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Should the surge in oil and food prices prompt the U.S. Federal Reserve to target total inflation?

Despite the economic slowdown in the United States, inflation concerns remain at the forefront of industrialized countries. For many, persistent high oil prices and the surge in prices for certain foods are a concern. In the minutes of its most recent FOMC meeting, the U.S. Federal Reserve (Fed) issued a statement on its concerns regarding inflation: "...the increase in crude oil prices to record levels, together with rapid increases in food and import prices in recent months, [is] likely to put upward pressure on inflation over the next few quarters".

In a context of sustained price hikes for oil and food, is the Fed's focus on core inflation, which excludes food and energy, justified? In our opinion, the current situation presents three potential and interrelated dangers: 1) the persistence of rising oil and food prices, 2) the effect on inflationary expectations, and 3) the pass-through effects on underlying inflation.

In this *Economic Viewpoint*, we demonstrate that despite the structural changes that have been in play since the start of the decade, most notably the imbalance between supply and demand for raw materials, the stunning and continuous rise in the price of oil and certain foods should not lead to any lasting rise in inflation trends. Globalization, productivity gains made by emerging economies, the diminishing negotiating powers of labour unions and the credibility of central banks should limit the second-round effects on overall consumer prices. In order to control inflation expectations, the Fed cannot simply shrug off the growth of total inflation, but in the monthly management of monetary policy, core inflation remains the best indicator of underlying inflation.

TOTAL INFLATION VS. CORE INFLATION

Inflation reflects a durable increase on overall consumer prices and wages. It is usually measured by an annual change in the consumer price index (CPI).¹

The total index is also broken down into sub-indexes to reflect the share occupied by services, raw materials, non-durable goods and energy (Table 1). The core CPI, which excludes food and energy, is one popular measure².

For households that buy gas, food and various other consumer goods on a day-to-day basis, total inflation is the

important factor. This is the measurement that dictates the pace with which the cost of living is increasing. By comparing total inflation with the rise in wages, we can determine if the standard of living in households is either improving or deteriorating.

In developing its monetary policy however, the Fed is focusing on core inflation, i.e., the index that excludes food and energy. These components are sometimes highly volatile (Table 2), due to temporary supply shocks related to the weather or to geopolitical conflicts, and for which changes to monetary policy have little effect.³

¹ In fact, the Fed is mostly following the personal consumption expenditure (PCE) deflator, another measure of inflation. However, since financial markets react to changes in the CPI, which is published earlier during the month, this *Economic Viewpoint* will focus on the CPI.

² Of note, the Bank of Canada's core index excludes eight of the most volatile components and the effects of change on indirect taxes.

³ Of all the components, energy shows the greatest monthly volatility when measured using the standard deviation. Food is volatile as well (but less so than energy), but may not move in the same direction as energy prices, such that the most stable measure is the CPI, excluding energy only.

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Table 1
Consumer price index

	Relative importance	Unadjusted (in %)
	Decembre 2007	April 2007 to April 2008
Expenditure		
Total	100.000	3.9
Food and beverages	14.914	5.0
Food	13.833	5.1
Food at home	7.660	5.9
Cereals and bakery products	1.030	8.9
Food away from home	6.173	4.1
Housing	42.427	3.0
Fuels and utilities	5.128	8.6
Apparel	3.731	-0.7
Transportation	17.688	7.2
New and used motor vehicles	7.191	-0.4
Motor fuel	5.482	21.1
Mediacal care	6.231	4.3
Recreation	5.647	1.2
Education and communication	6.086	3.2
Other goods and services	3.277	3.5
Commodity and services		
Commodity	41.269	4.8
Non durables excluding food and beverages	15.519	8.9
Services	58.731	3.3
Special		
Energy	9.698	15.9
Total excluding energy	90.302	2.7
Total excluding food and energy	76.469	2.3

Source: Bureau of Labor Statistics

Table 2
Monthly volatility* of the CPI

	Standard deviation	Contribution in % to total volatility
Total	0.2436	100.0
Excl. food and energy	0.1839	75.5
Excl. energy	0.1683	69.1
Energy	2.1855	897.2
Food	0.2640	108.4
Housing	0.2314	95.0
Apparel	0.4583	188.1
Transportation	0.9413	386.4
Medical care	0.2167	89.0
Commodity	0.4511	185.2
Services	0.2207	90.6
Other goods and services	0.4650	190.9

* Standard deviation since 1980.

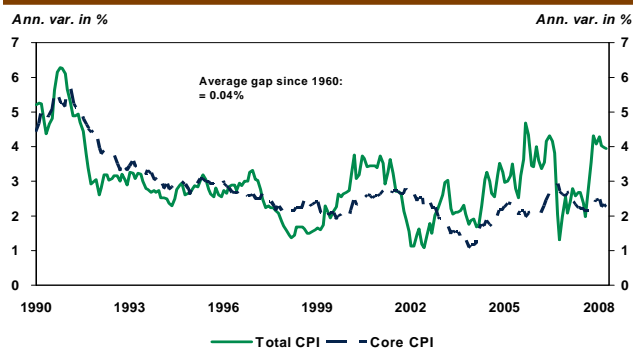
Sources: Bureau of Labor Statistics and Desjardins, Economic Studies

SHOULD THE FED TARGET TOTAL INFLATION?

As long as these volatile components refrain from showing any lasting tendencies, but fluctuate instead around the core inflation rate (Graph 1), they will have no influence on

underlying inflation and should therefore be ignored. The average gap between total inflation and core inflation, at 0.04 of a percentage point since 1960, lends credence to the Fed's decision to focus on inflation that excludes food and energy in developing its monetary policy. In these conditions, core inflation is a better indicator of trend inflation resulting from economic activity (aggregate demand for goods and services, use of production capacities, labour market conditions, etc.).

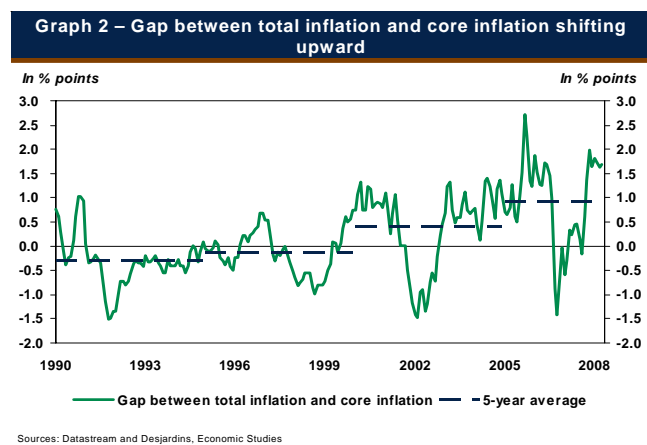
Graph 1 – Food and energy tend to fluctuate around core inflation



Sources: Datastream and Desjardins, Economic Studies

If the use of core inflation is justified, then current concerns about inflation are less so, since the current sources of inflation stem mostly from energy and food. While total inflation reached 3.9% in April (and even reached 4.4% at the start of the year), the annual change in the index that excludes food and energy was 2.3%, weaker by about 50%.

The problem is that the recent increases in the price of oil and certain foods reflect major structural changes that seem to be taking on permanent characteristics. As a result, there's a risk that these structural changes may themselves become a major source of underlying inflation (Graph 2).



In this context, shouldn't the Fed focus on total inflation instead? To answer this question, we have to explain the recent surge in the price of raw materials and attempt to forecast future trends.

ARE HIGH FOOD AND OIL PRICES JUSTIFIED?

With the current slowdown of the U.S. economy, it's difficult to justify the frenetic increases in oil prices we've seen lately. However, if the current price level seems overvalued compared with the fundamental factors⁴, the upward trend is not surprising. A study published in November 2006⁵ had come to the following conclusion:

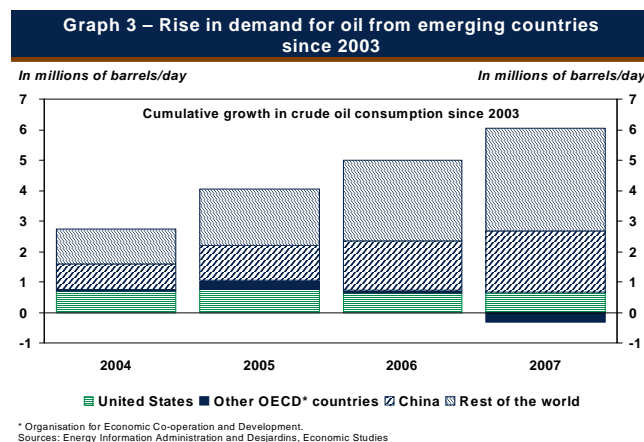
“...the increase in natural resource prices is not exclusively attributable to the increase in world demand, but also to a problem of supply [...] structural changes, relating to the growing scope of demand in Asia, as well as to gradual

⁴ See the *Economic Viewpoint* “Are current oil prices justified?” April 30, 2008, for a detailed description of the fundamental factors that regulate movements in oil prices and their equilibrium level.

⁵ See the *Economic Viewpoint* “Global slowdown ahead: should we expect a drastic correction in raw material prices?” November 17, 2006.

disinvestments in exploration over the past few decades, suggest that real prices of natural resources will not come back down to their long-term trend [...] the increasing size of the Chinese and Indian economies [...] leads us to believe that the United States is no longer the only country influencing world prices. We therefore remain optimistic: the correction in raw material prices [...] merely a prelude to the continuation of the upward trend observed in recent years.”

According to the International Monetary Fund (IMF), since 2003 almost 95% of the growing demand for oil has come from emerging economies (Graph 3). At the same time, the average costs related to investment in new production capacities have doubled, from US\$5 a barrel in 2000 to US\$10 a barrel in 2007. As such, where excess oil production capacities have gradually run dry, stakeholders in the oil markets have become extremely sensitive to any news affecting oil supplies or geopolitical conflicts. The result: oil prices have risen about 500% since 2003.



With regard to food, we will try to provide a detailed explanation of the frenetic rise in the price of certain foods in a subsequent study. Until then, here is a brief overview. First of all, operating costs are on the rise, reflecting the increase in the price of oil and transportation. Temporary factors such as drought and poor harvests also played a role. We must also take into account the impact of policies to increase the use of biofuels on the cost of basic foods. The IMF estimates that increased demand for biofuels accounts for 70% of the increase in the price of corn and 40% of soybean prices⁶.

⁶ Remarks made by John Lipsky, *First Deputy Managing Director*, IMF, before the *Council on Foreign Relations*, New York, May 8, 2008.

SHOULD WE WORRY ABOUT HIGH OIL AND FOOD PRICES?

We cannot jump to conclusions too quickly. Rising oil prices are certainly a concern, but they do not necessarily need to have repercussions on total inflation. To substantiate this, the price of oil rose sharply between 2003 and 2007, but any reaction from the central banks to counter the transitory movements in total inflation would clearly have been a mistake.

For many, the reason lies in the nature and scope of the current crisis. During the supply shocks in 1973 and 1979, the price of oil shot up by 300% and 200% respectively, within a few months. In contrast, the shock of the current demand has been spread out over several years, leading to a gradual increase that has been assimilated smoothly over time (Graph 4).

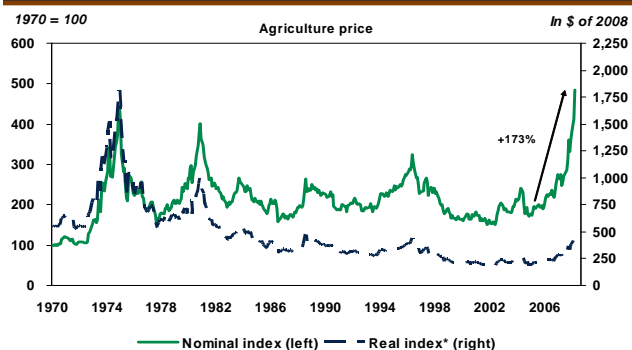
Graph 4 – Record-breaking oil prices



* Deflated by the U.S. CPI. Sources: Datastream and Desjardins, Economic Studies

With regard to food, prices have always been highly cyclical over time, and they remain historically low in real terms (Graph 5). If the marked rise in the price of certain grains has distressing repercussions on low income households where a large part of income is allocated to buying food, the weighting of cereals and bakery products in the total index is especially low (1.03%) in the United States.

Graph 5 – Price of agricultural commodities rising sharply

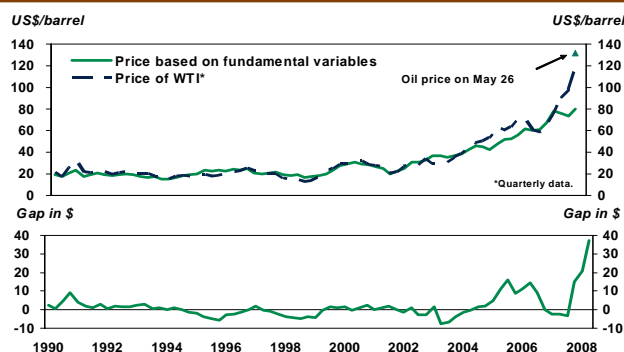


* Deflated by the U.S. CPI. Sources: Datastream and Desjardins, Economic Studies

OIL PRICE GROWTH IS UNSUSTAINABLE

If the structural changes that are currently taking place do not reverse the current level of oil prices, the pace of the growth observed recently is clearly unsustainable. The oil prices we are seeing today do not reflect the growth in fundamental variables. Few changes justify the sharp rise in demand from emerging countries we have seen since the first few months of 2008 (the last quarter available) and, as a result, the recent increase mainly reflects market speculation (Graph 6).

Graph 6 – Current oil price includes about \$35 premium tied essentially to speculation



WTI: West Texas Intermediate Sources: Datastream and Desjardins, Economic Studies

That said, the annual change in oil prices is what is important. After posting a 57% increase in 2007, it is unlikely that the price of crude oil will continue to rise at such a sustained pace (this would result in US\$150 for a barrel of oil by the end of the year, \$237 by the end of 2009 and \$371 by the end of 2010). As a result, if oil prices level off, or better yet, if there is a correction, the effect on the total CPI will be reversed after one year.

DANGER: INFLATIONIST EXPECTATIONS ON THE RISE

This is no less of a worry. The danger lies in the inflation expectations, the most important factor behind price stability. Monetary policy has little impact on the first wave effects of soaring oil prices which includes the direct impact of the energy component on the CPI and the trickle down effect of increased energy costs on other goods and services. Monetary policy can, however, limit the second wave effects related to changes in inflation trends, as long as rising energy costs do not lead to an increase in long-term inflation expectations. Since the 80s, the globalization of markets and the increased credibility of central banks in controlling inflation have resulted in a gradual decline in the volatility of economic growth and inflation. The end result is a more solid anchoring of inflation expectations in the past 15 years.

For the moment, inflation expectations remain contained, but some indications show that households are starting to be

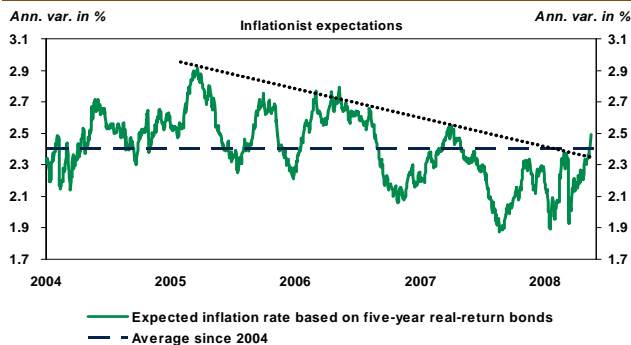
worried by continued rising oil prices, a preoccupying situation for the Fed:

“ A number of participants voiced concern that long-term inflation expectations could drift upwards if headline inflation remained elevated for a protracted period or if the recent substantial policy easing [is] interpreted by the public as suggesting that Committee members had a greater tolerance for inflation than previously thought. The possibility that inflation expectations could increase was viewed as a key upside risk to the inflation outlook ”.

Minutes of the FOMC meeting, April 29-30 2008.

Inflation expectations stemming from the spread between 5-year real-return bond rates and that of U.S. Treasury securities have increased over the past few weeks, breaking the downward trend first set in motion in 2005 (Graph 7).

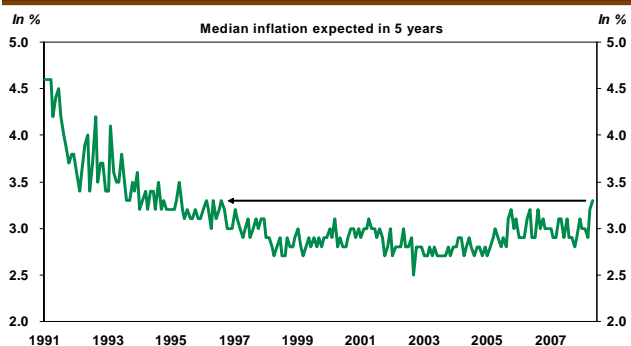
Graph 7 – Inflation expectations are rising, but remain historically stable



Sources: Bloomberg and Desjardins, Economic Studies

More importantly, after remaining relatively stable since 2002, despite major increases in the price of oil, long-term expectations (10-year) have reached their highest level in the past 12 years (Graph 8).

Graph 8 – Long-term inflation expectations at their highest level since 1996

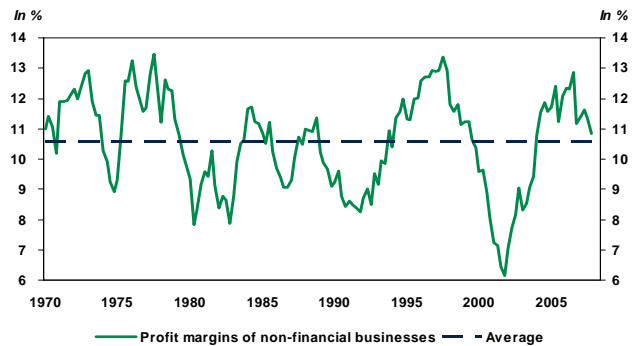


Sources: University of Michigan and Desjardins, Economic Studies

NO SECOND-ROUND EFFECTS IN SIGHT

In our opinion however, the pass-through effects should remain weak. First, data from the past few decades have shown that total inflation tends to converge with core inflation with greater intensity than the reverse. Second, non-financial business profit margins are relatively high on a historic basis, which should permit enterprises to absorb most of the energy costs increases (Graph 9).

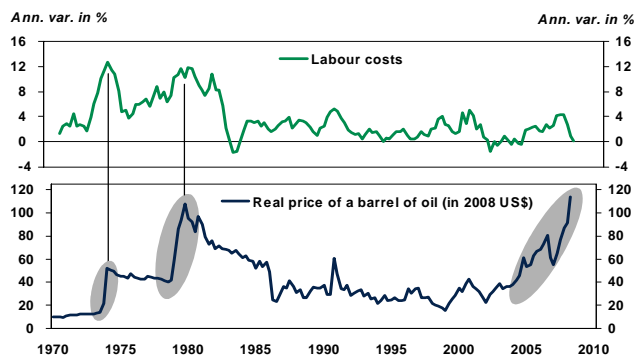
Graph 9 – Business margins are relatively high, historically speaking



Sources: Datastream and Desjardins, Economic Studies

The main difference, however, reflects the diminishing negotiating power of labour unions. Contrary to the 1970s where rising oil prices resonated on wages, productivity gains recorded since the beginning of the year 2000 and worldwide competition are such that increases in the unit costs of manpower remained weak (Graph 10).

Graph 10 – Unlike previous oil shocks, rising energy costs had no impact on wages



Sources: Datastream and Desjardins, Economic Studies

CONCLUSION

The staying power of increased oil prices is a concern. However, we should not see any pass-through effects on overall consumer prices. Oil prices appear to be overvalued and we anticipate a correction. Consequently, any slowdown in the growth of oil prices would slow down total inflation.

Moreover, inflation is a lagging indicator of the economic cycle. As such, the economic slowdown would lead to a decline in current pressures and weaker growth in prices for the remainder of the year (Graph 11).

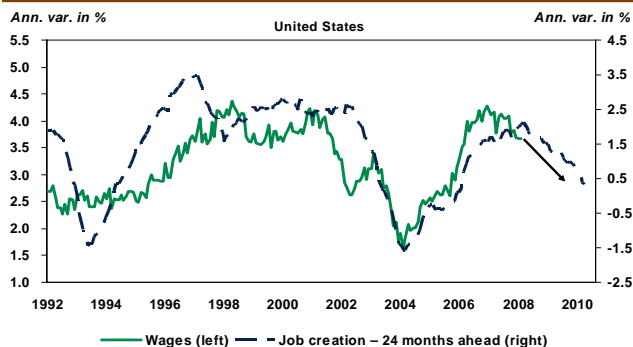
Graph 11 – Economic slowdown should lead to a drop in inflation



Sources: Datastream and Desjardins, Economic Studies

A key element that is tied to the sustained rise in overall consumer prices is wage behaviour. Wages have decelerated since reaching their cyclical peak in December 2006, and the deterioration of the labour market shows that downward pressure on wages will continue for the next few years (Graph 12).

Graph 12 – Wage growth set to slow further



Sources: Datastream and Desjardins, Economic Studies

In these conditions, we remain confident that the current situation is more deflationist (deceleration of inflation) than inflationist. In an effort to control inflationist expectations, the Fed will have a tough time shrugging off growth in total inflation over the coming months. However, in the monthly management of monetary policy, core inflation remains the best indicator of inflation trends. For this purpose, the correction in the real estate sector, the economic slowdown, job losses and increased production capacities should continue to contribute to the deceleration of inflation until early 2009.

Since households must eat every day and cars are an integral part of our lifestyles, total inflation is probably the “ultimate” target to reach in terms of inflation. However, the most effective way for the Fed to achieve its goal is to track core inflation.

The minutes of the last FOMC meeting clearly indicate that the Fed does not intend to continue its monetary easing in the short term. As a result, unless a major change takes place in long-term inflationist expectations, the most probable avenue for key interest rates appears to be the status quo for an extended period.

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