

**2**  
Introduction

**3**  
Debt deflation:  
from theory to  
European reality

**5**  
Twenty years of  
stagnation in Japan:  
how did it get to this?

**8**  
What are the risks for  
the France's economy  
and businesses?

# PANORAMA

## Should we be afraid of “low-flation”?

December 2014

COFACE ECONOMIC PUBLICATIONS

By Coface Group Economists



**T**he term “deflation” seems to be on everyone’s lips in Europe these days, not just on those of economists. The buzz around the term is not surprising, as Euro-zone inflation has been falling for the past three years. France is no exception: French consumer prices rose by only 0.5% year-on-year in October 2014. This slower pace of inflation coincides, moreover, with sluggish growth. As we know, deflation, when it occurs, has considerable consequences for consumers. Initially, a drop in inflation benefits consumers, as it increases their purchasing power. But, the more marked the fall in prices and the longer the fall continues, the more likely this trend is to send the economy into a lasting recession: from the moment households expect prices to continue to slide tomorrow, they completely lose interest in buy-

ing today. In other words, lower prices lead to lower consumption, which in turn triggers another drop in prices. The risk of becoming trapped in this vicious cycle raises several questions: what kind of deflation is one nearest to in France at the moment - a prolonged period of “low-flation” as in Japan in the 1990s and 2000s, or a deep depression as in the 1930s? And what would be the effect of a possible period of deflation on French companies? Are some activity sectors more exposed to this risk than others? The ECB’s proactive policy, the availability of abundant liquidity and also the current structures of the French economy allow the risk of “deep deflation” as in the 1930s to be put into perspective. In contrast, the probability of a prolonged period of “low-flation” as observed in Japan from the 1990s seems stronger, even if the position of the French banking sector today appears better than that of

the Japanese banks at the time, and the scale of the French property market excesses would seem smaller than that of Japan. Such a scenario would have negative consequences: “low-flation” combined with sluggish growth for the French economy as a whole, and particularly for the companies in the activity sectors suffering from overcapacities (in particular, industry). But a prolonged period of stagnation would not have only negative effects on businesses. They would benefit from the decline in production costs (notably the one of raw materials) and from lower interest rates. In sum, it signals a change in the pattern of growth: less growth, less inflation, but also more favourable financing conditions and lower production costs for some sectors, as confirmed in 2014, during which the number of company failures stabilised in France, despite growth of only 0.4%.

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DECEMBER 2014

# SHOULD WE BE AFRAID OF “LOW-FLATION”?

BY OUR ECONOMISTS



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## INTRODUCTION

The search engine Google measures Internet browser interest in a topic via its Google trends facility. In October and November 2014, the number of searches for the word “deflation” was, according to Google Trends, at its highest since 2010. This facility also provides information on the geographic origin of these searches. It comes as no surprise to learn that searches for deflation are made mainly by European web surfers, and European cities represent 90% of the most frequent searches for the words “deflation” and “inflation”.

Deflation is defined as a sustained downward trend in the price of a country’s goods and services. The term “deflation” seems to be on everyone’s lips in Europe these days, not just on those of economists. The buzz around the term is not surprising. Deflation, when it occurs, has considerable consequences for consumers. Initially, a drop in inflation benefits consumers, as it increases their purchasing power. But, the more marked the fall in prices and the longer the fall continues, the more likely this trend is to send the economy into a lasting recession: from the moment households expect prices to continue to slide tomorrow, they completely lose interest in buying today. In other words, lower prices lead to lower consumption, which in turn triggers another drop in prices. This vicious circle explains the deep depression of the 1930s in the United States and in several European economies. Without going as far as this, the situation in Japan in the 1990s and 2000s also highlights the problems associated with a prolonged stagnation in prices and activity.

As we have said, inflation has been on a downward trend in the Eurozone for three years, and France is no exception. French consumer prices rose by only 0.5% year-on-year in October 2014 (compared with an average of 2.3% in 2011). This slower pace of inflation coincides, moreover, with sluggish growth: just 0.4% in 2012, 2013 and probably 2014. This context of weak inflation and growth raises several questions: what kind of deflation is one nearest to in France at the moment - a prolonged period of “low-flation” as in Japan, or a deep depression as in the 1930s? And what would be the effect of a possible period of deflation on French companies? Are some activity sectors more exposed to this risk than others?

To answer these questions, we will first explain the mechanisms of deflation as explained by economic theory and focus on the light they throw on the dangers now threatening Europe’s economies (part 1). We will then consider the case of Japan which went through a prolonged period of price and growth stagnation (part 2). We will finally examine the similarities between this Japanese stagnation with the current French situation, before identifying the effects this marked drop in inflation and growth is having on the French economy as a whole, as well as on each of its main activity sectors.

## 1 DEBT DEFLATION: FROM THEORY TO EUROPEAN REALITY

Deflation is defined as a generalised contraction of prices. But although lower oil prices contribute de facto to deflationary pressures, real (and dangerous) deflation is based on a different dynamic. What does economic theory tell us and can it throw light on the real dangers threatening our European economies?

The most famous theorican of deflation is Irving Fisher. This economist has long remained in Keynes' shadow, especially because in October 1929, Fisher made an unfortunate statement about stock market prices which, he said, had "reached a permanently high plateau". No good as a forecaster, Irving Fisher is still an important theorican of financial crises, especially on an account of his "debt-deflation theory of Great Depressions" which was written in the 1930s. Irving Fisher's theory starts off from the debt stock and arrives, in several stages, at economic depression. The over-indebted borrowers suddenly liquidate their debt (massive selling of assets to repay the debt), which triggers a lower velocity of money supply <sup>(1)</sup> (increased money demand), and leads to lower prices <sup>(2)</sup>. The effect of the price shock is to drive up company insolvencies. The stress on businesses leads to a contraction in production and employment, which destroys confidence and which in turn triggers a lower velocity of money supply which leads to lower prices ...

**One of the key elements in Irving Fisher's theory is that a vicious cycle is triggered in the relationship between debt and price**

"We have the great paradox which, I submit, is the chief secret of most (...) great depressions: the more the debtor pays, the more they owe." This is because paying off the debt leads to a drop in prices, which implies a rise in the real value of the debt stock.

This seems very far from the current European problem. The old continent is threatened by a long period of inflation and weak growth. Nonetheless, Fisher's theory sounds a warning note over the extreme risks of a deflationary spiral and is interesting in two regards of concern to us now, in Europe:

**Keep in mind the harmful nature of a high debt stock**

Irving Fisher starts with the over-indebtedness of borrowers, who, by paying off their debt, pre-

cipitate the crisis. The issue of deleveraging is of fundamental European concern. Some countries are characterised by still high levels of debt stock, whether private and/or public, as in Greece, Portugal and Spain. Deleveraging slows down the recovery and plays a part in the weakness of inflation: by devoting a still significant proportion of income to debt repayment, the economic players rein in their spending. Supply adjusts in response to prices, and this is even more true in a globalised economy: competition is fierce and downward pressure on prices is high. Low inflation complicates the deleveraging process, because the debt stock (in real terms) declines ever more slowly.

Irving Fisher described a crisis situation, whereas the European situation is more one of stagnation. However the self-sustaining mechanism between debt and price is the same. In an article on financial repression <sup>(3)</sup>, Kenneth Rogoff and Carmen Reinhart noted that European debt inherited from the Second World War was gradually eliminated by inflation and strong growth (and financial repression). The first two solutions put forward are absent from Europe today. In a study on Spain <sup>(4)</sup>, the International Monetary Fund (IMF) alerts readers to this topic. Spain is currently going through a dramatic crisis but the recovery is hampered by a still high stock of private debt (in particular of businesses). The IMF reminds us that deleveraging is made more difficult by the drop in prices (-0.2% in October 2014). As a result, it calls for a global strategy, steered by the State, for restructuring corporate debt. When one has neither inflation, nor growth as tools to reduce the debt stock, non-market-based and radical measures (i.e. measures as part of a proactive strategy on the part of the public authorities) can prove to be the only solution

**Influencing expectations to limit the risk of financial crisis**

The second key point of interest of Fisher's thesis is linked precisely to the notion of crisis. It should be noted that the theorican does not explain the cause triggering the liquidation of the debt by the economic agents - the starting point of the process. Fortunately, current European deleveraging is not the catastrophic debt liquidation described by Irving Fisher, but what is the risk of switching from one to the other? Fisher's theory can be related to the fact that expectations change suddenly because in a gen-

(1) Fisher I. (1933), the debt-deflation theory of Great Depressions, *Econometrica*, October.

(2) In the well-know equation  $MV = PY$ , M is the quantity of money in circulation and V is the velocity of money supply. Prices (P) and production (Y) are influenced by the quantity of money supply (M) but also by the velocity of money supply (V), i.e. the speed at which money goes around (changes hands). The velocity of supply is inverse to money demand. In the case of hyperinflation, the velocity of supply explodes (money demand collapses: no-one wants to hold onto money). The opposite happens during a period of deflation.

(3) Reinhart C. and Rogoff K. (2011), A Decade of Debt, NBER Working paper no. 16827, February. Financial repression refers to all the arrangements by which the financial institutions (banks in particular) are encouraged (or even obliged) to hold and keep debt securities

(4) International Monetary Fund (2014), Spain - 2014 Article IV consultation, Staff Report, July, Country Report no. 14/192.

eralised pattern of debt-liquidation behaviour, each borrower thinks he is saving himself but he is laying the foundations for a collective crisis. Numerous theoretical approaches to financial crises highlight the devastating nature of changing expectations. Individually rational, the behaviours become collective disasters through self-sustaining mechanisms. Although Irving Fisher is an economist in a neo-classical vein, his theory of debt-deflation seems more Keynesian in nature. Monetarists assume that in the long term, money demand behaviour is stable. In contrast, Keynesians hold that demand is unstable. This opens the way to the possibility of a sharp change in the individual behaviours of the agents with regard to money, these in turn triggered by changing expectations.

### The crucial role played by the central banks

The role of the central banks is therefore crucial to avoid such changes. Although observers criticise the ineffectiveness of the innovative steps taken by the European Central bank (ECB), it has implemented several injections of liquidity and cut the various interest rates. It has drawn up plans for quantitative easing and is of course using communication tools. Despite these initiatives, the credit market in Europe does not appear to be responding favourably. There is generous liquidity offered by the Frankfurt-based institution, but this does not reach the real economy. However, the aim of the ECB's measures is possibly different and less visible: to prevent a sudden break in expectations and to avoid any risk of tipping debt-deflation. By declaring that the ECB will be there to prevent any crisis<sup>(5)</sup>, by supplying abundant, cheap liquidity, it can prevent the economic agents from being tempted by devastating "liquidation" behaviours à la Fisher. Accordingly it ensures that the collective ties are robust in order to prevent the development of the individual behaviours typical of financial crises.

The difficulty for the ECB is that deflation is not a refusal of money, but on the contrary, an absolute preference for liquidity. It is this preference which is the source of deflation. We bring in here the Keynesian notion of the "liquidity trap", i.e. that particular situation in which monetary policy is ineffective. Keynes uses the concept of natural interest rate to talk about the choice between money and bonds: below a certain interest rate, the economic agents believe that the rate can only go up (the value of bonds will fall). One must, therefore, put all one's savings into money. It is then impossible to influence money demand behaviour by cutting interest rates which are any-

way close to zero. This is how the liquidity trap is defined. Indirectly however, confirmation that the Central Bank is on hand to prevent any crisis and ensure the creation of money is the only way (admittedly indirect) of supporting confidence in the real economy.

When we observe the manufacturing sector confidence index for western European economies since 2005, the leading indicator of investment decisions, the diagnosis is clear. The average level of distrust in the post-recession period is much stronger than before the crisis. The resumption of credit - and therefore of investment - remains very uncertain in the short term. Nonetheless, various factors suggest that Europe has the means to avoid a serious deflationary crisis. Let us remember, in particular, that salaries are quite rigid in the Eurozone, contrary to the case of the 1930s, and this is a fundamental factor in supporting demand and expectations. This is particularly true of France where the per capita wage continues to rise (at a current rate of 1.6% a year). The economists at Crédit Agricole, moreover, have remarked that few French companies automatically index salaries to inflation, a condition which could help to create a deflationary spiral. The existence of the minimum wage (SMIC) is also a factor which limits downward price pressure<sup>(6)</sup>. A wage-price loop (through the systematic downward adjustment of wages in response to weak inflation, which in turn triggers lower prices) seems, therefore, unlikely in France which, at the moment, appears reasonably well placed to avoid true deflation. Prices in France rose by 0.5% in October 2014 according to Eurostat. Coface is expecting average French inflation for 2014 and 2015 of 0.6 and 0.7%. Let us, however, recall, that prices are already contracting in the neighbouring Eurozone economies. Prices across the whole of the EMU rose 0.4% in October. But in two countries prices contracted, namely in Spain (-0.2%) and Greece (-1.8). The slowing price inflation in the Eurozone is worrying, given that the inflation rate was 0.7% in October 2013. Hence the importance of the ECB's policy, both regarding its specific dimensions and how it is communicated, communication having become a key central bank monetary policy instrument. Abundant, cheap liquidity, an innovative central bank, which consistently reiterates that it is there to guarantee financial stability: this is what was so badly missing during the 1930s. And this is what should enable the Eurozone to avoid "destructive liquidation" and, therefore, a true deflationary trap.

While it seems possible to avoid a 1930s style catastrophic scenario, can we envisage a long period of "low-flation" as experienced by Japan between 1990 and 2010?

(5) Mario Draghi is increasing announcements in order to reassure people as to the ECB's flexibility and its ability to explore policy which are both ample and diverse in order to combat the risk of deflation. On 21 November 2014, in his speech delivered in Frankfurt, he declared: "We are ready to recalibrate the size, pace and composition of our (asset) purchases, if necessary, to fulfil our mandate" and this "without undue delay" (...), it is 'essential to bring Eurozone inflation back to its target, without delay."

(6) Lacan A. et François L. (2014), France: few risks of deflationary spiral, Crédit agricole group, perspectives France, Trimestriel, n°41, Octobre



## 2 TWENTY YEARS OF STAGNATION IN JAPAN: HOW DID IT GET TO THIS?

Between 1990 and 2010, Japanese growth averaged 1% and annual inflation 0.3%. What the country went through was not 20 years of deflation but a prolonged period of "low-flation".

### 1980-1990: imbalances created a bubble

In the early 1980s, Japan had full employment thanks to strong solidarity among the banks, businesses and the State. Businesses, especially, domestic businesses, were protected by the Japanese state as a way of maintaining high employment levels. This support also meant that they were able to guarantee households a steady rise in income. The gradual opening up of

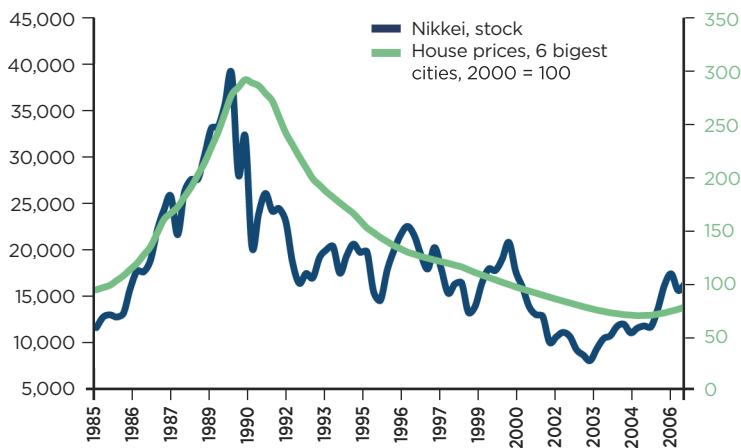
the financial sector to countries in the OECD put an end to this cycle of cooperation. An adjustment was inevitable. In effect, domestic prices were 3 to 4 times higher than the prices set by Japan's economic partners<sup>(7)</sup>. As a comparison, the gap between European and US economies was between 1 and 1.5. Japanese prices were well above the prices of other advanced economies, Furthermore, banking sector profitability had been badly hit by the oil shocks and the wave of company deleveraging which followed. As a way of returning to higher profitability, the banks started to lend more and at lower rates.

In 1986, the price of oil plummeted. Furthermore, the depreciation of the dollar, which had begun in 1985, continued following the Plaza Accord (260 yen to 1 dollar in February 1985, 123 in November 1988). There then followed a virtuous cycle of increased lending and higher asset prices (property and financial). Expectations were positively oriented and sustained a dynamic level of activity. The Japanese banks also held substantial volumes of property and financial assets, artificially beefing up their solvency ratios and their ability to lend. Real Japanese interest rates were the lowest of the OECD countries. In 1987, the Bank of Japan's ten-year rates (BoJ) stood at 4.9% against 8.25% in the United States, 9.6% in France and 9.9% in the United Kingdom. Between 1987 and 1990, the Japanese economy grew 15%. Almost half (43%) of the growth can be explained by investment in fixed assets (machines and equipment), compared with 9% between 1985 and 1987, a sign of business confidence and a desire by businesses to grow, thanks to easy access to credit. Nonetheless, as in the 3 years leading up to this period (1985-87), households were responsible for 50% of the growth.

### 1990-1997, banks suffering, inflation becomes rampant

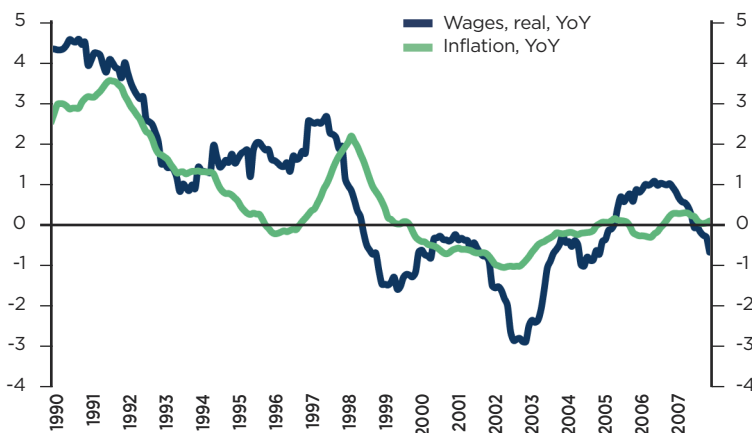
A growth rate which was almost unchanged and massive investments thus weakened the barely profitable Japanese companies which now became heavily indebted with sizeable inventories to dispose of. At the start of 1990, as for the other OECD economies, long-term rates rose and limited access to credit, causing a stock market and property bubble to burst. The main Japanese stock index, the Nikkei, lost 62% of its value between January 1990 and August 1992. There then followed the first wave of company failures in Japan. 6,342 insolvencies in one year were recorded in June 1989, a figure which rose to 14,167 by the end of 1991.

Chart 1  
Property prices and stock market indices in Japan



Sources : Coface, Nikkei, JREI

Chart 2  
Wages and inflation in Japan



Sources : Coface, BoJ

(7) K. Nishizaki, T. Sekine, Y. Ueno, Y. Kawai (2012): "Chronic deflation in Japan", Bank of International Settlements.

In contrast to the other economies, Japan failed to find an effective response to the crisis. Admittedly, between 1991 and 1995, average European and Japanese growth was almost identical (+1.15% and +1.3%), but the balance sheets of the European banks had, at the same time, been repaired. Overcapacity in businesses, large inventories and a sharp slowdown in domestic demand (5% of growth between 1991 and 1995, against 35% during the 5 preceding years) led to a slowdown in price growth (disinflation) and a first spell of deflation in 1996. Real wage growth began to slow from 1990 (4% in 1990, 1.5% in 1996) undermining household confidence. Furthermore, the yen had continued to appreciate against the dollar until 1995. The results of companies with inputs made in Japan deteriorated and, in the absence of demand, adjustments were made to margins.

Fiscal stimulus measures and monetary easing (rate cuts and introduction of non-standard measures) were however taken from 1991 to allow the State to take up the slack from the fall-off in domestic demand and so that the banks could finance their loans more cheaply. Meanwhile, the banks were weakened by a decline in own funds and by a rise in non-performing loans. Consequently, they sold their financial and property assets in order to recapitalise. They therefore participated in increasing supply in a context of weak demand. So, they contributed to the downward price trend and weakened the indebted holders of financial and property assets, who effectively saw their debt burden rise as a proportion of the value of their asset. Moreover, in order to reduce their risks, the banks tightened their borrowing conditions. Finally, to hide the non-performing loans or non-payment risks, they granted loan extensions to vulnerable borrowers. In 1994, the failure of 7 mortgage lenders threatened to drag down Japan's largest banks. In 1997, three major Japanese banks also went bankrupt (Yamaichi, Sanyo and Hokkaido Takushoku). Another sharp contraction of credit supply then bankrupted several companies, which were unable to finance themselves (+30% between 1997 and 1998).

### 1998-2007, only one year of inflation in 10 years!

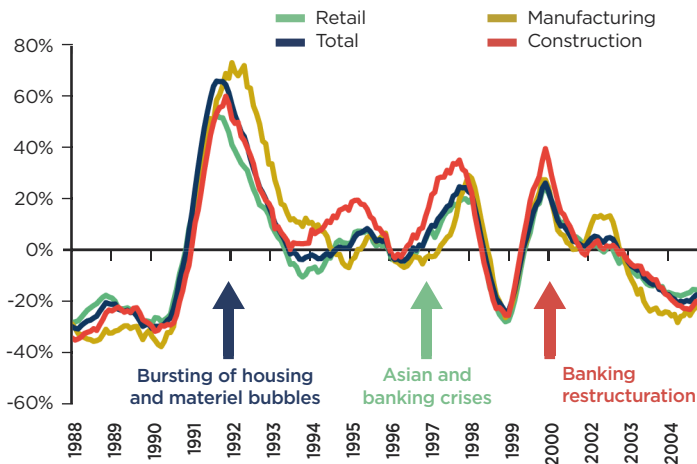
After a jump linked to a VAT rate hike from 3 to 5% in 1997, prices again slid into negative territory in 1998. Thus real wages and prices almost never stopped falling until 2010. Wages fell by 0.9% on average each year and prices by 0.3%.

The Japanese government intervened directly in 1998 by nationalising 2 major insolvent Japanese investment banks, Long Term Credit Bank and Nippon Credit Bank. Despite a State investment of \$495 billion in these banks (12% of GDP), the level of non-performing loans continued to climb and reached 8.4% of outstanding loans in 2002. However, in 1999, the BoJ had started to lend to banks at zero interest and in unlimited quantities. But the company failures led to a rise in the non-performing loans portfolios of the banks, which then restructured, in turn weakening new sectors such that bankruptcies again increased. With the exception of 1999, these grew continuously between 1997 and 2001.

All sectors were affected on a similar scale (see chart 3). Among these failures, those of the large groups received particular attention: JDC Corporation (building contractor) and Okura Corporation (retailer) in particular, filed for bankruptcy. The manufacturer of photocopiers, Mita Industrial Co., with liabilities of 206 billion yen went down as the manufacturing industry's most significant failure.

Chart 3

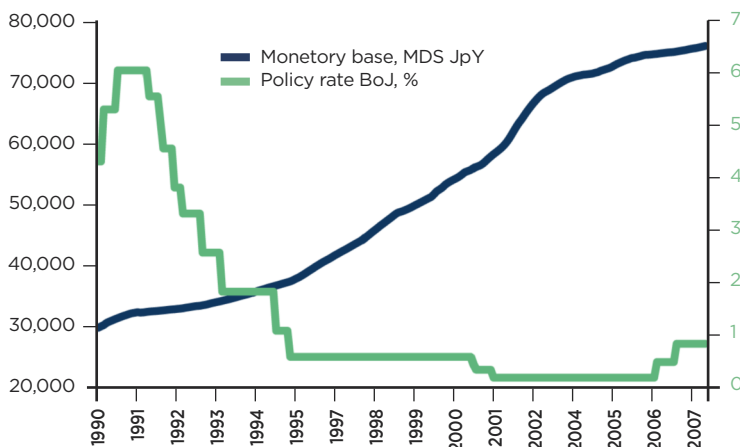
Evolution of company failures



Sources : Coface, Telkoku

Chart 4

BoJ key rate and Japanese monetary base



Sources : Coface, BoJ

The monetary base, meanwhile, has never increased as fast as it did between 1996 and 2003. However, the banks did not use the liquidity provided by the Central Bank to increase their lending. Japan thus found itself in a "liquidity trap", in which the abundance of money had no effect on the real economy. Indeed, the volume of bank loans granted to the private sector shrank continuously over the same period. Japanese public debt exceeded 150% of GDP in 2001 (60% in 1990). The State spent almost 1,600 billion yen in 10 years, without however succeeding in kick-starting a recovery of private investment. It wasn't until between 2002 and 2006 that Japan returned to a growth rate (average of 2%) capable of pushing up inflation. The fall of the stock market indices ended in 2003 and they are now at their 1982 levels. The number of bankruptcies has been declining since September 2002 (cf. chart X). The volume of bank loans granted to the private sector started to rise again in 2004.

### How did it get to this?

Several factors would seem to account for the fact that Japan found itself in a situation of weak inflation, and then of deflation. First, the authorities waited too long to consolidate their banking system. In effect, the other advanced countries, like Sweden, immediately nationalised and restructured their weak banks. Japan's banks failed to consolidate their balance sheets and amplified the

fall in asset values by selling off some of their own. Then, expectations announced by the main institutions could also have adversely affected activity, as throughout the period, the consensus view was to expect inflation to diminish over the long term. These expectations of a decline underlined the idea that prices were supposed to adjust mechanically and that the Central Bank was not providing any solutions (either in terms of instruments or communications) capable of reversing the trend.

Over and above the cyclical aspects, Krugman (1998) stresses that the natural interest rate<sup>(8)</sup> slipped into negative territory after 1990. As a result, the BoJ's zero interest rate policy was insufficient to stimulate activity (Watabe, 2012). This result explains the existence of a liquidity trap at the end of the decade. Finally, from 1993 to 2005, Japanese growth was below the country's growth potential, according to the BoJ. Production not used to respond to the growth potential accordingly dragged prices downward.

The 20 years of a deflationary cycle were therefore the consequence of a cyclical shock on an economy whose structure had become precarious in the 1980s. Effectively, the opening up of the Japanese economy had put natural pressure on prices that were too high, in a society whose companies were until that point not very open to competition.

## Interview

### Atsushi NAKAJIMA,

President of the Research Institute of Economy, Trade and Industry (RIETI)

*The RIETI is a highly regarded government research institute in Japan. Established in 2001, its mission is to conduct theoretical and empirical economic studies to support the country's economic policies.*

#### In your opinion, when was the starting point for deflation in Japan?

The bursting of the housing bubble in the early 1990s is the underlying cause of the Japanese crisis, the effects of which have been felt for almost two decades. At the time, the Bank of Japan (BoJ) raised its key rate to contain the rise in property prices, without due regard, however, to the risk of deflation. The VAT hike in April 1997 followed by the Asian crisis was behind the fall in wages and households' loss of purchasing power. Deflation accordingly became "structural" and the Japanese economy then entered into a "vicious" cycle. Japanese businesses became more concerned about risks, and so accumulated a sizeable stock of savings without, however, investing, to the detriment therefore of economic activity which stagnated for fifteen years.

#### What impact did the bursting of the property bubble have on Japanese businesses?

It was the businesses, rather than households, which took the brunt of the property crisis in the early 1990s. They held a large proportion of financial real estate assets in their equity portfolios, which decreased hugely in value following the bursting of the bubble. To maintain their margins, businesses then cut wages while rebuilding their treasuries in order to manage their excessive debt (hence the high accumulation of savings). The banking sector was also hit by its exposure to excessively indebted businesses and the significant rise in the ratio of non-performing loans. Until 2005 when Japan finally finished dealing with its bad debt problem, the contraction of corporate and bank balance sheets reinforced the stagnation of the economy and the persistent deflation.

#### After this long deflationary period, what are the prospects for the Japanese economy in 2015?

Japan will not slide back into deflation despite the slowdown in price rises recorded in the second half of 2014. This is because several factors appear favourable to a rebound in activity in 2015. First, monetary policy will be more accommodating than announced at the end of October 2014. The Central Bank will effectively buy back 30tr yen of additional public debt and expand the annual money supply to 80tr yen (€575 billion, 17% of GDP). The government has meanwhile announced a stimulus budget. Finally the second VAT rise (from 8% to 10%), initially planned for October 2015, has been postponed until April 2017, which will boost household consumption.

(8) This is the real interest rate of an economy enjoying full employment without imbalance putting pressure on prices

## Box 2

## Hong Kong and China, the other less well known instances of deflation of recent economic history

*Outside Japan, other countries have also undergone periods of deflation in the last two decades.*

### Hong Kong: the effects of a double crisis

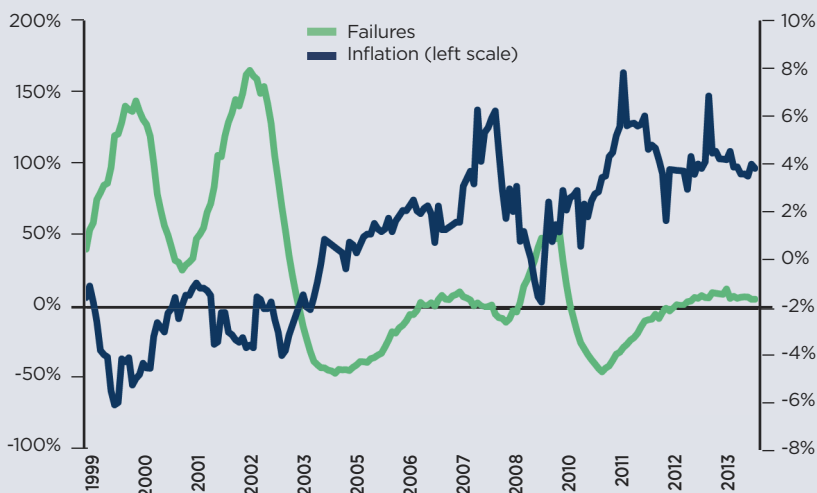
The negative inflation observed in Hong Kong in the early 2000s (see chart 5) was the result of growth shocks linked to the Asian crisis of 1997-1998 and then the bursting of the internet bubble in 2001-2002. This double shock first triggered a decline in demand and accordingly a drop in

prices, of both goods and assets (especially property). The scale of this was then sharpened by the fixity of the exchange rate for the Hong Kong dollar against the US dollar, which prevented any depreciation. Finally, let us note that this period of deflation coincided with a strong rise in company failures (see chart 5).

Hong Kong's situation in the early 2000s and that of the Eurozone today have a number of similarities, therefore. Both regions effectively went through a double crisis (Lehman Brothers' collapse in 2008-2009 and then the sovereign debt crisis in 2011-2012 in the European case) and had to tackle it without being able to benefit from a depreciation in their currency (until summer 2014 in the case of the Eurozone).

Chart 5

inflation and company failures in Hong Kong (national sources)



Sources : national sources

### China: when deflation goes hand in hand with a productivity shock

Consumer prices in China fell by an average of 0.4% a year between 1998 and 2002. But in contrast to the other examples of deflation referred to in this study, this period of falling prices did not coincide with a period of sluggish growth. Far from it, as growth averaged +8.2% (during this five-year period). This "positive deflation" corresponds to a productivity shock: strong growth driven by exports and business investment enabled productivity gains to be made which put downward pressure on prices. Excess labour supply in the industrial sector associated, in particular, with growing urbanisation also contributed.

## 3

### WHAT ARE THE RISKS FOR THE FRANCE'S ECONOMY AND BUSINESSES?

The example given of Japan in the 1990s and 2000s is increasingly highlighted to explain the current weaknesses of the French economy. In this section we will examine the risks to the French economy in general and to French businesses in particular of a prolonged period of economic stagnation and Japanese-style prices.

#### Sluggish growth and low inflation since 2012 reflect in part the industrial overcapacity in France

As in Japan in the 1990s, growth and inflation have both been trending downwards since 2011. We believe that GDP growth is, therefore, unlikely to exceed 0.4% in 2014 and 0.8% in 2015, namely a rate well below that of 2011 (2.1%). Likewise, consumer prices, which rose by only 0.5% year on year in October 2014, and will rise, in our opinion, by only 0.7% on average in 2015 (against 2.3% in 2011).



This combined downturn in growth and inflation results from the traditional adjustment mechanisms of market economies: since the price results from an adjustment between supply and demand, its increase reflects a relative rise in demand compared to supply. Inversely, a price decline reflects a decline in demand relative to supply. Lower inflation, therefore, is principally a reflection of weak demand. This is notably the case after one or several crises. The recent world crisis caused a drop in world GDP and then weaker growth than before 2008, especially in the Eurozone in Japan (see chart 6). So the volume of capital accumulated before 2008 has turned out to be too great. In other words, production capacity has been under-utilised and investment remains in the doldrums. This is confirmed by the capacity utilisation rate: it is still below its average pre-crisis rate in France (80.9% in Q3 2014 against 85.2% on average

between 2000 and 2008) and in the Eurozone as a whole. The same finding applies to Japan but not to the United Kingdom and even less so to the United States. This relative excess offer in relation to demand leads to a marked slowdown in inflation.

This overcapacity does not affect all activity sectors in France equally. Chart 7 measures the difference in percentage points between the average capacity utilisation rate (CUR) between 2000 and mid-2008 and that of October 2014 for each activity sector. The CUR is equal to the ratio of production capacity (machines and equipment) that has been effectively mobilised for production and total production capacity potentially available on a given date. It results from this calculation that there is overcapacity in all industrial sectors, all scores being negative. The agro-food and pharmaceuticals sectors look closer to equilibrium, while automotives are still suffering from significant overcapacity. These capacity utilisation rates are only available for industrial sectors<sup>(9)</sup>. A comparison between the level of value added in Q3 2014 and that achieved during the pre-crisis peak in 2008 suggests that services sectors are suffering little or not at all from these problems of overcapacity. In contrast to most industrial sectors, the value added of these sectors has returned to its pre-crisis level or is very close to it.

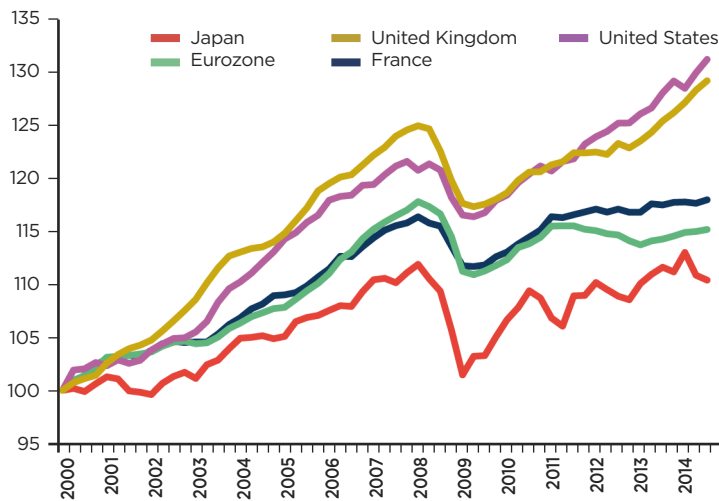
The existence of such overcapacity makes an activity sector particularly vulnerable to deflation-related risk. If demand remains sluggish and pushes prices south, the sectors which suffer before the overcapacity develops are the most likely to find themselves having to drop their sale prices.

**In a period of stagnation, businesses prefer to build up liquidity and pay off debts rather than to invest**

This overcapacity has consequences: it makes new investment useless if demand picks up, insofar as the production capacity unutilised to date can be harnessed for use. In this context of stagnating activity, downward price pressure and production overcapacity, businesses therefore prefer to increase their cash reserves rather than engage in productive investment.

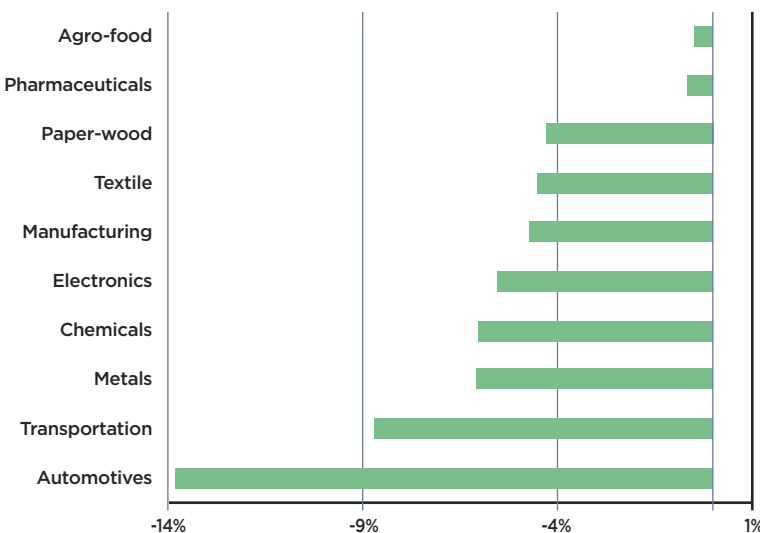
Recent figures tend to confirm this scenario in France. In the first half of 2014, treasury volumes for the 80 blue-chip French groups rose by 9.4% to reach \$146 billion, or the highest amount for 6 years at this time of year, generated by the results of the manufacturing industry and energy sectors. This increase in cash reserves reflects surplus liquidity for these businesses.

**Chart 6**  
GDP volume (base 100 = Q1 2000)



Sources : national sources

**Chart 7**  
Capacity utilisation rates by sector (October 2014, gap compared to 2000-2008 average)

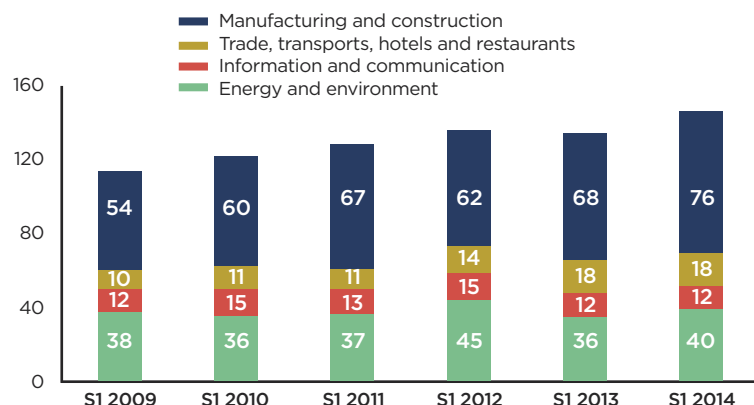


Source : Banque de France

(9) The capacity utilisation rates are not generally calculated for non-industrial sectors, notably services.

Chart 8

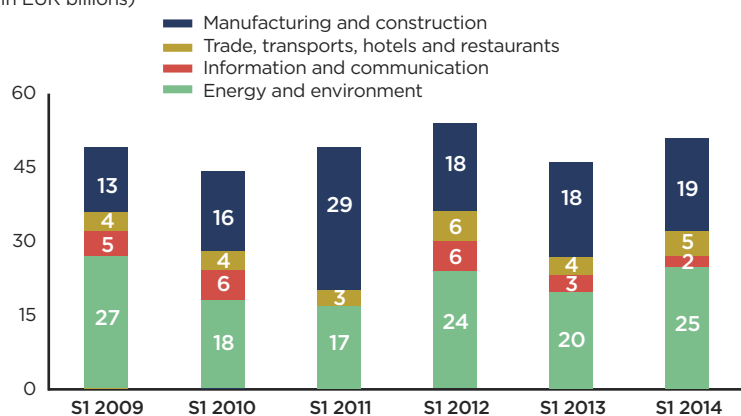
Evolution of cash reserves of 80 top French groups by sector  
(in EUR billions)



Source : Banque de France

Chart 9

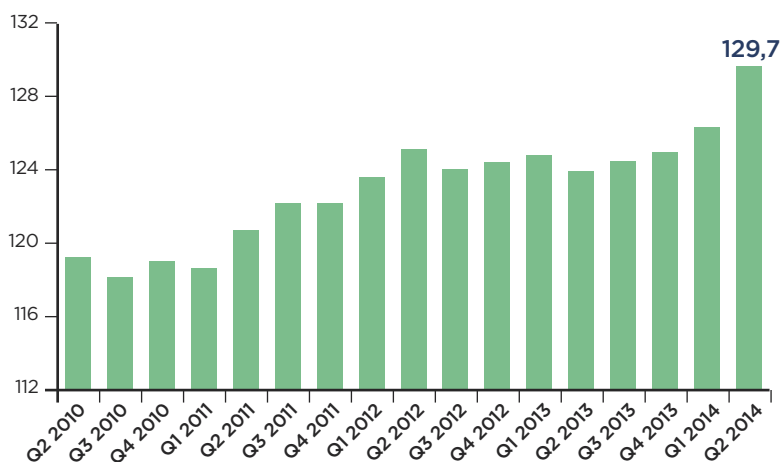
Investment flows for the 80 top French groups by sector  
(in EUR billions)



Source : Banque de France

Chart 10

Debt to value added ratio of non-financial companies  
(% VA)



Source : Banque de France

An analysis of cash flows makes it easier to understand how this surplus liquidity is being used. There are three types of cash flow: that deriving from operational activities, financing operations and investment operations. The first category of flows (self-financing capacity less changes in working capital<sup>(10)</sup> and therefore directly linked to the company's core business) has been steadily falling since 2010. Cash flow for financing operations relates to the distribution of dividends (€30.7 billion paid out in the first half of 2014, main use for cash since the start of the year), loan repayments (no massive repayments nor massive borrowing since the first half of 2013) and share issuance (capital increases by growing own funds). A slight improvement in investment flows, the last cash flow category, has been observed, notably in the energy and environment sectors, but this rise is more due to the fact that the large groups are investing in other companies (purchases of financial assets up \$10 billion over one year) rather than in the acquisition of tangible fixed assets, which has been on the decline since 2012, though these are the kinds of acquisition which help boost business production capacity.

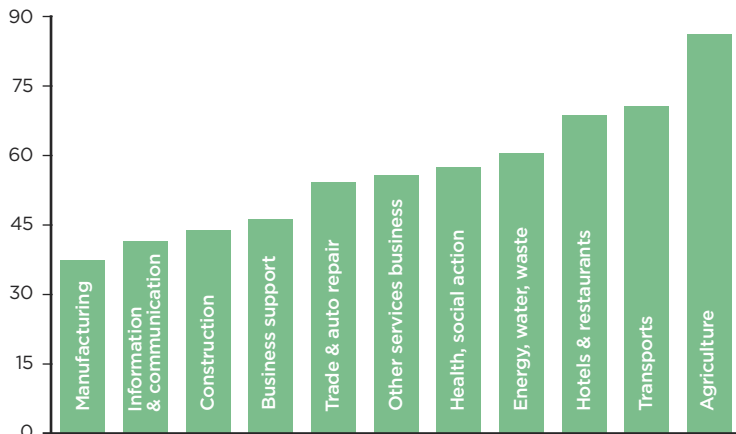
As explained in part 2, a similar strategy, consisting of substantial purchases of financial assets to the detriment of productive investment, was put in place by Japanese businesses in the early 2000s, something which could have helped maintain the deflationary pressures and the pervasive climate of the country's economic stagnation.

Apart from the build-up cash reserves, a context of weak growth prospects and low inflation acting as a disincentive to productive investment can also lead to deleveraging by business, especially by those companies with initially high debt levels. Here again, the example of Japan confirms this (see part 2). Now, even if corporate debt in France is not as high as in Japan in the 1990s, the current momentum is upwards. The debt ratio of non-financial companies reached 129.7% of value added in the second quarter of 2014 (see chart 10). However, if one relates the outstanding debt of businesses to their equity (most appropriate calculation during times of economic stagnation, because value added tends not to advance but to diminish mechanically increasing the ratio), this new debt ratio stabilised at a level close to 80% in 2013 and 2014.

The higher the initial level of the debt, the stronger the propensity to pay down debt rather than invest in order to improve solvency and so be able to obtain better financing conditions in the future (see chart 11 page 11).

(10) Working capital is calculated as the sum of the stock accounts and client and supplier receivables, less client/supplier debts and fiscal and social debts.

**CHART 11**  
Bank indebtedness in 2012 (as % of value added)

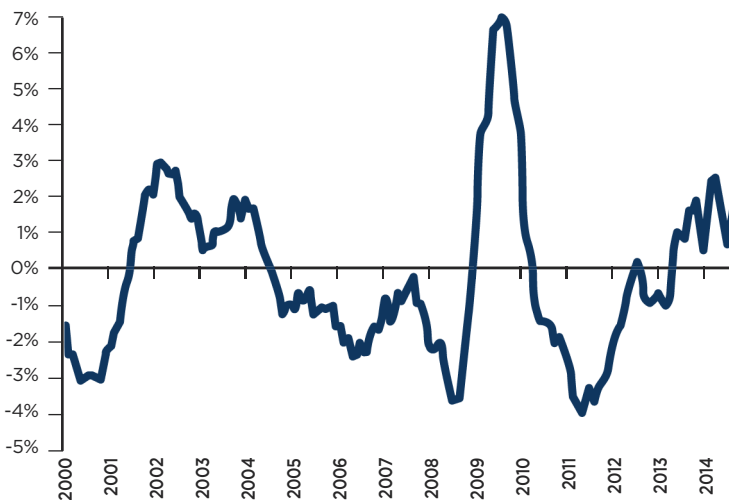


Source : INSEE

This is not necessarily the case for the manufacturing industry or the energy sector, but the deleveraging trend is already affecting activity sectors such as agriculture, services and even construction.

Meanwhile, those businesses which have not been paying off their debts benefit from more favourable refinancing opportunities in a similar environment of weak inflation and growth. This is because, according to economic theory, the potential growth rate influences the natural interest rate, i.e. the short-term interest rate enables an economy to enjoy full employment through two different channels. First, lower growth means lower income for businesses and households, which leads them to invest and consume less. Next, sluggish growth depresses investment by reducing expected returns.

**Chart 12**  
Gap between annual growth in consumer prices and production price growth in France (in percentage points, sources: INSEE and Coface)



Sources : INSEE, Coface

Finally, the increased demand for savings and flagging investment drag down interest rates. This rate of interest is admittedly a theoretical concept. But in fact, a lower natural interest rate is reflected in a very accommodating monetary policy. Current examples from the US Federal Reserve and the European Central Bank confirm this. Recent changes in the interest rates on bank loans granted to businesses and households in France, as well as corporate bond yields also seem to confirm the theory.

These low interest rates impact on businesses, as they facilitate their refinancing: a loan that is maturing can be repaid much more easily by means of another loan if the interest rate on the second loan is low. This is a factor which could limit the scale of the increase in company failures linked to the stagnation of the economy. However, keeping companies alive which are able to refinance thanks to very favourable finance conditions is not necessarily a good thing for investment prospects in the long term. Companies in poor health can survive in the short-term without restructuring, but they do not have sufficient capacity to increase their investment, which penalises growth in the medium term.

In the end, economic stagnation can prompt French companies to build up liquidity, leverage or take advantage of lower interest rates to refinance more easily. But this strategy favours their short-term survival to the detriment of productive investment indispensable for their medium-term growth prospects.

### Lower oil prices benefitting businesses, especially in the industrial and transport sectors

Besides these more favourable financing conditions, subdued inflation can benefit businesses if it translates into lower production costs. More specifically, a company enjoys higher margins if its production costs fall more than its selling prices, i.e. if it does not fully pass on the fall in input prices to its selling prices. In this context, the gap between the annual growth in the consumer price index and the production price index can be seen as a leading indicator of business margins<sup>(11)</sup>.

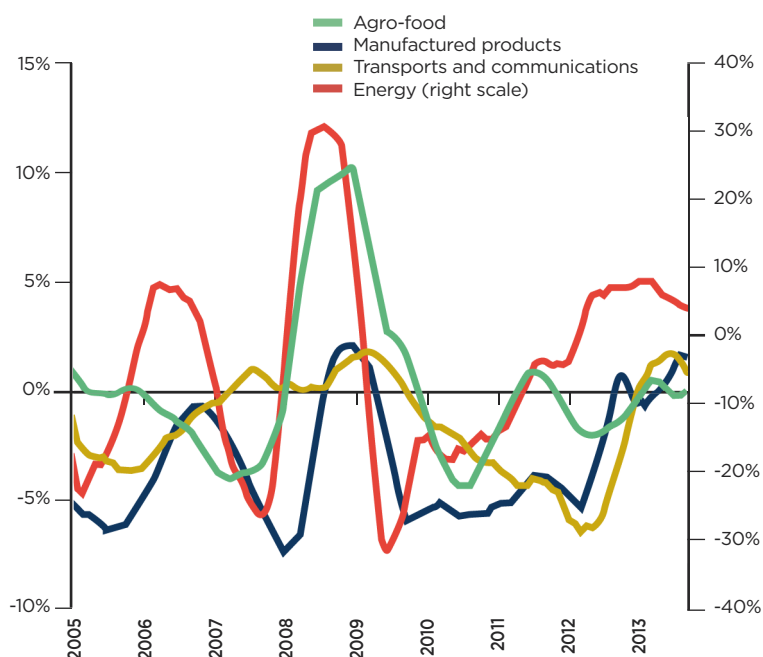
Now in France, production prices have fallen more markedly than consumer prices. In other words, businesses seem unable to completely pass on the fall in their production costs to consumers, as the gap between consumer price inflation and that of production costs is positive and has been climbing since 2013 (see chart 12). With regard to this indicator, the current fall in production prices would therefore seem to be of benefit to business margins, even if these continue, meanwhile, to be penalised by other factors, such as the difficult economic environment.

(11) However, the production price index only provides a partial picture of the movements in production costs and therefore of business margins, as it only takes account of the cost of commodities and materials. The cost of labour, which represents a significant proportion of companies' production costs (especially in the case of a largely service-based economy like France) is not, therefore, included.

This effect varies, however, quite substantially from one sector to another. The size of the gap between annual consumer price growth and production price growth for each available sector suggests significant differences between them. It comes as no surprise that the sectors in which energy in general and oil in particular represent a significant share of inputs seem to profit particularly from the world decline in oil prices: the energy and transport sectors are in positive territory in chart 13, meaning that the fall in production prices from which they benefited in recent months has not been passed on in full to selling prices at this stage <sup>(12)</sup>.

**Chart 13**

Gap between annual consumer price growth and production price growth by activity sector in France (in percentage points)



Sources : INSEE and Coface

The recent fall in world oil prices is one of the main reasons for this correction of production prices. According to COE Rexecode, the 16% decline in the oil price (Brent) in euro terms between September 2013 and October 2014 has led to a 0.2% fall in production prices for the French economy as a whole. Business margins (as measured by gross operating surplus) have risen by 1.2% as a result.

But the effects vary significantly from one sector to another. Again it is no surprise that the sectors in which oil forms the highest share of intermediate consumption are the main beneficiaries of this world price correction. These are, in particular, industry (margins up by 2.9%), and especially chemicals which is the big winner. Outside industry, the transport sector is taking full advantage of

this drop in the oil price (EBITDA up by 11.8%). This is less true for the market services sector, retail and also construction.

These effects are only proven in the case where no cut in the sale price has been decided. As we know, current downward pressure on prices other than that of energy suggests that the decline in production prices will be at least in part reflected in sale prices, thus both cutting businesses' margin gains and at the same time increasing deflationary pressures.

This is illustrated by the recent example of the 2008-2009 crisis: the gap between consumer price growth and production price growth was temporary, both for the whole economy in general (chart 12) and for the industrial sectors (chart 13). Businesses, then, are even more inclined to pass on the fall in their production costs to their sale prices in a context of sluggish demand as in 2009.

A company's ability to not pass on these fluctuations in its production costs also depends on the degree of competitiveness in its activity sector. In 2008, a study by the French Finance Ministry <sup>(13)</sup> measured the level of competitiveness by sector in France. To do this, the author first considered the average gap over a long period between the sale price and the marginal cost of production (i.e. the production cost of the last unit produced). Because the less competitive a sector is, the more durably the sale price can depart from the marginal cost of production. The degree of concentration in the sectors was also taken into account, as were the regulatory indicators measuring a sector's openness to competition or the State's participation in the capital of the businesses in the sector. From this analysis one can conclude that the transport, retail, hotel and banking sectors are relatively uncompetitive in France.

To conclude, the transport sector seems to be the best placed to profit from the drop in the oil price in the short term: this commodity represents, in effect, a large proportion of its input and the sector's relatively low degree of competitiveness should enable it not to fully pass on the fall in its production costs to its sale prices.

### Exports, a possible escape route for industry?

Finally, those businesses most oriented towards exports are likely to suffer less from the stagnation of the domestic market thanks to two effects. First, weaker growth on the internal market can be offset, at least in part, by more sales on export markets where growth is more dynamic. Second, this growth in export sales is all the more likely to take place if price stagnation causes a relative fall in prices in the country in question and thus greater price competitiveness for its exporting businesses.

(12) There are several sectors (notably the services sector) for which it is not possible to compare production price and consumer price indices due to the absence of available data.

(13) Bouis R. (2008): "Niveau et évolution de la concurrence sectorielle en France", (Level and evolution of sector competition in France) Trésor Eco No 27, January.



Although in France the amount of exports represented 16.2% of turnover for businesses as a whole and 28.3% of that of exporting companies in 2012 according to INSEE<sup>(14)</sup>, it varies considerably from one sector to another. Here too, industry seems to be in a better position than the other sectors to enjoy the benefits: 19.1% of companies in the sector declared an export turnover in 2012, or more than twice the national average (9.1%) and more than any other sector. Among these industrial export companies, the average export ratio (i.e. the proportion of exports in their total turnover) is more than 37%, compared with an average of 28.3% for the other sectors. Only the transport sector is doing better in this respect (38%). At the bottom of the rankings, trade and business services are less oriented towards exports, both regarding the proportion of exporting businesses (14.7% and 8.8% respectively) and the average export ratio (18.4% and 28.9%).

The impact of this breath of fresh air for French industry needs, however, to be put into perspective, as France's main trading partners too (namely the other Member States of the Eurozone) are going through a period of almost zero price growth and weak GDP growth.

### What is the impact of "low-flation" on company insolvencies?

The downturn in inflation since 2011 has had positive effects on the French economy and its businesses in the short term. It is, for example, one of the factors which has sustained household purchasing power and accordingly growth in household consumption in recent quarters. Moreover, such resilient household consumption is still the key driver of French growth, and therefore one of the main reasons for the stabilisation of the number of company insolvencies in France in 2014. Businesses are also benefiting from the lower oil price, especially the industrial sector (chemicals in particular) and the transport sector thanks to a drop in their production costs which is not fully reflected in their sale prices. But this positive, short-term effect will fade once the worldwide decline in the oil price is over.

Besides these temporary effects, the marked slowdown in inflation also highlights the risk of lasting deflation in France. The ECB's proactive

policy, the availability of abundant liquidity, and even the current structures of the French economy (in particular, the relative resilience of wages, even during a period of high unemployment or even the low degree of competitiveness on certain markets) mean one can keep a sense of proportion regarding the risk of "deep deflation" as in the 1930s. On the other hand, the probability of a prolonged period of "low-flation" and weak growth like that observed in Japan from the 1990s seems stronger. There are, however, several reasons for putting this risk into perspective: the situation of the French banking sector today appears better than that of the Japanese banks in the 1990s. And the scale of the French property sector excesses appears smaller than that of Japan at the time.

But a similar scenario would have adverse consequences, stagnation together with lacklustre growth for the French economy as a whole, and more particularly, for businesses in the activity sectors with overcapacity. Industry and especially the automotive sector are first in line among them. Nevertheless, the industrial sectors, most oriented towards export, are better placed to compensate for the lack of sufficient outlets on internal markets by stronger sales abroad, even if the downward trend of inflation is now common to most of its main trading partners (notably the other Eurozone countries).

Stagnation also has secondary effects. In expectation of it, businesses tend to postpone their productive investments so they can build up cash or pay down their debts. Lower interest rates, caused by the combined fall in growth and in inflation make it easier, meanwhile, for these indebted companies to refinance. Businesses with insufficient outlets thus manage to survive without undergoing restructuring, but they still don't have sufficient capacity to increase investments.

To sum up, a prolonged period of stagnation has adverse effects not only on businesses. It is, above all, a sign of a shift in the pattern of growth: less growth, less inflation, but also more favourable financing conditions and lower production costs for certain sectors. 2014 confirms this: while GDP growth above 1.6% was historically necessary to bring down the number of company insolvencies in France, these have stabilised despite growth of only 0.4%.

(14) INSEE (2014) : "Les entreprises en France, édition 2014, fiches thématiques - Mondialisation, Compétitivité, Innovation" (Businesses in France, thematic reports 2014 - Globalisation, competitiveness, Innovation).

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