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I. RECENT FRENCH EXPORT PERFORMANCE: IS THERE A COMPETITIVENESS PROBLEM?¹

A. Introduction

1. **A significant part of French activity fluctuations has a foreign source (e.g., Kose, Otrok, and Whiteman, 2003, Kabundi and Nadal De Simone, 2007).** Since 2000, French foreign sector performance has experienced a substantial deterioration vis-à-vis its own past and relative to Germany. Some observers have suggested that the country has not benefited fully from the opportunities offered by the rapid economic growth of emerging Asian economies and the eastward expansion of the EU. Therefore, the question arises as to whether France is suffering from a competitiveness problem. This question has had, so far, an elusive answer. Traditional variables that explain international trade, such as the exchange rate, relative unit labor costs, and demand pressure seem insufficient to illuminate the recent decline in France's export performance. Residuals from econometrically-estimated equations indicate a substantial drag on exports since 2001, not attributable to the standard global demand and price/cost factors.²

2. **In addition, equilibrium exchange rate analysis indicates that France's real effective exchange rate is largely in line with fundamentals.** National account data show, however, that changes in export margins have cushioned the effects of the euro fluctuations. Cost competitiveness of French producers worsened in 2005 and early 2006, though it remains in line with its long-term average. Despite that producers lowered export prices in euros to maintain price competitiveness, the external position deteriorated during the period.

3. **Hence, the relative underperformance of exports in past years may point to structural factors that leave French firms behind the global expansion.** A more flexible economy should be able to reorient the destination of its exports and product mix toward fast-growing economies and sectors. Indeed, a sectoral study of total factor productivity (TFP) growth in manufacturing found that, while France does not lag significantly behind the U.S. in terms of level, TFP growth is hampered by the high ratio of minimum to median wages.³ Staff analysis also suggests that as France has become more sensitive to the global economy over time, it has tended to adjust more through changes in employment and productivity than through wage flexibility, strengthening the case for more structural reforms.⁴

¹ Prepared by A. Kabundi (University of Johannesburg) and F. Nadal De Simone.

² See IMF, 2005.

³ See Khan, 2006.

⁴ See Kabundi and Nadal De Simone, 2007.

4. **This paper performs a descriptive analysis of French export data by destination and by SITC Revision 3 product classification distinguishing (optimally) between the cyclical and the trend components of the series.** Next, it analyzes the behavior of prices and quantities following a domestic and a foreign shock to the French economy. In particular, the paper contrasts and compares the reaction of French and German variables to shocks to unit labor costs in manufacturing and to terms of trade.
5. **Globalization has greatly influenced economies over the past three decades.** Countries' boundaries have dropped through intensive trade of goods and services, and financial integration. Economies have benefited from trade and foreign direct investment (FDI). Conversely, globalization can make countries more vulnerable to external shocks. Crises can be severe and contagion can spread rapidly to other parts of the globe, as recently exemplified by the subprime crisis that started in the U.S.
6. **There is a consensus in the literature that globalization has positive effects.** Globalization fosters comovement of macroeconomic variables across countries through trade and financial market integration (Imbs, 2004). Financial market integration has also contributed to the synchronization of business cycles through the opening of countries' capital accounts. Financial prices have become more synchronized through arbitrage (Brooks, Forbes, and Mody, 2003).
7. **On the empirical front, most findings show increasing synchronization of economic variables across countries (Nadal De Simone, 2002, Bordo and Helbling, 2004, Kose, Otrok, and Whiteman, 2005).** Alternatively, despite large increases in trade and financial openness, G-7 business cycles may have become less synchronized as a result, for instance, that trade flows lead to increased specialization of production (Stock and Watson, 2003, Kose and Yi, 2006).
8. **In addition, other studies have emphasized the sources of shocks, their spillovers, and channels of their transmission from one country or region to another.** Recent examples include the study of the monetary transmission mechanism in the euro area using structural VAR analysis by Ciccarelli and Rebucci (2006), and Canova, Ciccarelli, and Ortega (2007). Similarly, Canova and Ciccarelli (2006), using a VAR with time-varying parameters, find a positive and significant effect of U.S. GDP growth shock on France and Italy, but a negligible effect on German GDP growth. Given that the VAR methodology has some limitations—the most conspicuous being that it cannot accommodate a large panel of series without the risk of running short of degrees of freedom—Stock and Watson (2002) use the approximate structural dynamic factor model on a large panel of developed countries' variables and, like Kabundi and Nadal De Simone (2007) and Eickmeier (2007), find that U.S. demand shocks and EU supply shocks have a positive and significant effect on French and German output.

9. **The high degree of economic and financial integration stresses the importance of good and factor markets flexibility.** Economies' flexibility to absorb domestic- and foreign-origin shocks takes paramount importance, even more so when countries' policy menu is restricted in some sense such as by participation in a currency area. Not surprisingly, competitiveness issues have been taken to the front line of the economic and political debate.

10. **This study contains several findings.** (1) Divergences in recent trade performance between France and Germany are not related to the cyclical part of trade but to its trend. (2) For most categories of products, France's export cyclical component is less volatile than Germany's. (3) In the 2000s, France's trend export growth rate while higher than in the 1990s, was less than 60 percent Germany's. (4) Both France and Germany faced a negative common factor in the 2000s, most likely due to euro appreciation. (5) However, idiosyncratic factors were negative on average for France and positive for Germany; that was especially the case vis-à-vis China and Asia, and notably in terms of food and live animal, beverages and tobacco, and manufacturing. (6) The French economy seems less flexible to adjust to a negative shock to unit labor costs in manufacturing or to its terms of trade. In France, the adjustment tends to be done relatively more via quantities than via prices suggesting the need to make labor and product markets as flexible as possible.

B. Data and Non Stationarity

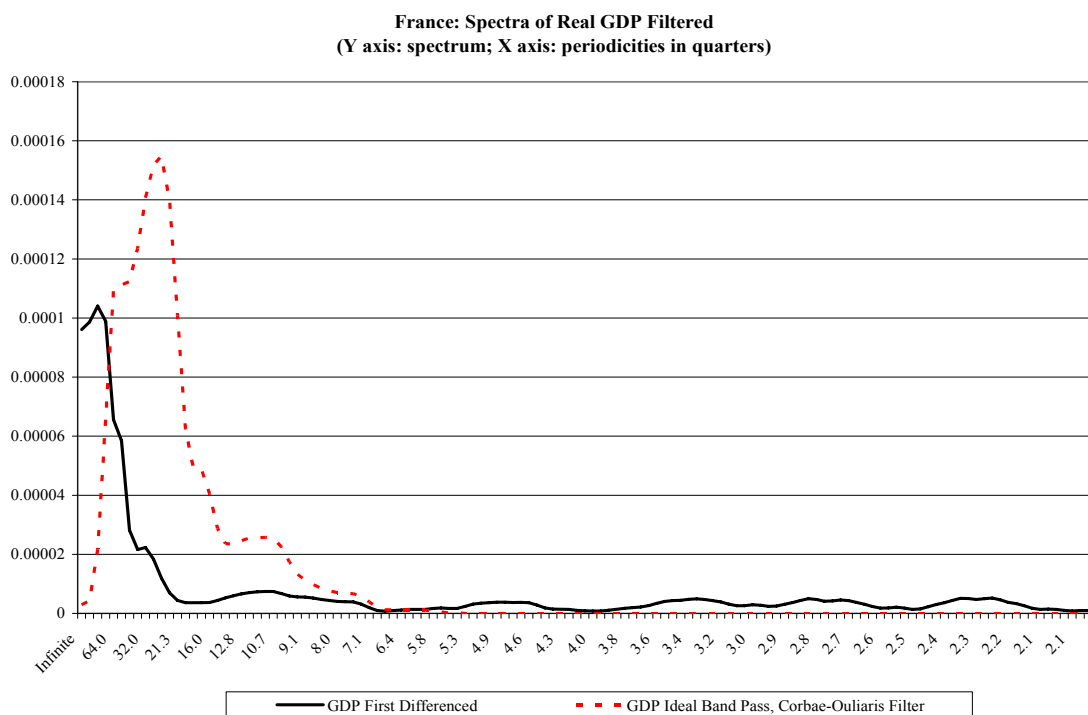
Data

11. **This study uses two large data panels.** The first one comprises 396 quarterly macroeconomic series and 106 series of trade by country (for a total of series $N = 502$). Trade series include imports and exports to the euro area, the EU, accession countries, Canada, the United States, the United Kingdom, Japan, China, Asia, Latin America, and the rest of the world. The second data panel contains 396 quarterly macroeconomic series and 110 series of trade by SITC Revision 3 category of products (for a total of series $N = 506$). The sample period is 1981:Q1–2006:Q4 (i.e., $T = 104$). The countries are France, Germany, Japan, the Netherlands, the United Kingdom, and the United States. In addition, a set of global variables is included, containing such items as crude oil prices, a commodity industrial inputs price index, world demand, and world reserves. Variables have no seasonal component left.

Dealing with non stationarity

12. **For estimation purposes, series have to be covariance stationary.** Instead of applying unit root tests to determine the degree of integration of the series and then difference or detrend them depending on whether they are $I(1)$ or $I(0)$ with a deterministic trend, respectively, the Corbae-Ouliaris Ideal Band-Pass Filter was used (Corbae and Ouliaris, 2006). There are several reasons for this approach. First, available unit root tests have low power and often the decision on the degree of integration of the series has to be

based on subjective judgment. Second, first differencing removes a significant part of the variance of economic time series. Third, Corbae and Ouliaris filter is consistent, is not subject to end-point problems and has no finite sampling error. As an illustration, note the large share of variance that first differencing of French real GDP produces at the business cycle frequency band (between 6 and 32 quarters, according to the NBER definition of business cycles, text figure).



C. Descriptive Part: Facts Without the Noise

13. **Several interesting features of recent French export performance are clear from the data once the noise of short-term fluctuations is removed.** First, French and German cyclical components of exports by country and products follow the same pattern, mimicking quite closely their business cycles. Export cycles of both countries portray a picture of negative growth in the early 1980s and 1990s, and at the end of the 1990s. The U.S. driven early-1980s recession, the European 1993 recession and the end of the stock market “bubble” at the end of the 1990s are clearly correlated to exports behavior (IMF, 2005). But, in general, France’s export cyclical component is less volatile than Germany’s, which may be associated with the product composition of both countries exports; German exports have a higher short-term elasticity. Hence, divergences in recent trade performance between both countries seem unrelated to the cyclical part of trade flows. What about their trend part? Figure I-1 shows annual exports trend growth. Looking at exports by destination, it seems that Germany has benefited more from the excellent economic performance of China than France. Starting in 2002-03, French export performance was also weak relative to Germany in terms of exports to the EU, the euro area, the U.S., and the U.K. France’s export

performance is also weaker relative to its own past (Table I-1). Furthermore, France's trend export growth rate in the 2000s, while higher than in the 1990s, was less than 60 percent of Germany's.

14. The deterioration of French export performance vis-à-vis its own past and relative to Germany can be related to products exported. In the 1980s, French trend export growth dominated Germany's on SITC categories 1, 3, 4, 5 and 7 (i.e., primary products, chemicals, and miscellaneous manufactured products); the situation was almost the opposite in the 1990s. In the 2000s, of the traditional French exports, France's trend export growth rate was higher than Germany's only in chemicals and other goods.

15. The analysis suggests that there has been since 2002-03 a clear underperformance of French exports relative to the past and relative to Germany. The change in export performance is relatively recent, but has been protracted enough so as to raise the question of the competitiveness of the French economy. That France is less competitive in recent years does not seem to be related to the euro; its underperformance is quite broad from a product viewpoint. Yet, more analysis and time is needed to conclude that there is a structural issue.

D. Analytical Part: ULCM and TOT Shocks

The model and economic conditions for shocks identification

16. To gain further insight into the causes of the deteriorating performance of the French foreign sector, this study uses a large dimensional approximate dynamic factor model in the tradition of Stock and Watson (2002).⁵ The estimation of the model comprises two main steps: estimating the common components and identifying a reduced number of structural shocks that explain the common components of the variables of interest.⁶ Once a decision is taken on the process followed by the common components, structural shocks have to be identified. The identification of structural shocks is achieved by focusing on the reduced form VAR residuals. Following Eickmeier (2007), the identification scheme has three features: (1) maximize the explained variance of the forecast error of the chosen variable and calculate impulse-response functions; (2) assume that identified shocks are linearly correlated to a vector of fundamentals; and (3) identify orthogonal shocks by rotation using a sign-identification strategy that imposes inequality restrictions on the impulse-response functions of variables based on a typical aggregate demand and aggregate

⁵ The model is closely related to the factor models of Sargent and Sims (1977) and Geweke (1977), except that it admits serial correlation and weakly cross-sectional correlation of idiosyncratic components, as Chamberlain (1983). Similar models have been used by Giannone, Reichlin, and Sala (2002), Forni and others (2005), and Eickmeier (2007).

⁶ See Kabundi and Nadal De Simone (2007) for a description of the model.

supply framework.⁷ Only those rotations among all possible rotations that have a structural meaning are chosen.

17. **The choice of the variables of interest was motivated by two observations.** First, France's economic activity is largely influenced by world developments. Thus, it seemed natural to identify a terms of trade (TOT) shock to compare the behavior of France relative to Germany. Second, only using unit labor cost measures of the REER, it can be seen that French competitiveness deteriorated against Germany in the euro area, although it improved against some other countries. Wages have increased faster in France, particularly at the bottom of the scale, only partially compensated by higher productivity growth. Thus, the second shock identified was a shock to unit labor costs in manufacturing (ULCM). The choice of shocks seems also relevant given last section results. The text table displays the sign restrictions for shock identification, imposed contemporaneously and during the first year after the shock.

Identification inequalities		
	Increase in ULCM	
	supply shock	demand shock
ULCM	≥ 0	≥ 0
Output	≤ 0	≥ 0
Real wages	≤ 0	≥ 0
	Increase in Terms of Trade	
	supply shock	demand shock
Terms of trade	≥ 0	≥ 0
Consumption	≥ 0	≤ 0
Current account	≤ 0	≥ 0

18. **As in major standard macroeconomic models, an increase in ULCM can be interpreted as the result of a fall in labor productivity or an increase in labor compensation.** The former is going to be interpreted as a supply shock and the later as a demand shock. This is consistent with the empirical observation that real wages are procyclical. Similarly, a rise in the TOT can result from a deterioration of the country's competitiveness related to structural factors or alternatively from strong world demand for the country's products. If the shock is persistent, it will result in an increase in consumption (and investment) and the current account will move into deficit. In contrast, if the TOT increase is due to strong world demand for the small country's products, given the transient

⁷ See Peersman (2005) for more technical details.

nature of the shock, consumers will largely save the windfall and the current account will move into surplus. Savings will increase.

Estimation

19. The first step of the estimation is the determination of the number of factors.

The estimation was done assuming that the series follow an *approximate* dynamic factor model.⁸ Using Bai and Ng's (2002) selection criteria, four factors were retained. Next, the identification of the structural shocks followed the approach of the structural VAR literature. No identification technology is completely foolproof, however. While the identification technology followed in this paper is flexible enough not to require special restrictions to disentangle *common shocks* from the *contemporaneous transmission of regional or country-specific shocks*, it does require additional work, for example, to confirm the nature and source of shocks. Following Eickmeier (2007), this paper does not restrict the impact effect of the shock. Moreover, after identifying two shocks and giving them an economic interpretation, the same analysis done on a data set containing *only* French variables shows that the resulting impulse-responses are similar to those of the broader data set, supporting the identification of shocks' source.

20. Only two structural shocks could be identified for each variable of interest. The identification procedure proposed by Uhlig (2003) was applied to the common components of France and Germany's ULCM and TOT so as to find a reduced number of structural shocks that maximizes the explanation of its forecast error variance over 20 periods. As noted above, sign restrictions on impulse response functions were used to provide economic meaning to the structural shocks. Following Peersman (2005), the angle rotations were applied to the first two principal component shocks taking as pairs a supply shock and a demand shock. The bootstrap was made up of 500 draws. The impulse-response functions are calculated for the first five years to display the cyclical pattern associated with the structural shocks. Both the median response and a 90 percent bootstrapped confidence band are estimated.

E. Econometric Results

21. Results are presented in the form of variance decomposition.⁹ Tables I-3 to I-6 show the variance decomposition and the forecast error variance of the common components (henceforth, error variance) of French and German variables explained by the two identified shocks to ULCM and TOT, respectively. These shocks suffice to explain up to 99 percent and to about 98 percent of the error variance of the common components of French and

⁸ We are grateful to Sandra Eickmeier for having provided the main code and for her insights.

⁹ Refer to Kabundi and Nadal De Simone, IMF Working Paper, forthcoming, for impulse-response analysis.

German ULCM and TOT over 20 quarters, respectively. The variance shares of ULCM common components are high as they reach about 75 percent for both countries. In contrast, the variance shares of TOT are much smaller, especially for France: up to 10 percent and 42 percent for France and Germany, respectively. This suggests that France's TOT are more influenced by idiosyncratic factors than Germany's. As in Kabundi and Nadal De Simone (2007), the TOT are relatively less significant channels of shock transmission for France.

22. **The demand shocks to ULCM and TOT are relatively more important than supply shocks for both countries.** Supply and demand shocks have qualitatively broadly similar responses in France and in Germany. However, the quantitative effects as well as the adjustment processes are significantly different.

23. **In both countries, supply shocks to ULCM reduce output, private consumption, investment, and the volume of exports.** Employment falls, despite some downward adjustment of real wages. The real exchange rate appreciates. The consumer price index, however, clearly falls in Germany while it is flat in France. The negative effect on output, exports, and employment of supply shocks is larger in France than in Germany (there seems to be a relatively larger downward rigidity of wages in France). The SMIC rises somewhat despite the fall in labor productivity. The dollar value of exports to all destinations increases in Germany, but not in France (e.g., exports to the U.S. fall). The total increase in the dollar value of French exports is half that of German exports. The same results apply in terms of the euro value of exports per product, especially for manufactures, transport equipment, and mineral fuels and lubricants. France's euro value of exports is larger than Germany's for beverages and tobacco, animal and vegetable oils, and commodities and transactions n.e.c. France adjusts relatively less via price and wage changes, and more via employment changes than Germany.

24. **Demand shocks to ULCM affect France and Germany differently.** In France, a demand shock to ULCM produces a short-term small increase in output while employment, real wages, and the consumer price index rise without denting productivity. Exports volume tends to increase somewhat while the real exchange rate tends to depreciate. However, as productivity declines, the process is reversed. The value of exports to all destinations and for all products falls. In Germany, the same shock has a much shorter positive impact on output and employment, i.e., less than a year. The consumer price index increases much less than in France; the real wage rise is short lived and gets undone already after 1½ years. Exports volume decreases and the real exchange rate appreciates. The value of exports is not much affected. So, when ULCM increase due to demand pressures, the German economy adjusts more rapidly and seems to display less cost inertia. The real exchange rate helps to offset the negative effects on output and exports while in the case of France it magnifies them.

25. **TOT shocks affect France less than Germany; that difference is more marked following a demand shock than following a supply shock.** Positive supply shocks to TOT increase output, investment, and the volume of exports. Employment rises, but in France it

does so only after real wages have fallen somewhat, given that labor productivity does not change much. In Germany, employment rises sooner and more than in France; the German increase in labor productivity is relatively larger and offsets the rise in real wages enough so that ULCM fall. The real exchange rate depreciation is similar in both economies in the medium run, but it takes relatively longer to reach that level in France. The consumer price index falls somewhat in France and is flat in Germany. The dollar value of exports to all destinations has a tendency to fall in France; the fall is more pronounced in Germany due to the larger short-run exchange rate depreciation. Exports by product in euros show no major clear patterns, but there is in general a slight increase. Summarizing, supply shocks that increase the TOT are more consistent with a persistent supply shock in Germany than in France.

26. **An upward, demand-driven shock to TOT results in a negative output effect in France and is clearly inflationary.** The real effective exchange rate appreciates as productivity falls and ULCM rise. The SMIC rises despite the fall in labor productivity. The dollar value of French exports by destination increases, except the value of exports to the U.S. and to accession countries. The increase is, however, larger for Germany. The euro value of French exports increases less than German exports. In fact, France's exports are mostly flat, except for crude materials, animal and vegetable oils, chemicals, and commodities and transactions n.e.c. Overall, France adapts less quickly to inflationary pressures due to strong world demand.

F. Conclusion and Policy Implications

27. **French economic activity is significantly affected by economic activity in the rest of the world. In recent years, the export performance of the French economy relative to its own past and relative to a major trading partner, Germany, has deteriorated.** Therefore, the question arises as to whether France is suffering from a competitiveness problem. So far, traditional variables explaining international trade have proved to be insufficient to elucidate the recent decline in France's export performance. This study has found that the recent deterioration of French export performance does not seem to be related to the "cycle," but to the trend growth of exports, which seems lower in the early 2000s than it was in the past and with respect to Germany. This result applies to exports by destination and by product composition.

28. **The analysis of the effects of an increase in ULCM and in the TOT, suggests that the French economy is relatively less flexible to adjust than the German economy.** Faced with an upward shift in ULCM, France adjusts relatively less via price and wage changes, and more via employment changes than Germany. The same differences are also evident when both countries are faced with an upward TOT shock. Given that the convergence of the SMIC operated between 2003 and 2006 represented a significant increase in unit labor costs in the economy, and to the extent that the country is a price taker in most of its exports, the

study supports the view that the difficulties observed in the French foreign sector may be structural.

29. **The importance of trade flows and relative price changes in the international transmission of disturbances—as well as the policy constraints imposed by the euro area—highlight the relevance of price flexibility.** The French economy would benefit from further structural reforms that increase its good, service, and labor markets' flexibility. This will matter for the magnitude of the real effective exchange rate changes, trade flows, and the size of the current account balance that will be necessary to accommodate a given disturbance. In addition, the analysis highlights the importance of measures that increase productivity and, in particular, the desirability of avoiding SMIC adjustments unrelated to changes in productivity.

Figure I-1. Trend Exports from France and Germany by Destination

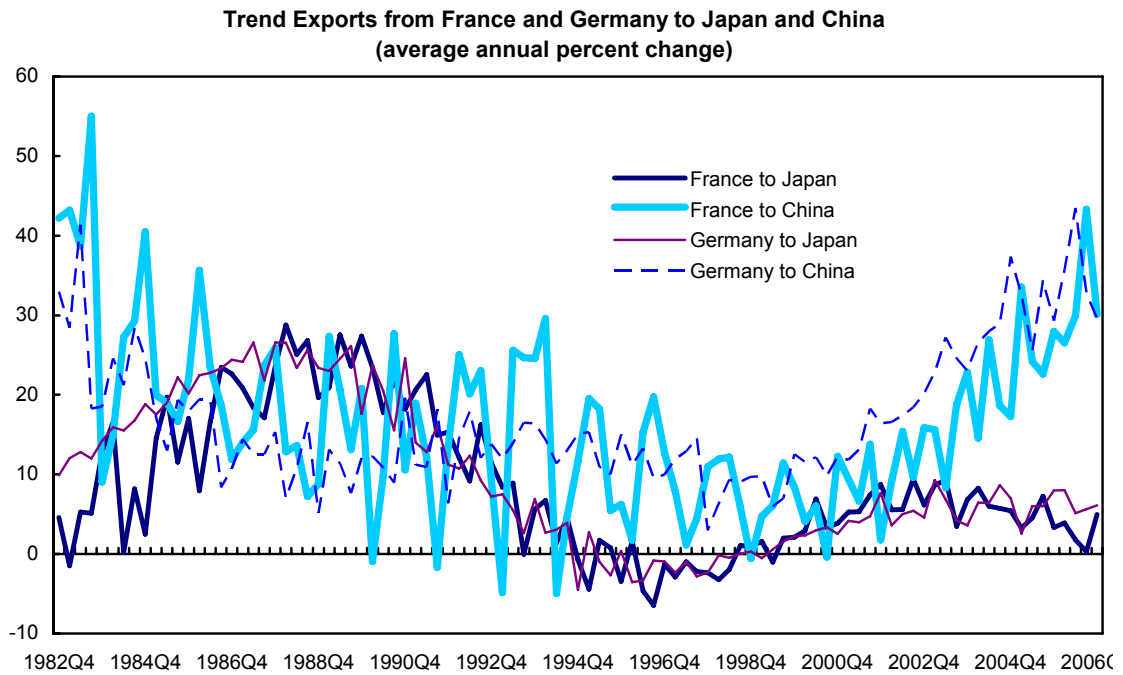
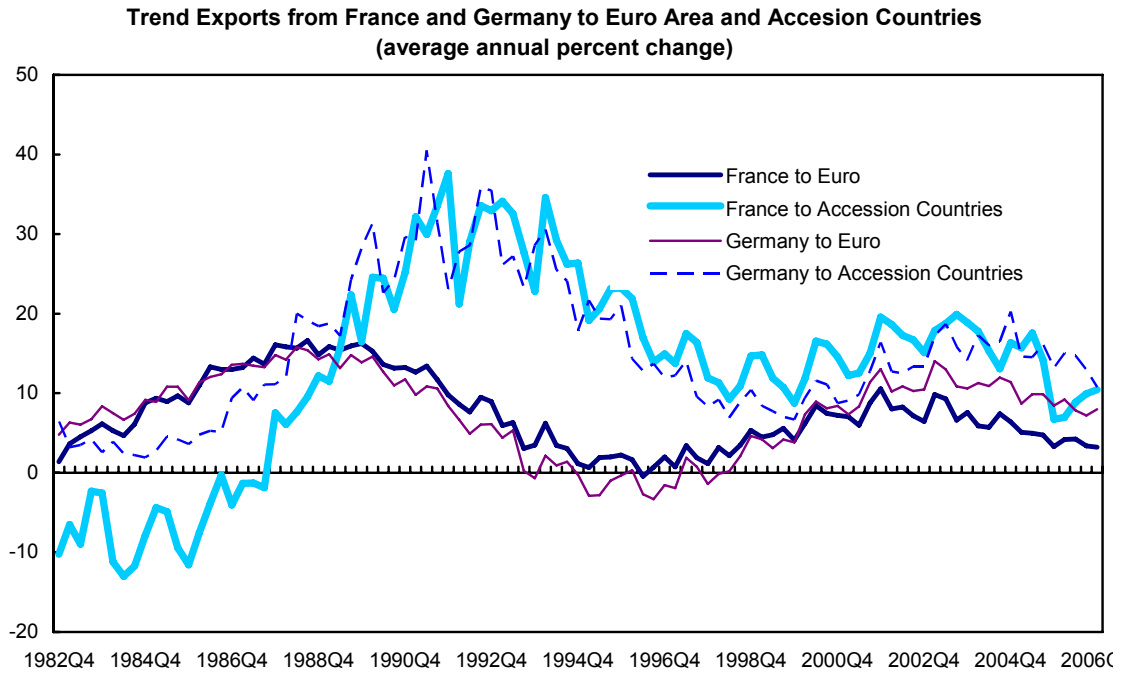


Figure I-1. Trend Exports from France and Germany by Destination (concluded)

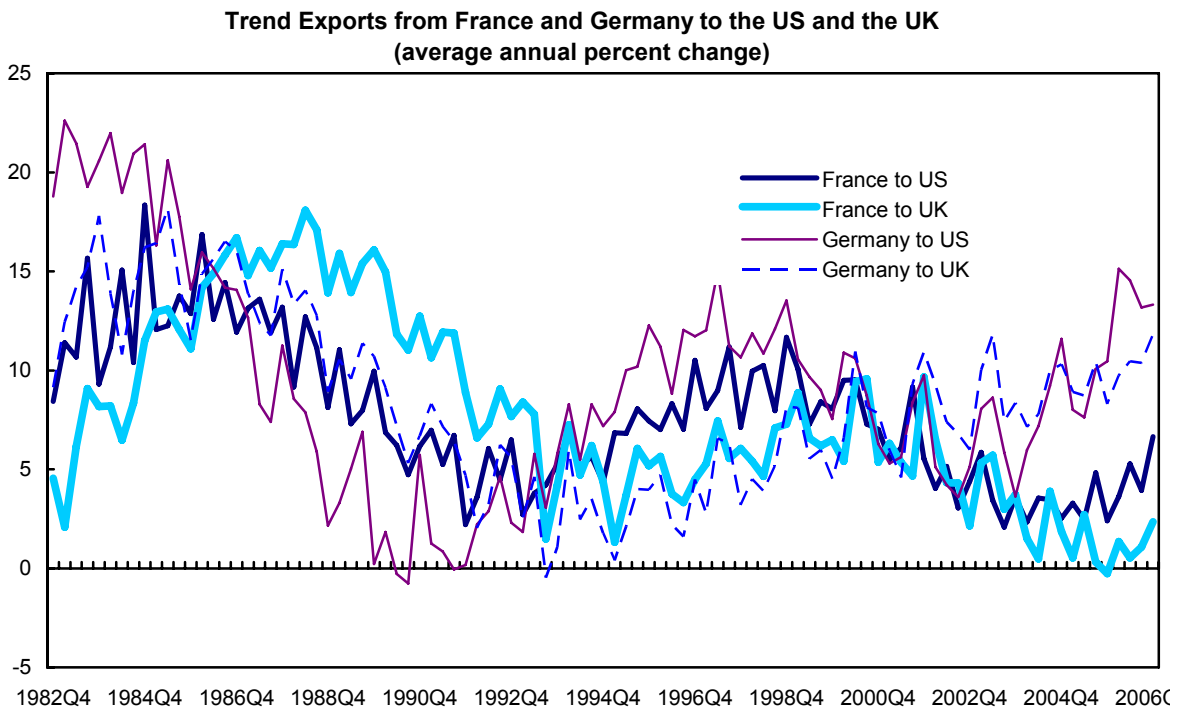
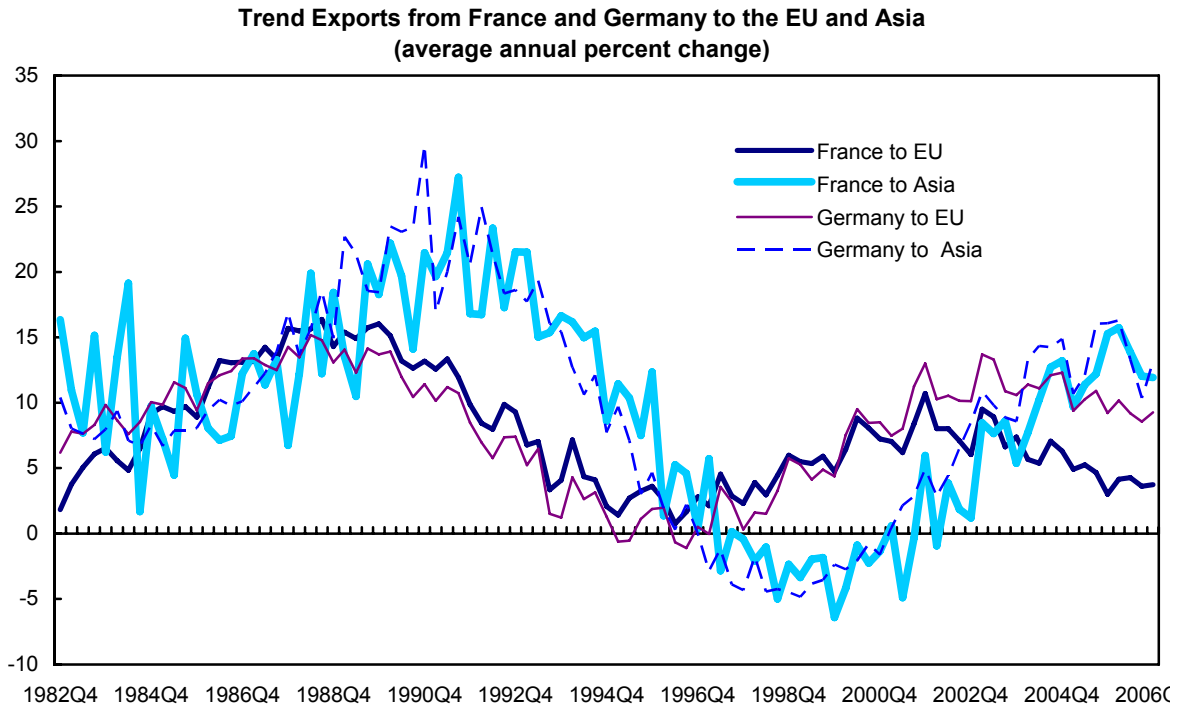


Table I-1. Trend Exports per Region
(Average annual percent change)

		1980-2006	1980-1989	1990-1999	2000-2006
France	France to EU	1.7	2.3	1.3	1.2
	France to Asia	2.1	2.4	1.7	1.9
	France to Japan	1.9	3.5	1.0	1.5
	France to China	3.8	5.6	2.4	3.8
	France to Euro	1.6	2.3	1.2	1.2
	France to Accession Countries	2.6	0.0	4.9	2.6
	France to United States	1.9	2.8	1.9	1.1
	France to United Kingdom	1.8	2.7	1.6	0.6
	France to ROW	0.9	0.3	0.6	1.7
Germany	Germany to EU	1.9	2.5	0.9	2.2
	Germany to Asia	2.3	2.6	1.1	2.7
	Germany to Japan	2.2	3.9	0.3	1.5
	Germany to China	3.7	3.2	2.5	5.3
	Germany to Euro	1.8	2.5	0.6	2.1
	Germany to Accession Countries	3.2	2.1	4.4	3.0
	Germany to United States	2.3	2.8	1.9	2.2
	Germany to United Kingdom	2.0	3.0	1.2	1.8
	Germany to ROW	1.6	1.3	0.6	3.2

Table I-2. Trend Exports per Product SITC
(Average annual percent change)

		1980-2006	1980-1989	1990-1999	2000-2006
France	Total	1.5	2.1	1.0	1.4
	Food and live animal - SITC 0	0.9	1.3	0.7	0.5
	Beverages and tobacco - SITC 1	1.5	2.4	0.8	1.4
	Crude materials, inedible, except fuels - SITC 2	1.2	2.1	-0.3	2.3
	Mineral fuels, lubricants and related materials - SITC 3	1.5	-0.1	1.5	3.8
	Animal and vegetable oils, fats and waxes - SITC 4	1.2	0.8	0.6	2.3
	Chemicals and related products - SITC 5	2.1	2.7	1.4	2.2
	Manufactured goods - SITC 6	1.2	1.5	0.8	1.4
	Machinery and transport equipment - SITC 7	1.7	2.6	1.2	1.1
	Miscellaneous manufactured articles - SITC 8	1.7	2.5	1.0	1.7
	Commodities and transactions - SITC 9	-1.5	-2.8	-7.4	8.2
Germany	Total	1.9	2.3	1.0	2.5
	Food and live animal - SITC 0	1.5	1.8	0.7	2.1
	Beverages and tobacco - SITC 1	2.1	2.3	1.4	3.2
	Crude materials, inedible, except fuels - SITC 2	1.8	2.1	0.5	2.8
	Mineral fuels, lubricants and related materials - SITC 3	1.3	-1.3	0.6	4.7
	Animal and vegetable oils, fats and waxes - SITC 4	0.7	0.5	1.1	0.7
	Chemicals and related products - SITC 5	2.0	2.3	1.1	2.8
	Manufactured goods - SITC 6	1.6	2.0	0.6	2.4
	Machinery and transport equipment - SITC 7	2.0	2.5	1.1	2.4
	Miscellaneous manufactured articles - SITC 8	2.0	2.9	0.7	2.5
Commodities and transactions - SITC 9	3.0	1.3	3.5	2.9	

Table I-3. Forecast Error Variance of the Common Components of France Variables Explained by the Supply and Demand Shock to ULCM, 1981-2006 1/

	Variance Shares of the Common Components	Supply Shocks	Confidence Intervals		Demand Shock	Confidence Intervals	
			Lower Bound	Upper Bound		Lower Bound	Upper Bound
1 GDP	0.81	0.75	0.16	0.90	0.12	0.04	0.71
2 Personal consumption expenditure	0.51	0.29	0.04	0.75	0.32	0.08	0.76
3 Private investment	0.87	0.38	0.03	0.88	0.44	0.06	0.89
4 Employment	0.70	0.74	0.20	0.89	0.08	0.03	0.58
5 Productivity	0.35	0.83	0.10	0.92	0.13	0.04	0.79
6 Unit labor cost of the manufacturing sector	0.74	0.07	0.02	0.62	0.93	0.36	0.98
7 Government savings	0.87	0.43	0.03	0.89	0.43	0.05	0.90
8 Consumer confidence	0.46	0.13	0.02	0.79	0.87	0.15	0.97
9 Industrial confidence	0.46	0.15	0.04	0.53	0.54	0.20	0.84
10 Consumer prices	0.91	0.05	0.00	0.60	0.83	0.30	0.94
11 Short-term interest rates	0.58	0.90	0.22	0.92	0.05	0.02	0.57
12 Long-term interest rates	0.59	0.41	0.06	0.80	0.07	0.01	0.47
13 M2 or M3	0.65	0.18	0.03	0.63	0.10	0.02	0.48
14 Stock prices	0.77	0.49	0.01	0.82	0.22	0.01	0.81
15 Real compensation of employees	0.63	0.77	0.24	0.89	0.07	0.03	0.54
16 SMIC	0.61	0.11	0.01	0.61	0.81	0.30	0.95
17 TFP	0.47	0.20	0.06	0.64	0.47	0.12	0.80
18 Exports total	0.81	0.92	0.15	0.92	0.04	0.01	0.60
19 Imports total	0.79	0.35	0.04	0.88	0.58	0.08	0.93
20 Terms of trade	0.10	0.48	0.01	0.77	0.06	0.02	0.65
21 Real effective exchange	0.79	0.61	0.01	0.91	0.31	0.01	0.83
22 Current account balance	0.41	0.33	0.04	0.83	0.60	0.08	0.92
23 FDI out	0.72	0.56	0.02	0.88	0.30	0.02	0.88
24 FDI in	0.52	0.55	0.02	0.87	0.24	0.02	0.85
25 Exports to Euro	0.83	0.26	0.01	0.72	0.57	0.06	0.89
26 Exports to EU	0.84	0.28	0.01	0.72	0.58	0.07	0.90
27 Exports to EU accession ctrys	0.68	0.11	0.00	0.68	0.68	0.20	0.91
28 Exports to United States	0.44	0.44	0.01	0.74	0.17	0.00	0.74
29 Exports to United Kingdom	0.74	0.38	0.01	0.81	0.57	0.07	0.93
30 Exports to Japan	0.77	0.45	0.03	0.74	0.33	0.04	0.76
31 Exports to China,P.R.: Mainland	0.16	0.43	0.02	0.81	0.44	0.04	0.86
32 Exports to Asia	0.56	0.35	0.03	0.76	0.51	0.09	0.87
33 Exports to ROW	0.64	0.37	0.02	0.81	0.60	0.12	0.95
34 EXP SITC Total	0.90	0.64	0.01	0.69	0.09	0.09	0.88
35 EXP SITC 0: Food and live animal	0.64	0.77	0.01	0.85	0.02	0.02	0.85
36 EXP SITC 1: Beverages and tobacco	0.87	0.67	0.01	0.80	0.02	0.02	0.87
37 EXP SITC 2: Crude materials, inefible, except fuels	0.91	0.71	0.03	0.67	0.11	0.14	0.85
38 EXP SITC 3: Mineral fuels, lubricants and related materials	0.58	0.15	0.02	0.87	0.81	0.07	0.95
39 EXP SITC 4: Animal and vegetable oils, fats and waxes	0.64	0.28	0.04	0.42	0.04	0.01	0.33
40 EXP SITC 5: Chemicals and related products, n.e.s	0.92	0.75	0.02	0.75	0.05	0.05	0.83
41 EXP SITC 6: Manufactured goods	0.92	0.71	0.02	0.71	0.09	0.12	0.88
42 EXP SITC 7: Machinery and transport equipment	0.87	0.51	0.01	0.62	0.12	0.11	0.85
43 EXP SITC 8: Miscellaneous manufactured articles	0.87	0.64	0.01	0.75	0.05	0.05	0.87
44 EXP SITC 9: Commodities and transactions n.e.c	0.24	0.42	0.03	0.90	0.37	0.01	0.65

1/ Forecast horizon is 20 quarters and refers to the levels of the series. Confidence intervals are constructed using bootstrapping methods.

Table I-4. Forecast Error Variance of the Common Components of Germany Variables Explained by the Supply and Demand Shock to ULCM, 1981-2006 1/

	Variance Shares of the Common Components	Supply Shocks	Confidence Intervals		Demand Shock	Confidence Intervals	
			Lower Bound	Upper Bound		Lower Bound	Upper Bound
1 GDP	0.70	0.13	0.01	0.83	0.82	0.11	0.86
2 Personal consumption expenditure	0.34	0.02	0.00	0.51	0.84	0.20	0.85
3 Private investment	0.93	0.05	0.02	0.58	0.86	0.28	0.90
4 Employment	0.77	0.05	0.01	0.69	0.79	0.11	0.83
5 Productivity	0.36	0.30	0.03	0.89	0.45	0.01	0.62
6 Unit labor cost of the manufacturing sector	0.74	0.34	0.00	0.62	0.66	0.35	0.96
7 Government savings	0.71	0.01	0.01	0.62	0.88	0.20	0.88
8 Consumer confidence	0.32	0.02	0.01	0.51	0.89	0.36	0.93
9 Industrial confidence	0.54	0.25	0.04	0.48	0.62	0.30	0.87
10 Consumer prices	0.92	0.69	0.02	0.86	0.03	0.01	0.77
11 Short-term interest rates	0.76	0.07	0.02	0.77	0.88	0.15	0.89
12 Long-term interest rates	0.54	0.38	0.04	0.76	0.43	0.02	0.64
13 M2 or M3	0.47	0.30	0.01	0.79	0.51	0.05	0.62
14 Stock prices	0.69	0.01	0.01	0.55	0.87	0.22	0.86
15 Real compensation of employees	0.53	0.61	0.03	0.89	0.31	0.04	0.50
16 Exports total	0.69	0.15	0.01	0.79	0.81	0.14	0.87
17 Imports total	0.84	0.04	0.01	0.60	0.89	0.28	0.91
18 Terms of trade	0.42	0.70	0.06	0.91	0.05	0.02	0.75
19 Real effective exchange	0.74	0.21	0.03	0.88	0.61	0.02	0.81
20 Current account balance	0.16	0.05	0.01	0.62	0.01	0.02	0.38
21 FDI out	0.52	0.32	0.01	0.60	0.40	0.11	0.85
22 FDI in	0.15	0.01	0.01	0.60	0.86	0.20	0.88
23 Exports to Euro	0.88	0.52	0.06	0.87	0.10	0.01	0.60
24 Exports to EU	0.90	0.52	0.07	0.87	0.12	0.01	0.56
25 Exports to EU accession ctrys	0.64	0.57	0.02	0.85	0.04	0.00	0.62
26 Exports to United States	0.49	0.84	0.06	0.91	0.02	0.01	0.51
27 Exports to United Kingdom	0.87	0.44	0.04	0.87	0.28	0.02	0.42
28 Exports to Japan	0.81	0.63	0.04	0.92	0.19	0.03	0.48
29 Exports to China,P.R.: Mainland	0.69	0.22	0.01	0.64	0.47	0.07	0.72
30 Exports to Asia	0.75	0.56	0.03	0.90	0.29	0.03	0.44
31 Exports to ROW	0.92	0.48	0.05	0.86	0.13	0.01	0.54
32 EXP SITC Total	0.92	0.37	0.05	0.82	0.44	0.01	0.46
33 EXP SITC 0: Food and live animal	0.92	0.38	0.03	0.81	0.36	0.00	0.42
34 EXP SITC 1: Beverages and tobacco	0.58	0.37	0.01	0.79	0.21	0.00	0.32
35 EXP SITC 2: Crude materials, inefible, except fuels	0.81	0.36	0.06	0.87	0.57	0.03	0.66
36 EXP SITC 3: Mineral fuels, lubricants and related materials	0.64	0.08	0.02	0.55	0.86	0.41	0.92
37 EXP SITC 4: Animal and vegetable oils, fats and waxes	0.41	0.28	0.01	0.66	0.21	0.04	0.44
38 EXP SITC 5: Chemicals and related products, n.e.s	0.89	0.47	0.07	0.86	0.41	0.01	0.46
39 EXP SITC 6: Manufactured goods	0.91	0.40	0.06	0.84	0.45	0.01	0.50
40 EXP SITC 7: Machinery and transport equipment	0.89	0.37	0.03	0.81	0.39	0.00	0.41
41 EXP SITC 8: Miscellaneous manufactured articles	0.91	0.36	0.03	0.81	0.36	0.00	0.41
42 EXP SITC 9: Commodities and transactions n.e.c	0.09	0.09	0.01	0.68	0.68	0.03	0.74

1/ Forecast horizon is 20 quarters and refers to the levels of the series. Confidence intervals are constructed using bootstrapping methods.

Table I-5. Forecast Error Variance of the Common Components of France Variables Explained by the Supply and Demand Shock to TOT, 1981-2006 1/

	Variance Shares of the Common Components	Supply Shocks	Confidence Intervals		Demand Shock	Confidence Intervals	
			Lower Bound	Upper Bound		Lower Bound	Upper Bound
1 GDP	0.81	0.46	0.08	0.83	0.08	0.05	0.79
2 Personal consumption expenditure	0.51	0.61	0.12	0.83	0.24	0.04	0.68
3 Private investment	0.87	0.33	0.02	0.82	0.43	0.05	0.87
4 Employment	0.70	0.39	0.08	0.81	0.05	0.06	0.75
5 Productivity	0.35	0.37	0.02	0.80	0.14	0.07	0.87
6 Unit labor cost of the manufacturing sector	0.74	0.07	0.02	0.74	0.22	0.00	0.53
7 Government savings	0.87	0.29	0.01	0.81	0.46	0.06	0.88
8 Consumer confidence	0.46	0.18	0.02	0.80	0.25	0.01	0.64
9 Industrial confidence	0.46	0.38	0.11	0.81	0.04	0.00	0.38
10 Consumer prices	0.91	0.01	0.00	0.60	0.26	0.00	0.58
11 Short-term interest rates	0.58	0.19	0.02	0.72	0.03	0.05	0.79
12 Long-term interest rates	0.59	0.25	0.02	0.76	0.12	0.02	0.47
13 M2 or M3	0.65	0.26	0.02	0.66	0.16	0.03	0.62
14 Stock prices	0.77	0.02	0.00	0.55	0.63	0.24	0.90
15 Real compensation of employees	0.63	0.25	0.03	0.70	0.05	0.09	0.80
16 SMIC	0.61	0.02	0.01	0.61	0.20	0.00	0.48
17 TFP	0.47	0.68	0.26	0.89	0.09	0.02	0.44
18 Exports total	0.81	0.14	0.01	0.73	0.03	0.02	0.71
19 Imports total	0.79	0.37	0.03	0.84	0.32	0.03	0.78
20 Terms of trade	0.10	0.13	0.03	0.50	0.82	0.47	0.96
21 Real effective exchange	0.79	0.00	0.00	0.42	0.10	0.00	0.46
22 Current account balance	0.41	0.47	0.08	0.85	0.17	0.02	0.63
23 FDI out	0.72	0.11	0.00	0.65	0.54	0.16	0.89
24 FDI in	0.52	0.08	0.00	0.64	0.63	0.22	0.91
25 Exports to Euro	0.83	0.05	0.01	0.69	0.16	0.00	0.33
26 Exports to EU	0.84	0.04	0.01	0.69	0.16	0.00	0.33
27 Exports to EU accession ctrys	0.68	0.00	0.00	0.54	0.24	0.00	0.54
28 Exports to United States	0.44	0.01	0.00	0.46	0.52	0.23	0.86
29 Exports to United Kingdom	0.74	0.04	0.01	0.70	0.12	0.00	0.37
30 Exports to Japan	0.77	0.18	0.03	0.68	0.04	0.02	0.60
31 Exports to China,P.R.: Mainland	0.16	0.08	0.02	0.68	0.08	0.01	0.47
32 Exports to Asia	0.56	0.13	0.03	0.76	0.09	0.00	0.43
33 Exports to ROW	0.64	0.05	0.02	0.69	0.11	0.00	0.35
34 EXP SITC Total	0.90	0.39	0.01	0.69	0.03	0.01	0.32
35 EXP SITC 0: Food and live animal	0.64	0.25	0.01	0.53	0.10	0.01	0.51
36 EXP SITC 1: Beverages and tobacco	0.87	0.23	0.00	0.54	0.02	0.00	0.29
37 EXP SITC 2: Crude materials, inefible, except fuels	0.91	0.57	0.05	0.77	0.07	0.01	0.54
38 EXP SITC 3: Mineral fuels, lubricants and related materials	0.58	0.37	0.03	0.82	0.37	0.01	0.67
39 EXP SITC 4: Animal and vegetable oils, fats and waxes	0.64	0.56	0.08	0.68	0.36	0.21	0.86
40 EXP SITC 5: Chemicals and related products, n.e.s	0.92	0.41	0.02	0.65	0.09	0.01	0.52
41 EXP SITC 6: Manufactured goods	0.92	0.42	0.02	0.69	0.03	0.01	0.38
42 EXP SITC 7: Machinery and transport equipment	0.87	0.41	0.01	0.73	0.04	0.01	0.30
43 EXP SITC 8: Miscellaneous manufactured articles	0.87	0.30	0.00	0.61	0.02	0.00	0.28
44 EXP SITC 9: Commodities and transactions n.e.c	0.24	0.03	0.01	0.70	0.58	0.03	0.78

1/ Forecast horizon is 20 quarters and refers to the levels of the series. Confidence intervals are constructed using bootstrapping methods.

Table I-6. Forecast Error Variance of the Common Components of Germany Variables Explained by the Supply and Demand Shock to TOT, 1981-2006 1/

	Variance Shares of the Common Components	Supply Shocks	Confidence Intervals		Demand Shock	Confidence Intervals	
			Lower Bound	Upper Bound		Lower Bound	Upper Bound
1 GDP	0.70	0.46	0.08	0.92	0.26	0.01	0.43
2 Personal consumption expenditure	0.34	0.03	0.01	0.80	0.55	0.01	0.63
3 Private investment	0.93	0.09	0.04	0.88	0.73	0.02	0.73
4 Employment	0.77	0.27	0.06	0.88	0.53	0.01	0.63
5 Productivity	0.36	0.30	0.01	0.79	0.36	0.05	0.82
6 Unit labor cost of the manufacturing sector	0.74	0.06	0.03	0.74	0.76	0.07	0.81
7 Government savings	0.71	0.09	0.02	0.86	0.55	0.01	0.60
8 Consumer confidence	0.32	0.02	0.01	0.85	0.57	0.01	0.62
9 Industrial confidence	0.54	0.23	0.05	0.69	0.21	0.01	0.52
10 Consumer prices	0.92	0.04	0.00	0.30	0.93	0.64	0.98
11 Short-term interest rates	0.76	0.32	0.07	0.91	0.44	0.01	0.53
12 Long-term interest rates	0.54	0.16	0.07	0.78	0.14	0.02	0.61
13 M2 or M3	0.47	0.54	0.08	0.82	0.13	0.01	0.36
14 Stock prices	0.69	0.07	0.02	0.84	0.58	0.01	0.63
15 Real compensation of employees	0.53	0.70	0.07	0.84	0.12	0.04	0.71
16 Exports total	0.69	0.54	0.12	0.91	0.33	0.01	0.48
17 Imports total	0.84	0.11	0.05	0.89	0.71	0.02	0.69
18 Terms of trade	0.42	0.11	0.01	0.43	0.88	0.56	0.99
19 Real effective exchange	0.74	0.39	0.04	0.86	0.09	0.03	0.64
20 Current account balance	0.16	0.15	0.01	0.43	0.53	0.06	0.70
21 FDI out	0.52	0.02	0.01	0.65	0.88	0.22	0.91
22 FDI in	0.15	0.07	0.01	0.88	0.45	0.00	0.51
23 Exports to Euro	0.88	0.10	0.01	0.40	0.86	0.53	0.97
24 Exports to EU	0.90	0.12	0.01	0.44	0.84	0.47	0.96
25 Exports to EU accession ctrys	0.64	0.03	0.00	0.31	0.93	0.62	0.96
26 Exports to United States	0.49	0.11	0.01	0.52	0.67	0.27	0.92
27 Exports to United Kingdom	0.87	0.33	0.02	0.67	0.42	0.15	0.88
28 Exports to Japan	0.81	0.42	0.02	0.69	0.44	0.20	0.88
29 Exports to China,P.R.: Mainland	0.69	0.26	0.09	0.85	0.01	0.01	0.42
30 Exports to Asia	0.75	0.54	0.04	0.80	0.27	0.09	0.82
31 Exports to ROW	0.92	0.12	0.01	0.42	0.81	0.46	0.95
32 EXP SITC Total	0.92	0.05	0.01	0.51	0.89	0.36	0.96
33 EXP SITC 0: Food and live animal	0.92	0.03	0.00	0.48	0.89	0.38	0.96
34 EXP SITC 1: Beverages and tobacco	0.58	0.02	0.00	0.46	0.79	0.24	0.93
35 EXP SITC 2: Crude materials, inefible, except fuels	0.81	0.05	0.02	0.65	0.89	0.23	0.94
36 EXP SITC 3: Mineral fuels, lubricants and related materials	0.64	0.25	0.05	0.80	0.69	0.05	0.78
37 EXP SITC 4: Animal and vegetable oils, fats and waxes	0.41	0.20	0.04	0.77	0.08	0.00	0.31
38 EXP SITC 5: Chemicals and related products, n.e.s	0.89	0.04	0.01	0.56	0.89	0.26	0.96
39 EXP SITC 6: Manufactured goods	0.91	0.05	0.01	0.55	0.88	0.31	0.96
40 EXP SITC 7: Machinery and transport equipment	0.89	0.05	0.01	0.49	0.87	0.39	0.96
41 EXP SITC 8: Miscellaneous manufactured articles	0.91	0.04	0.00	0.47	0.89	0.38	0.96
42 EXP SITC 9: Commodities and transactions n.e.c	0.09	0.19	0.01	0.62	0.79	0.33	0.95

1/ Forecast horizon is 20 quarters and refers to the levels of the series. Confidence intervals are constructed using bootstrapping methods.

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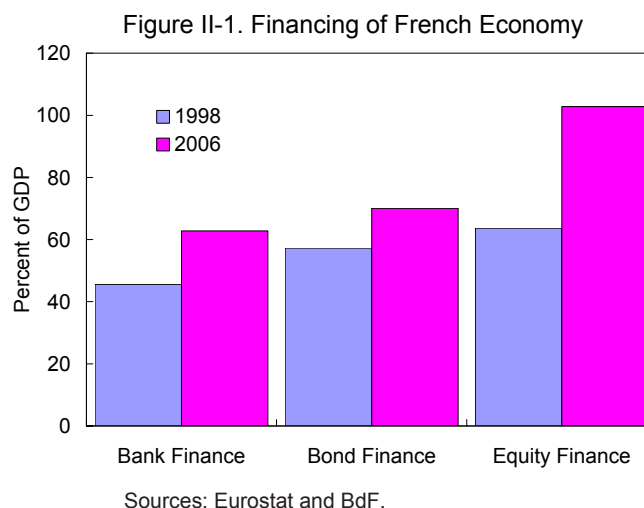
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II. FINANCING AND RISKS OF FRENCH FIRMS¹⁰

A. Introduction

30. The financing landscape of the French economy has changed since the introduction of the euro. The single currency eliminates currency risk and promotes the development of security markets, which has affected the way the government, financial institutions, and companies raise external funds. Bank financing increased from 46 percent in 1998 to 63 percent of GDP in 2006, bond financing from 57 percent to 70 percent, and equity financing from 64 percent to 103 percent (Figure II-1). An analysis of how each economic sector shapes the change will help achieve a better understanding of the pattern and associated risks.



31. This paper aims to provide an overview of financing and risks of the non-financial corporate (NFC) sector. This sector is the main driver of productivity, contributing to about half of the growth. Corporate financing decisions have implications for monetary policy, as the transmission mechanism depends on the financing behavior and balance sheet structures of firms. In France, 82 percent of corporate financing came from external sources in 1999, rising to about 90 percent in 2007. By comparison, external financing was relatively stable at 82 percent in the euro area. With the increasing reliance on external financing, linkages with financial institutions and markets became stronger, which may have implications for financial stability.

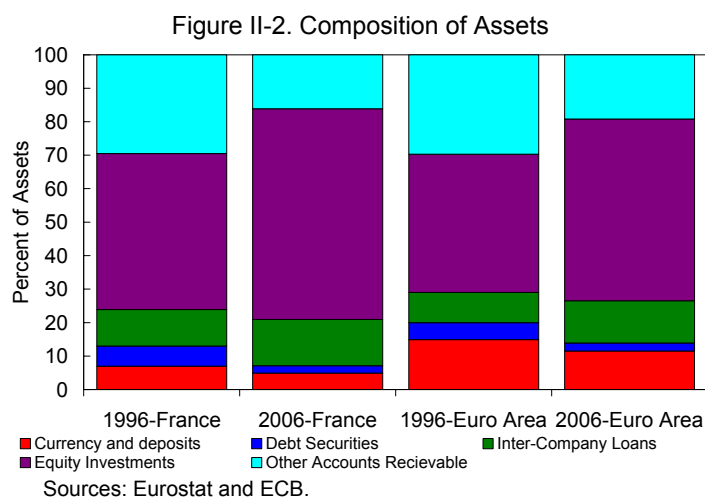
32. The paper documents the role of capital markets in financing NFCs and pinpoints its implications for risk. The analysis suggests that market financing has played a more important role in financing French corporates than the euro area counterparts. The credit risk of French firms has reduced substantially over the past several years. Recent turbulence has clouded the credit environment, but the impact on the corporate risk appears to be limited.

¹⁰ Prepared by Yingbin Xiao.

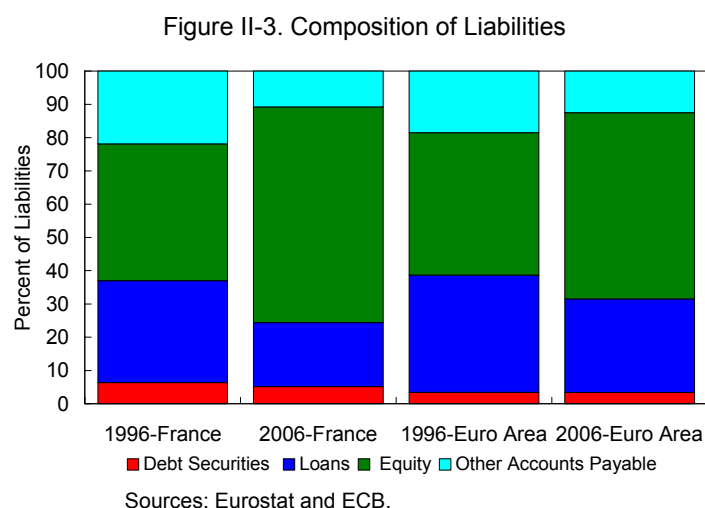
B. Financing of French Firms

Dynamics of traditional financing instruments

33. There have been structural shifts in financial assets over the past decade. Equity investments account for the largest share of assets, rising from 47 percent in 1996 to 63 percent in 2006 (Figure II-2), indicating the degree of financial linkages between French corporations. The euro area showed a similar, but smaller trend, with the share of equity increasing from 41 percent of assets in 1996 to 54 percent in 2006. Debt securities play a minor role in both France and the euro area. The share of inter-company loans was relatively stable, while other accounts receivable declined. Currency and deposits of French NFCs, as very liquid assets, fell in 2006 and represented about half of the average level in the euro area.

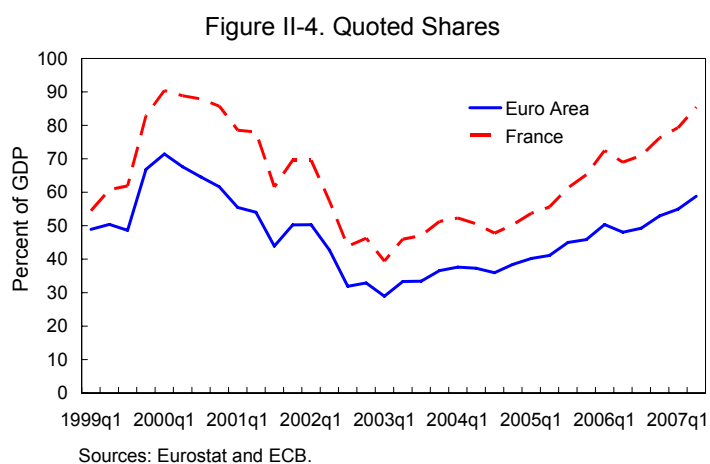


34. Marked structural shifts have also taken place in financial liabilities. The share of equity in total liabilities makes up the largest means of financing, rising from 41 percent in 1996 to 65 percent in 2006 (Figure II-3). Although the average ratio in the euro area was higher than France in 1996 (43 percent), it ended up much lower by 2006 (56 percent). Loans are the second most important source of corporate liabilities. However, their weight in French NFCs dropped from around 31 percent in 1996 to 19 percent in 2006. The decline in the euro area was smaller, a 7 percent decline to 28 percent. The share of debt securities of French NFCs was on average 5 percent, higher than counterparts in the euro area (3 percent).



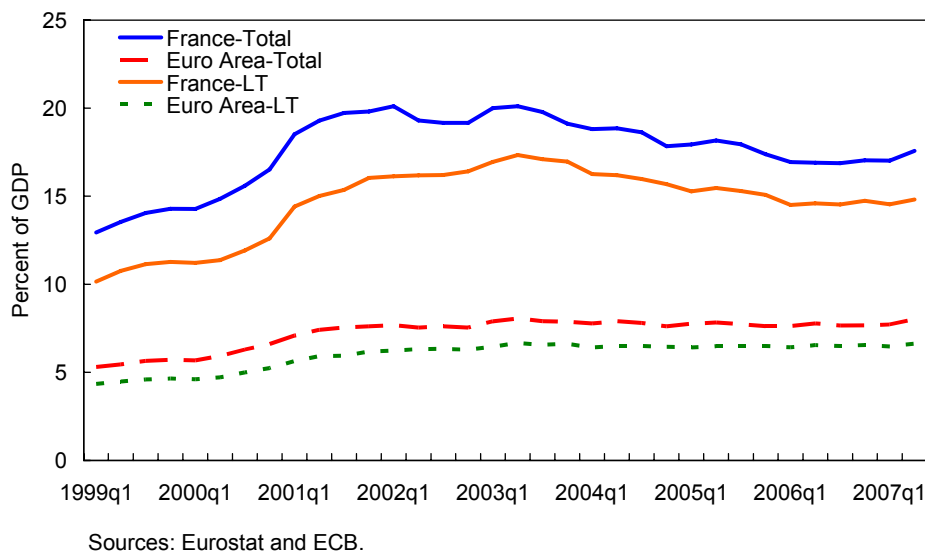
35. Quoted shares are a more significant financing source for NFCs in France than in the euro area. After the adoption of the euro, quoted shares first rose sharply to peak in France and the euro area in the first quarter of 2000 and then dropped substantially to trough in the

third quarter of 2002 following the bust of stock bubbles (Figure II-4). They recovered ever since and reached 85 percent of GDP in France and 59 percent in the euro area in 2007. The dynamics reflect the strong cyclical nature of public equity markets and M&A activities.



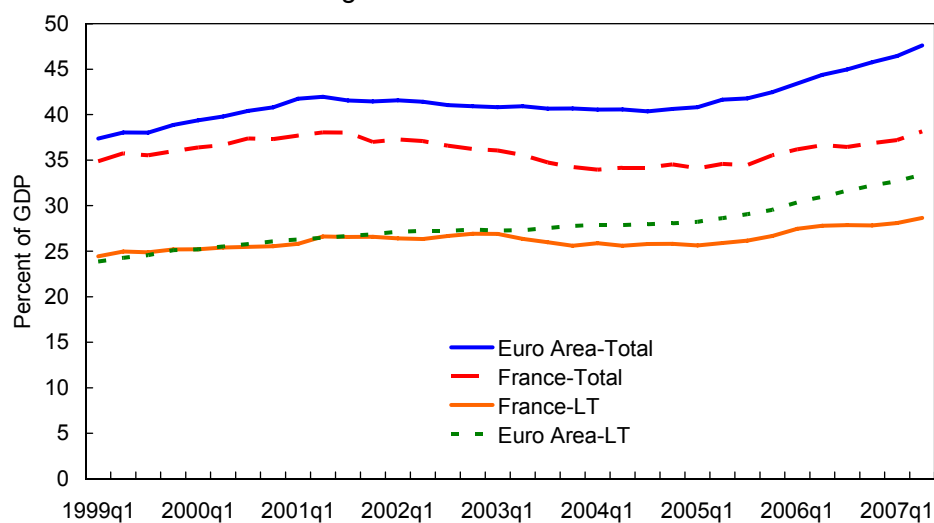
36. Corporate bonds are more important in France than in the euro area. The introduction of the euro promoted the development of corporate bonds. They represented 20 percent of GDP in the first quarter of 2002 in France and declined somewhat to 18 percent in the second quarter of 2007 (Figure II-5). In the euro area, outstanding amounts of euro-denominated corporate debt securities almost doubled between 1999 and 2003, but remained relatively stable afterwards. Their share relative to GDP was only half of the level of French NFCs. Long-term bonds play a dominant role in bond financing in both France and the euro area, but the dynamics were somewhat different. In particular, French NFCs increased the use of long-term bonds from 78 to 84 percent while the use in the euro area was relatively stable at 82 percent.

Figure II-5. Bonds



37. Bank loans are less important in financing NFCs in France than in the euro area. In France, the share of corporate loans was lower and saw a slow increase (3 percent) while the increase in the euro area was much faster (11 percent) (Figure II-6). There does not seem to be a move by NFCs in the euro area towards borrowing at arm's length. Mirroring the relative minor role of bonds, borrowing through bank loans is still more attractive for euro area NFCs. French and euro area NFCs increased the use of long-term loans over the years.

Figure II-6. Bank Loans



Sources: Eurostat and ECB.

New players

38. Non-bank financial market players, such as institutional investors and private equity, have seen rapid development in recent years. They play an increasingly important role in financing NFCs in France. The following describes the role and developments of new players such as insurance companies, mutual funds, hedge funds, and private equity.

39. The French insurance sector is one of the largest sources of financing. Against a background of aging populations and rising longevity, households have changed asset allocation strategies. Their declining investments in currency and deposits mirror increasing investments in insurance contracts (which is broadly in line with the increase in corporate market financing). The French insurance sector, the fourth largest in the world in terms of contributions, had assets under management in the amount of €1,400 billion at the end of 2006. Insurance companies in the past mainly invested in high-quality long-term government bonds to match the duration of their liabilities. However, with the deepening of corporate bond and equity markets, about half of the assets held by French insurance companies are invested in corporate securities, with 30 percent of investments in corporate bonds and 20 percent in equities.

40. The asset management industry in France has undergone a notable expansion. It registered quadruple growth in ten years, to about €2,450 billion in 2006, and captured 20 percent of the European market. Among managed assets, mutual funds have become an increasingly important saving medium for households, who are thus indirectly investing in equity and corporate bonds issued by NFCs. French mutual funds amount to over €1,500 billion, the second largest in the world. Mutual funds not only provide corporate financing, but also affect the relative prices and issuance of certain corporate financing

instruments through fund managers' investment behavior, which are sometimes driven by their incentives.

41. The hedge fund market in France is still limited, but grows briskly. It more than doubled from 2004 to 2006 (to €26.5 billion). The steep increase was spurred by the legislation on funds of hedge funds introduced in 2003 and by demand from other institutional investors who desire to chase high yield uncorrelated with general markets. Although hedge funds were initially restricted to institutional and sophisticated investors, they have become increasingly accessible to a broader circle of investors. For many institutional investors, placements in hedge funds offer an opportunity to diversify their portfolio because the hedge fund return on average shows little correlation with that of equity or bond indices.

42. The private equity industry has played a growing role in financing NFCs, especially via leveraged buyouts (LBOs). Private equity investments rose from €1.2 billion in 1997 to €10.3 billion in 2006, the second largest in Europe. However, different segments show different dynamics. Venture capital investments have declined following the boom-bust cycle of the new economy, but LBOs have expanded substantially, driven by favorable global economic environment and financing conditions. In 2006, about 80 percent of private equity investment was in LBOs.

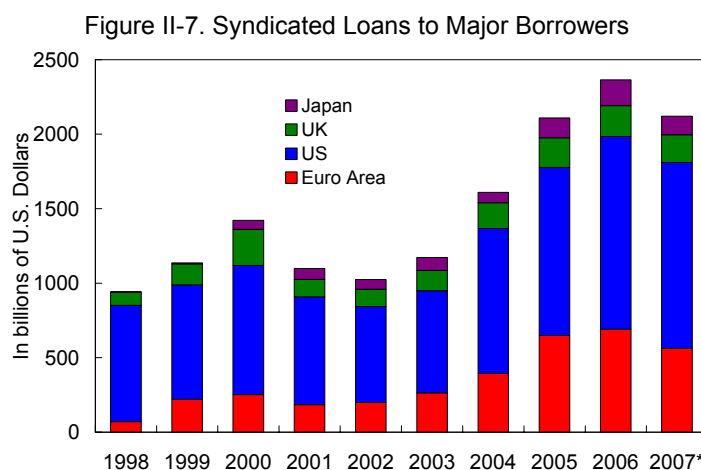
43. These new players may benefit corporate financing in several ways. They broaden financing sources for NFCs and increase available financing directly by buying corporate bonds or equities. As household savings have become increasingly handled by asset managers, NFCs turn more to market financing instead of traditional bank intermediation. In addition, these players allow banks to diversify credit risk more effectively. As risk buyers, these institutional investors shift credit risk outside the banking system and foster risk management innovation and competition among intermediaries. Furthermore, these players impose market discipline and influence the behavior of NFCs by having significant corporate ownership in NFCs. For example, hedge funds are often active investors in corporate equity and active shareholders of the companies in which they invest. The incentives in LBOs between management and shareholders may be aligned more effectively than in publicly held companies, thus having an impact on corporate governance and speeding up the restructuring of industrial structures.

44. These new players can also be sources of vulnerability, however. Although the role of venture capital in financing young and innovative firms is well understood, the long-term effects of buyout activities of private equity firms on target companies are more controversial. It is not clear the extent to which private equity incentives are aligned with those of the target companies. In addition, buyouts are normally highly leveraged operations, which could push up the debt levels in target companies by paying out large dividends financed by new debt and increase default risk. Spreading out risks may make risk hard to

localize and leave risk borne by market participants who are not as experienced and sophisticated as banks in risk management.

New developments in syndicated loans

45. Syndicated loans have experienced tremendous growth recently. The global volume of international syndicated loan facilities rose in size from US\$900 billion in 1998 to over US\$2.3 trillion in 2006 in the U.S., U.K., Japan and euro area combined (Figure II-7). Syndicated loans appeal to both NFCs and banks. For NFCs, syndicated loans provide greater and better access to finance. They are preferred financing alternatives for firms in need of large loans, but unwilling to issue public debt due to disclosure concerns. They are also chosen by firms with high growth potential seeking cheaper funds in comparison to the bond market, but suffering from high levels of asymmetric information. Syndicated loans also facilitate renegotiation in case of financial stress because of the small number of parties involved. For banks, syndicated lending enables them to spread risks more effectively by diversifying sector and geographical concentration from the origination business. Substantial syndication fees are also important sources of revenue.



Source: Dealogic.
* 2007 data are until October.

46. The expansion of syndicated loan markets in the euro area broadened NFCs' access to capital. Cross-border bank lending activity remains very limited in Europe, but syndicated loans allow banks to reduce their monitoring and operating costs and to provide credit to large borrowers without supplying the full amount of finance. The total volume of syndicated lending to euro area firms in 2006 was approximately ten times the level seen in 1998. In contrast, during the same period, syndicated lending in the U.S. and the U.K. grew by 37 percent and 95 percent respectively.

47. French NFCs are main clients of the syndicated loan market in the euro area. French NFCs represent about a quarter of borrowers (Figure II-8). The fact that syndicated loans offer the possibility of raising larger amounts of finance at attractive terms within a tight time frame has made them a powerful financial tool for strategic corporate transactions such as M&As. In fact, given the decline in interest rates, syndicated loans have in recent years been increasingly used for M&A and leveraged buyout (LBO) funding. The share of loans

extended to euro area borrowers and issued for financing M&A activity increased dramatically in 2005 and 2006, accounting for half of the use of proceeds.

Small and medium enterprise (SME) financing

48. The SME contribution to the French economy is on par with the euro area average. In France, SMEs account for 69 percent of employment, more or less the same as the euro area average (67 percent). In terms of value added, the contribution from SMEs is 45 percent, below the euro area average (60 percent).

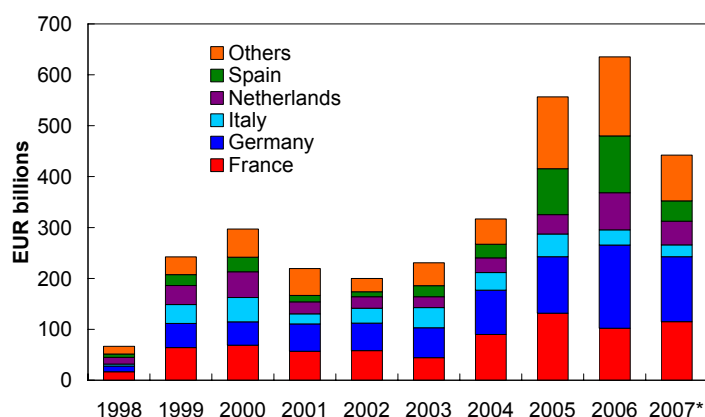
49. SMEs have gained better access to bank financing, but need to develop more equity financing. BdF's recent studies (2007) show that SME access to bank financing has improved over the years as a result of several initiatives and reforms. New loans grow at a faster pace and at a lower cost than euro area counterparts. The implementation of Basel II is expected to benefit SME financing by allowing banks to use favorable risk weightings and to lower their capital requirements for SME loans. The creation of the Alternext equity market is intended to facilitate equity financing of SMEs. It is a lightly regulated market in NYSE-Euronext and tailored to the financing needs of SMEs. It enables SMEs to raise capital with less regulatory burden compared with the traditional stock exchanges. As of October 2007, it had 110 companies listed with a market cap of €5.6 billion. The Autorité des Marchés Financiers (AMF) set up a working group to further simplify procedures and requirements for SMEs listings and recently approved the creation of a segment on the regulated market for listings with no prior public offering.

C. Risks of French Firms

50. Financing shifts may have risk implications. In a perfect Modigliani-Miller world, a firm's financing does not affect its value. However, in the real world—with imperfections such as agency costs and asymmetric information—a firm's financing choice may change its value and risk (Harris & Ravis, 1991). This section aims to empirically assess the risk of listed French firms using different approaches and conducts a comparison with similar firms in other developed economies.

51. The risk analysis is conducted in both time-series and cross-country dimension. It employs data of about 13,600 listed firms in France, Eurozone, U.S., U.K., and Japan. It makes use of individual balance sheet accounts and income statements during

Figure II-8. Syndicated Loans to Eurozone Borrowers



Source: Dealogic.
* 2007 data are until October.

2002Q1-2007Q3 from Thomson Financial and monthly, weekly, or daily data on equity markets, bond markets, and CDS markets from Datastream. As firms included in Thomson Financial are listed firms, the coverage is not as comprehensive as country-specific data base such as FIBEN (Fichier Bancaire des Entreprises).¹¹ However, it is available and widely used because of its high frequency and standardization across countries, which facilitates international comparison. Results using Thomson Financial may be different from those using national databases because of the different samples.

52. The analysis takes three approaches. One is the balance sheet analysis, which obtains several indicators—leverage, liquidity, and profitability—based on financial statements. The second one is the market approach, which obtains price, volatility, and spreads from trading instruments and ratings from rating agency. The third one is the structural approach, which combines balance sheet and market information and applies option valuation framework.

Balance sheet analysis

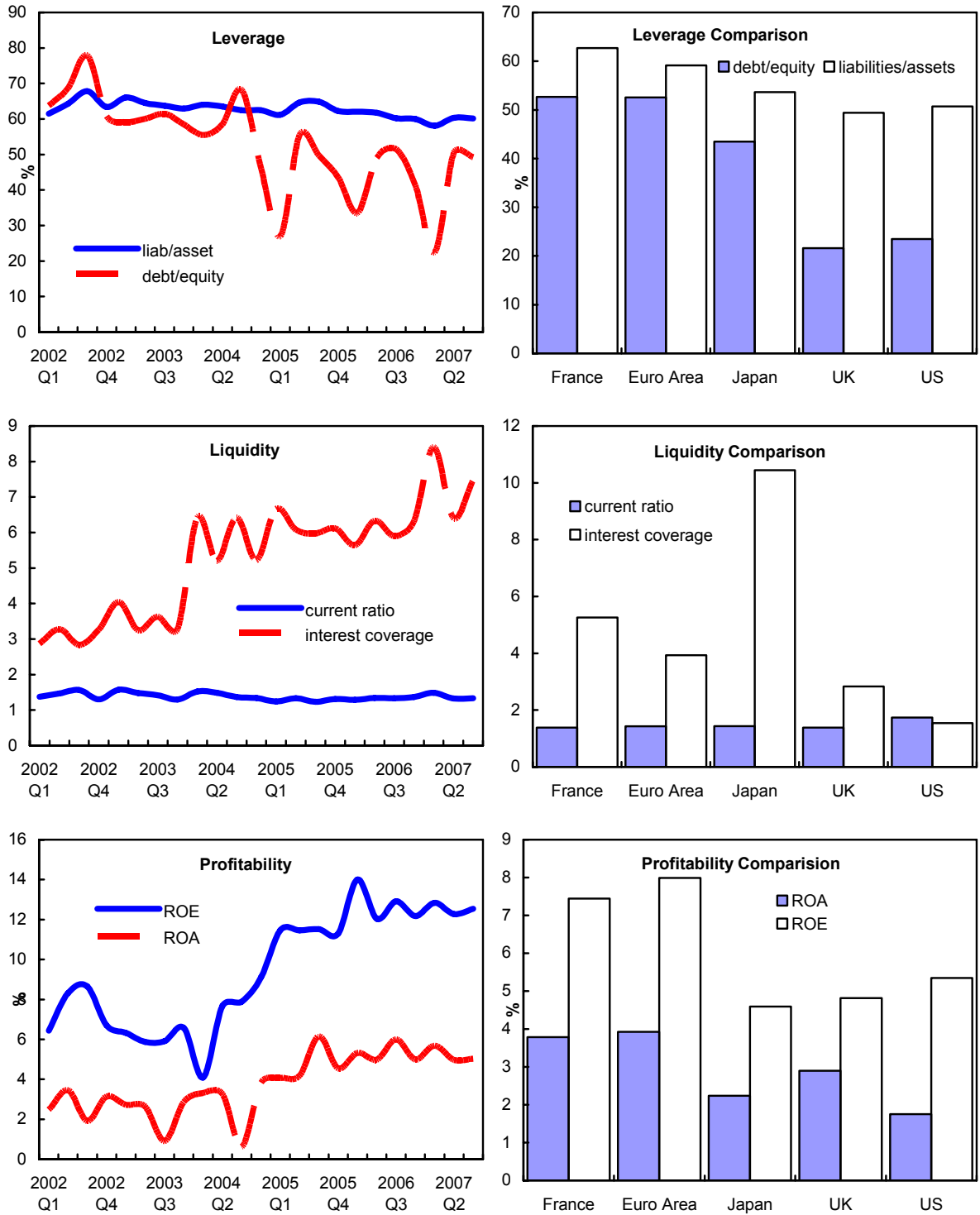
53. In the balance sheet analysis, leverage is measured by debt-to-equity and liabilities over assets. Liquidity is measured by the current ratio, defined as current assets over current liabilities, and the interest coverage ratio, defined as EBIT (earnings before interest and tax) over interest expenses. Profitability is measured by ROA (return on assets) and ROE (return on equity).

54. Figure II-9 shows both time-series and cross-sectional results. Quarterly data are used to show the dynamics over time, and time-weighted average data are used for cross-country comparison. It shows the following:

- French NFCs have relatively high leverage. Over time, overall indebtedness as measured by liability over assets is more stable than debt-to-equity. Both measures have come down from the highs of years ago, but edged upwards in recent quarters. On average, listed French firms' median debt to equity ratio is 53 and liabilities are 63 percent of total assets, both are high compared to other industrialized countries.

¹¹ FIBEN is maintained and managed by Banque de France, but not publicly accessible. Entities covered in the database not only include firms, but also legal and natural persons. It provides accounting and financial data from the balance sheet and profit-and-loss account for companies meeting certain criteria.

Figure II-9. Balance Sheet Risk and Comparison



Source: Thomson Financial