Europe EconoMonitor

Stagflation strikes back

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The main industrialized countries show clear signs of slowdown of economic activity and acceleration of ir word: *stagflation*. The first dramatic experience with stagflation on a global scale in the early 1970s chang common thinking about macroeconomic phenomena and policies. Today's blueprints for policy makers ha guidelines in the event of stagflation:

- the best monetary policy can do is to keep a low and stable inflation rate, given the structural conc economy
- to this effect, spikes of excess inflation should be curbed by letting real interest rates *grow* (i.e. by nominal policy rate above inflation)
- as a result, nominal wage setters should refrain from chasing current inflation being confident that be curbed with small and transitory losses in real wages.

As matter of fact, the ongoing unprecedented escalation of oil and commodity prices is producing much le than in the 1970s. Nonetheless, at the first reappearance of the phenomenon, disorientation surfaces in th opinion as well as among policy makers. The monetary authorities on the two sides of the Atlantic have cl different stances. In the US, real interest rates on short maturities are negative with those on longer matur zero or barely positive. In the EMU real interest rates are positive at all maturities, and the ECB is sending that its stance will be kept in line with its mandate for price stability first. GDP outlook appears less severe and more severe in the EMU, than previously thought. Managing stagflation will still be more awkward anc indicated in the handbook for the modern central banker.

The basic problem with staglation is that it is a complex phenomenon involving a number of macroeconon and interrelated agents. The simple recipe recalled above is best suited to *nominal supply shocks*. In prac (unanticipated), *generalized*, and *temporary soar of nominal production costs,* with firms seeking to transf to final prices. Yet this is emphatically not the story we are witnessing in the world economy. First, the nor shock has to a large extent been unpredictable but *it is by no means generalized*. As shown by the ECB d the shock has a distinct non-domestic dimension, entirely coming from oil and commodity prices which, fo part, represent imported costs determined on world markets. Second, the ongoing upsurge of nominal imp *will quite likely be of permanent* rather than temporary nature - as testified by Mr. Trichet a few weeks ago well documented that oil in the world is becoming more scarce; hence its *real* price (the real rent of pit own rise.

Table 1 Production price inflation and its components

	2007	2007:12	2008:1	2008:2	2008:3	2008:4	2008:5
Production price index	2.8	4.4	5	5.4	5.8	6.1	6.4
Oil (in euros)	52.8	62.8	62.4	64.1	66.1	69.8	80.1
Commodities	9.2	1.4	10.4	15	10.3	5.8	6.0
Negotiated wages (quart.)	2.1	..	..	..	2.7		

Source: ECB, *Monthly Bullettin*, June 2008

These two facts suggest that industrialized countries are undergoing a sharp change *in relative productio* a *real supply shock*. This gives rise to a situation which is totally different than that of nominal shocks, anc thorny problems in view of monetary policy implementation.

- How far is the current oil price from its new equilibrium level, or in other words, how much addition inflation should oil users expect?

- How can the central bank keep the general price index on track if it has no control on its non-dome component? Or for how long will the actual inflation rate of the general price index deviate from the

- In theory, as a result of the new system of relative costs, real wages and profits in oil-user countrie remain unchanged. Potential output, natural interest rate and NAIRU will not remain the same eith banks organize their policy with reference to these benchmarks, what is their new assessment?

It is both astonishing and worrysome that little (if any) echo of these fundamental issues can be found in t official declarations about stagflation, especially in the EMU. To shed some light on these issues, let us co simplest short-to-medium-run determination of the output level. Profit-maximizing firms expand (reduce) o respect to potential as long as nominal production costs grow less (more) than the general price index (th The HICP is under the responsibility of the central bank, which is commited to keeping it close to a given l Both nominal costs and the HICP consist of domestic and non-domestic items (the distinction refers to the where prices are set, not where goods are produced). Table 2 reports the composition of the HICP elabor ECB. Typical non-domestic items are energy and non-processed food, which account for 17.4% of the ov (though processed food prices, too, are largely affected by world commodity market conditions, as testifie skyrocketing growth - see also ECB, *Monthly Bullettin,* June 2008). The ECB does not provide the decom production costs, but as a first approximation we can say that it is roughly the same as that of the HICP.

Table 2. HICP inflation and its components

	2007	2007:12	2008:1	2008:2	2008:3	2008:4	2008:5		Average 2007:12-2008:5
HICP, overall	2.1	3.1	3.2	3.3	3.6	3.3	3.6	100	3.3
Energy	2.6	9.2	10.6	10.4	10.2	10.8	12.0	9.8	1.0
Non-processed food	3.0	3.1	3.3	3.3	3.8	3.1	3.8	7.6	0.3
Processed food	2.8	5.1	5.9	6.5	6.7	6.8	7.2	11.9	0.8
Industrial goods	1.0	1.0	0.7	0.8	0.9	0.8	1.0	29.8	0.3
Services	2.5	2.5	2.5	2.4	2.8	2.3	2.2	40.9	1.0

Source: ECB, *Monthly Bullettin*, June 2008

Assuming that all nominal domestic costs follow nominal wage dynamics, the evolution of total nominal co respect to HICP inflation is given by

- 0.8xWI + 0.2xNDCI - HICP

- HICP = 0.8xDPI + 0.2xNDPI

where WI = nominal wage inflation, NDCI = non-domestic cost inflation, DPI = domestic price inflation, ND non-domestic price inflation.

Wages can only be set in periodic renegotiations. Thus the current (time *t*) nominal wage rate (and the rel increase WI) is the result of the latest renegotiation round (time *t*-1). At each round, wage setters seek to wages in line with expected inflation. The latter can be viewed as a weighted average between the inflatio indicated by the central bank (say 2%) and the observed inflation trend (the so-called "second-round effec time *t* is given by:

- $WI = wx2\% + (1 - w)xHICP_{-1}$

The weight *w* captures various conditions affecting labour-market negotiations. On the one hand, it depen credibility of the inflation benchamark: *w* = 1 indicates that the 2% benchmark is fully credible (differences are regarded as small and transitory). On the other hand, *w* 1 indicates that the 2% benchmark is not fully that workers wish to protect their pruchasing power against inflation spikes that are neither small nor trans more HICP dwells above 2%, the smaller will be *w*. The actual value of *w*, however, also depends on work negotiation power with firms.

Is a neutral monetary policy possibile?

By neutral monetary policy I mean the ideal case in which the central bank keeps the HICP in line with its while all underlying real variables are kept at their equilibrium level by market forces. This ideal state (ignc growth) implies that real wages, real costs and output are constant ("vertical" aggregate supply). That is, i that 0.8xWI + 0.2xNDCI = 2%, and WI = 2% at the same time. Clearly, this is not possible unless NDCI is 2%! To gauge the present order of magnitude of NDCI we may refer to the production price index in table that this index reflects cost dynamics. Thus we may posit that

- 0.8xWI + 0.2xNDCI = PPI = production price inflation

The figures for WI and PPI in table 1 indicate that the trend of NDCI over the last six months is about 16%

Our simple algebra shows that, as said above, when NDCs are bound to rise in real terms (NDCI > HICP) monetary policy is no longer possible. This poses serious problems for the rational interplay between the and wage setters, as we shall see in a moment. Various possible combinations of WI, NDCI and HICP giv different scenarios, the most interesting of which can be summarized in the following table

Table 3. Some stagflations scenarios

	Real wage loss	Output/employme loss
Low inflation + wage moderation ($w = 1$) (e.g. WI = HICP = 2%)	small	arge
High inflation + wage moderation ($w = 1$) (e.g. WI = 2%, HICP 3.5-4%)	large	small
High inflation + wage indexation ($0 < w < 1$) (e.g. WI = 3-3.5%, HICP = 3.5-4%)	small	medium

What does wage moderation mean, and does it pay?

Wage moderation is a central element in the post-1970s approach to stagflation in order to prevent an en wage-price spiral. So far, this also seems the key concern in Frankfurt. But what does it really mean to, ar workers?

The first and more popular meaning of moderation refers to the *nominal* wage increases, which should no medium-term benchmark set by the central bank. In our terms, $w = 1$. It is rational for workers to accept th the central bank because it helps the central bank to keep inflation close to the benchmark, and as long a remains close to the benchmark real wages are protected (see e.g. L. Bini Smaghi, ECB Board, Corriere June 7). Now, consider the case that the central bank promises HICP = 2% over few quarters, and that th 2%. As a result, with NDCI = 16% real costs would be rising at a pace given by 0.2´ (NDCI - HICP) = 2.8% and employment being cut accordingly. The bitter discovery of wokers would be that the 2% pact with the does protect real wages but at the cost of less output and employment (table 3, line 1)

Wage moderation may have another meaning concerning *real* wages. Suppose we wish to gauge how W for real costs, and hence output and employment, to be sheltered against the *real* appreciation of NDCs. 2%, and NDCI = 16%, the short answer is WI = 1.25´ HICP - 0.25´ NDCI = - 1.5%, that is nominal wage *d* amounts to a real wage cut of 3.5%. Hence the other side of the coin is that employment protection would expense of the real wage.

All in all, workers face a trade-off between employment and real wage underneath the stagflation veil. Not result is fully consistent with the "structuralist" view of stagflation recalled above, that is, when stagflation permanent adverse change in the relative cost structure or a real supply shock (see e.g. Erceg, Henderso 2000). The corollary is that the central bank can do nothing to mitigate this unfortunate situation (apart fro exchange-rate appreciate to reduce the domestic impact of imported inflation). It may well seek to achive target for general welfare purposes, but it ought to abstain from marketing this policy as being neutral.

Is the central bank's inflation benchmark credible?

The next question is: how can the central bank deliver its promise when it cannot control the non-domesti of inflation? The answer has been given by the ECB Board member L. Bini Smaghi (Corriere della Sera, J domestic price inflation should fall below 2%. By how much can be gauged from table 2. According to our that 0.2xNDPI = 1.3%, HICP = 2% requires 0.8xDPI = 0.8% or DPI = 1%. Since the observed trend is DPI 2.6%, the deflationary pressure that the ECB should exert on the euro-economies in the coming months is

of 2/3 of current DPI (- 1.6/2.6). Is this a credible promise (threat)? In RGE-Monitor one can read the follo statement by Trichet: "HICP inflation rates are expected to remain well above the level consistent with pric a more protracted period than previously thought" (**www.rgemonitor.com/168?cluster_id=4680**, July 16

Hence, with WI = 2% and HICP at about 3.5 workers can expect a real wage loss of 1.5 per year "for a mo period than previously thought". At the same time, real costs would rise by 1.3%, less than a half than the WI = HICP = 2%. A "structuralist" would say that this result is nothing else than a shift along the workers' (some real wage loss *vis-à-vis* less severe output/employment cut). Interestingly, Erceg et al. (2000), purp view, argued that since wages are notoriously rigid downwards, both in nominal and real terms, a central b focussing on inflation too narrowly (i.e. delivering the promised inflation rate to workers) would interfere wi adjustment of the real wage rate. The unpleasant side of this argument is that it seems to suggests that th might let inflation go at the expense of moderate wage setters. The larger the "surprise inflation", the bigg wage loss and the better the employment/output levels (table 3, line 2). Yet forcing workers to move down trade-off curve in this fashion is precisely the policy that has been banned from the modern central banke This policy not only does violate the credibility constraint that underpins the modern principles of central b present situation it also assumes a great deal of naivety on the part of workers.

Some conclusions:

- The current symptoms of stagflation come from a real supply shock, that is a structural change in of oil and commodities.
- This phenomenon generates a trade-off between domestic labour and capital incomes, on the one output and employment on the other.
- Monetary policy can do almost nothing to alleviate this trade-off, but central banks should a) not to communicate clearly that finding the most preferred trade-off resolution is not their business but or market negotiations, c) not to bend monetary policy to expedient manipulations of real wages.
- Consequently, setting a credible inflation benchmark to pin the inflationray process down remains ingredient, but credible means first of all realistic. As far as the EMU is concerned, the promise of return to the benchmark inflation rate, and hence the plea for the 2% pact with wage setters, are n
- What is more credible is that a) the ECB can just seek to prevent inflation from pointing too far fro (roughly the same figures as in the US), b) the rate of WI will result from labour market negotiation certainly be closer to 3.5% than to 2%, c) yet if WI will be kept even slightly below actual inflation (wage-price spiral will tend to peter out resulting in an intermediate combination of moderatly lower and some limited loss of output and employment (table 3, line 3). Is this not by and large the FED' here in Europe country specific conditions will matter the most, with Italy's labour market having m for real wage cuts than France or Germany.