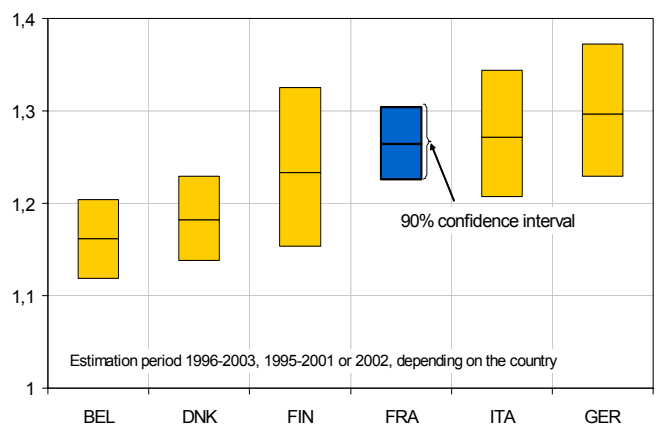## Competition within sectors in France

- Relative lack of competition is regularly pointed out as a main factor behind weak economic growth. In this study, we build an indicator measuring competition in a given sector of the economy. We then give an estimation of the potential gain in growth and jobs resulting from an alignment of competition in certain sectors with that observed in the best-performing European countries.

- We can assess the intensity of competition by estimating the markup, defined as the ratio between the sale price and the cost of producing an additional unit of the product (the marginal cost). Based on estimations made for a group of European countries, the markup for the French economy is reckoned to lie within the European average and slightly below the estimated markups in Germany and Italy.

- Competition is very strong in certain sectors producing non-internationally tradable goods (*i.e.* "sheltered" sectors). For example, the construction sector, which accounted for around 8% of the traded economy in terms of value added in 2004, appears to be highly competitive despite being sheltered from international competition.

- In the light of our markup indicator, three main sectors of the French economy-retailing, hotels, and financial intermediation-nevertheless appear to contain scope for significantly increased competition.

- An increase in competition in these three sectors to levels close to those observed in countries where competition is strongest could ultimately boost French GDP (excluding non-traded activities) by a figure on the order of 1.2% and create 200,000 to 250,000 jobs, depending on whether one includes the restaurant sector or not. The impact of these reforms on GDP might even be under-estimated insofar as the positive impact of more intense competition on innovation is left out of account.

Source: DGTPE calculations.

Markups in the economy as a whole

90% confidence interval

Estimation period 1996-2003, 1995-2001 or 2002, depending on the country

BEL   DNK   FIN   FRA   ITA   GER

Interpretation: for France, the average sale price of a product is 26% higher than its marginal production cost (making a markup equal to 1.26), with a 90% probability of being situated between 23% and 30% above.

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ET DE LA POLITIQUE ÉCONOMIQUE

1. The markup indicates by how much the sale price exceeds the marginal cost of production and serves to evaluate the intensity of competition

Boosting competition in the goods and services markets is a growing economic policy concern, as evidenced by the recent recommendations of the European Commission and the IMF[1]. Competition boosts economic activity and creates jobs by improving purchasing power and spurring firms to innovate[2]. In this context, there is a need for indicators aimed at clearly identifying those sectors of the economy for which competition could be increased. Among the most commonly used indicators are the degree of concentration in the sector, or its degree of regulation (which is assumed to create barriers to the entry of new firms). However, these do not always provide an accurate picture of the degree of competition in a sector.

Economic theory, meanwhile, considers that, in a situation of pure and perfect competition, firms ought to set the sale price of their products at the production cost of the last item produced (i.e. the marginal production cost). The less competition there is in a sector, the more the price can diverge from the marginal production cost. We can then use the ratio between the sale price and the marginal production cost, known as the markup, to gauge the intensity of competition in a sector. Markup needs to be distinguished from margin, the latter being defined by the ratio: gross margin/gross value added. This is because, in calculating the difference between sale price and production cost, the latter already incorporates the "normal" return on capital. A high markup indicates abnormally high profits, whereas a high margin may simply reflect the fact that a sector is highly capital intensive.

1.1 The markup is not directly observable, but it can be estimated econometrically

The marginal production cost, and hence the markup, is not directly observable in practice, unlike the sale price.

Hall (1988) and later Roeger (1995)[3] have introduced a methodology for estimating the markup econometrically[4].

This methodology is used in lots of studies, particularly by the OECD and the ECB[5]. The main restriction in available studies is that the estimation is generally carried out on annual data between the end of the 1970s and the early-2000s[6]. Consequently the markups reported in these studies do not reflect the situation in the different sectors in 2007, but rather a mean of producers' margin behaviours over the past 25 years. That is why markups are estimated here over shorter periods, such as 1995-2002. This estimation period, representing a complete business cycle, also means that our estimated markups are not influenced by the business cycle (since firms tend to reduce their margins in periods of weak economic activity and to raise them in periods of expansion). It is also worth noting that the estimations made over this period allow us to take into account the most recent technological developments and recent regulatory changes.

The data needed to estimate markups are taken from the OECD STAN database and are available for five European countries in addition to France, over periods of varying length. For Belgium, the data cover at best the period 1996-2003; for Germany, 1993-2003; for Denmark, 1974-2001; for Finland, 1978-2003; and for Italy, 1981-2001. In addition, the periods of availability differ according to the sector studied. Detailed findings of the estimations of markups for all sectors in each of the six European countries are reported in Bouis (2007): "Quels secteurs réformer pour favoriser l'emploi et la croissance?" (Which sectors should be reformed in order to promote jobs and growth?), *DGTPE, Document de travail (DGTPE Working Paper) no. 2007-13*.

This analysis of the intensity of competition based on the estimation of markups is completed by a study of firms'

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(1) See Everaert (2007): "Does It Pay to Synchronize Structural Reforms Across Markets and Countries? Insights from the Global Economic Model", *IMF Working Paper*, and MINEFE (2008): "La concurrence, un outil en faveur de la croissance, de l'emploi et du pouvoir d'achat" (Competition, a tool to promote growth, jobs and purchasing power), *Rapport économique, social et financier, Projet de loi de finances pour 2008 (Economic, social and financial report, Budget Bill for 2008)*.

(2) See Bouis (2007): "Évaluation de l'impact macro-économique de réformes sectorielles à l'aide d'un modèle à deux Secteurs" (Evaluating the macro-economic impact of sector reforms with the aid of a two-sector model), *Document de travail de la DGTPE (DGTPE Working Paper) no. 2007/07*.

(3) Hall (1988): "The Relations between Price and Marginal Costs in US Industry", *Journal of Political Economy 96, 921-947* and Roeger (1995): "Can Imperfect Competition Explain the Difference between Prima and Dual Productivity Measures? Estimates for US Manufacturing", *Journal of Political Economy 103, 316-330*.

(4) These authors show that under a pure and perfect competition assumption (i.e. zero markup), the nominal growth rate of the Solow residual is independent of the nominal capital productivity growth rate. The coefficient linking the nominal growth rate of the Solow residual to the nominal capital productivity growth rate is the Lerner index, defined by the ratio (price - marginal cost)/price, and allows us to obtain the markup by the relation markup = 1 / (1 - Lerner index). Roeger's methodology (1995) is described in detail in the Bouis working paper (2007): "Quels secteurs réformer pour favoriser l'emploi et la croissance?" (Which sectors should be reformed in order to promote jobs and growth?), DGTPE, *Document de travail (DGTPE Working Paper) no. 2007-13*.

(5) Oliveira-Martins, Scarpetta, Pilat (1996): "Mark-up ratios in manufacturing industries: Estimates for 14 OECD Countries", OECD Economics Department Working Papers 162. Przybyla. and Roma (2005): "Does product market competition reduce inflation? Evidence from countries and sectors", *ECB Working Paper 453*.

(6) One exception concerns Christopoulou and Vermeulen (2007): "Markups in the Euro area and the US over the period 1981-2004: a comparison of 50 sectors", *ECB Working Paper*. However this study uses data different from our own.

market shares in terms of revenue, with the aid of INSEE's ALISSE database, and a review of the OECD's indicators of regulatory reform by sector[7]. Admittedly, the degree of concentration in a sector is not necessarily a good indicator of the degree of competition, while indicators of regulation are indicators of a means rather than of an outcome. In most cases, nevertheless, these indicators provide an additional element in support of the result based on the level and variations in markups.

1.2 There are limits to econometric estimations

There are a number of limits to the markups estimated using Roeger's methodology (1995), which should be borne in mind when interpreting the results:

- **the estimations of markups are obtained assuming constant returns to scale**, whereas in reality

many sectors are characterised by rising returns. However, allowing for rising returns to scale would lead to still higher estimated markups[8];

- **the different sectors' output is valued at base price (i.e. including subsidies)**[9]. In this context, subsidies lead to higher markups, as in the case of agriculture, for example;

- **the cost of capital is imperfectly measured**, which means it is possible that high values for markups may partially reflect high risk premiums in a specific sector. However, this in no way alters the findings of an international comparison of markups in a given sector, assuming the cost of capital for the sector is the same regardless of country.

2. The degree of competition in the economy as a whole and in industry has risen slightly in France since the beginning of the 1980s and is close to the European average; but there are sharp disparities between sub-sectors.

2.1 The markup in the traded economy, excluding agriculture, has fallen slightly in France over the past 25 years
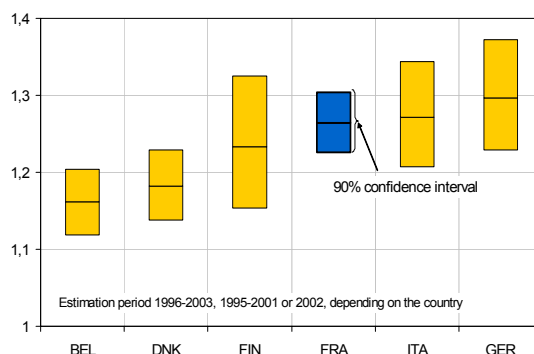
The results of estimations for the economy as a whole indicate that the markup has not increased over the past 25 years. The markup for the whole of the economy (including non-traded activities) was estimated at 1.27 over the period 1982-1994, and 1.26 for the period 1995-2002[10]. In other words, producers are reckoned to sell their products at a price 26% higher, on average, than the cost of the last unit produced. In the traded sector as a whole also, excluding agriculture, the markup has fallen slightly. Estimations of markups for all sectors are provided in table 2 at the end of this paper.

2.2 The markup currently lies within the European average

Over the period 1995-2002, the markup for the French economy as a whole was barely above the average markup for the selected group of European countries, but below the estimated markups in the other two major eurozone economies, Italy and Germany[11].

However, these differences are not statistically significant, except in comparisons with Belgium and Denmark, as shown in chart 1, which represents the estimations of markups and their 90% confidence intervals[12]. These results are globally consistent with those obtained by Christopoulou and Vermeulen (2007)[13] from the European Commission's EU KLEMS data.

Chart 1: markups for the economy as a whole

90% confidence interval

Estimation period 1996-2003, 1995-2001 or 2002, depending on the country

BEL   DNK   FIN   FRA   ITA   GER

Source: OECD STAN database and DGTPE calculations.

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(7) These indicators are calculated on the basis of elements measuring sectors' openness to competition, State shareholdings in the capital of companies in the sector, the degree of vertical integration, and the degree of concentration of sectors.

(8) See for example Hylleberg, Jørgensen (1998): "A Note on the Estimation of Markup Pricing in Manufacturing", *Centre for Non Linear Modelling in Economics Working Paper, Department of Economics, University of Aarhus.*

(9) This is not a feature specific to Roeger's methodology (1995) but to the available data.

(10) The years 1980 and 1981 are excluded from the estimation because they have been identified as two abnormal points leading to under-estimation of the markup.

(11) Ideally, it would be preferable to compare markups in the traded economy excluding agriculture. However the necessary data to estimate these markups are unavailable for two countries, namely Belgium and Italy.

(12) Lerner index equality tests (= 1 - 1/markup) estimated for each country confirm these results: France's Lerner index is significantly higher than that of Belgium and that of Denmark.

(13) Christopoulou, Vermeulen (2007): "Markups in the Euro area and the US over the period 1981-2004: a comparison of 50 sectors", *ECB Working Paper.*

2.3 The markup in industry in France is close to the one observed in the other European countries, but there appears to be distinctly less competition in some sectors

French industry represented slightly over 20% of the traded economy in value-added terms in 2004, and the degree of competition in it appears to be slightly less than the average for the other European countries considered here, but the differences are not statistically significant (see chart 2 below).

Chart 2: markups in industry
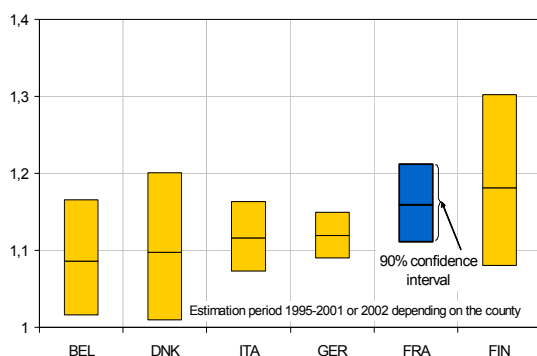
Source: OECD STAN database and DGTPE calculations.

Chart 3: markups in a range of industrial sectors
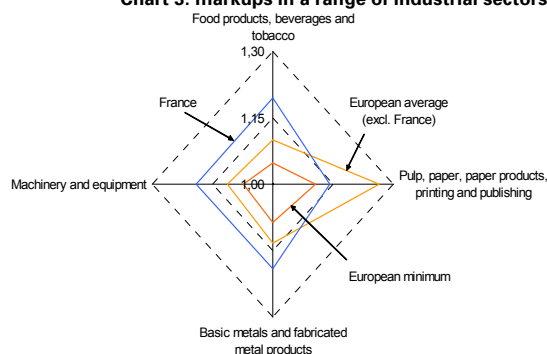
Interpretation: the French markup on food products, beverages and tobacco was 1.19 for the period 1995-2002, compared with a European average (excluding France) of 1.10 and a minimum of 1.04 (the markup in Denmark). Source: OECD STAN database and DGTPE calculations.

More detailed analysis by sector (chart 3) suggests that there is significantly less competition in France for food products, beverages and tobacco sector than in the rest of Europe on average (14% of the industry's VA), and likewise in the basic metals and fabricated metal products sector (14.6%) and in the machinery and equipment sector (17.2%). On the other hand, there appears to be more competition in the pulp, paper, paper products, printing and publishing sector (9.6%).

2.4 There is no less competition in the French electricity, gas and water production-distribution sector than in the other European countries

The relatively high markup in the French electricity, gas and water production-distribution sector (this sector represented 2.4% of the traded economy in terms of VA in 2004) suggests that there is little competition in this sector. Many other countries in Europe also display high markups in this sector, with no significant difference among them. The fairly high degree of concentration of the sector in France (the 4 largest players share three-quarters of the sector's value added) remained fairly stable between 1996 and 2004, while the sector's markup has barely changed since the beginning of the 1980s, probably due to State regulation of certain electricity prices.

Note, however, that the electricity, gas and water production-distribution sector is dominated by electricity production and distribution (which for example represents 70% of the sector in terms of VA in France), featuring a wide variety of production techniques across Europe. In particular the French production set up (consisting mainly of nuclear power stations) is very different from that of the other European countries (which consists of gas and coal-fired stations), making direct comparison of markups difficult.

2.5 The markup in the construction sector has fallen substantially in France in recent years, alongside a reduction in the degree of concentration in the sector

The markup in the construction sector in France (which accounted for around 8% of the traded economy in VA terms in 2004) is low, being statistically equivalent to the figure registered elsewhere in Europe. Moreover, our estimation of the markup is not significantly different from 1 over the more recent period, 1995-2002, indicating that competition in the sector has become very strong.

Market shares of the top 4 and top 10 French construction firms respectively fell from 4 to 1% and from 5 to 1% between 1996 and 2003. This decline in the level of concentration seems to go together with shrinking margins in the sector in the 1990s.

3. Markups in the private services sector are high in comparison with those in industry and vary substantially from one country to another

The traded services sector is generally sheltered from international competition and, not surprisingly, is characterised by higher margins than in industry, regardless of country. In France, for example, the markup in traded services is 1.42, versus 1.16 in industry. This is significantly greater than in Belgium or Denmark, but not signi- ficantly different from those in the countries considered here (see chart 4)[14].

Moreover, analysis of markups for the main traded services activities show wide variations in margin behaviours depending on the country and the sector, as illustrated in chart 5.
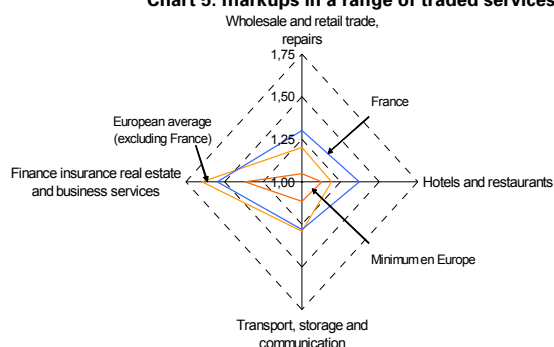
Chart 4: markups in private-sector services
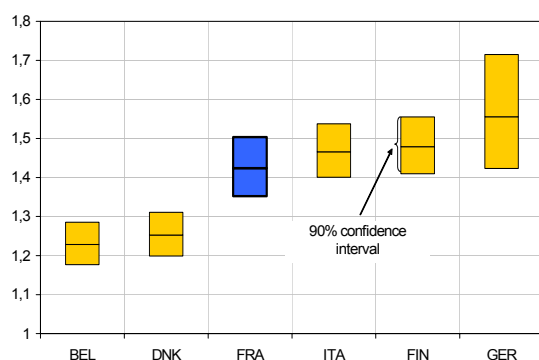
Source: OECD STAN database and DGTPE calculations.

Chart 5: markups in a range of traded services

Source: OECD STAN database and DGTPE calculations.

3.1 The markup in retail trade in France has more than doubled since the mid-1990s…

Judging by our indicator, France is one the countries with the least competition in the wholesale and retail trade, repairs sector, which accounted for around 15% of the traded economy in VA terms in 2004.

This situation appears to be due mainly to the particularly high margins in retail trade (excluding the retail motor vehicle and cycle trade), repairs to personal and household goods, accounting for 6.3% of traded VA in 2004, a sector in which the markup has risen sharply since the beginning of the 1980s. Moreover, the sector has become significantly more concentrated in France since the mid-1990s, the market share of the top 4 firms in the sector in terms of revenue, for example, having grown from 11 % to 17 % between 1996 and 2004. This is consistent with the result highlighted by several studies showing that **competition in the distribution sector weakened from the mid-1990s onwards**[15]. This weakening of competition, it is argued, was a result of the 1 July 1996 Galland Act (which led to an increase in the "retro-commissions" charged by distributors, which were then passed on in retail prices), and of the 5 July 1996 Raffarin Act regulating the installation of retail stores with over 300 m2 floor space.

3.2 …and tripled in the hotels and restaurant sector

Among the countries studied, the highest markup in this sector is found in France, having risen steeply in the mid-1990s. While it is impossible to distinguish the respective shares of hotels and restaurants in this increase (due to the absence of accounting data at the most disaggregated level), several indicators suggest that the weakening of competition in the hotel-restaurant sector observed in France from the latter half of the 1990s onwards mainly concerned the hotel trade.

As noted in the interim report of the «Attali Commission», prices have risen distinctly more rapidly in recent years in the hotel trade than in cafés and restaurants[16], while the Raffarin Act, which requires all plans to build or enlarge hotels with more than 50 rooms in the Paris region and 30 rooms in the provinces to be approved by the *Commissions Départementales d'Équipement Commercial* (Departmental commissions on commercial amenities), has probably contributed to a weakening of competition in the sector.

3.3 Markups are also high in the transport and storage and communication sector

The markup in this sector is said to be higher than in other sectors, but France is reckoned to be slightly below the European average. However, the wide variety of transport activities and the impressive technological changes that have occurred in telecommunications in recent years limit the relevance of the estimations.

For the "transport and storage" sub-sector, the markup is high but not significantly different from the one estimated in other countries. It is likely to have increased (see table 2), as has the sector's concentration in revenue terms, the market shares of the top 4 players having increased from 18 to 23% between 1996 and 2004[17].

However, the activities making up the sector are quite heterogeneous (rail transport, passenger road transport, road haulage, air transport, water transport, goods handling, storage), and available data do not allow us to study the intensity of competition within each of these activities.

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(14) The assumption of equality between the Lerner index for traded services in France and the one prevailing in Belgium or Denmark is rejected with a confidence interval of less than 1%.

(15) See for example Borsenberger, Doisy (2006): "Business relations between suppliers and distributors", *DGTPE - Trésor-Economics no.3*.

(16) "The price index for the Hotels-Cafés-Restaurants sector has risen by an average of 2.8% a year between 1998 and 2007, compared with 1.7% for the consumer price index over the same period. More particularly, hotel prices have risen by an average of 4.5% a year over the past 9 years".
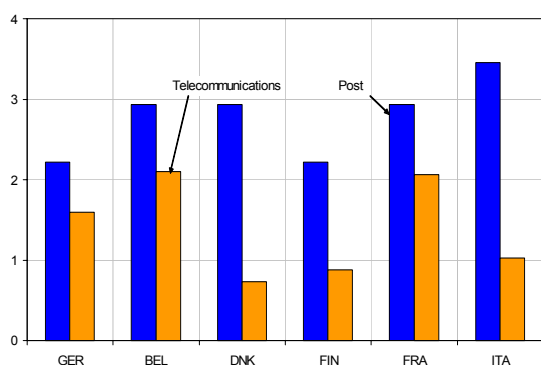
(17) ALISSE, INSEE data.

Chart 6: ETCR indicators in transport in 2003
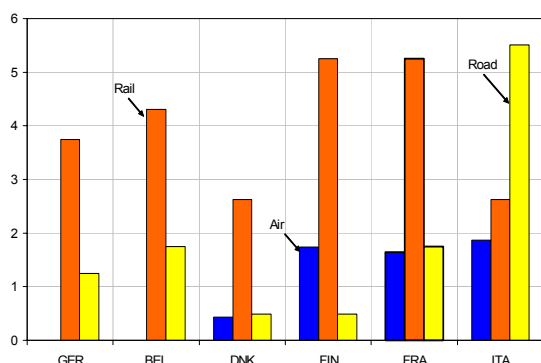
Source: OECD and DGTPE calculations.

At best, we may note the high level of regulation in rail and air transport in France by comparison with those observed in Germany, Belgium and Denmark, based on the OECD indicators of regulation (see chart 6).

Chart 7: ETCR indicators in post and telecom. in 2003

Source: OECD and DGTPE calculations

The markup in post and telecommunications in France is particularly low in the period 1995-2002, due to a spectacular fall in the mid-1990s and thereafter. It is significantly lower than the estimated markups for the other countries. The level of concentration in the sector, which had been high, declined between 1996 and 2004, with the market shares of the top 4 firms in revenue terms falling from 92 to 73%[18]. However, the telecommunications sector experienced far-reaching change in the 1990s (with, among others, the emergence of mobile phones and Internet), so that the results obtained for this sector need to be interpreted with caution. Moreover, the OECD indicators of regulation suggest that France does not actually stand among the least-regulated countries in this sector (see chart 7).

3.4 There is distinctly less competition in the financial intermediation sector in France and Europe than in the United States

The markup in the financial intermediation sector in France (representing 6.2% of the traded economy in VA terms in 2004) has fallen sharply since the 1980s. For the period 1995-2002, the degree of competition was fairly low in all European countries except France (see table 2).

The estimations for the sector, excluding insurance and pension funding (representing 4.5% of the traded economy in VA terms in 2004) confirm the relatively low level of competition judging by markup, regardless of country. Several studies reach the same conclusion. **For example, based on EU KLEMS data, the ECB estimates the markup in financial intermediation, except insurance and pension funding, at 1.60 in Europe versus 1.29 in the United States.**

In other words, there is room for improvement in the degree of competition in financial intermediation in France. The findings of the final report of the European Commission on retail banking, on 31 January 2007, say as much. It should nevertheless be noted that the recent creation of the *Banque Postale* will probably help bring about greater competition in the banking sector, especially because of its large number of branches countrywide.

4. Greater competition in the financial intermediation, retail trade and hotel sectors could create nearly 200,000 jobs and boost value added in the traded sectors by 1.2% in the long term

At this stage in the analysis, it may be worthwhile attaching an order of magnitude in terms of growth and jobs to the factors associated with the degree of competition. On the basis of the foregoing, three sectors appear to harbour potential for greater competition, namely financial intermediation, retail trade, repairs, and hotels[19]. The effects on the economy of lower markups in these sectors can be evaluated using a macroeconomic model taking account of their specific features, such as size or capital intensity[20]. The targeted markups are:

- for the hotel sector, the markup is brought down to the level observed before implementation of the Raffarin Act, i.e. 1.12, the estimated markup for 1982-1995[21] (in Bouis 2007-7, a fall in the restaurant sector's markup was also included in this scenario):

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(18) ALISSE, INSEE data.

(19) Several other sectors, among them taxis, distribution of medications and veterinary services, also exhibit a low level of competition (in terms of markup), but due to lack of data needed to estimate the markups in these sectors we have confined our analysis to the three sectors mentioned above.

(20) See Bouis (2007): "Évaluation de l'impact macroéconomique de réformes sectorielles à l'aide d'un modèle à deux secteurs" (Evaluation of the macroeconomic impact of sector reforms using a two-sector model), *Document de travail DGTPE (DGTPE Working Paper) no. 2007-7*.

- for the financial intermediation sector, since all European countries exhibit a relatively low degree of competition, the target markup used is the one estimated by the OECD for Canada (2005)[22] for the period 1975-2002: this reform would supposedly reduce the sector's markup from 1.32 to 1.15[23] ;

- for the retail trade sector, the target markup is the one prevailing prior to the introduction of the Galland and Raffarin Acts, i.e. the estimated markup for the period 1982-1995: the markup is thus lowered from 1.55 to 1.21.

The results of the macroeconomic effects of lower markups are displayed in table 1. The model is calibrated to take account of specific accounting features of the different sectors (such as their share in the value added of traded sectors, their factor intensity, etc.) observed in 2003 or 2004.

The economic sequence of events resulting from a lower markup is as follows. A lower markup leads to higher demand for the good produced by the sector (from both consumers and firms), and hence to increased output and jobs in the sector. At the macroeconomic level, the reform again boosts potential national output and leads to net job creations. However, the scale of these effects varies according to the characteristics of the sector reformed (e.g. its size, capital intensity or how far the good produced by the sector complements goods in the rest of the economy). For example, in the case of financial intermediation, the reduction in the markup (from 1.32 to 1.15), and hence in the price of financial intermediation services, leads to increased output (+18%) and jobs (+ 49,000 employees) in the sector. Given that the consumption of financial intermediation services is to some extent complementary with the consumption of other goods produced by the economy, we generally observe an increase in demand for and output of goods produced by the rest of the economy. In addition, increased demand for capital in the financial intermediation sector amplifies the positive effect of the reform on the rest of the economy.

The effects of the reform are globally the same in the case of the retail trade sector: here we find higher output and jobs both in the reformed sector and in the rest of the economy, thanks to effects stemming from the complementary nature of the goods. Conversely, because hotel services are partially substitutable for goods and services produced by the rest of the economy (at least in the household consumption basket), the reform leads to a slight drop in final consumption of goods produced by the rest of the economy, even if globally output and jobs rise in the two sectors.

According to the estimations shown in table 1, in the long run reforms carried out in these three sectors would lead to the creation of 190,000 jobs (110,000 in the reformed sectors and 80,000 in the rest of the economy) and to a rise of around 1.2% in the traded sectors' value added, in volume terms. These results should be considered as lower bounds insofar as markups alone are assumed to be affected by an intensification of competition in each sector, the other characteristics of the economy remaining unchanged. Further, an extension of lower markups to the restaurants sector would bring the number of jobs created to 250,000.

Moreover, greater competition would probably also boost growth in total factor productivity, since firms would have an incentive to innovate in order to maintain or increase their market shares, thereby amplifying the beneficial impact of these reforms on GDP.

Romain BOUIS

Tableau 1 : macroeconomic impact of a lower markup in the 3 reformed sectors

Reformed sector	Estimated markup	Target markup	Reformed sector		Whole traded economy	
			Output (in volume)	Jobs (in thousands)	Value added (in volume)	Jobs (in thousands)
Financial intermediation	1.32	1.15	+18%	+49	+0.4%	+71
Retail trade	1.55	1.21	+3%	+38	+0.6%	+88
Hotels	1.37	1.12	+17%	+22	+0.15%	+27

(21) Moreover, in the absence of accounting data for the hotel sector alone allowing us to estimate the markup in this sector, two extreme markup scenarios are considered, and the results of the simulations used here correspond to the mean of the effects obtained in each of the scenarios.

(22) "Product Market Competition in OECD countries: A synthesis", ECO/CPE/WP1 (2005) 17/ANN2.

(23) The markup adopted (1.32) is the one estimated for the financial intermediation sector, except insurance and pension funding, which is more significant for the period 1995-2002 than the estimated markup for the financial intermediation sector in the broad sense. Whatever the case, this figure of 1.32 is relatively close to the estimation of the markup for the financial intermediation sector in the broad sense for the period 1990-2002 (1.39). Its choice allows us to take a prudent view of the scale of the impact on the economy of the pro-competition shock.

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Tableau 2 : Estimations of markups by sector

Sector	Period 1995 - 2002						Period 1982-1994		
	Germany	Belgium	Danmark	Finland	France	Italy	Finland	France	Italy
Whole economy	1.30 [1.23; 1.37]	1.16 [1.12; 1.20]	1.18 [1.14; 1.23]	1.23 [1.15; 1.32]	1.26 [1.23; 1.30]	1.27 [1.21; 1.34]	1.20 [1.13; 1.27]	1.27 [1.20; 1.34]	1.21 [1.16; 1.26]
Private sector, excl. agriculture	1.23 [1.15; 1.32]	-	1,15 [1.09; 1.21]	1.22 [1.14; 1.32]	1.19 [1.16; 1.22]	-	1.22 [1.16; 1.28]	1.21 [1.16; 1.28]	
Industry	1.12 [1.09; 1.15]	1.09 [1.02; 1.17]	1.10 [1.01; 1.20]	1.18 [1.08; 1.30]	1.16 [1.11; 1.21]	1.12 [1.07; 1.16]	1.18 [1.12; 1.26]	1.13 [1.11; 1.15]	1.15 [1.12; 1.18]
Food products beverages and tobacco	1.12 [1.02; 1.23]	1.05 [1.00; 1.10]	1.04 [0.94; 1.16]	1.12 [1.03; 1.23]	1.19 [1.12; 1.28]	1.11 [1.08; 1.15]	1.12 [1.08; 1.16]	1.15 [1.07; 1.24]	1.12 [1.10; 1.14]
Pulp, paper products, printing and publishing	1.37 [1.10; 1.82]	1.25 [1.10; 1.45]	1.11 [1.05; 1.17]	1.43 [1.24; 1.69]	1,14 [1,08; 1,22]	1,15 [1.02; 1.33]	1.25 [1.14; 1.37]	1.17 [1.10; 1.24]	1.16 [1.13; 1.21]
Basic metals and fabricated metal products	1.12 [1.02; 1.24]	1.10 [1.03; 1.17]	1.17 [1.00; 1.41]	1.19 [1.08; 1.33]	1.19 [1.11; 1.28]	1.09 [1.03; 1.15]	1.18 [1.09; 1.30]	1.17 [1.12; 1.22]	1.15 [1.11; 1.18]
Machinery and aquipment	1.09 [1.01; 1.18]	1.10 [1.02; 1.19]	1.07 [0.97; 1.20]	1.21 [1.12; 1.32]	1.19 [1.12; 1.27]	1.09 [1.06; 1.13]	1.25 [1.16; 1.34]	1.20 [1.13; 1.28]	1.20 [1.19; 1.21]
Electricity gas and water production and distribution	1.86 [1.43; 2.64]	1.23 [1.07; 1.45]	2.05 [1.68; 2.62]	1.66 [1.28; 2.36]	1.56 [1.07; 2.89]	1.59 [1,34; 1,95]	1.77 [1.56; 2.06]	1.56 [1.45; 1.68]	1.09 [0.88; 1.42]
Construction	1.12 [1.01; 1.25]	1.09 [1.06; 1.12]	1.08 [0.91; 1.34]	1.13 [1.05; 1.23]	1.04 [0.94; 1.17]	1.20 [1.12; 1.29]	1.12 [1.05; 1.21]	1.13 [1.03; 1.27]	1.22 [1.17; 1.28]
Traded services	1.56 [1.42; 1.72]	1.23 [1.18; 1.29]	1.25 [1.20; 1.31]	1.48 [1.41; 1.56]	1.42 [1.35; 1.50]	1.47 [1.40; 1.54]	1.42 [1.33; 1.54]	1.57 [1.49; 1.65]	1.41 [1.34; 1.49]
Wholesale and retail trade	1.24 [1.16; 1.35]	1.06 [1.01; 1.11]	1.05 [1.01; 1.09]	1.32 [1.23; 1.43]	1.30 [1.06; 1.69]	1.33 [1.28; 1.38]	1.26 [1.21; 1.32]	1.26 [1.08; 1.51]	1.32 [1.27; 1.37]
Retail trade (exc motor veh. & cycle), Repair personal and household goods	1.16 [0.91; 1.60]	-	1.02 [0.88; 1.21]	1.38 [1.19; 1.64]	1.55 [1.21; 2.14]	-	1.19 [1.12; 1.26]	1.20 [0.98; 1.57]	-
Hotels and restaurants	1.07 [0.82; 1.53]	1.13 [1.02; 1.26]	1.27 [1.15; 1.41]	1.02 [0,93; 1.14]	1.37 [1.21; 1.57]	1.18 [1.09; 1.29]	1.05 [1.01; 1.10]	1.10 [1.04; 1.18]	1.04 [0.99; 1.10]
Transport and storage and communication	1.34 [1.19; 1.54]	1.14 [1.03; 1.28]	1.11 [1.00; 1.26]	1.51 [1.44; 1.57]	1.28 [1.19; 1.38]	1.35 [1.23; 1.50]	1.38 [1.30; 1.46]	1,47 [1.36; 1.61]	1.33 [1.20; 1.49]
Transport and storage	1.17 [1.00; 1.42]	-	1.11 [0.94; 1.34]	1.40 [1.35; 1.45]	1.35 [1.24; 1.48]	-	1.36 [1.27; 1.45]	1.22 [1.17; 1.29]	
Post and telecommunications	1.76 [1.40; 2.38]	-	1.38 [1.00; 2.25]	1.83 [1,63; 2,09]	1.15 [1.02; 1.33]	-	1.45 [1.39; 1.53]	2.67 [1.76; 5.60]	
Financial intermediation	1.34 [1.03; 1.91]	1.55 [1.41; 1.72]	1.52 [1.31; 1.83]	2.20 [1.74; 3.00]	1.17 [0.93; 1.57]	1.28 [1.14; 1.44]	1.49 [1.42; 1.56]	1.49 [1.36; 1.66]	1.61 [1.54; 1.70]
Financial intermediation (excep insurance and pension funding)	1.94 [1.05; 2.25]	-	1.57 [1.34; 1.89]	1.79 [1.62; 2.01]	1.32 [0.95; 2.18]	-	1.61 [1.51; 1.72]	1.65 [1.46; 1.88]	

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