about tax-push inflation in Belgium is the reversal of its impact on headline inflation: during the period from 1999 until 2003 tax-push *reduced* headline inflation by between 0.1 and 0.3 percentage points every year, in 2004 and 2005, however, it added to headline inflation by approximately 0.1 to 0.2 percentage points. In particular, between 2003 and 2004 a swing occurred in the impact of tax-push on headline prices of 0.4 percentage points (see NBB 2004, 2005).

Deviating results are due to the fact that the National Bank of Belgium's analysis is more comprehensive than the ECB proxy measure. For instance, the abolition or reduction of radio and television license fees and the impact of cuts in administered gas and electricity tariffs significantly reduced headline inflation in 2002 and 2003, none of which are captured by the ECB proxy measure. Neither are specific environmental levies and eco-bonuses coming into effect in 2004 and 2005, nor changes in indirect taxes on petroleum products or regional indirect taxes on electricity and gas (called the Elia contribution) introduced to compensate for the revenue loss incurred by the municipalities following liberalization. One aspect captured by both measures is the impact of tobacco tax increases in 2004.

Figure 11. Market-determined core inflation in Belgium



Sources. ECB, Eurostat

Notes. Core excludes food, energy, alcohol and tobacco as well as administered prices (ECB synthetic index)**

In summary, market-determined underlying inflation in Belgium rose at first in 2001 and until the spring of 2002, reflecting apart from the slump also an element of wage-indexation in the Belgian collective wage settlement procedures, but fell quickly back thereafter, currently running at around 1 percent (see Figure 11). Belgium's tax-push contribution to inflation persistence in the euro area was negative in 2002 and 2003, with the reversal of 2004 however adding to the plight more recently. Currently not facing acute SGP-imposed budgetary pressures, other motivations seem to dominate budgetary decisions in Belgium's case. Administered service price inflation is stable and Belgium is not a key driver behind tax-push inflation in the euro area.

Finland

Finland went through a severe and prolonged economic crisis in the early 1990s, from which the country bounced back to sustained growth in 1994. The markka's depreciation in 1991-93 of some thirty percent driving a twelve percentage point swing in the current account balance over the course of the decade played a key role in this. But domestic demand too saw almost uninterrupted growth since 1994. It was in this environment that Finland turned its budget deficit of 7 percent of GDP in 1993 into a budget surplus of 7 percent of GDP by 2000. In 2001, however, the country's fortunes turned again, as Finland was hit hard by the global slowdown, experiencing a swing in the net export contribution to GDP growth from +2.4 percent in 2000 to –0,5 percent in 2001. Finland is still running a current account surplus in the order of three to four percent of GDP, but in the context of accelerating house price inflation GDP growth has become largely domestic demand-driven in recent years. While the budgetary position has deteriorated, too, Finland still has a comfortable budget surplus of over 1 percent of GDP.

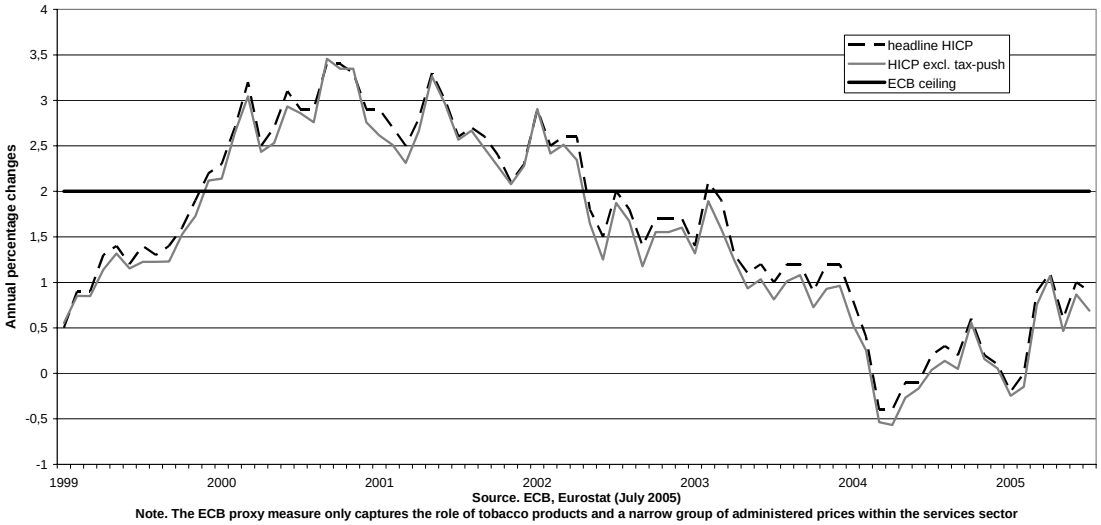
Finland also stands out as the "best inflation performer among the 'peripheral' euro area countries" (OECD 2002, p. 32). That said, however, between 1999 and 2000 headline HICP inflation soared even more sharply in Finland than in the euro area as a whole, from a trough of 0.5 percent in January 1999 to 3.2 percent in March 2000. Similar to Belgium, this was related to above average oil consumption and below average taxation (OECD 2000). In the course of 2002, Finland's inflation then started to undershoot the euro area's, and increasingly so ever since. In the spring of 2004, inflation even turned negative, before bouncing up again in the context of rising energy costs. Finland's weight in the euro area HICP is 1.589 percent.

In accordance with its favorable budgetary position, the key public policy issue in Finland since the start of EMU has not been any budgetary squeeze[13], but how to best use

[13] It is noteworthy though that Finland's fiscal framework includes a so-called "emergency brake" stating that: "the government's underlying premise is that the central government deficit, in national account terms, should not exceed 2 $^{3/4}$ per cent of GDP even in conditions of weak economic development. If, in the light of forecasts, the deficit threatens to grow larger than this, the government will, without delay, propose the necessary measures for reducing expenditures as well as other measures to avoid an overrun" (OECD 2004, p. 44).

any available leeway to relieve the country's – by international standards – high tax burden, including high indirect taxation. Measures implemented in recent times featured *cuts* in indirect taxes.

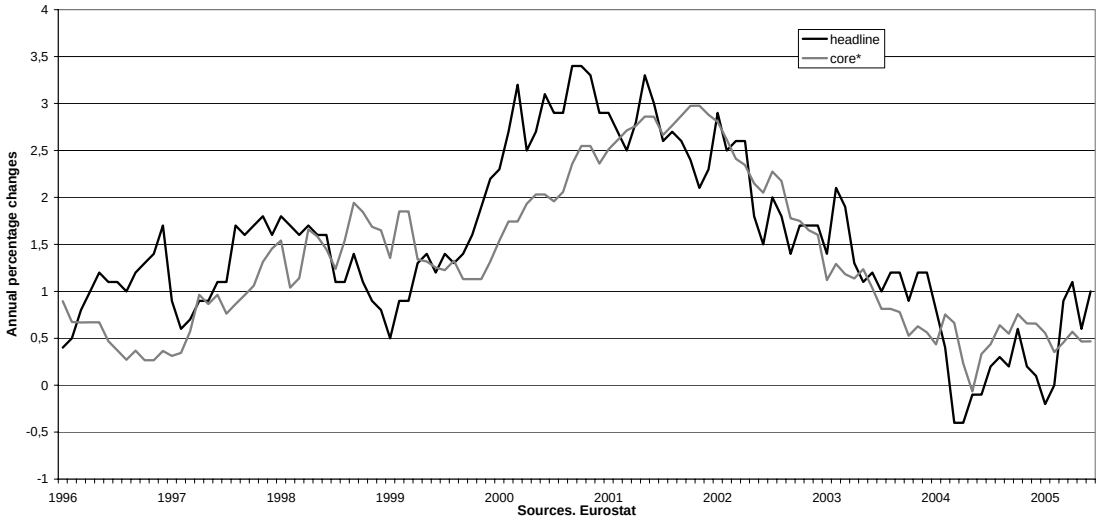
Figure 12. Tax-push in Finland according to the ECB proxy measure



Source. ECB, Eurostat (July 2005)
Note. The ECB proxy measure only captures the role of tobacco products and a narrow group of administered prices within the services sector (aggregate HICP weight of approx. 6%).

According to the ECB proxy measure, which carries an aggregate HICP weight of 6 percent (see figure 12), tax-push inflation has played a minor positive role in Finland's case. While this owed to administered prices adding some 0.1 to 0.2 percentage points per year to headline inflation, administered service price inflation has actually *slowed* markedly in recent years from over five percent in 1999 to just over 2 percent of late – clearly against the trend in other countries. That administered prices still contribute positively to headline inflation in a way also reflects the fact that market-determined underlying inflation has fallen to extremely low levels, currently around 0.5 percent (see Figure 13).

Figure 13. Market-determined core inflation in Finland



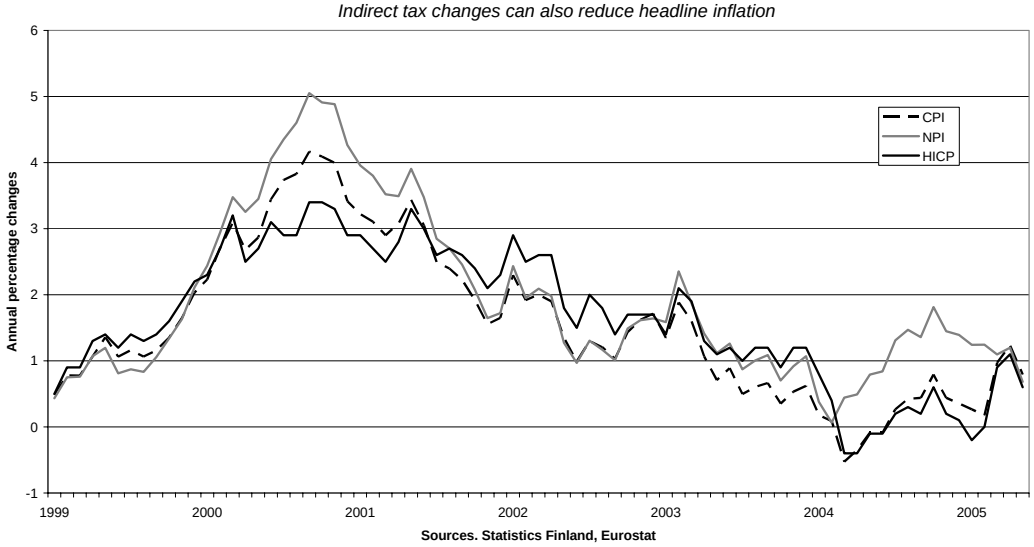
Sources. Eurostat

Notes. Core excludes food, energy, alcohol and tobacco as well as administered prices (ECB synthetic index)**

No national index of administered prices exists in Finland. However, as is practice in other Scandinavian countries too, Statistics Finland calculates a net price index (NPI) and corresponding tax rate index (TRI) that capture the effects of indirect taxes and subsidies on consumer prices. The NPI is obtained when the effect of indirect taxes and subsidies is removed from the CPI. The TRI measures the development of the rates of indirect taxes and subsidies having an impact on consumption expenditure, covering both the explicit effect on the prices of commodities included in the CPI as well as the implicit effect on them through intermediate consumption. The TRI primarily includes commodity taxes and subsidies in accordance with the national accounts. In addition, the operating surplus of government monopolies pricing their output above production costs are also viewed as indirect taxes; with public ownership still playing a large and privatization so far a very small role in Finland, as reflected in the country's *net* debt ratio of *minus* 40 percent. Other items considered as indirect taxes include fees for permits and (passport and driving) licenses, and a automobile tax, for instance. The TRI thus provides a comprehensive measure of IT inflation, and more than that.

Figure 14. Finland's net price index (NPI) clarifies situation

Indirect tax changes can also reduce headline inflation



Sources. Statistics Finland, Eurostat

Based on Finland's national CPI[14], Figure 14 shows that in 2000-2001 and again since the spring of 2003 the NPI rose much faster than the CPI, which implies that the indirect tax component rose by significantly less than consumer prices and thus *reduced* headline inflation.[15] This component far outweighs the small positive contribution from administered prices (indicated by the ECB proxy measures) and mainly reflects the reductions in car taxation from January 2003 and alcohol taxation from March 2004 as well as the rise in energy taxation in 2003; none of which are captured by the ECB proxy measure.

In summary, it seems clear that the ECB proxy measure does not provide a realistic picture of the situation in Finland at all. If anything, given Finland's favorable budgetary situation, tax-push inflation seems to have reduced headline inflation in recent times. The Bank of Finland confirmed this proposition: "A crude approximation in case of Finland .. would be that the contribution of administered prices and indirect taxes to overall HICP is negative, at around -0,5 to -0,8 [percentage points] in 2004" (Bank of Finland, email to the author of August 2005).

[14] Deviations between the national CPI and HICP, especially pronounced in 2000-2002, mainly reflect differences in the treatment of housing costs (owner occupied housing in particular).

[15] It is also noteworthy that the reverse was true during Finland's fiscal retrenchment until 1997 (OECD 2000, p. 34).

France

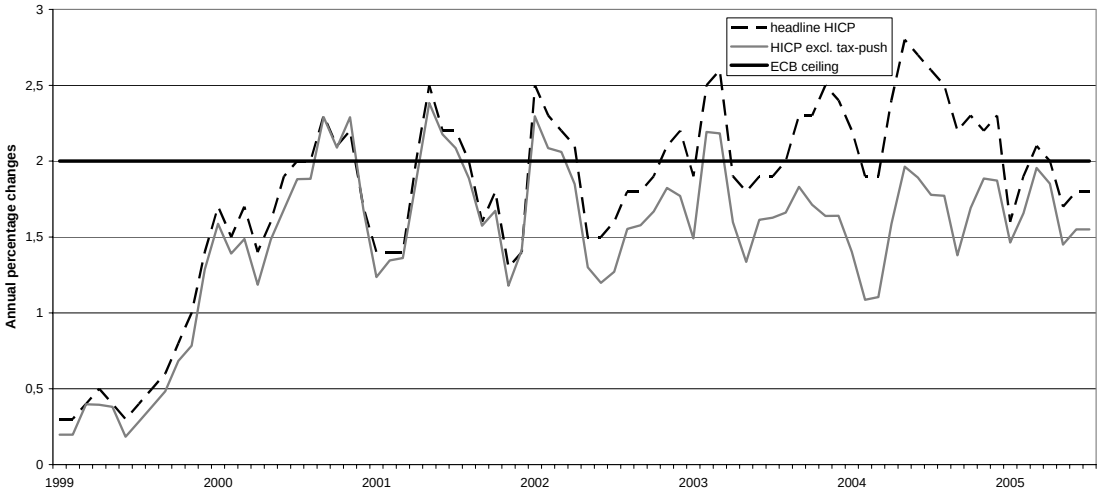
Stark differences in fiscal policy traditions between France and Germany could be observed during the 1990s, with Germany pursuing a pro-cyclical consolidation strategy whereas France opted for an anti-cyclical one (Bibow 2004c). Repeating old patterns, it seems, since 2001, France delayed fiscal retrenchment as long as it could, even boosting real public consumption expenditures to 4.6 percent in 2002, while pro-cyclical fiscal retrenchment once again characterized the German situation; with fiscal relief in 2001 being focused on corporate taxes.[16]

Alas, with the budget balance surpassing the three percent ceiling in that year, SGP-wisdom has meanwhile caught up with France, too. At a mere 1.4 percent rate, real public consumption expenditures are still growing a lot faster than in Germany (-0.1) today, but as far as tax-push inflation is concerned France has become even more similar to Germany.

According to the ECB proxy measure, which in France's case includes administered service prices with an aggregate HICP weight of five percent (see Figure 15), tax-push inflation has greatly distorted France's headline inflation upwards since the end of 2002. While tax-push still only added 0.2 to 0.3 percentage points to headline inflation in 2002, its role increased sharply in the course of 2003 to little less than 1 percentage point by yearend, a level from which it only started to decline again from October 2004 onwards to currently around 0.2 – 0.3 percentage points.

[16] Interestingly, France's and Germany's performances were almost like mirror images in more than just one respect. While GDP growth has slowed markedly since 2001 in France too, a decomposition of France's growth shows that while the GDP growth contribution of net exports, which had been generally positive throughout the 1990s, turned negative since 2001, France's domestic demand growth held up far better than in Germany's case. Accordingly, whereas Germany's current account position has increased to 4 percent of GDP, France's surplus of 3 percent of GDP in 1999 has meanwhile turned into a current account deficit of around 1 percent of GDP.

Figure 15. Tax-push in France according to the ECB proxy measure

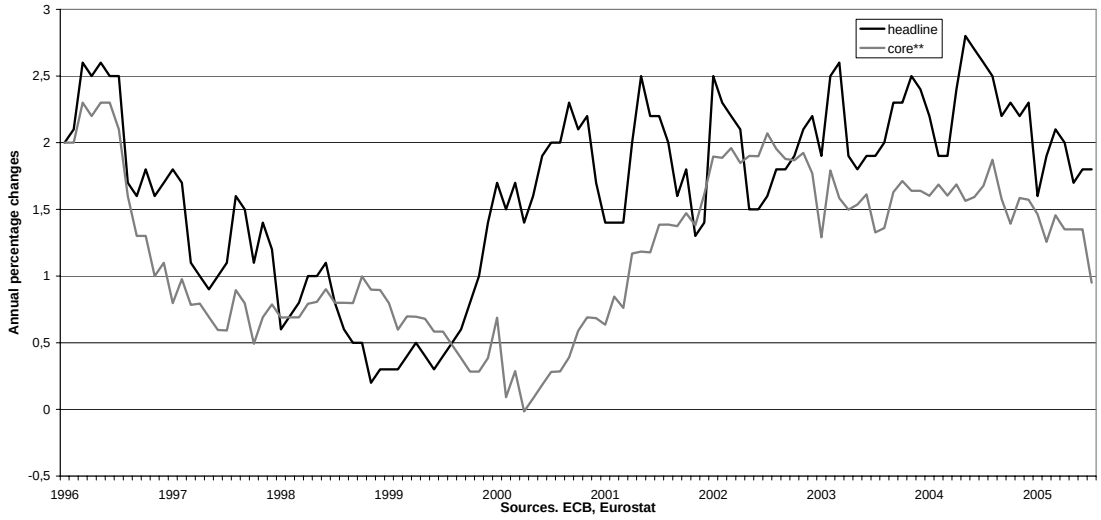


Source. ECB, Eurostat (July 2005) Note. The ECB proxy measure only captures the role of tobacco products and a narrow group of administered prices within the services sector (aggregate HICP weight of approx. 5%).

This decline is largely due to the wearing off of the earlier tobacco tax hike. By contrast, GAP inflation, which started to accelerate sharply in late 2002, is pacing ahead at three times the rate of market-determined underlying inflation; with the latter currently running at about 1.5 percent (see Figure 16); well above Germany's level as France's wage inflation has not yet succumbed to German levels. It is noteworthy that while tobacco tax increases also led to a temporary upward distortion previously in 1997, as part of France's efforts to make it below the three percent budget hurdle, the major role played today by GAP inflation is a new phenomenon.

Figure 16. Market-determined core inflation in France

Significant decline since 2002, but well above Germany's level



Sources. ECB, Eurostat

Notes. Core excludes food, energy, alcohol and tobacco as well as administered prices (ECB synthetic index)**

The full extent of the reversal in tax-push inflation is not revealed by the ECB proxy measure though, since it does not include VAT changes. For back in 1999-2000 *cuts* in indirect taxes (VAT standard rate reductions of April 2000, in particular) were one factor behind the very low inflation at that time. And as the temporary effect of the VAT cuts in 2000 wore off, this was one factor behind the inflation spurt that occurred in 2001. INSEE, France's statistical office, calculates an index of underlying inflation which excludes administered prices and fiscal measures as well as especially volatile prices, referred to in Banque de France publications (see Banque de France 2004, 2005). The Banque de France in there attributes 0.6 percentage points of France's inflation rate in 2003 to fiscal measures and administered prices, and 0.7 percentage points in 2004. As to the euro area as a whole, the respective figures given there are 0.4 and 0.7 percentage points. Note that this is well in excess of what the ECB proxy measure suggests.[17]

In summary, given the country's weight in the euro area HICP of some 20.696 percent, France has no doubt been one of the key drivers behind tax-push inflation in the euro area in recent years. A sharp reversal occurred between 2000, when France was growing strongly and budgetary leeway was partly used for tax reductions, including cuts in VAT, and 2002 when the country got into conflict with the three percent ceiling of the SGP. Given that France continues facing SGP-imposed budgetary pressures, the country's contribution to the tax-push phenomenon may be here to stay.

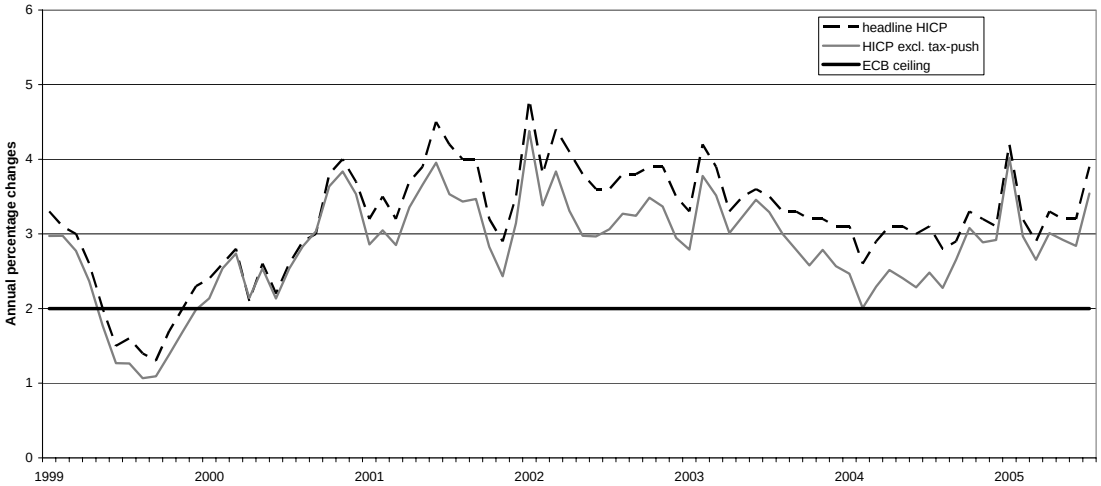
Greece

Since 1997 and until recently Greece has enjoyed fast GDP growth around 4 percent per year. GDP growth was wholly domestic demand-driven, while net exports generally subtracted around 1 percentage point from it. As the euro and hence the interest rate convergence process arrived in Greece with a two-year delay, the country sailed through the 2001 global slowdown and right to the Athens Olympic Games of 2004, only to wake up to the truth of the SGP a little later. While investment has plunged already, public consumption too seems ripe now for a real crunch as revisions showed the country's

[17] Similarly, the IMF (2005a, p. 8-9) calculated that administered price hikes "cut some 0.7 and 0.4 percentage point off real disposable incomes in 2004 and 2005, respectively".

budget deficit far exceeding the three percent limit ever since 2000 and in excess of 6 percent of GDP in 2004. Greece's government has committed itself to cutting the deficit below 4 percent of GDP in 2005 and to 2.9 percent next year. Measures to achieve this aim include a one-percentage point increase in VAT and higher excise duty, imposed in March 2005 (Financial Times 21 June 2005).

Figure 17. Tax-push in Greece according to the ECB proxy measure



Source. ECB, Eurostat (July 2005) Note. The ECB proxy measure only captures the role of tobacco products and a narrow group of administered prices within the services sector (aggregate HICP weight of approx. 7%).

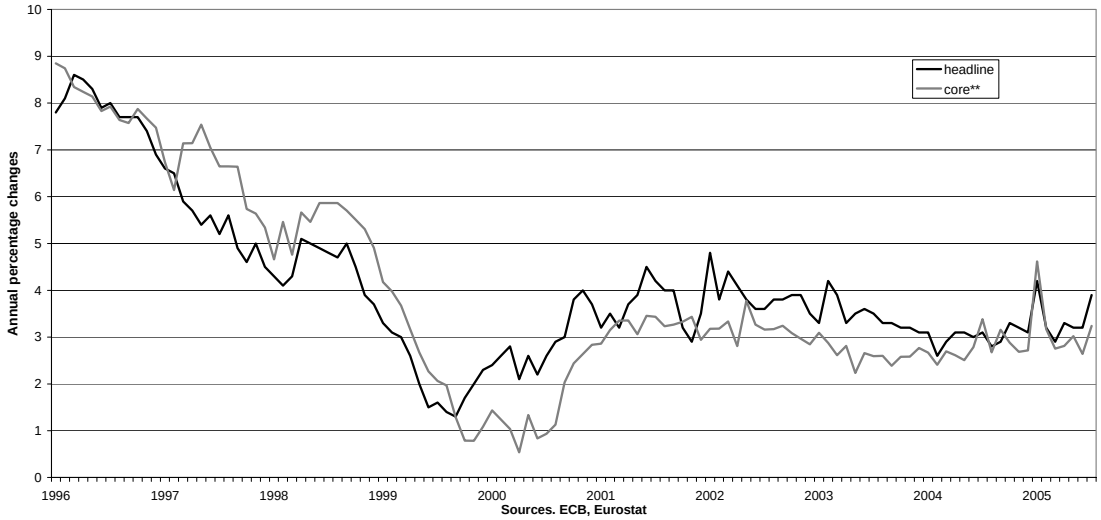
As Figure 17 shows, based on the ECB proxy measure with a weight of around 7 percent in Greece's consumption basket, tax-push inflation has played a role in Greece since 2001, albeit only a small one in relation to the *comparatively* high level of market-determined inflation. In fact, market-determined core inflation in Greece is stable at a three-percent level (see Figure 18) – well in excess of the euro area average.[18] A tobacco tax increase played a role for a year starting in September 2003. Otherwise administered service price inflation around 5 percent has contributed continuously to headline inflation by about 0.3 – 0.4 percentage points since 2001. It may well be that this factor reflects relatively high public sector wage inflation rather than genuine consolidation measures –

[18] The Balassa-Samuelson effect may be partly responsible for Greece's higher inflation. But the OECD (2001, pp. 27-8) also refers to an experience which Greece is sharing with other former high-inflation countries in Europe's south: "Wage moderation in recent years has led to very moderate nominal wage increases by Greek standards and sharply declining unit labor costs. The latter still rose at a rate of 9.3 per cent in 1997, but have come down to an estimated 2 per cent in 2000. Yet, wage moderation has gone even further in many other euro area countries."

as yet. More important is that ECB proxy measure fails to reveal the most interesting facts about true tax-push in Greece.

Figure 18. Market-determined core inflation in Greece

Stable growth and stable underlying inflation - so far



Sources. ECB, Eurostat

Notes. Core excludes food, energy, alcohol and tobacco as well as administered prices (ECB synthetic index)**

The point is that *negative* tax-push inflation seems to have played an important role in Greece's dash below the Maastricht inflation criterion in the late 1990s. The OECD (2001, p. 28) observes that: "permanent cuts in indirect taxes on petrol, heating oil, electricity and cars have helped to restrain price increases. Such cuts were gradually introduced between October 1998 and December 1999. Official estimates suggest that they reduced average annual consumer price inflation by 0.9 percentage points in 1999". Today, the SGP-imposed consolidation measures are having the opposite effect on headline inflation. That is, another reversal is at play here, *but none of all this is reflected in the ECB proxy measure*. While these developments will have little impact on the euro area's HICP given the country's weight of only 2.745 percent in it, Greece promises to remain an interesting case to study the tax-push phenomenon as such. Alas, no national measure is available either it seems.

Ireland

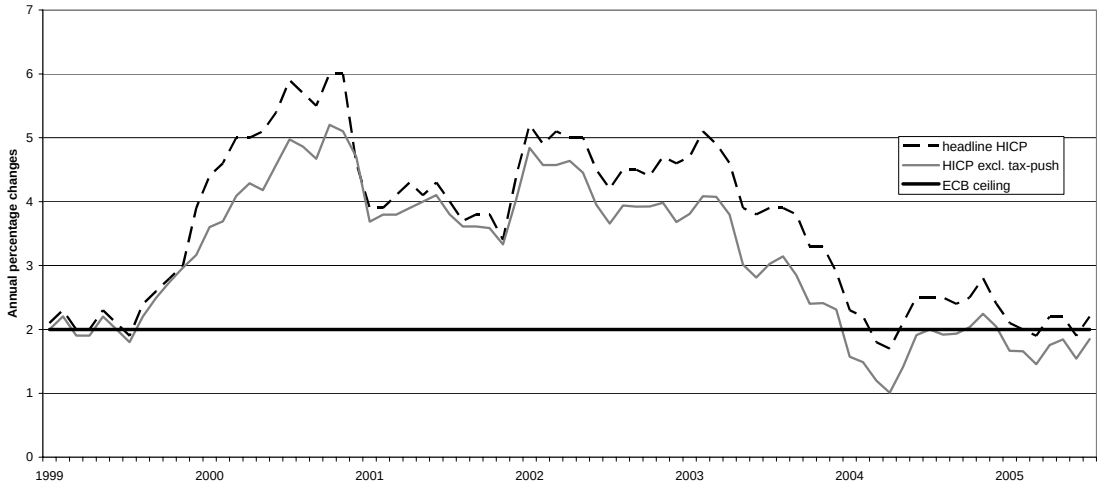
Ever since its growth take-off in the mid1990s, Ireland has been Europe's star performer. Both EU transfers as well as large-scale foreign direct investment played a key role in the

country's investment and export-driven growth that in some years featured double-digit GDP growth rates; and a correspondingly rapid decline in its public debt ratio (Bibow 2004). While net exports continue to contribute around 2 percentage points to GDP growth, investment (non-residential and more recently residential investment too) has slowed markedly since the peak of the boom in 2000. Since late 1999 and until recently Ireland also experienced the highest inflation rate in the euro area, with HICP peaking at 6 percent in November 2000 (national CPI inflation, 7 percent) and only declining below three percent in the course of last year.

Back in 2000, Ireland had a budget surplus of more than 4 percent of GDP. More recently, the budget has been in a near-balanced position. Nonetheless, Ireland was the first country to be warned by the European Commission back in 2001 when it made use of its fiscal leeway by cutting direct taxes (as the government's part in the Programme for Prosperity and Fairness agreed with social partners). Indirect taxes, by contrast, have been on the rise.

According to the ECB proxy measure (see Figure 19), which includes administered service prices with an aggregate weight of 5 percent in the overall HICP, tax-push inflation contributed significantly to headline HICP inflation between December 1999 and October 2000 and then again since 2002 until today.

Figure 19. Tax-push in Ireland according to the ECB proxy measure

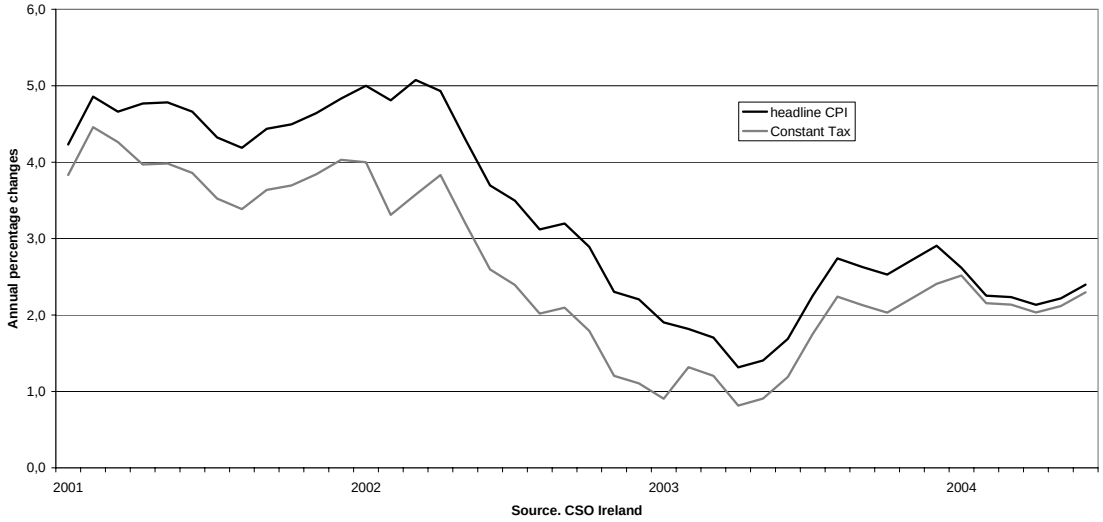


Source. ECB, Eurostat (July 2005) Note. The ECB proxy measure only captures the role of tobacco products and a narrow group of administered prices within the services sector (aggregate HICP weight of approx. 5%).

As to the first occasion, the measure properly captures the one-off impact of an increase of tobacco excise duties, which added about 0.75 percentage point to the CPI over the period in question, before dropping out of the index again in December 2000 (OECD 2001, p. 37-9). Further tobacco tax increases then followed in December 2002 and December 2003, the effects of which only vanished from the index by late 2004; a factor which thus contributed to the decline in Ireland's HICP inflation to the 2 percent level in early 2005. On the other hand, administered service price inflation began to accelerated sharply to an annual rate around 10 percent in 2000 and is currently still running at little less than that, continuously adding between 0.3 to 0.5 percentage points to HICP headline inflation since 2001.

While no national index of administered prices is available, developments regarding indirect taxes may also be investigated on the basis of Ireland's national CPI and a more comprehensive measure of indirect taxes calculated by Ireland's Central Statistics Office (CSO). CSO publishes a "Constant Tax (consumer) Price Index" (CTPI) which is designed to exclude from the CPI the effect of changes in the level of indirect taxes since the base reference period. Effectively, this measure excludes two effects: first, the impact due to changes in the tax regime and, second, the impact of the "ad valorem effect" on tax receipts of changes in the pre-tax level of prices of goods and services. In addition, the CSO also publishes an estimate of the "immediate direct contribution of changes in the tax regime on the monthly CPI according as the changes are implemented in practice" (CSO 2005, p. 21), which excludes any ad valorem impact.

Figure 20. Contribution of indirect taxes according to Ireland's "Constant Tax index"



As figure 20 shows, this national measure (base December 2001 = 100) confirms that indirect taxes contributed significantly to headline inflation in Ireland in the years 2002 to 2004, even more so than the ECB proxy measure would suggest. This is due to the fact that while tobacco tax increases featured prominently other measures included VAT increases as well as hikes in various other excise duties (energy, alcohol) and the vehicle registration tax, for instance (OECD 2003).

Given its favorable budgetary position, no immediate SGP-imposed pressures have been the driving force behind tax-push inflation in Ireland. Rather, a more general shift away from direct toward indirect taxation may have been at play, it seems, combined with the working of the Balassa-Samuelson effect in the context of high public sector wage inflation as far as administered service price inflation is concerned. Overall, there is no denying that tax-push inflation is part of the explanation of Ireland's rather high inflation until recently, even if for reasons other than SGP pressures. But given the country's weight in the euro area HICP of just 1.321 percent it is also clear that Ireland played only a minor role in the phenomenon of inflation persistence which characterizes the euro area until today. Meanwhile, Ireland's headline HICP inflation has declined toward two percent while market-determined core inflation is running at around 1.5 percent (see Figure 21).

Figure 21. Market-determined core inflation in Ireland

Sources. ECB, Eurostat

Notes. Core excludes food, energy, alcohol and tobacco as well as administered prices (ECB synthetic index)**

Italy

Italy's manufacturing sector has not emerged from recession since the 2001 slowdown, as competitiveness and export performance deteriorated sharply since the late 1990s. A current account surplus of some three percent of GDP by the mid 1990s has meanwhile turned into a deficit of two percent. Private consumption and residential investment fared somewhat better at first than in Germany, in particular. But domestic demand was further crushed when budgetary pressures hit public consumption in 2003. After extensive use of one-off budgetary measures in recent years, Italy may have little leeway left over by now. With its deficit of three percent of GDP in 2004 forecast to rise steeply, the country is facing strong SGP-imposed pressures today.

Italy's inflation has been generally higher than the euro area average. Core inflation rose from its two percent level to three percent over 2002 and 2003, and has remained stuck at a two percent level since 2004. The OECD (2000, 2001, 2003, 2005) attributes this mainly to a decline in productivity growth and structural rigidities, which have kept wage inflation and profit margins up. Running at around three percent per year wage inflation in Italy is higher than in Germany, but low by any reasonable standard.

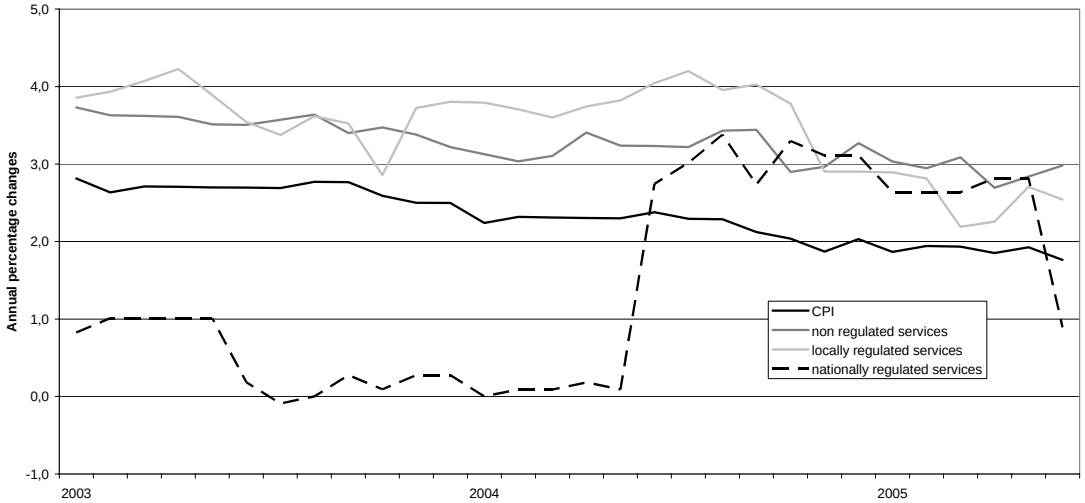
Figure 22. Tax-push in Italy according to the ECB proxy measure

Source. ECB, Eurostat (July 2005) Note. The ECB proxy measure only captures the role of tobacco products and a narrow group of administered prices within the services sector (aggregate HICP weight of approx. 5%).

According to the ECB proxy measure (see figure 22), which in Italy's case includes administered service prices with an aggregate weight of 5 percent, tax-push inflation emerged as a significant force in 2002 and has pushed up headline inflation by between 0.2 and 0.5 percentage points in recent years. This mainly reflects a series of tobacco tax increases starting in 2003. By contrast, there was a continuous contribution from administered service prices of only 0.1 to 0.2 percentage points annually.

Figure 23. CPI confirms that regulated service prices so far not the issue

But for how much longer?

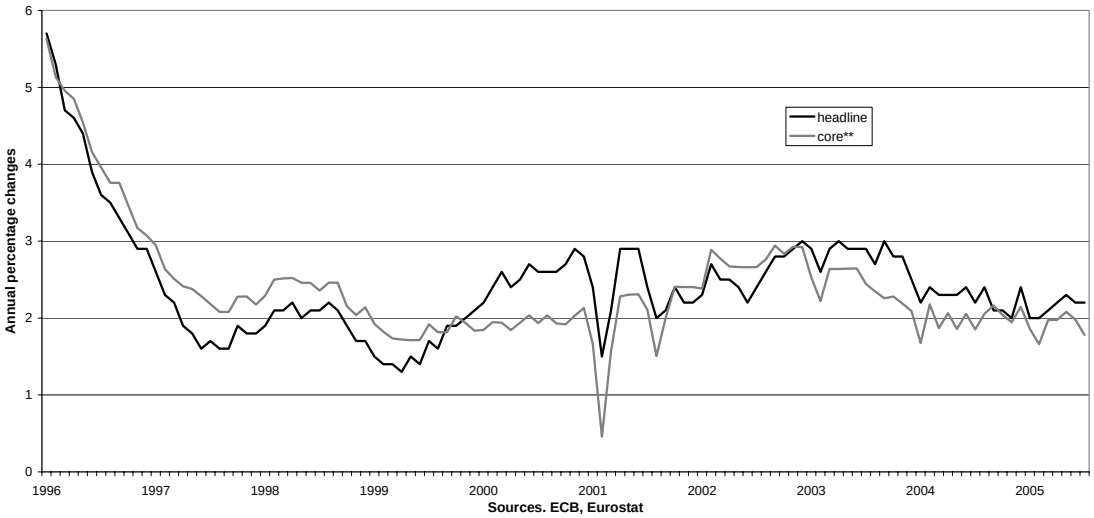


Source. Istat

Based on the national consumer price index, the Italian Central Statistical Office (Istat) calculates a sub-index of regulated service prices, distinguishing further as to whether regulation takes place at the local or national level. Figure 23 shows a steady decline in headline CPI inflation from just below three percent in early 2003 to below two percent in late 2004, with non-regulated service price inflation generally running at about one percentage point higher. A curious contrast emerges as to regulated service prices: while locally regulated ones increased at a rate similar to non-regulated service prices, nationally regulated ones had been significantly lower lower than that until May 2004, when they temporarily increased sharply. While anecdotal evidence might suggest otherwise, this index based on the CPI confirms the result from the ECB proxy measure: administered service price inflation has so far not played any great role in Italy.

The Banca d' Italia's analysis further corroborates this result. Looking at both regulated service as well as goods prices, the bank observes: "The contribution of regulated prices to the year-on-year increase in the general index in 2004 amounted to 0.3 percentage points, largely attributable to the increase in the prices of tobacco products (about 10 per cent) and some local services (water, waste disposal and public transport). By contrast, the prices of regulated energy products (gas and electricity) helped slow the rise in the general index owing to the lag with which they are adjusted to changes in the prices of energy sources" (Bank of Italy 2005, p. 40).

Figure 24. Market-determined core inflation in Italy



Sources. ECB, Eurostat

Notes. Core excludes food, energy, alcohol and tobacco as well as administered prices (ECB synthetic index)**

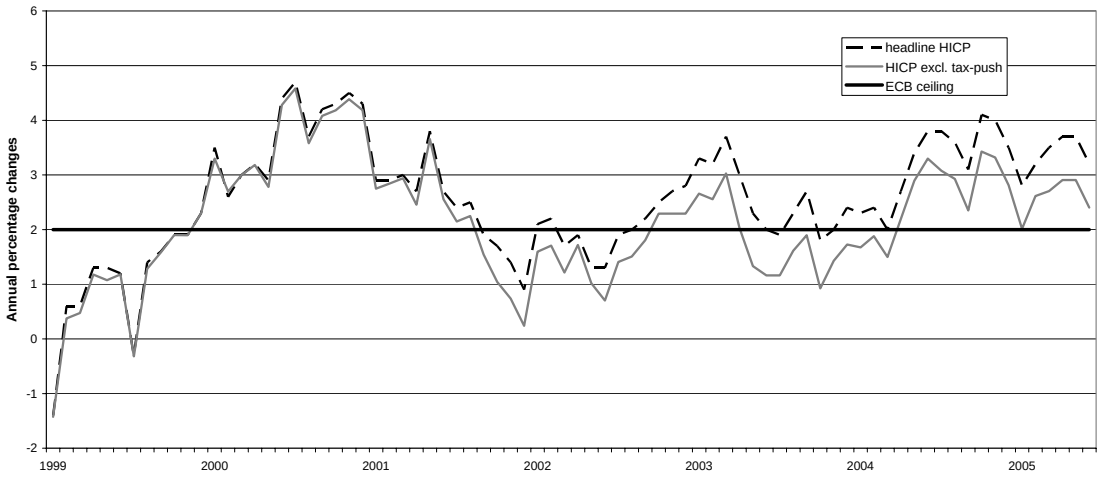
While this suggests that the lagged effects of rising international energy prices might affect Italian headline inflation in the near future, the surprising result remains that so far tax-push inflation has not played much of a role in Italy. This stands in sharp contrast to the situation in France and Germany. Seen in a slightly different light, it is of some interest that the reduction in the dispersion of headline inflation rates in the euro area in 2004 owed decidedly to divergent trends in tax-push inflation. Underlying inflation trends better reveal the true situation though. As Figure 24 shows, Italy's market-determined core inflation is still running at two percent – compared to near-zero in Germany and one percent in France. Given Italy's budgetary situation, it is not unlikely that tax-push inflation will play a bigger role in Italy too in coming years. With a weight of 19.241 percent in the euro area HICP, this is bound to impact markedly on euro area headline inflation.

Luxembourg

After enjoying a span of remarkably strong GDP growth in the second half of the 1990s, the Grande Duché has not escaped the 2001 slowdown unscathed. While cuts in direct taxes supported disposable incomes in 2001-2002, Luxembourg is today among the brigade of countries plagued with subdued domestic demand growth. Continuing to benefit from a large net export contributions to GDP growth, public consumption too is set to decelerate further, as the budget surplus of some six percent of GDP around the turn of the century has meanwhile turned into a small deficit.

Luxembourg's headline inflation is especially volatile and has been on the high side among euro area countries back in 2000 and again today. The OECD (2001, 2003) blames automatic indexation for delaying the response of wage inflation. Also, in Luxembourg's case, the introduction of euro coins and notes is estimated to have added a hefty 0.7 percentage points to headline inflation from January 2001 to July 2002. It is noteworthy that tax-push inflation too has featured prominently in Luxembourg's consumer price developments since 2001.

Figure 25. Tax-push in Luxembourg according to the ECB proxy measure



Source. ECB, Eurostat (July 2005) Note. The ECB proxy measure only captures the role of tobacco products and a narrow group of administered prices within the services sector (aggregate HICP weight of approx. 3.5%).

According to the ECB's proxy measure (see figure 25), which includes administered service prices with an aggregate HICP weight of only 3.6 percent, starting in mid 2001 and until today tax-push inflation has contributed between 0.3 and 1 percentage point to headline HICP inflation. This has largely owed to a whole series of tobacco tax increases. In addition, administered service prices grew strongly in 2003 and until mid 2004.

The national authorities are well aware of the tax-push phenomenon and national studies show that the ECB proxy measure greatly underestimates its importance. The 2003 Annual Report of the Banque Centrale du Luxembourg ([BCL] 2004a, p. 13) observes that "numerous factors explain the stickiness of underlying inflation observed in 200[3], notably, the increases in the prices of public utilities and tobacco, the increase in the minimum wage in the beginning of the year, the impact of the past two wage indexation tranches, the generalization of parking fees in Luxembourg City, the rises in the prices of medical and dental services, as well as the impact of the summer heat wave on the prices of unprocessed food". Further actions were then implemented in 2004 that are not captured by the ECB proxy measure either, like increases in VAT and the level of excise duties on fuel, for instance.

It is estimated that the "impact des measures gouvernementales" on the national CPI amounted to: 0.4 percentage points in 2003 and 0.5 percentage points in each 2004 and 2005. The impact on the HICP is estimated to have been even higher, namely: 1.0

percentage point in 2003, 1.5 percentage points in 2004, and 1.7 percentage points in 2005 (BCL 2004a, p. 27). More details underlying this analysis appeared in the Bulletin 2004/3 (BCL 2004b), including ad hoc calculations of the impact of changes in indirect taxes other than excise duties on tobacco products.[19] The study distinguished between an index "prix administres restreint", equivalent to the administered service price component in the ECB proxy measure with an aggregate weight of 3.6 percent, and an index "prix administers large", which, presumably, better describes the true situation in Luxembourg, featuring an aggregate weight of 8.8 percent (or even 10.9 percent for the NICP).

In summary, given the country's weight in the euro area HICP of only 0.279 percent, Luxembourg contributed correspondingly little to inflation persistence in the euro area. Clearly, though, tax-push inflation has played an increasingly important role in keeping Luxembourg's inflation up in recent years (see also BCL 2004c, Lünnemann and Mathä 2004). While other possible motivations cannot be ruled out, the phenomenon's rising importance coincided with the country's deteriorating budgetary position; without Luxembourg facing any immediate SGP-imposed pressures as yet. Luxembourg's headline inflation remains high and volatile by euro area standards, while core inflation has declined to around 1.5 percent (see Figure 26).

[19] As to tobacco products, Luxembourg is peculiar since this product category has a weight of no less than 9.3 percent in the HICP compared to a weight of only 1.6 percent in the NICP, the difference reflecting consumption by non-residents. This implies that while the HICP properly measures both the fiscal importance to Luxembourg of tobacco tax increases as well as the price impact for the euro area as a whole, the impact on the purchasing power of residents of Luxembourg is much smaller (BCL 2005).

Figure 26. Market-determined core inflation in Luxembourg

Sources. ECB, Eurostat

Notes. Core excludes food, energy, alcohol and tobacco as well as administered prices (ECB synthetic index)**

Netherlands

Starting to overheat in the late 1990s, the 2.5 percentage points VAT increase in 2001 seems to have played a rather critical role in ending the supposedly "miraculous" performance of the Dutch economy.[20] As indirect tax increases pushed headline HICP inflation up decidedly, peaking at over five percent in the fall of 2001, this factor dealt a death blow to wage moderation for several years (until a new Accord was reached in October 2003 for a freezing of nominal wages over 2004-5.) Despite its structural budget balance in 2000, in compliance with the SGP, the country faced an excessive deficit procedure in 2003 when its deficit ratio exceeded 3 percent. Acting swiftly, four consolidation packages were enacted "with a cumulative effect of some € 20 billion (3.8 per cent of GDP) by 2007" (OECD 2004, p. 15).

Commenting on inflation persistence the Nederlandse Bank recently declared: "Over the past few years the Netherlands has seen HICP react more strongly to the economy than has been the case in the euro area at large. Between 2001 and 2003, for instance, economic growth fell by 2.3 percentage points in the Netherlands and HICP inflation

[20] Bibow (2001b) argues that the "Dutch model" was based on little else but a systematic wage underbidding strategy that worked well for a small and very open economy like the Netherlands, but has absolutely nothing to offer in terms of advice to larger economies like Germany or Euroland.

came down 2.9 percentage points, compared with economic growth at 1.1 percentage points and HICP inflation at 0.3 percentage point for the euro area" (DNB, Quarterly Bulletin March 2005, p. 19).

This comment misses the mark by far. Since tax-push inflation has played a very big role in the Netherlands, and even before it took off in other parts of the euro area in 2002, the phenomenon has masked the responsiveness of market-determined inflation trends greatly. The point is that Dutch tax-push and overall price developments were out of sync with developments elsewhere. For one thing, Dutch headline inflation declined sharply after 2001 exactly for the fact that the 2.5 percentage point VAT hike of the year before vanished from the scene.

Figure 27. Tax-push in The Netherlands according to the ECB proxy measure

Source. ECB, Eurostat (July 2005) Note. The ECB proxy measure only captures the role of tobacco products and a narrow group of administered prices within the services sector (aggregate HICP weight of approx. 8%).

The ECB proxy measure (see Figure 27), which includes administered service prices with an aggregate HICP weight of eight percent, cannot properly capture this facture since it does not account for VAT changes. Nonetheless the measure does reveal that tax-push has played a significant role in the Netherlands since 2001, and especially in 2004 when it added around one percentage point to headline HICP at times.[21] The driving force behind tax push in the Netherlands has changed though: until 2001 it mainly reflected a shift from direct to indirect taxation, whereas in recent years budgetary pressures have gained the upper hand. In any case, and similar to Germany, core inflation has meanwhile

[21] Measures included a sharp price increase in the compulsory health system (Ziekenfondswet).

fallen to an extremely low level of around 0.5 percent reflecting nominal wage developments (see Figure 27).

Figure 28. Market-determined core inflation in The Netherlands

Sources. ECB, Eurostat Notes. Core excludes food, energy, alcohol and tobacco as well as administered prices (ECB synthetic index)**

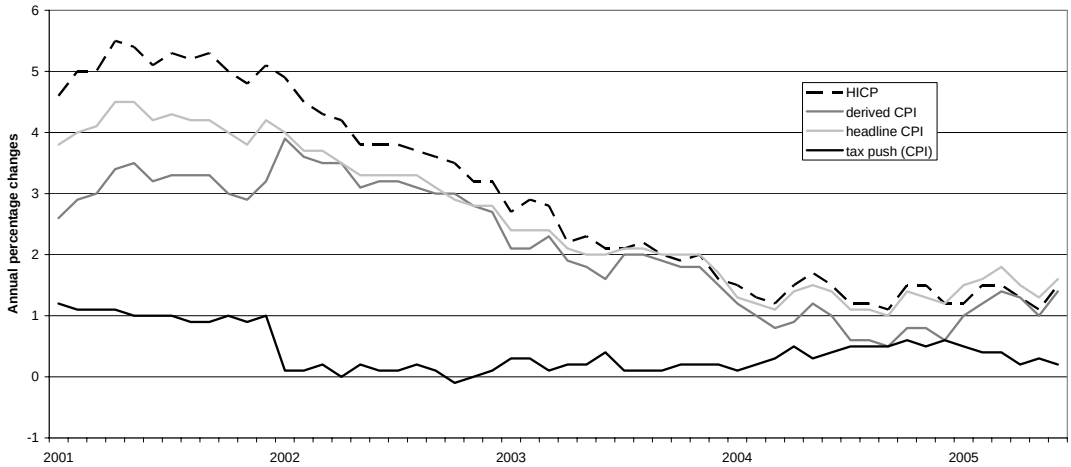
Based on the NICP, Statistics Netherlands (CBS) publishes five different variants of underlying inflation measures, featuring among them also an index that excludes the effects of changes in the rates of product-related taxes (e.g. VAT and excise duties on alcohol and tobacco) and subsidies. In contrast to the Irish constant-tax CPI, the Dutch "derived CPI" index does not measure the "ad valorem effect". In contrast to the Finish NPI, only the direct effect of tax changes is taken into account in the monthly series (while estimates that include the indirect effects as well are published quarterly).[22] In addition, the Dutch derived CPI also holds constant "consumption-related taxes and government services" due to local authorities, which form group 13000 in the Dutch CPI including: real estate tax, motor vehicle tax, sewerage charge, waste taxes, charges paid to the Dutch Water boards, fees on passports and driver's licences, tuition fees, etc.[23] This indicates that the term "tax" is interpreted broadly here to include some charges and fees that would show up in measures of administered prices elsewhere (Germany, for

[22] No such series derived from the HICP for the Netherlands is available as yet. However, the methodology underlying the Dutch measure (see De Haan 1998) has become the model for a EU-wide project for such an index piloted by Eurostat.

[23] Consumption-related taxes included in the Dutch CPI include items that are not included in the HICP (like motor vehicle tax, for instance), one factor which explains the deviation between the two measures in 2001-2002.

instance). The aggregate weight of group 13000 in the CPI is 3.4 percent – which is significantly lower than the 8 percent for the administered service group included in the ECB proxy measure though. According to Figure 29, prices included in group 13000 of the Dutch CPI stayed calm in 2001, but then played a key role in 2003-2004. For the time being, tax-push inflation in the Netherlands has calmed down since the start of 2005.[24]

Figure 29. Tax-push in The Netherlands according to the "derived CPI"



Source. CBS Note. The tax-push measue based on the "derived" NICP better captures the role of indirect taxes than the ECB proxy measure, but only partially captures administered price inflation.

Portugal

Portugal enjoyed strong GDP growth in the second half of the 1990s, but slumped together with much of the rest of the euro area (except for its neighbour Spain) in 2001. Together with Germany, the country was singled out by the European Commission in early 2002 to receive an "early warning". Later in the year, the Council decided that Portugal was running an excessive deficit. Facing the threat of a SGP penalty, the country began to impose brutal fiscal austerity measures in 2002. According to OECD's (2005) latest estimates (Economic Outlook no. 77), the structural primary deficit improved by three percentage points between 2001 and 2003. The financial deficit shrank temporarily,

[24] The ECB's projections of June 2, 2005, even include a one-off (0.2 percentage point) reduction in the area-wide price level in 2006 projected to result from a health care reform in the Netherlands. In 2006, the Netherlands will introduce a compulsory private health insurance for essential curative care (OECD 2004, p. 76) which is supposed to lead to price-reducing efficiency gains. Related to this households experienced a significant rise in the tax burden over 2004-5 the price effects of which may be incompletely captured by the tax-push measures above.

but bounced back to well above its 2001 level in 2005 though – as the country sank into severe crisis.

Earlier than elsewhere, tax-push gained prominence in Portugal in 2002, as consolidation attempts included a two percentage point hike of the standard VAT rate (as of June 2002; Banco de Portugal 2004). This is estimated to have led to an increase in headline inflation by at least 0.5 percentage points (OECD 2003, p. 32)[25], and thus partly explains the conspicuous inflation differential between Portugal and the euro area average at the time. The same holds for tax hikes on oil in 2003.

Figure 30. Tax-push in Portugal according to the ECB proxy measure

Source. ECB, Eurostat (July 2005) Note. The ECB proxy measure only captures the role of tobacco products and a narrow group of administered prices within the services sector (aggregate HICP weight of approx. 5%).

None of this is revealed by the ECB proxy measure (see figure 30), which includes administered service prices with an aggregate HICP weight of roughly 5 percent. The proxy measure does however show that administered service prices rose at a high rate and contributed around 0.4 percentage points to headline HICP inflation in recent years. Most recent measures enacted by the Portuguese government to bring the deficit back below three percent of GDP included another VAT rate hike to 21 percent (Financial Times Deutschland 31 May 2005). Further increases in excise duties on oil products and tobacco, for instance, are in the pipeline. Portugal's tax structure already features an unusually heavy reliance on consumption taxes (OECD 2001, p. 73), which is

[25] Banco de Portugal (2004, p. 156, fn. 3) estimates that in case of full pass-through the theoretical impact on the CPI were 0.8 percentage points in 2002 and 0.6 in 2003.

problematic in view of significantly lower rates in neighbouring Spain. Meanwhile, both headline as well as market-determined core inflation have declined below 2 percent (see figure 31).

Figure 31. Market-determined core inflation in Portugal

Sources. ECB, Eurostat
Notes. Core excludes food, energy, alcohol and tobacco as well as administered prices (ECB synthetic index)**

Given the country's weight in the euro area HICP of just 2.129 percent Portugal's tax-push inflation does not have much of an impact on area wide developments.[26] But the country seems to exemplify particularly well how procyclical consolidation attempts may cause the tax-push variety of "stagflation" together with budgetary havoc.[27]

Spain

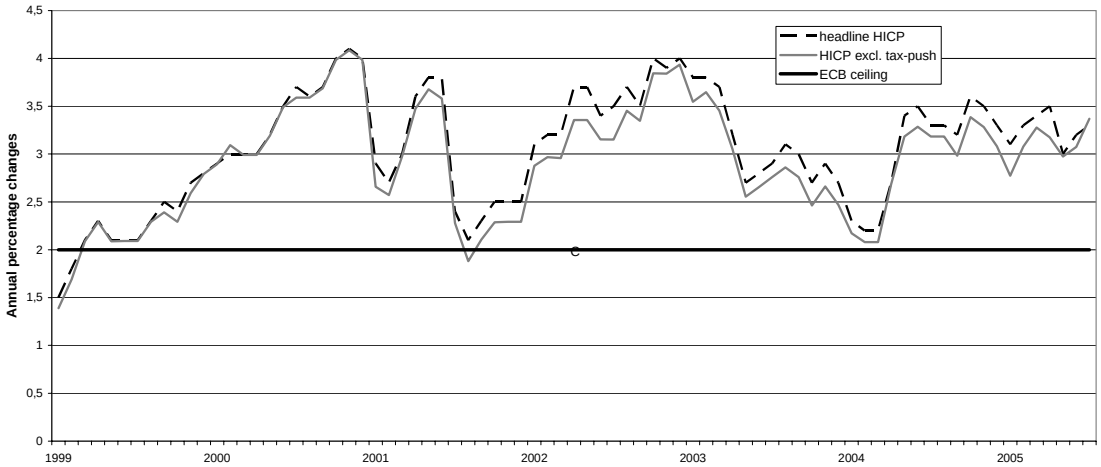
Spain's GDP growth since the mid 1990s has been remarkable. The country escaped from the 2001 slowdown and is enjoying strong domestic-demand driven growth until today; overcompensating a strong export drag and a soaring external imbalance. As record-high unemployment rates have halved since 1992, budgetary developments were accordingly.

[26] In its latest projections of summer 2005, the Banco de Portugal foresees that a positive inflation differential will assert itself again in 2006: "Inflation projections for 2005 and 2006 for Portugal are largely conditioned by the impacts that the rise in indirect taxes considered in this forecast exercise will have on consumer prices. With regard to the rise in the standard VAT rate from 19 to 21 per cent, the effect on the annual average inflation rate is estimated to be 0.3 and 0.4 percentage points in 2005 and 2006, respectively."

[27] No national indices or studies on the price effects of administered prices and changes in indirect taxes currently exist in Portugal (Banco de Portugal, email, August 2005).

Apart from strong employment growth Spain has also benefited from nominal interest rates falling below nominal GDP growth at the start of EMU. In recent years, Spain's budgetary position has been roughly balanced. Any fiscal leeway has been used for tax cuts which further bolstered domestic demand – since the country is not facing any immediate SGP pressures.

Figure 32. Tax-push in Spain according to the ECB proxy measure



Source. ECB, Eurostat (July 2005) Note. The ECB proxy measure only captures the role of tobacco products and a narrow group of administered prices within the services sector (aggregate HICP weight of approx. 5%).

Correspondingly, while inflation in Spain is well above the euro area average (OECD 2001, 2003), tax-push inflation according to the ECB proxy measure[28], which includes administered service prices with an aggregate HICP weight of 5 percent, has played no significant part in it (see figure 32). In fact, a more detailed analysis shows that Spain at times even used indirect taxes to *reduce* cost pressures. For instance, in 2000, excise taxes on fuels, tobacco and alcohol were frozen at their 1999 rates (rather than raised in line with inflation as indexation would require) and certain expenditures moved to the lower VAT rate category (OECD 2000, p. 42). Overall, in Spain indirect tax increases have featured as part of a general shift away from direct toward indirect taxation rather than budgetary pressures playing any role; just as tax-push inflation has played no role in

[28] No measure or study of the price effects of administered prices and changes in indirect taxes seems to exist in Spain's case.

inflation developments in Spain.[29] No national indices of administered service prices or indirect taxes seem to exist.

Some preliminary conclusions

(1) The country-level analysis confirms that tax-push inflation has been a prime mover behind price developments in the euro area since the 2001 slowdown. To the extent that such measures exist, national measures – which generally better approximate the phenomenon – indicate that the ECB proxy measure, if anything, underestimates the magnitude of the tax-push contribution to headline inflation.

(2) The phenomenon of tax-push inflation has not arisen in a uniform way across the euro area though. Key to the overall effect on HICP inflation have been France and Germany. In these two countries tax push may have explained almost half of overall inflation at times. Italy, where tax push so far seems to have played only a minor role, stands in sharp contrast to developments in the other two big countries. This is also true for medium-sized Spain. Of the smaller countries, all except Finland saw an increase in importance of the phenomenon in recent years.

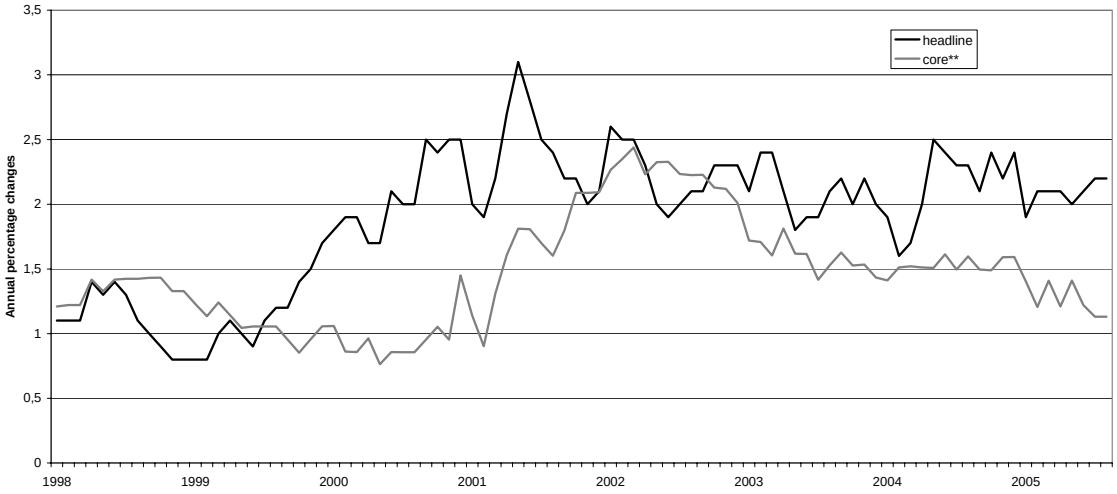
(3) The country-level analysis also yielded evidence supporting the hypothesis that budgetary pressures may be the key motive or force behind resorting to consolidation measures that cause tax-push inflation. This may be most severe in cases of countries facing excessive deficit procedures. But it also applies to countries that have experienced a significant deterioration in their budgetary position, though not facing any acute SGP-imposed budgetary squeeze yet.

(4) The magnitude of the tax-push phenomenon increased markedly between 2001 and 2004. It may have eased somewhat since the start of 2005 but remains considerable – and with the prospect of regaining new prominence in the near future.

[29] The OECD's (2001, p. 40-42) inflation decomposition exercise shows that net indirect taxes in 1999 and 2000 'rose more rapidly in Spain than in the rest of the euro area'. However, this seems to reflect improved VAT tax collection and strong consumption growth rather than hikes in indirect tax rates. As to the renewed strong growth in this component in 2003 and 2004, "in the context of a lack of changes in indirect taxation", the Banco de España (2005, p. 123) refers to the possibility of data distortions.

(5) Most importantly, ignoring the relevance of tax-push inflation may easily lead to misinterpretations regarding the persistence in inflation observed in the euro area in recent years. For when tax-push is taken proper account for, market-determined core inflation has indeed declined significantly since 2001, and to very low levels today indeed. Market-determined core inflation in the euro area is currently running at little more than one percent (see Figure 33).

Figure 33. Market-determined core inflation in the euro area



Sources. Eurostat, ECB (August 2005)
Notes. Core excludes, food, energy, alcohol, tobacco as well as administered service prices (ECB synthetic index).**

The point to be investigated in the next section is whether the ECB may have dealt itself a great disservice in refusing to provide more accommodation to the ailing euro area economy.

6. Assessing the relevance and implications of the tax-push phenomenon to policymakers in the light of theory

The previous section provided ample descriptive empirical evidence supporting the hypothesis that the apparent persistence in inflation since 2001 may have arisen as a consequence rather than despite of prolonged stagnation. Not market rigidities are then to blame for stagnation cum inflation persistence, but all too rigid macroeconomic policies; too rigid when it comes to effectively countering a slump in domestic demand. In this section, the analysis turns to an investigation of the role that macroeconomic policies

should have played in the light of economic theory. This will then provide a benchmark for assessing the functionality of monetary and fiscal policies as they have actually played out in recent years under Maastricht-style EMU conditions in section 7.

Two fundamental questions have to be addressed. One concerns the interactions and the coordination between fiscal and monetary policies. The other concerns the appropriate price index monetary policy should best focus on. It turns out that the two issues may be more closely related than is widely appreciated, particularly under Maastricht-style EMU conditions.

Interactions between fiscal and monetary policy are generally viewed exclusively from the perspective that fiscal policies can have adverse effects (or, spillovers) on monetary policy. Therefore a remarkable one-sidedness of the conventional approach to the issue may at once be attested. Accordingly, coordination between fiscal and monetary policies is quickly seen as potentially harmful if it might compromise monetary policy it its commitment to price stability. In other words, the sole concern in the modern literature[30] is with the potential threats that fiscal policies might pose to monetary policy and price stability, while, curiously, no such threats are perceived to exist in the opposite direction. If any impact of monetary policy on fiscal policy is discussed at all, the issue is certainly not that monetary policy can conceivably go astray too, be inappropriately tight in particular, but that fiscal policy simply has to react to any rise in interest rates (and, hence, interest service) by increasing the primary surplus accordingly; thereby obeying the solvency constraint. As nothing seems simpler than that, the euro area's finance ministers' notorious refusal to do the obvious would seem truly puzzling.

In a way, the presumed "deficit bias" in fiscal policy (or, tendency toward fiscal profligacy) is the counterpart to the alleged inflation bias in "discretionary" monetary policy arrangements that has received much attention in the literature and in policy debates following the seminal papers by Kydland and Prescott (1977) and Barro and Gordon (1983) on the time-inconsistency problem. As regards monetary policy, in theory, a simple solution to the whole matter appears to suggest itself: central bank independence. And once a central bank is judged as being sufficiently independent in

[30] See Buti 2003 and Beetsma and Debrun 2004 for recent reviews.

practice, academic researchers tend to view the problem as having been solved too. A key presumption here is that the right institutions *guarantee* the right policy conduct.

Things are trickier when it comes to fiscal policy though. Here the emphasis in the literature is not on independence, but "rules" – constraints that appropriately "discipline" fiscal conduct. For disciplined fiscal conduct is necessary to assure the dominance of monetary policy. Without such dominance, or even threats to the credibility of the independent central bank, price stability would be at risk. If a central bank might be forced to "monetize" budget deficits its supposed independence is hollowed out, on this view.

As the following quotation makes clear, theoretical support for this way of thinking is generally attributed to Sargent and Wallace's (1981) seminal paper on some supposedly "unpleasant monetarist arithmetic":

> "Monetary union in Europe has been influenced by debate in the 1970s and 1980s. The national central banks of EU countries, and in particular the Bundesbank, had a decisive influence on the design of EMU proposed in the Delors report (Delors, 1989). Central bank independence and a rule-based fiscal policy came to be regarded as a way to ensure monetary leadership. In order to avoid Sargent and Wallace's unpleasant arithmetic, a particular emphasis was put on the need to ensure budgetary discipline" (Buti 2003, p. 5).

Sargent and Wallace (1981) depicted a world in which a central bank that is lacking a dominant position vis-à-vis the Treasury department might end up facing the nasty choice between monetizing excessive budget deficits either today or tomorrow, that is, *not* being in control of price stability, and even in an otherwise monetarist model set-up. Their point was that at a certain debt ratio – with public debt being of the indexed type – the public might simply refuse to add government debt to their portfolios and the central bank be forced at that point to issue money to finance the deficit instead. A similar result for the case of fiscal dominance was then also obtained by the "fiscal theory of the price level" (Leeper 1991), in which however nominal debt plays a crucial role. Again, the central bank is seen as losing control over the price level, as the price level, according to this

theory, is the very mechanism by which the public translates any nominal stock of debt chosen by the fiscal authority into the equilibrium real stock of debt they desire to hold.

One may question Sargent and Wallace's assumption that the interest rate payable on public debt necessarily exceeds the growth rate of nominal GDP (Darby 1983). More fundamentally, one may challenge their "monetarist" assumption that monetary policy would neither affect real growth nor the level of interest over the policy-relevant time-horizon. One may similarly challenge the practical relevance of the fiscal theory of the price level (Buiter 2002). Finally, one may reasonably entertain some doubts as to the supposed impact of theoretical contributions to the actual Maastricht EMU institutional framework. Arguably, memories of "MEFO" loans and myths about Germany's hyperinflation past may have played a greater role; given the Bundesbank's role in the design of EMU also referred to in the above quotation.[31] Be that as it may, the fact remains that the chosen institutional set-up was intended to assure monetary dominance and that today any malfunctioning of the regime is quickly blamed on anything but the monetary institution that was granted such dominance in the policy play.

This may be a serious mistake though, even if it seems inconceivable – from this biased perspective – that an independent central bank and dominant monetary player could possibly commit any mistakes, or even be at the root of all troubles. But before investigating the ECB's actual conduct and contribution to the regime's malfunctioning, some qualifications are in order here as regards the biased perspective attested above.

[31] In referring to myths I do not wish to deny of course that Germany did experience one proper hyperinflation in 1922-3. It is curious though that the Great Depression and the proper deflation and banking crises this involved got somehow written out of Germany's monetary history. It is also curious that the consequences of Hitler's Totaler Krieg are often reduced to some supposedly monetary failing on the part of those who robbed some poor German savers (Tietmeyer 1991). It is clear, however, how very convenient all this was for the institution that could stylize itself as the rightful guardian against yet another hyperinflation. It is worthwhile to recall here the wisdom of Wilhelm Vocke, the first President of the Board of the Bank deutscher Länder, who asserted that "jede Inflation …[beginne] bei den Staatfinanzen in einer Aufblähung der öffentlichen Ausgaben". (Cf. Vocke 1973). Celasun, Gelos and Prati (2004) emphasize the role of fiscal expectations as potential obstacles to disinflation. However, and similar to the empirical relationship between money and prices that supposedly holds always and everywhere, the empirical evidence on Vocke's law too is not supportive for low-inflation environments as in the euro area. Catao and Terrones (2005: 529) conclude: "Results spanning 107 countries over 1960-2001 show a strong positive association between deficits and inflation among high-inflation and developing country groups, but not among low-inflation advanced economies".

For one thing, while it may be true that the design of Maastricht-style EMU was "influenced by debate in the 1970s and 1980s", debate and the economic mainstream have moved on meanwhile and escaped from the new classical nihilism of that era. As Lambertini and Rovelli (2004, p. 135) observe: "the main evolution in [mainstream thinking on monetary policy] may be synthesized as the demise of the Lucas supply function … the macroeconomics of temporary price rigidity [is] back in fashion … the renaissance of neo-Keynesian macroeconomics".

Perhaps related to the belated recognition of the fact that real world central bank do not control some "money supply" (as depicted in older textbooks), but conduct interest rate policies instead, the mainstream has come to realize that central banks are *inevitably* in the business of active demand management. Decades of research and evidence on the transmission mechanism of monetary policy are too hard to deny. And given the age-old Wicksellian insight – and paramount monetarist concern! – that interest rates cannot be fixed at some given level forever since this would result in price-level indeterminacy, it is clear that central banks *have to react* to developments in the economy and adjust interest rates in a timely and well-measured way, so as to have a stabilizing rather than de-stabilizing effect on the economy. Allsopp and Vines (2000, p. 1) referred to "the emerging consensus about the 'reaction function' approach to macroeconomic policy." Today, it is conventional wisdom that apart from controlling inflation central banks have another key function to fulfill, namely to stabilize output at its potential. And in this regard, today's conventional wisdom also holds that of the two macroeconomic tools available monetary policy is the more effective stabilization instrument; since discretionary fiscal policies are too hard to implement and should thus in general foresee no more than the free operation of automatic stabilizers (Taylor 2000).

Another qualification is that the "theory of optimum currency areas" (Mundell 1961, McKinnon 1963, Kenen 1969) has never really lost any of its prominence with respect to the EMU debate, not even in the 1970s or 1980s. And the spirit of this theory too is that macroeconomic policies play a paramount role as stabilization instruments. The important distinction drawn by this theory is between symmetric versus asymmetric shocks. The former pose no threat to a monetary union as long as the policy regime allows an appropriate common policy reaction. The latter pose no threat to the survival of

a monetary union as long as the policy regime allows appropriate national or regional policy reactions.

In view of the design of Maastricht-style EMU, it was clear beforehand that fiscal policies represent the member states' sole remaining instrument to cope with asymmetric shocks. Just as it was understood that monetary (and exchange rate) policies do not allow any response to idiosyncratic shocks, but provide the key common tool to counter common shocks. Given the lack of coordination of national fiscal policies the euro area's aggregate fiscal stance is essentially a random outcome.[32] In case of a common shock, the free operation of automatic stabilizers was the best to be expected. Furthermore, it may be debatable to what extent "flexible" versus "rigid" market structures either support or complicate the use of macroeconomic stabilization policies. But textbook fictions of instantaneous market-clearing are no guide here. For even the supposedly "flexible" US economy appears to need steering from – remarkably flexible! – macroeconomic policies.

The point at issue here is that there had never been any doubt about the fact that in case of a common shock, say a negative demand shock hitting the euro area (even if one country more than another), there was essentially only one tool available: monetary policy. Presumably, this is what Horst Koehler, as IMF Chairman, meant when he reminded the ECB that "monetary policy was the first line of defense". It is one thing that Mr Koehler played a prominent role in the design of Maastricht-style EMU (Dyson and Featherstone 1999). It is quite another that Wim Duisenberg's response was "that he had never heard of that" (WSJE 9 October 2002).

There is no reason to doubt that the late Wim Duisenberg represented the internal thinking at the ECB's top accurately, on this as on other occasions. The point is that

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[32] Interestingly, ECB Executive Board member Lorenzo Bini Smaghi (2005) has recently admitted just that when he observed that: "There is hardly any room for euro area governments to take common budget policy initiatives, even if they wanted to do so, in particular in reaction to common shocks. The assessment of the overall euro area budgetary stance can only be made *ex post*, with substantial lags, and with little value for the policy dialogue." It was known to everyone that at least as long as "safe" fiscal positions were not attained the ECB would not be in what Onorante (2004: 157) regards as the "best environment" for the ECB to operate in, an environment in which "fiscal policy stabilizes national output and unemployment while the central bank takes care of the common price stability". Suffice to mention that in a natural rate context taking care of common price stability includes taking care of common economic stability (Alesina et al 2001, Allsopp and Artis 2003).

today's conventional wisdom of monetary policy as the leading stabilization instrument is alien to the key personnel framing the ECB's own thinking of its role, which is haunted by memories of supposed "straw fires" ignited by demand management. Explicitly questioned on the interaction between fiscal and monetary policies in a situation where discretionary fiscal tightening enforced by the SGP might risk further destabilization of euro area economies, Mr Duisenberg responded in the following remarkable way: "I refuse to think in terms of there being a trade-off between certain fiscal policies and the monetary policy stance. The monetary policy stance is determined by our monetary policy strategy, which is forward-looking and has a medium-term horizon. I am not thinking in terms of compensating by one policy events that happen in the other, in particular when they are of a structural nature" (Monetary Dialogue 3 December 2002). When it was then explained to him that the demand impact of fiscal policy would imply a monetary policy reaction even within that strategy Mr Duisenberg revealed that: "I believe my models suggest that the impact on real output would be very limited indeed" (Monetary Dialogue 3 December 2002).

Observers trained in today's mainstream theory will be baffled by such observations and wonder how the ECB might conceive of its interest rate policies as representing anything else but demand management. Certainly it is not possible to make sense of the ECB's observations on fiscal policy in terms of the "German view"[33] that fiscal contractions would be expansionary. For in that case the allegedly too loose fiscal policies in 2000 should have prompted interest rate *cuts* rather than hikes, namely to counter their contractionary impact – when they clearly did not. The ECB appears to hold the view that expansionary fiscal policies are expansionary while contractionary ones are expansionary too.[34] Notice that this view would justify both interest rate hikes in response to expansionary fiscal policies as well as a refusal to cut in response to fiscal contraction.

[33] The GCEE propagated this view in the early 1980s but the international response to the "German view" was at first rather lukewarm (cf. Bibow 2004b) – until certain small-country tales seemed to prove the case (Giavazzi and Pagano 1990).

[34] For instance, the ECB's Annual Report 2000 reads: "the expansionary fiscal policies planned for this year [2001] in a number of euro area countries are not conducive to containing aggregate demand and inflationary pressures. Particularly in the countries experiencing high economic growth rates, inflationary pressures will receive an additional stimulus from expansionary fiscal policies" (p. 47). A little later the ECB then declared that: "Credible fiscal consolidation is supportive to the outlook for economic growth.

Of course the ECB's reluctance to cut interest rates is not much of a secret – the bank has by now become legendary for its "steady hand" and "wait and see" approach, at least when it comes to policy easing. By contrast, the bank nearly doubled policy rates within less than a year when it hiked rates by 225 basis points between November 1999 and October 2000. It then stubbornly resisted external pressures from all round to provide a timely boost to domestic demand in the world's second largest economic area.

Conspicuously contrasting with the U.S. Fed's fast-track easing since early 2001, this conflicted with the requirement to act as the "first line of defense"; as was pointed out by Mr Koehler at the time.

Before embarking on a detailed analysis of the consequences of the ECB's failure to fulfill this vital role, one popular defense of the bank's conduct needs to be addressed: the idea that the ECB's complacent attitude towards plunging and subsequently stagnating domestic demand may have been justified in view of too high inflation. For instance, the OECD (2005) in its latest survey of the Euro area observed that: "in the recent downturn inflation has failed to come down decisively, and this has limited the scope for monetary policy to support economic activity in the short run" (see also Cournede et al 2005). The ECB itself too has constantly used this excuse to justify its "wait and see" approach to easing. The bank appears to interpret the "without prejudice" stipulation in its mandate as implying that it is not under any obligation to care about anything but its primary price stability goal until inflation falls "below two percent".[35]

Of course it cannot be denied that the ECB is on track to fail on its price stability goal of keeping HICP inflation "below two percent" for six years in a row. Damaging effects on the bank's credibility and reputation thus cannot be excluded. The point is that the ECB's refusal of any responsibility for output stabilization and economic growth may have been counterproductive even regarding its primary mandate of maintaining price stability. And this issue is closely related to the question which price index the ECB should focus on in the first place.

Direct effects on demand in the short term should be counteracted by higher credibility of the conduct of fiscal policy, boosting confidence and thus private spending" (ECB 2002, Monthly Bulletin October, p. 6).

[35] The ECB's mantra that by maintaining price stability monetary policy would *thereby* also make the best possible contribution to any other goal would seem to imply that by failing on its price stability goal the ECB thereby also made a sub-optimal contribution to anything else.

Ever since the ECB's press release of October 1998 entitled "A stability-oriented monetary policy strategy for the ESCB" appeared, it has been heavily criticized by both academics as well as practitioners for its chosen definition of price stability. One criticism is that it may be too ambitious. Another that the conspicuous lack of an explicit lower bound reflects an asymmetric policy approach, a criticism that was only partly met by the strategy reform of May 2003, when the ECB "clarified" that it aims at keeping HICP inflation "below but *close to* two percent". A further key issue is whether it would not be more appropriate to focus policy on "core" rather than "headline" inflation.

And it is important here that focusing on headline inflation "over the medium term", as the ECB apparently does in some unspecified way, is not the same as explicitly putting core inflation center stage of monetary policy. The IMF (2005, p. 18) acknowledged that the persistent over-shooting of the ECB's *headline* inflation ceiling presents a credibility problem to the bank. And the OECD (2004, p. 39) had diagnosed earlier on a "dilemma for monetary policy: on the one hand monetary policy should take out insurance against the risk of longer-lasting stagnation, but on the other hand the ECB may feel uncomfortable with a further easing of monetary policy in an environment of inflation inertia", *headline* inflation inertia, that is! The hypothesis investigated in what follows is that focusing policy on headline inflation may have contributed to seriously misleading monetary policy.

The transmission of monetary policy to the economy works largely through aggregate demand in the short run. Core inflation measures are designed to gauge underlying inflation trends as reflecting aggregate demand conditions in the economy. It could easily lead to mistakes if policy responded to "noise" (purely temporary disturbances) instead. Moreover, given that headline inflation tends to converge back towards the underlying rate (OECD 2005), core inflation serves as a predictor of future headline inflation too, and thus provides a handy tool for any forward-looking policy approach.

Inflation targeting is one such approach and today widely regarded as best practice or state-of-the-art monetary policy. Nessen and Söderström (2000) proposed an extension of Svensson's (1997) basic model of inflation (forecast) targeting which is of much interest here. For the purpose of investigating the implications of targeting different measures of

inflation they define core inflation as headline CPI excluding (i) purely exogenous inflation disturbances, e.g. changes in imported inflation, which cannot be affected by monetary policy, (ii) movements in inflation originating in fiscal policy actions, i.e. changes in indirect taxes and subsidies, and (iii) the direct effects of monetary policy on headline inflation via home-mortgage costs. In practice, this measure of core inflation corresponds to the Sveriges Riksbank's UNDINHX index, which is most closely related to the level of real activity in the economy and can be affected by monetary policy.

In an optimizing model in which the central bank attempts to minimize a standard loss function, they investigate the policy responses across targeting regimes. As regards to fiscal policy disturbances with persistent effects on inflation, they find that the central bank's response depends on whether it targets core or headline inflation, the latter either in a strict or flexible way. Under strict headline inflation targeting monetary policy would respond to fiscal policy disturbances by changing the interest rate in the same direction. By contrast, under core inflation targeting (and to a lesser extent under flexible headline inflation targeting) the optimal response is to *lower* the interest rate after a positive disturbance. This is to offset the effects on output and thus on future inflation. One of their key policy implications regarding properly accounting for the indirect effects of persistent disturbances on goal variables reads: "In our model, although the direct effects of an indirect tax increase is to raise inflation, the indirect effects on inflation via depressed output dominate the direct effect in the longer run. Thus, the central bank should lower the interest rate following a fiscal policy disturbance, even though the initial effect on inflation is positive" (Nessen and Söderström 2000, p. 21). Note here the crucial assumptions that a fiscal tightening affects aggregate demand negatively and that the resulting negative output gap exerts a dampening effect on future inflation too. These assumptions are crucial but not special. They are part of today's conventional wisdom. In view of the inflation persistence theme the question is whether the latter assumption may not be true for the euro area.

Now it may be argued here that the ECB is not an inflation targeter. But that is exactly the point. Contrary to a widespread suggestion, the ECB does not seem to conduct monetary policy along standard inflation targeting lines (Bibow 2005b). It is of course possible that the ECB model really assumes that fiscal contractions have expansionary

effects on aggregate demand in the short run. And it is also possible that the ECB model assumes that a negative output gap does not put any downward pressure on inflation, or that contrary to what is assumed above concerning indirect effects on inflation via depressed output, second-round effects owing to wage responses to headline inflation deserve more emphasis. Given the well-known lack of transparency in these matters, we simply do not know.

Any properly forward-looking monetary policy has to discount the effects of fiscal policy on the economy and future inflation in some way though. Just as monetary policy has to take its own effects on the economy and the budgetary position – as well as fiscal policy decisions prompted by those developments! – into account too, that is, fully *internalize* the fiscal regime in place.

Mankiw and Reis (2002) offer a more general approach to the problem at hand: which measure of the inflation rate should a central bank committed to maintaining price stability use if it wants to maximize economic stability? They set out to find "the price index that, if kept on an assigned target, would lead to the greatest stability in economic activity. This concept might be called the *stability price index*" (Mankiw and Reis 2002, p. 7). In their view, the proposed price index "can be viewed as an approach to measuring core inflation that is grounded in the monetary theory of the business cycle" (p. 26).

Nothing in their analysis hinges on the central bank at hand following an explicit inflation targeting approach. Rather "the central bank is committed to inflation targeting in the following sense: Before the shocks are realized, the central bank must choose a price index and commit itself to keeping that index on target" (p. 7). The issue simply is: which price index? Clearly, it is not an outrageous requirement that the central bank should aim at maintaining price stability in such a way that this leads to the greatest stability in economic activity too. In fact, this very proposition features rather prominently among the ECB's standard claims about the supposed qualities of its "stability-oriented" monetary policies.

In a nutshell, Mankiw and Reis (2002) conclude that: the weight that a sector's price should receive in the stability price index depends positively on that sector's responsiveness to the business cycle and negatively on the magnitude of idiosyncratic

shocks it is subject to. Furthermore, they show that the more flexible a sector's price, the less weight it should receive in the stability price index. Applying their model to the U.S. economy over the period from 1957 to 2001, they find that "a central bank should give substantial weight to the growth in nominal wages when monitoring inflation. This conclusion follows from the fact that wages are more cyclically sensitive than most other prices in the economy (which is another way of stating the well-known fact that the real wage is procyclical). Moreover, compared to other cyclically sensitive prices, wages are not subject to large idiosyncratic shocks" (Mankiw and Reis 2002, p. 26).

For our purposes one issue here is that wages may be less cyclically responsive and overall less flexible in the euro area – given those much-blamed "rigidities". Another issue is how fiscal policy disturbances (hikes in indirect taxes and administered prices, for instance) should be treated following the logic of this approach. Arguably, they should be seen as highly idiosyncratic shocks and thus receive little weight in a stability price index (cf. Pollan 2004, p. 897, fn 13). This would be perfectly in line with the view that monetary policy should focus on a measure of core inflation that excludes "tax-push" together with other volatile items like food and energy.[36]

Intriguingly, there is however also the possibility that tax-push effects might become cyclical rather than idiosyncratic, namely if the fiscal regime is such that tax-push measures are *systematically prompted as the budgetary position deteriorates sufficiently*. Notice that this would exactly describe the case where a policy response to headline rather than core inflation both ignites the phenomenon of tax-push inflation in the first place and at the same time lends suboptimal support to economic stability too; with the possibility of a vicious circle of economic instability giving rise to budgetary pressures which, in turn, cause and sustain tax-push inflation.

These thoughtful theoretical contributions thus reveal how tax-push inflation might emerge as an unpleasant symptom of the counterproductive interaction between monetary

[36] Wynne (1999) seems to question the wisdom of excluding the effects of tax changes from inflation measures when the object is to derive a true cost of living index. While that may well be the case, the issue here is whether an inflation measure net of tax push may provide better guidance to monetary policy, especially under Maastricht-style EMU conditions. Cf. Johnson 1999.

and fiscal policies. Empirically, this symptom might help to explain inflation persistence; persistence in headline inflation, that is.

In conclusion, according to today's conventional wisdom and mainstream monetary theory, monetary policy is the leading stabilization instrument quite apart from its role in maintaining price stability. Moreover the design of Maastricht-style EMU clearly implies that monetary policy has to bear the main burden of countering common shocks hitting the euro area and act as the "first line of defense", as one of the regime's designers (Horst Koehler) once put it.

If it is argued, then, that the ECB either could not play this role "without prejudice" to price stability because headline inflation exceeded two per cent since 2000 and/or that the ECB always and automatically makes its best contribution to output stabilization and growth anyway, namely *through* maintaining price stability, a paramount concern is whether the ECB actually focuses on the right measure of price stability. Theory not only suggests that any forward-looking monetary policy has to properly internalize the fiscal regime. It also warns that focusing on headline inflation risks policy mistakes when fiscal policy disturbances to price developments arise. The fact is that the euro area has seen whole series of fiscal policy disturbances to price developments in recent years that deserve the title tax-push inflation and played a key role behind the apparent inflation persistence despite rising cyclical slack.

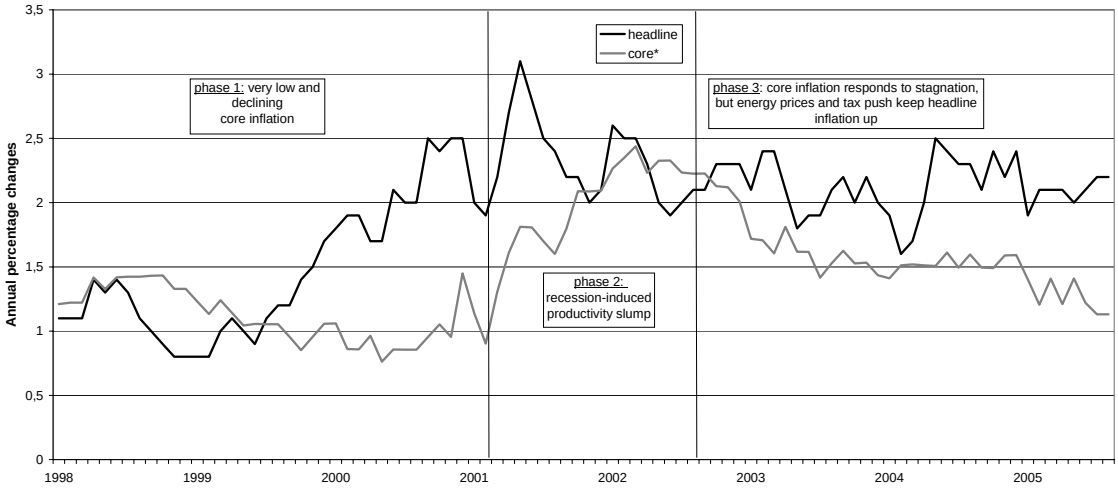
The next section will give a consistent account of occurrences since 1999 that shows how the ECB's failure to act as the first line of defense and misguided policy focus on headline inflation have caused, apart from economic instability and protracted stagnation, tax-push inflation and inflation persistence too. Focusing on the wrong measure of inflation can be very misleading and produce economic instability. The apparent persistence in inflation that has fostered the notorious one-sided focus on structural rigidities in policy debates masks the fact that underlying inflation in much of the euro area has fallen to dangerously low levels today. Succumbing to protracted stagnation, underlying inflation has meanwhile fallen to little more than one percent in the euro area and to zero in Germany.

7. The ECB and the genesis of tax-push inflation

Building on the above results, this section sets out to provide a full account of the ECB's paramount role behind the peculiar kind of "stagflation" that has arisen in the euro area in recent years. Many observers were puzzled by the fact that *despite* years of stagnation inflation – apparently – has declined so little. The point is that headline inflation has failed to decline faster exactly *because of* stagnation; while core inflation developments tell a different story and further underline the fateful impact of the ECB's profound policy mistakes.[37]

Figure 34. Inflation developments in EMU

Unearthing the masked underlying situation



Sources. Eurostat, ECB (August 2005)

Notes. Core excludes, food, energy, alcohol, tobacco as well as administered service prices (ECB synthetic index).**

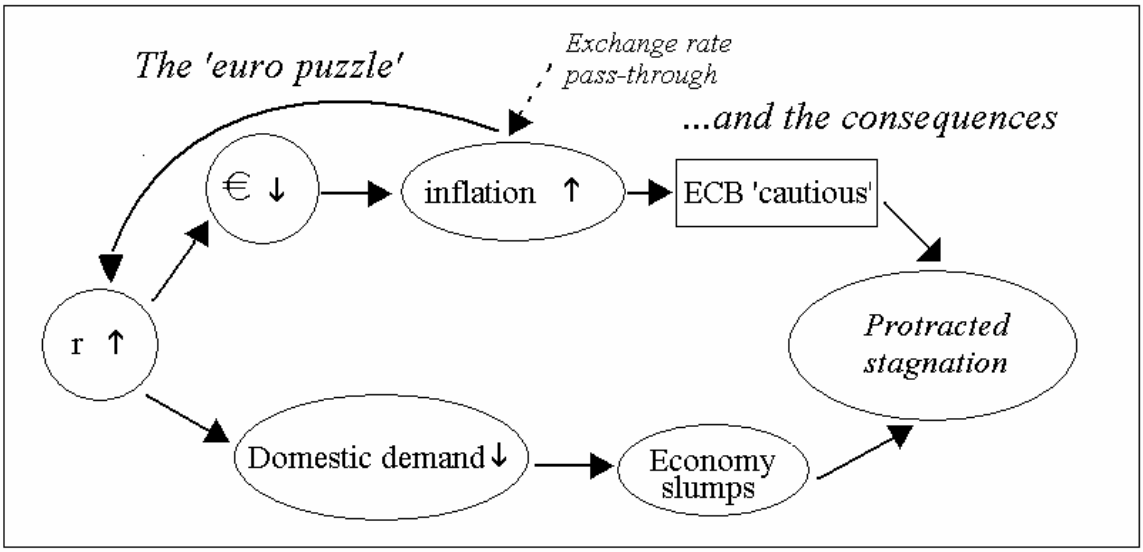
It may be appropriate to focus on inflation developments – the ECB's declared "sole" goal.[38] For that purpose Figure 34 divides price developments from 1999 until today into

[37] Notice that the hypothesis put forward here focuses on mistakes in policy *conduct*, without however wishing to deny that the euro area's monetary structure, the kind of independence the ECB enjoys, is thoroughly flawed. The suggested link between structure and conduct is that the ECB's kind of independence features incentive structures that make an anti-growth bias more likely while allowing central bankers to get away with almost anything (cf. Bibow 2004a, d, 2005b). Suffice to mention here that an answer to the "persistence puzzle" may also be sought along time-inconsistency lines, suggesting yet another link between monetary structure and conduct that allegedly can give rise to an inflationary bias (cf. Westelius 2005).

[38] The investigation here refrains from providing yet another Taylor-rule exercise. The point is that by means of such exercises almost anything may be "proven". It is always possible to find some parameter set that shows the ECB has done a great job. Examples of that kind are abundantly available. Apart from investment banks and prominent academic ECB watchers like London's Centre for Economic Policy Research (see CEPR 2000, 2001, 2002, 2004), the European Commission too has provided some particularly illustrative examples. For instance, in its 2001 Annual Report the Commission still observed

three phases, largely corresponding to the ECB's three key policy blunders. Phase 1 lasted until 2001:Q1. Despite the Asian and Russian crises, sufficiently strong domestic demand growth kept GDP growth slightly above the *postulated* trend in 1998-1999, while the net exports contribution to GDP then boosted growth further in 2000. Core inflation in this phase was very low (below 1.5 percent) and, if anything, declining. By contrast, headline inflation soared sharply after mid 2000. Rising oil prices were one key factor. Another was the plunging euro, driving import prices generally higher and magnifying the oil price boom in particular.

Box 1. Slamming the brakes - crashing the euro...and more



that: "In 2000, short-term interest rates were clearly above the level suggested by the Taylor rule" (p. 57). But the Commission's fitted Taylor rule of two years later then saw to it that the ECB barely approached neutral territory from below in the second half of 2000 and stayed well below the neutral level thereafter too, so that it seemed legitimate to conclude that monetary policy was "accommodative to economic activity during the slowdown" (European Commission 2003, p. 31). Minford, Perugini and Srinivasan (2002) show that Taylor-rule like interest rate relations do not unambiguously identify a central bank reaction function. Kuttner and Posen (2004) more specifically discuss some problems with Taylor rules in policy environments characterized by stagnation and very low inflation (or deflation like in Japan). Looking at US monetary history through the lens of a Taylor-rule framework for policy analysis Orphanides (2003) finds that it generally allows a surprising consistency in interpretation while its adoption does not seem "sufficient to ensure that monetary policy will stay a steady course" (p. 1018). Cecchetti and O'Sullivan (2003, p. 39-40) observe on Taylor-rule performance evaluations: "The question is whether it is possible actually to evaluate policy using such exercises. If the rule had been followed at the beginning of the period, then inflation and growth would have been different later. This is obvious, and what it means is that you cannot look at the actual policy relative to a Taylor-style rule without embedding the rule in a fully articulated dynamic structural model of the euro area." Bibow (2004d) debunks some typical ECB-serving Taylor-rule exercises, stressing that the ECB's ill-guided hikes in 2000, apart from crushing the economy, also crashed the euro and pushed inflation up, which, according to Taylor-rule wisdom, thereby produced the very rationale for having raised interest rates to such abortive levels in the first place.

Given that the "time-inconsistency hypothesis" of the euro's plunge (see Bibow 2001a, 2002), featuring both the ECB's confusing communications as well as its euro-*weakening* interest rate hikes, is all too inconvenient to gain much popularity, other authorities may be cited instead. For instance, in its 2000 review of the EU economy, the European Commission vigilantly observed: 'To the extent that the depreciation in the euro is due to cyclical divergence between the euro area and the United States, a rise in interest rates in an attempt to support the currency could even backfire if it was perceived as stifling the euro-area recovery. The risk of creating an even more unbalanced growth pattern with weak domestic demand and higher export growth would be serious' (EC 2000: 71). No more is required, then, to take this authority's reading seriously and add two plus two together to acknowledge that Box 1 offers a coherent account of the impact of the ECB's tightening binge of 2000. Notice that the ECB managed to push inflation up while choking domestic demand through its aggressive hikes.[39] The fact that headline HICP inflation has stubbornly stayed above two percent ever since is what then gave rise to the *inflation persistence theme*.

Of no less interest is the sharp rise in core inflation to above two percent in 2001-2002, the key feature of phase 2. This was the time when GDP growth, especially domestic demand, slumped; following the ECB's earlier sharp tightening with the usual lag. Does this support the idea that inflation in the euro area is not responsive to the economy, or may even respond perversely?[40] Given the well-known fact that productivity growth tends to be cyclical it is actually not much of a surprise at all that the immediate impact of a slowdown on prices is in the upward direction. The OECD's (2004, p. 32) observation on occurrences in the Netherlands applies to the euro area more generally too: "High growth in unit labour costs (together with depreciation of the euro), also contributed to an

[39] I use interest rates here as shorthand for the whole transmission mechanism of monetary policy rather than the interest-rate channel alone; the effectiveness of which some researchers seem to doubt. The ECB's (2002) research on the transmission mechanism has revealed a strong impact of interest rates on domestic demand, primarily investment.

[40] The OECD (2004: 40) commented: "Apparently the adverse price shocks in 2000 and 2001 were partly built into wage demands. While labour productivity growth slowed down with the onset of the economic downturn, nominal compensation rates edged up. Inflation persistence has been stronger in the euro area than in other countries, although the initial shocks to food and energy prices were also larger as they were amplified by the depreciation of the currency in the first two years of the monetary union." Perhaps one should be impressed by *how little* wage inflation edged up despite strong growth in 2000 and a sharp rise in headline inflation (not least due to the euro's plunge, as the OECD correctly notes).

increase in core inflation". Importantly, it is not good enough to blame the predictable productivity slowdown on either unions or structural rigidities. The ECB knew what it was in for when it provoked the slump. Is excessive wage inflation or lack of cyclical responsiveness of wages to blame then?

Figure 35. Barking up against the wrong tree

Wage inflation may not be too responsive, but very low indeed

Sources: Eurostat, ECB Notes: Index of negotiated wages refers to collectively agreed wage rises. Unit labor costs are shown as a four-quarter moving average. Core excludes: energy, food, alcohol, tobacco, and administered prices (ECB synthetic index).**

Figure 35 clearly shows that wage inflation as measured by the "negotiated wages" index had declined to a rather low level by the late 1990s, very low indeed and by any standard. It has remained conspicuously stable at that low level ever since. It may well be true that wages in the euro area are less responsive to the cycle than in the U.S. or U.K., for instance. Crucially, though, this holds in both directions. Taking wage drift into account, the acceleration in wage growth in 1999-2000 becomes somewhat more noticeable. But so does the fact that wage growth has declined to even lower levels in recent years of stagnation. If wage inflation in the U.S. fell more sharply after 2001, this was because wage inflation had accelerated far more sharply in preceding years and thus had sufficiently more room to decelerate later on.[41]

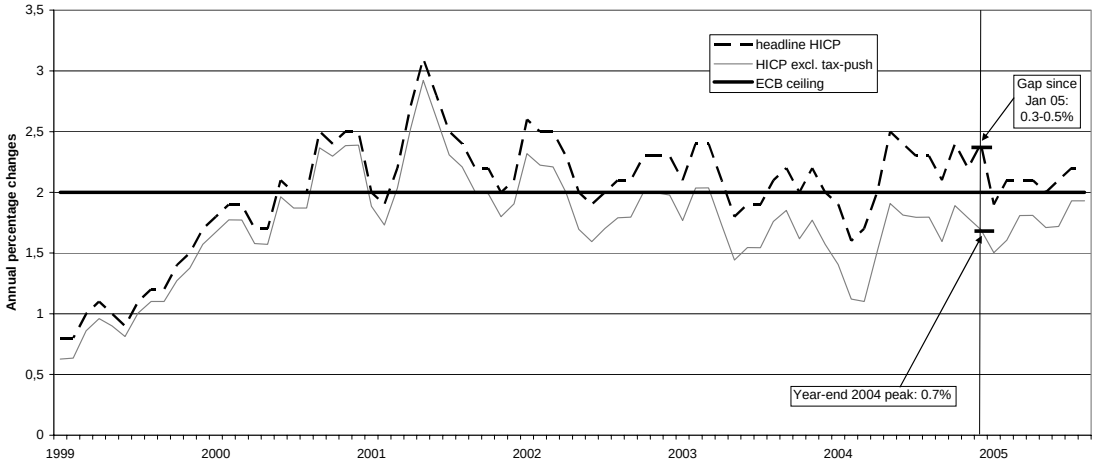
There are some important monetary policy implications here. But there is certainly no case here for blaming inflation persistence on too high wage inflation. Seen from the perspective of Mankiw and Reis's (2002) analysis, wage inflation may be a good gauge

[41] It is curious that certain prominent authorities pushing the structural reform agenda should notoriously overlook this rather vital fact (see OECD 2005 and Cournede et al. 2005, for instance).

of underlying demand pressures in the euro area too and thus deserve a high weight in a stability price index. Similarly, other researchers concluded that in case of very low inflation as in the euro area it may be necessary to give more weight to real signals of economic activity rather than supposedly cyclical prices. In fact, the CEPR 2002 Report warned that failing to do so may be risky too: "The ECB would be well advised to give more importance to indicators of the real economy. The theory that all you have to do to stabilize the economy is to stabilize the rate of inflation may be a good approximation when inflation is not too low. It becomes dangerous when inflation is near zero" (CEPR 2002, p. 18).

Due to a further deceleration in wage inflation and a (partial) recovery in productivity growth, core inflation has fallen markedly since its temporary slump-induced acceleration in 2001-2002. In fact, core inflation has fallen back again to the *very low* levels of 1998-1999. It is currently little more than one percent for the euro area as a whole. And in some regions it is even closer to zero. The key feature of this third phase is the conspicuous gap between headline and core inflation that has opened up since 2002. Soaring energy and commodity prices, partly compensated by the euro's appreciation, were one key driving force behind this gap. Tax-push inflation has been the other – as the empirical investigations in sections 4 and 5 above amply showed.

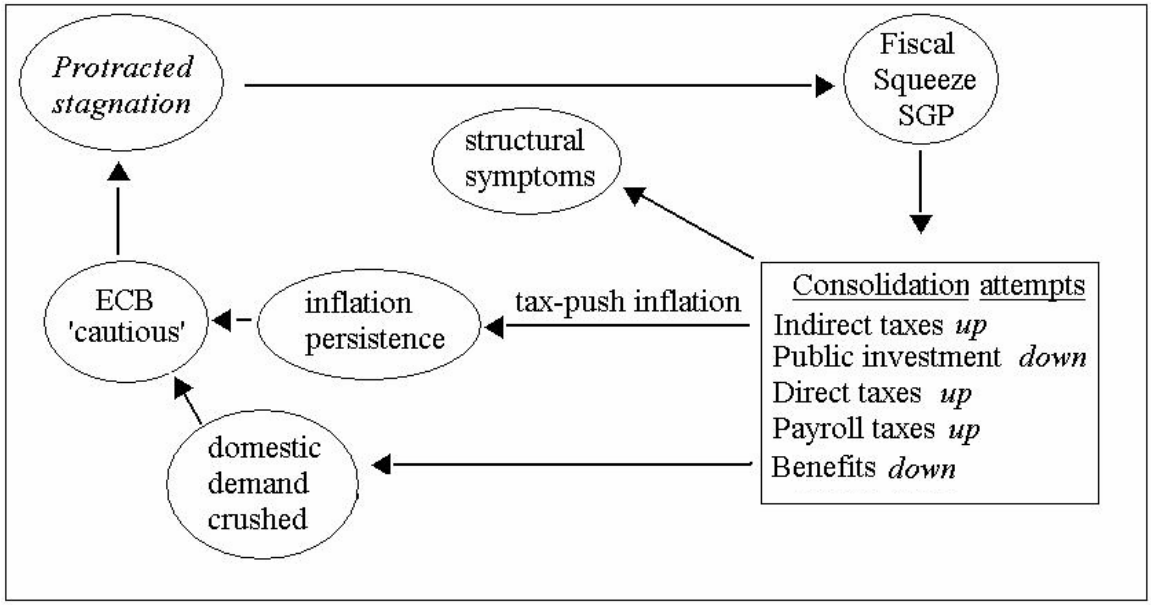
Figure 36. Misses on ECB's primary objective since 2002 owe to tax-push inflation



Source. ECB, Eurostat (August 2005)
Note. The ECB proxy measure estimates the direct price effects of tax increases on tobacco products and of a narrow range of administered prices within the services sector (aggregate HICP weight of 5.8% in 2004).

In effect, rises in indirect taxes and administered prices, largely reflecting finance ministers' desperate but vain attempts at keeping budget deficits below 3 percent, led to an upward distortion that has kept headline inflation stubbornly above the ECB's tolerance level. Contributing roughly 0.5 percentage point to headline inflation in 2004 overall, the tax-push contribution peaked at no less that 0.7 percent by the end of 2004. It then declined in early 2005 but for the year as a whole the tax-push contribution will probably be little less than last year. *Note, then, that without "tax-push inflation" the ECB would not have failed on its price stability mandate in the last five years* (see Figure 36). Among other things, tax-push inflation has also distracted attention away from the vital fact that measures of inflation that properly capture the aggregate demand situation in the euro area have not proved unresponsive to cyclical slack at all. The inflation persistence theme is simply missing the point.

Box 2. Stuck in a "stability oriented" vicious circle

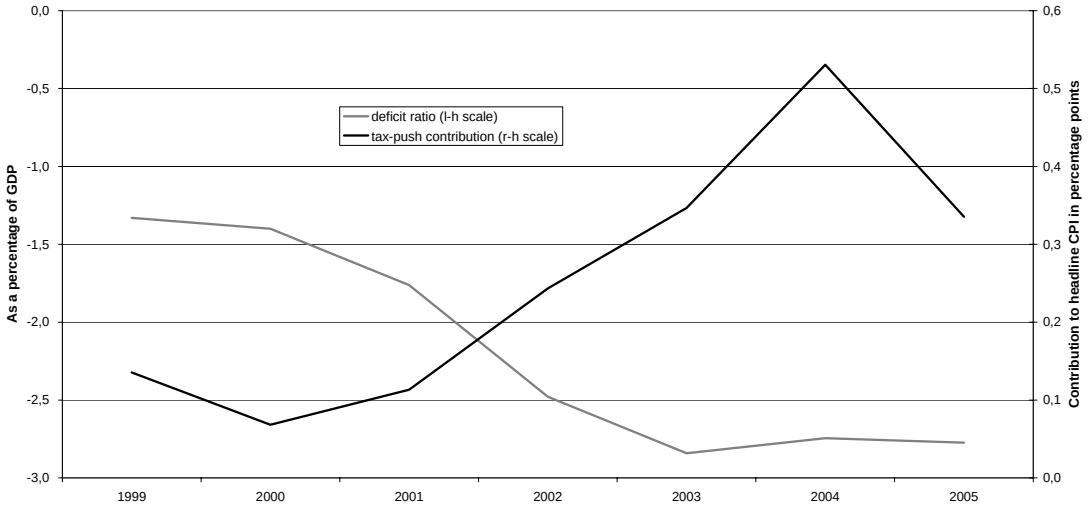


Box no. 2 summarizes the counterproductive interaction between fiscal and monetary policies of recent years, featuring a stability-oriented vicious circle with tax-push inflation as the key symptom in a macroeconomic policy blunder that has left the euro area stranded in stagnation – with inflation persistently *above* the set limit of 2 percent. It is hard to deny that with a more adequate monetary policy response to the *symmetric*

shock that hit the euro area in 2000-01, which was itself at least partly monetary in nature, the failure of a rising number of member states to stay within the 3 percent budgetary threshold could have been avoided. Effectively, fiscal and monetary policies have prevented each other from achieving their respective primary (or sole) goals, deficits below 3 percent of GDP and inflation below 2 percent.

In fact, Euroland's two key "stability-oriented" institutions, the SGP and the ECB, have thereby shot each other in the foot. As the ECB reneged on its growth mandate and failed to properly counter the symmetric shock of 2000-01, budget deficits of more and more member states began to pass through the 3 percent threshold by 2002; and finance ministers' desperate thrift campaigns, in turn, have then not only further destabilized Euroland, but kept inflation above the holy 2 percent threshold ever since, too. Given this highly dysfunctional interaction between monetary and fiscal policies the seemingly paradoxical finding that "regulated price inflation is even negatively correlated with that of non-regulated prices" (Lünnemann and Mathä 2005, p. 20) is quite easily explained. While cyclical slack depresses non-regulated prices (at least once cost pressures owing to the productivity slowdown abate), it also causes budgetary pressures which, in turn, tend to push regulated prices in the opposite direction if the stability-oriented fiscal regime requires consolidation no matter what (see Figure 37).

Figure 37. How stagnation can cause inflation persistence in the euro area



Sources. OECD (Economic Outlook 77), ECB, Eurostat (Aug 2005)
Notes. Tax-push inflation as measured by the ECB proxy measure (2005: Jan-Aug). 2000 deficit ratio excluding UMTS revenues.

8. Can structural reforms lift the euro area out of its liquidity trap?

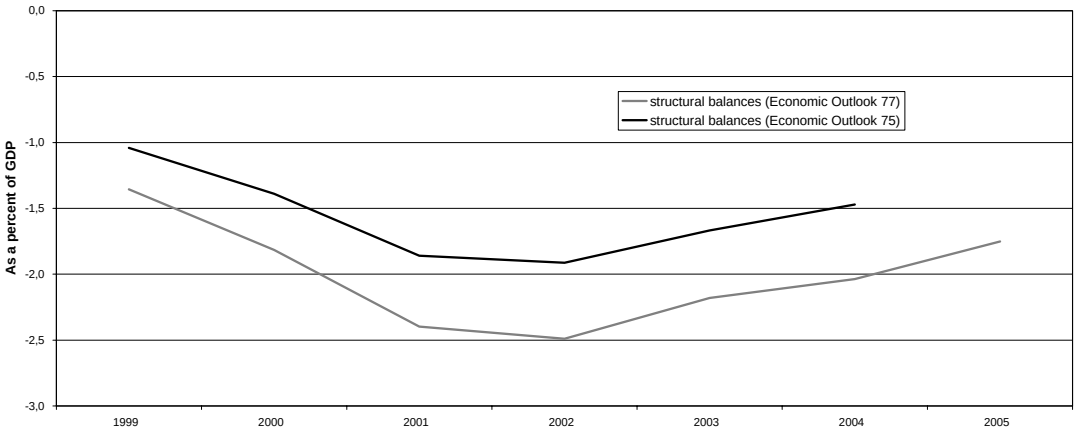
The above investigation of the ECB's role in the genesis of tax-push inflation and its evolution in recent years also raises some more immediate monetary policy issues, foremost among them the question whether it is really correct to describe the level of interest in the euro area as "low" today. In the light of Wicksell's (1898) fundamental insight, it is obviously wrong to draw any conclusions as regards monetary stance from the *absolute* level of interest. The absolute level of interest simply is no indicator of today's monetary stance. Rather, today's interest rate level may reflect the course of yesterday's policy stance, as Milton Friedman (1968, p. 7) once observed: "low interest rates are a sign that monetary policy *has been tight*". While there is no easy way to judge what the "natural" or equilibrium rate of interest may be at any time *relative* to which the market rate of interest could be properly assessed, it would seem crucial to exclude both energy price increases and tax-push inflation from any measure of real interest rates for the euro area. Indirect tax increases and rising oil prices are a clear drag on the private sectors' purchasing power, but do *not* provide any relief to nominal interest payments.

This implies that real short-term interest rates in the euro area are around one percent, while longer-term real rates are well above two percent; with significant diversity existing within the euro area. For instance, German real short-term interest rates may be little less than two percent and real long-term rates around three percent. It is not clear that these levels are "low" in any meaningful sense at all. In practice, effective nominal interest rates on consumer loans may be near ten percent. For someone who does not expect any significant rises in real disposable income in coming years but may actually fear to lose his job, such interest rates may appear punitively *high*.

This situation may be compared with occurrences in the U.S. since 2001, where the Federal Reserve pushed real short-term interest rates well into negative territory in recent years and showed itself remarkably compliant in guiding longer-term rates to very low levels too, even as the largest fiscal swing in U.S. history was unfolding. In fact, there can be little doubt that the U.S. Fed has played a key role in pushing bond yields well below the rate of nominal GDP growth after 2001; even if their more recent refusal to rise again in line with the Fed funds rate may have presented something of a "conundrum"

even to its Chairman. In essence, the euro area has missed out on both the fast-tracking easing and extended ultra-easy-money stance of the U.S. Fed as well as the unprecedented fiscal boost to domestic demand that the US economy received in 2001-2004.

Figure 38. Stagnation and moving fiscal goal posts - more scope for tax push to come



Source. OECD (Economic Outlook nos. 75 and 77)

In the euro area, automatic stabilizers appear to have been in operation. If any additional stimulus had been provided, this has meanwhile been reversed; the 2005 structural balance (as a percent of GDP) is back to where it supposedly was in 2000. But similar to the case of monetary policy, figure 38 also shows that fiscal policy may actually be chasing its own tail too. It is curious that as countries comply with reducing their structural budget deficits by at least 0.5 percentage points per year no matter what, they continue to depress domestic demand and GDP growth sufficiently, so as to invite downward revisions in potential output growth as well as corresponding upward revisions in structural budget deficits. The result is not consolidation, but stagnation. As the debt ratio is set on a rising trend the burden of the debt is actually getting heavier. Therefore, as one symptom of persistent macroeconomic mismanagement, tax-push inflation is likely to continue featuring prominently in the euro area's ongoing economic malaise and apparent inflation persistence.

The IMF's deliberations on Euro Area Policies of August 2005 are very revealing. The report observes that "ECB officials nonetheless saw the distribution of risks to inflation

as heavily skewed to the upside. They argued that indirect taxes, administered prices, and oil prices, which were essentially held constant in the projections, continued to pose upside risks for inflation. These had been the main factors behind the repeatedly optimistic forecasts and five years of at least 2 percent inflation. They remained major risks going forward …" (IMF 2005, p. 15). It is one thing that "staff saw the risks to price stability as more balanced than suggested by the ECB" (p. 18).[42] It is quite another that we have to attest here a rather obstinate refusal to understand that the ECB's failure to boost growth is the very cause that will tend to keep tax-push inflation alive and kicking.

One cannot deny though that overlooking this vital fact is rather convenient when it comes to pushing for the structural reform agenda. The IMF (2005a) has recently acknowledged that wage restraint seems to have failed to work, but now suspects that product market rigidities are to blame since a lack of competition appears to have limited the downward pressures on product prices. It is not obvious how the shifted focus on goods markets can be squared with the idea that it is rising corporate profits that would boost investment. For keeping prices and margins up was clearly conducive to the soaring in corporate profits in recent years. It is the alleged link between profits and investment that seems to have failed. How, then, is downward pressure on product prices through structural reforms going to improve this outcome? Could it boost both profits and consumers' purchasing at the same time?

It could indeed, but only if falling inflation induced a monetary policy reaction that will boost aggregate demand sufficiently. One trouble with this view is that the ECB could have done it years ago, thereby forestalling stagnation and the emergence of tax-push inflation. But the trouble with this remedy is that the ECB has for long declared that nominal interest rates have by now succumbed to levels from which they cannot fall any further anyway. According to the ECB, cutting short-term rates would undermine

[42] This important difference in assessment not only found its way into the IMF's September 2005 World Economic Outlook but has actually widened by that time, with the ECB apparently leaning towards a tightening bias in view of increasing inflation risks (Bloomberg 26 September 2005) while the IMF judges that "overall excessive monetary tightness appears a greater risk than excessive monetary ease" (IMF 2005b, WEO, p. 28). As usual, the ECB's views meet no more sympathy in the markets either, as is nicely captured by a large German bank's commentary featuring the headline "The fairy tale of second-round effects" and observing that "In fact, the opposite is true – much to the delight of bond market investors" (Krämer 2005). Suffice to mention that the ECB fears a bond price bubble and continues to fret about excess liquidity.

confidence and drive up bond yields. Admittedly, it seems a curious excuse for inaction by the ECB to effectively admit that it has maneuvered the economy under its stewardship into a "liquidity trap". For this is generally seen as the ultimate blunder a central bank can possibly commit. But if the ECB were right, this would imply that disinflation through product market reforms will not only tend to squeeze profits, the supposed driver of investment, but also push real interest rates *up*.

The OECD is similarly off track in continuing to blindly push for structural reform of labour markets as the supposed panacea of all troubles. Ignoring the fact that wage inflation is extremely low already, the OECD (2005, italics added) recently argued:

> "There is also evidence of higher wage inertia in the euro area than in other economies, which may be due to high minimum wages, administrative extensions of wage agreements, catch up clauses in collective agreements and de facto indexation of wages. *These sources of rigidity should be removed, not only to lift potential growth, but also to provide more leeway for pursuing an effective monetary policy, and strengthen the area's resilience to adverse shocks*."

Clearly, at the current juncture, such a course would not provide any more or less leeway for pursuing an effective monetary policy if the ECB were right that nominal rates cannot decline further. (And if the ECB were wrong one might wonder here whether it refuses to cut, so that the OECD can call a little louder for structural reform as the supposed sole remedy.) But it is also not clear that this would strengthen the area's resilience to adverse shocks. With core inflation running at one percent should it not be considered that adding still further disinflationary forces might actually *weaken* the area's resilience and make it more likely for it to actually drift into outright deflation?

Be that as it may, the possibility of strong enough external shocks that could drag the euro area out of its policy-inflicted vicious circle excluded, we are likely to witness the continued unfolding of the phenomenon of tax-push inflation in future too – as a symptom of the counterproductive interaction between fiscal and monetary policies under the Maastricht regime. The next section introduces a model of the interaction of fiscal and monetary policies under Maastricht-style EMU conditions, allowing the simulation of tax-push inflation.

9. Simulating tax-push inflation

The model introduced in this section is designed to simulate the interaction between fiscal and monetary policies under the Maastricht regime. The model is in the spirit of Sargent and Wallace (1981), only that it provides a Keynesian version of how tighter money today can mean higher inflation today.

It is of course somewhat ironic that the very wisdom that seems to justify, and may even have inspired, the Maastricht regime has turned out to produce such thoroughly perverse results: "stability-oriented" monetary policy protected by "sound public finance" safeguards resulted in both excessive deficits as well as "excessive" inflation (headline inflation in excess of two percent, that is). This is truly turning Sargent and Walace's supposedly monetarist world upside down.

From a Keynesian perspective this outcome is not all that surprising though: too restrictive macroeconomic policies are prone to result in stagnant aggregate demand, which is bound to provoke budgetary pressures, which, in turn, may easily induce inflationary tax measures if budgetary rules dictate that consolidation attempts are to be undertaken no matter what.

Departing from Sargent and Wallace's monetarist vision, the model introduced here is Keynesian in the sense that the modeled central bank conducts interest rate policies rather than controlling some money stock that is partly financing the budget deficit.[43] It is also Keynesian in acknowledging that interest rate policies not only affect prices, but real growth and the level of interest in the economy too. Even if the money-neutrality postulate were believed as far as the long run is concerned, the relevant period since 2000

[43] Of course this is not to deny that central bank profits may ease budgetary pressures if independent central bankers dare to act accordingly. Except for two occasions of rather limited volume the ECB refused to put its exorbitant US dollar reserves to good use in 2000; which would have provided welcome budgetary relief and ammunition in the incipient downturn too. Ironically, dollar depreciation since then meant that the ECB even incurred a sizeable loss in 2004. In addition, the ECB is catching up with general belt-tightening efforts elsewhere as extracting revenues from a severely depressed economy that is struggling under "historically extremely low" interest rates is getting ever harder too.

under investigation here would still seem short enough to justify these alternative Keynesian assumptions. The following describes the basic structure of the model used in the simulation exercise.

Suppose an annual real GDP trend growth rate, $y^r\wedge$, of three percent. Suppose further that GDP growth is affected negatively by the central bank's interest rate instrument, and may be hit by shocks too. This is expressed in equation (1).

(1) $y^r\wedge = .03 - a*(i - .05) + sh$

(2) $ph = (w/prod)*(1+\tau)*(1+tindr)$

Equation (2) describes how the level of *headline* prices is determined in this Keynesian model economy. The part that features unit-labor costs multiplied by a (fixed) profit mark-up is standard, and yields the *core* price level. But equation (2) also features the indirect tax rate, *tindr*, which brings out the key element in the model. Since the depicted economy is a single-good economy, the price index is in the nature of a GDP deflator. More specifically, multiplying the core price level with real output yields GDP at factor costs, while using headline prices instead yields GDP at market prices. Yet, it does not stretch imagination too much to interpret the play of the indirect tax rate in this model, which, when triggered, drives a wedge between core and headline prices, as impacting on a consumer price index like HICP in a similar way.

So what moves the indirect tax rate then? It is the Maastricht fiscal regime that prompts hikes in indirect taxes whenever the three percent deficit ceiling is hit. In practice, governments may of course allow deficits to overrun three percent of GDP in the short run; just as they may start to implement consolidation measures before the three percent ceiling is actually broken. Furthermore, governments can also cut investment spending or fire public sector workers, for instance, and in practice they are likely to use some mixture of all possible alternatives open to them. By contrast, the government in this model economy acts only when the limit is triggered and it also uses one kind of measure only to keep the deficit below three percent of GDP at all times: hikes in indirect taxes. Our stricter interpretation of the Maastricht regime and focus on one available option serves to illustrate the key issue: tax-push inflation.

In other respects the modeling of the government budget constraint is fairly conventional. Tax revenues include direct and indirect taxes while nominal government expenditures grow at a steady five percent rate and the interest service on the public debt is trailing the monetary policy stance (through a twelve-period moving average). Direct tax revenues are a simple linear function of nominal GDP, the direct tax rate being fixed. The expression for indirect tax revenues is slightly more intricate as the indirect tax rate is a quadratic function of GDP, reflecting the model specification of the indirect tax rate as the key endogenous variable capturing all the budget adjustment in case the three percent ceiling is hit.

(3) $bd = g - t + r * gd$

(4) $g = g(-1) * 1.05$

(5) $r = MA_{12}(i)$

(6) $tdir = tdirr * y$

(7) $tind = tindr * y / (1 + tindr)$

Note that the five percent growth rate of government spending corresponds to the steady-state nominal GDP growth rate of this model economy. In fact, the model's steady-state solution neatly corresponds to the famous Maastricht parameters: three percent deficit ratio, 60 percent debt ratio, and five percent nominal GDP growth rate. With a "neutral" nominal interest rate of five percent, the steady-state primary budget is balanced. And given the assumption of a three percent real GDP growth trend, the central bank in this model economy considers (just below) two percent annual inflation as tolerable – as is the case in steady state. Furthermore, in steady state the indirect tax rate is zero, core and headline prices are equal, as are core and headline inflation rates at (just below) two percent. And with wage inflation and productivity growth at five and three percent, respectively, unit-labor costs rise at the rate of price inflation too.

While steady-state wage inflation corresponds to the nominal GDP growth rate of five percent, wages are responsive to both the output (growth) gap (although unemployment is

not modeled explicitly) and inflation. The same holds for the central bank too. Equations (8) and (9) describe the wage and interest rate dynamics in the model.

(8) $w\wedge = b1 + b2*(ph\wedge_{(-1)} - .0194) + b3*(yk\wedge_{(-2)} - .03) - b4*b2*pgap_{(-1)}$

(9) $i = c1 + c2*(ph\wedge_{(-1)} - .0194) + c3*(yk\wedge_{(-2)} - .03) - c4*c2*pgap_{(-1)}$

Coefficients $b1$ and $c1$ describe the steady state rate of wage inflation and level of interest. Coefficients $b2$ and $c2$ capture the response of wages and monetary policy to deviations from the "tolerable" steady state headline inflation rate of (just below) two percent (1.94%). Coefficients $b3$ and $c3$ capture the response to the output gap (*ygap*), which is measured as a proportion of the level of potential output, with potential output growth following a simple four-period moving average of actual output growth.

So notice that the monetary policy reaction function is of the conventional Taylor-rule type. The key issue is to what extent the response of either wages and/or monetary policy to headline inflation may be dampened, that is, to what extent core inflation may act as the principal guideline instead (with *pgap* standing for the difference between headline and core inflation rates). In particular, a value of 1 for $c4$ implies that the central bank effectively responds to deviations of core inflation from the tolerable inflation rate, but completely ignores headline inflation.

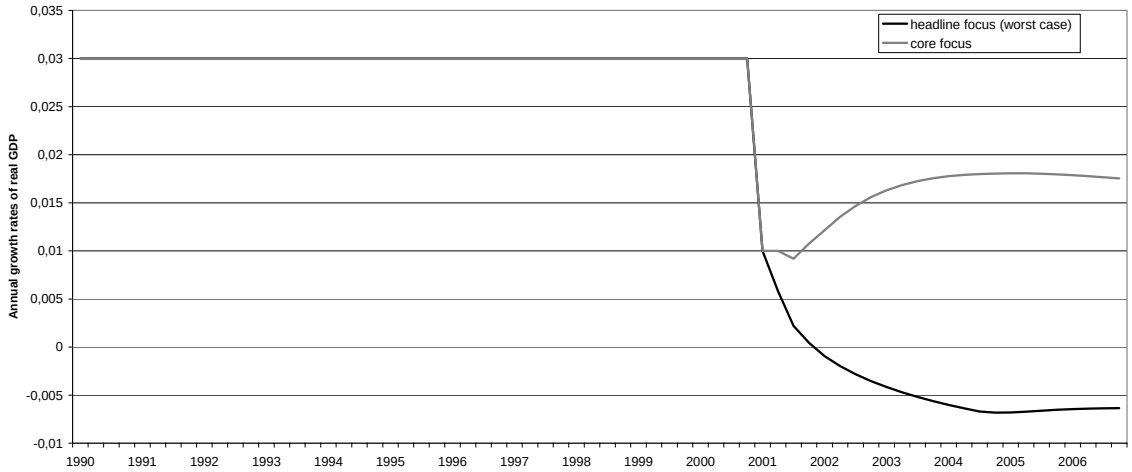
The perfect fit of the model's steady state solution with the Maastricht parameters is one attractive feature. But the key issue is that the model allows simulating the interaction of monetary and fiscal policies under Maastricht rules when shocks hit the model economy. Two types of shock simulations were carried out. In the first case a stochastic shock drives the economy away from its three percent real GDP trend (five percent nominal GDP). In case of a negative shock budgetary pressures arise that trigger increases in indirect taxes. Monetary policy responds in Taylor-rule fashion to stabilize output and inflation – the issue being whether it should respond to core rather than headline inflation. The second type of shocks is of the systematically negative type, persistently depressing demand and output growth and provoking correspondingly persistent budgetary pressures. Again, the issue is whether monetary policy should respond to core or headline inflation.

Starting with the first, the stochastic-shock exercise, model simulations unambiguously show that focusing on core inflation is advisable. Inflation volatility (both core and headline) declines continuously as policy focus moves away from headline toward core inflation. Tax-push inflation plays less of a role in this case, and the move has beneficial effects on output too (at least for values of *c*4 not too close to 1).

But of more direct relevance is the case of persistent negative demand shocks. Model simulations confirm the previous result: the monetary authorities are better off focusing on core rather than headline inflation. Furthermore, while giving more weight to output stabilization may not help in case of stochastic shocks, given the lags involved, it clearly helps in case of persistent demand stagnation.

Figure 39. Focusing on core or headline inflation

The impact on output



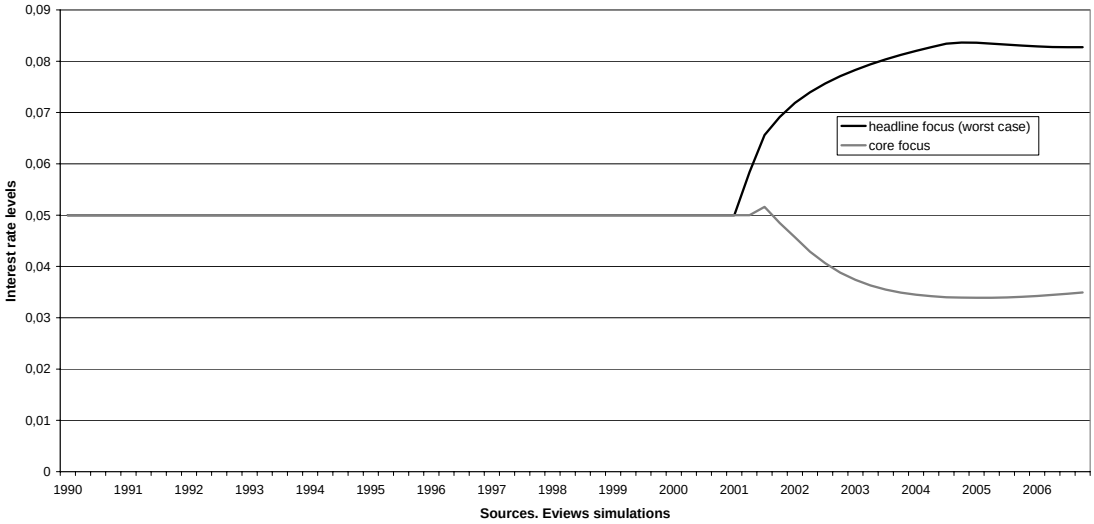
Sources. Eviews simulations, Notes. In the 'worst case' both wage settlements and monetary policy focus on headline inflation. If both focus on core (ex tax-push) inflation instead, output results are generally better.

Assuming persistent negative shocks that depress output growth by two percentage points below the three-percent trend rate, Figure 39 compares the output effects of focusing on headline versus core inflation. More precisely, it describes the 'worst case' where both wage settlements and monetary policy focus on headline inflation: as the slump prompts tax-push inflation monetary policymakers hike interest rates, which depresses output growth further. The resulting budgetary pressures nourish further tax-push, and "second-round effects" from labor markets help keeping the flame alive too. To the extent that monetary policy focus shifts toward core inflation and second-round effects fail to arise,

interest rate cuts help to boost growth and stabilize the economy. This is even more the case if monetary policy pays direct attention to output growth as well.

Figure 40. Tax-push inflation and perverse interest rate responses

It doesn't take actual hikes - failure to cut will do.



Sources. Eviews simulations

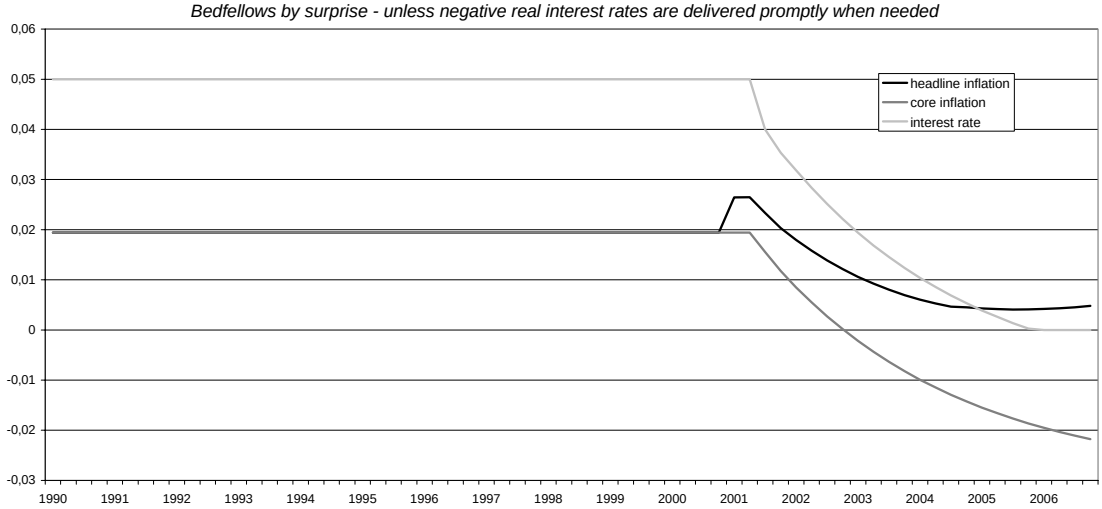
Figure 40 shows what is at stake here. Clearly, a focus on headline inflation is leading policy astray: the rise in inflation caused by the interaction of monetary and fiscal policies seems to justify interest rate hikes – but really calls for interest rate cuts, as these would forestall the problem. Of course it is not necessary for actual interest rate hikes to occur. A failure to ease policy in a timely and well-measured way so as to stabilize output growth is sufficient to cause the problem. Notice though that even in the case of a focus on core inflation, Figure x is featuring an initial "perverse" interest rate hike before policy turns in the right direction. This is because the "core" simulation assumes a residual element of headline-inflation orientation in wage determination (the value of *b*4 is 0.8, not 1). And a few words of caution may be in order here regarding the role of wage rigidities – the supposed culprit of all troubles in the view of many observers.

The point is that coefficient *b*4 captures the notorious issue of "second-round effects" of wage reactions to rising headline inflation (driven by hikes in indirect taxes in particular). While the "worst case" was described above as a situation of strict headline inflation orientation by both the monetary authorities and wage settlements. It does not follow that a strict core-inflation focus by all parties necessarily describes the best of all worlds. If wage settlements fully ignore headline inflation this may actually be risky, especially

when inflation is very low already. For this implies that wages are correspondingly more responsive to the depressed real situation – equivalent also to higher values of *b*3.

Figure 41. Labor market flexibility and liquidity traps

Bedfellows by surprise - unless negative real interest rates are delivered promptly when needed



Sources. Eviews simulations, Notes. Core inflation excludes tax push.

The risk – illustrated in Figure 41 – is that this can easily lead the economy into a deflationary spiral. As the wage anchor of prices is cut off, the economy may quickly sink into a liquidity trap situation – should the central bank fail to stem the tight early and aggressively enough. Put differently, the absence of second-round effects makes monetary easing even more urgent a matter in case of a sharp slump.

Presumably it is this very kind of increased responsiveness to the real situation (apart from simply squeezing wages) which the structural reform agenda aims at. Just that the reformers may not know what they are wishing for, particularly under current circumstances of extremely low underlying inflation and in view of the ECB's peculiar admission that it has already maneuvered the euro area into a liquidity trap. The supposed best case of flexible nominal wages and absence of second round effects requires even more proactive monetary easing to insure against worst-case outcomes. Yet, the risk-management approach does not enjoy universal popularity among central bankers – especially those who are used to operate with the safety net of nominal wage rigidities.

Suffice to mention that I readily admit that it is the Keynesian structure of the model set-up which produces these results. Perhaps the time has come when stability-oriented apostles might wish to take a pause and reflect upon Milton Friedman's (2002) advice

given to Otmar Issing at the outset of the ongoing era of stagflation that it is not good enough for central bankers to fantasize forever about some "long run" in which monetary policy might perhaps be neutral since real world interest rate policies are always and inevitably carried out in the short run. Friedman even quoted Keynes's famous dictum on that occasion. How right he was. For if current institutions and practices persist the euro may be dead before all too long.

10. Summary and policy recommendations

The analysis of recent price developments in Germany and the euro area should alert us to the risks involved with the fashionable one-sided focus on structural factors only. In fact, the popular view that structural rigidities in goods and labor markets are to blame for the persistence in inflation observed since 2000 altogether misses the point. For while it is true that *headline* inflation has proved surprisingly sticky in recent years, the same does not hold for measures of *core* inflation which better capture the true underlying demand situation and also provide a more accurate picture of the responsiveness of prices to market forces.

Such a measure of market-determined underlying inflation was developed in this paper. In addition to the OECD's standard practice of excluding food, energy, alcohol and tobacco the proposed measure also excludes distortions in headline inflation that reflect governmental measures rather than market forces (or, tax-push inflation). This more appropriate inflation measure[44] shows not only that the persistence in inflation in recent years has been largely apparent rather than real, but also that market-determined underlying inflation has meanwhile reached extraordinarily low levels. For the euro area as a whole underlying market forces currently sustain a rate of inflation of merely one percent, while in Germany, for instance, this rate is actually zero.

Many economists view such low levels of inflation as a curse rather than a blessing. Since nominal interest rates, having trailed the decline in inflation and protracted stagnation, are already at "historically extremely low" levels, as the ECB does not tire to emphasize, this limits the scope that may be left for deliberate policies of pushing real

[44] This ignores the issue of a likely statistical bias in measured inflation, which is believed to be in the order of 0.5 percent for the euro area.

interest rates lower in an emergency. At the same time, real interest rates are not nearly as low as they might seem to be when nominal rates are deflated at headline inflation. Headline inflation has primarily been pushed up by two factors: energy prices and tax-push inflation. Both factors crush the purchasing power of the euro area's private sector. They should be excluded when assessing the level of real interest rates as felt by the private sector. In view of protracted domestic demand stagnation, depressed income growth expectations and job insecurity real interest rates in large parts of the euro area seem rather high.

But the real risk here is that underlying inflation is so low now that it could quickly enter deflationary territory. This is especially the case if structural reforms further demolished downward wage rigidities while at the same time weakening confidence and demand. So the most urgent and immediate concern is to sharpen the awareness of the very high risk that Germany and the euro area could then easily slip into deflation.

Other recommendations concern the question how Germany and the euro area managed to end up in the current unenviable situation. One issue is that no accurate measure of tax-push inflation currently exists for the euro area. The analysis here thus had to rely on the ECB proxy measure and whatever measures and studies may be available at the national level. Currently, Eurostat is piloting a project to develop an area-wide "Constant Tax" consumer price index, which should yield first results by next year. This initiative is surely to be welcomed although it only looks after one part of the issue, indirect taxes, whereas the role of administered prices remains excluded.

Another issue is that the ECB was wrong from the beginning in narrow-mindedly focusing its "stability-oriented" policies on headline inflation (in some "medium term"). Hence, even if proper measures of tax-push were available, it is not clear what difference this would make to monetary policy. Both theoretical investigations into the matter as well as the simulation exercises undertaken here suggest that monetary policy might end up chasing its own tail when it allows itself to be misled by distorted headline inflation. Given that the ECB itself has made efforts to estimate the magnitude of tax push it can hardly claim to be wholly unaware of the matter. But the ECB and other observers obviously fail to comprehend that the phenomenon originates from the fateful interaction

of fiscal and monetary policies under the Maastricht regime when they continue to push for fiscal consolidation no matter what while granting that headline inflation above two percent provides an excuse for the ECB to renege on its growth mandate.

And this leads up to the most fundamental recommendation concerning the pitiful performance of the euro area since 2000. It is high time for the responsible authorities to acknowledge that the macroeconomic policy framework of EMU is seriously malfunctioning. Importantly, it is not simply that reckless spendthrift finance ministers fail to abide by the Maastricht rules, thereby giving rise to inflation risks that prevent the ECB from conducting stability-oriented monetary policies of a more growth-friendly kind. Rather, the point is that while it was clear from the start that monetary policy would be the only available instrument to counter symmetric demand shocks hitting the euro area, the ECB has persistently reneged on this vital responsibility; its notorious, though ill-founded, excuse being inflation persistence and structural problems.

Paradoxically, the ECB's negligence as regards growth and obsession with price stability is the root cause of inflation persistence in the stagnating euro area economy. By carelessly provoking a slump and productivity slowdown it first caused the rise in core inflation in 2001. By failing to equally aggressively stimulate a recovery the ECB then provoked the budgetary squeeze that triggered tax-push inflation in subsequent years. Tax-push inflation has contributed up to a third of overall euro area inflation in 2004. In Germany's case, its weight may at times have been even around 50 percent. While significant diversity was found across the euro area, the overall empirical evidence strongly supports the hypothesis that tax-push inflation has been a key driver in price developments in recent years and that it was itself mainly driven by budgetary pressures that arose in the context of protracted stagnation. It seems quite absurd, then, to blame the resulting persistence in inflation on structural rigidities which apparently justified a "cautious" monetary policy stance, when monetary policy itself is causing the whole trouble in the first place.

Even today, there may still be observers around who praise the apparent lack of deliberate demand management as a key advantage of the Maastricht regime. And indeed, more than mere semantics were involved when the traditional term stabilization policies

was replaced by the German notion of "stability-oriented" policies. Yet, the idea of doing without demand management reflects serious confusion. As in any other modern economy, the euro area too has both fiscal and monetary policies. By their very nature, these policies inevitably and inherently *are* demand management. There is thus no absence of demand management – pure fiction anyway. It is the presence of highly dysfunctional macroeconomic policies which is the problem.

The analysis here has revealed that tax-push inflation, a peculiar type of stagflation and key driver behind the apparent persistence in inflation in the euro area over recent years, is a symptom of the counterproductive interaction of fiscal and monetary policies under the Maastricht regime. This regime requires a fundamental overhaul – with the primary objective of refocusing macroeconomic policies on stabilization and GDP growth. Structural reforms can only complement more successful macroeconomic management, but cannot substitute for them. In fact, continued one-sided focus on structural reform without macroeconomic policy reform will further magnify already existing risks of sliding into a deflationary spiral.

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