# The impact of factoring on the economy

## Evidences from Italy, France and UK

edited by

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# Executive summary

An international research on specialized lending, promoted by AIBE, Assifact, Assilea and Assofin and assigned to a team of researchers led by the University of Roma Tre[1] analyzed the contribution of the three major markets of specialized lending (consumer credit, factoring and leasing) to the economy in Italy, France and the United Kingdom.

This paper focuses on the factoring market using the results of the research about the contribution provided by factoring to the economies of the analyzed countries. It is an important market, with strong positions in financial and real systems and significant support to the real economy.

The contribution to the economy is estimated at several levels (according to a "concentric circles" approach):

1) The direct level is given by the direct effects directly produced by market participants for the main *stakeholders* (the so-called **direct contribution),** such as employees, borrowers, government and lenders (creditors and shareholders);

2) The Induced level is given, by the effects on the economy from the *stakeholders* of market participants (e.g. the employees of factoring's operators, in turn consume, save and pay taxes; the borrowers are engaged in investments, pay taxes and hire personnel, who in turn, consume, save and pay taxes, etc.), who are "indirectly" related to specialized lending (so-called **indirect contribution** or **induced**).A joint consideration of the direct and the induced effect therefore allows to estimate the **overall contribution** of factoring;

3) the dynamic level is given by an estimate of the added value of factoring, approximated to the damage for the economy if factoring comes less ( so-called **specific contribution).**

The results of the research show that the contribution of factoring to the economy is important (everywhere), beyond economic trends. The estimated contribution leads to objectively important results, both in absolute terms and in relation to GDP, , and clearly indicates a strong connection to real economy, in particular with regard to investments.

As for **Italy,** it is estimated that factoring, with a *turnover* of 118 billion euros and advances paid of 33 billion euros, has provided an overall contribution to consumption of 12.7 billion euros, to savings of 2.1 billion euros, to investments in working capital equal to 40.6 billion euros and to tax revenues of 13.9 billion euros in 2009.

A more detailed analysis of the direct contribution to the economy in 2009, shows that factoring has paid wages to the labor force (employees and external collaborators) for an amount of 329 million euros, has paid direct taxes to the Treasury (Public Administration) of 162 million euros, has registered revenues for

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factoring's operators of 278 million euros and has paid interest expense to creditors for 481 million euros.

In **France,** factoring shows a substantial connection to the real economy. in 2008 it an overall contribution to consumption of 12.4 billion euros, to savings of 1.8 billion euros, to investment in working capital of 42.7 billion euros and to tax revenues for an amount of 14.1 billion euros has been estimated.

The overall estimated contribution to the UK **economy** in 2008 amounted to 16.2 billion euro for consumption, 0.2 billion euros for savings, 25.2 billion euros for investments in working capital and 13.8 billion euros for revenue tax.

The results of the dynamic analysis developed by the research, which estimates the response of the economic system in the hypothesis of no factoring, based on its ability to replace new products suitable to meet the needs of customers, bring out the supporting role of factoring to the economy and highlight the substantial damage that could register in the case of less continuity of supply.

With reference to the Italian market, the specific contribution provided by factoring to the economy is estimated at 22.1 billion euros in terms of consumption, 3.9 billion euro in terms of savings, 81.1 billion euros (equivalent to 5.18% of GDP) for the investments and 24.3 billion euros in terms of tax revenue for the Public Administration.

It is estimated that the specific contribution provided by the sector to the economy of France is equal to 24.4 billion euros in terms of consumption, 3.6 billion euros for savings, 83.7 billion euros (4.30% of GDP in 2008) in terms of investment in working capital and 27.6 billion euros for tax revenue.

In the UK, it is estimated that the specific contribution provided by the sector to the economy is equal to 31.7 billion euros in terms of consumption, 0.5 billion euros for savings, 49.4 billion euros (2.72% of GDP in 2008) for investment in capital and 27.1 billion euros for tax revenue.

The roots of factoring can be guessed by evaluating the dynamic profile, which (even if with "strong" assumptions), indicates that the absence of this market could create strong discontinuity in the financial support to the economy.

This paper is a first attempt to estimate the contribution of factoring to the economy. This approach can certainly be improved in the future by collecting more detailed data and by refining the estimates, which are very prudential but still quite significant, so as to provide a timely and effective contribution of factoring to the Italian economy.

Finally, it reaffirms that the estimates are "intentionally" prudential and may undervalue the true contribution of factoring to the economy, because: a) the model is focused on the supply, leaving out the analysis of the effects on demand, b) it has not always been possible to consider general operators, c) even where more than one possible hypothesis was "realistic", it the most prudent one has always been chosen.

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# Chapter 1
# Introduction

An international research on specialized lending, promoted by AIBE, Assifact, Assilea and Assofin and assigned to a team of researchers led by the University of Roma Tre[2] analyzed the contribution of the three major markets of specialized lending (consumer credit, factoring and leasing) to the economy in Italy, France and the United Kingdom.

This paper focuses on the factoring market, using the results of the research, and concentrates? on the contribution provided by factoring to the economies of the analyzed countries. It is an important market, with strong positions in financial and real systems and significant support to the real economy.

This contribution is estimated using a method based on the analysis of the supply of factoring, following a progressive approach (so-called "concentric circles" approach), designed to assess their importance at three different levels:

1) Direct Level

The analysis will highlight the "direct" contribution provided by the factoring marketing a given country. The "direct" contribution is evaluated focusing on the size of the factoring business, specifically on its market structure and functioning.

The direct contribution to the economy is therefore estimated by the impact created "directly" on the main *stakeholders* of the industry such as:

   a) Employees and external collaborators in each segment of the factoring sector (measured by the number of employees and the cost of total staff);

   b) Borrowers (by measuring the volume of loans acquired during the year and the amount at the end of the period, both measures broken down by type of customer, products and nature of lenders);

   c) Public Administration (based on the total of taxes paid, distinguishing between direct and indirect taxes);

   d) Lenders of the companies operating in the sector (paying attention both to the shareholders, in terms of assets under management, profits generated, efficiency conditions and risks undertaken, and to the external funders, in terms of interest paid by the financed operators).

The analysis will also highlight the relative importance and the role of the factoring marketing a given country. In summary, we analyze the direct impact of the factoring market on the national economy: the above-mentioned indicators are compared to the main macroeconomic indicators of the country (e.g., gross

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domestic product, consumer spending, investment spending and overall tax revenue).

2) Induced-Level

The second level of analysis concerns the estimation of the effect induced by factoring. In this case, we take into account the effects generated indirectly by the considered activity on the main *stakeholders* (e.g.the consumption of the company's employees) and those produced in other sectors (e.g.t he consumption of the business' employees financed by the company).

Distinguishing institutional sector, the "induced" contribution to the economy of each country is estimated focusing on:

a) Families, looking at the impact on consumption and savings;
b) Companies, looking at the impact on deposits, bank lending and investment;
c) Public Administration, estimating the revenue generated and distinguishing between direct and indirect taxes.

A joint consideration of the direct and induced effects generated by factoring allows us to estimate the overall contribution to the national economy in terms of[3]:

- Overall effect on consumption *(ECC)*;
- Overall effect on savings *(ECRIS)*;
- Overall effect on investment *(ECI)*;
- Overall effect on the Public Administration*(ECPA)*.

3) Dynamic level

The third level of analysis is dynamic, aimed at measuring the impact on the economy if the factoring market came less? Taking as a point of reference the estimate of the overall effects, we provide an analysis for scenarios in which the value of the sector is measured assuming different market conditions (e.g. the degree of substitution with similar products).

Assuming the absence of factoring, we estimate the response of the economic system, based on its ability to develop "substitutes" products, offered by other operators and able to meet the needs of customers in each scenario.

The "specific" contribution of factoring is the difference between the contribution of the sector and the response of the economy in case of its absence: this represents the loss for the economy when the factoring disappears.

The dynamic contribution is estimated by looking at the effect on consumption, savings, investment, and tax revenues for the Public Administration.

The final appendix illustrates in detail the estimation method applied.

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[3]The ratio to the GDP of the year may differ from the sector's contribution to the formation of that, since that in estimating the induced impacts are included effects that occur in n following stages (see methodological appendix), so in a period that may exceed the year. The relationship with the GDP of the year aims to provide a measure of the effect induced by factoring in the economy of the country, in order to appreciate more immediately the size of the phenomenon.

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# Chapter 2
# The impact of factoring on the Italian economy

## 2.1. Introduction

This chapter contains the results of the analysis conducted to estimate the contribution of factoring to the Italian economy.

Factoring is a financial technique based on the sale of trade receivables from a firm to a factoring company or a bank that provides a service of credit management (i.e. collection of information on debtors, credit portfolio management, entry, settlement, management of overdue debts, etc), protection against the risk of insolvency of the debtor (the so-called non-recourse sale) and the possibility of mobilizing (up to 80%) of the assigned receivables (so-called anticipation). In Italy, factoring is therefore a complete financial package in which the core business of credit management can be combined, depending on the needs of the seller, with a component of warranty and a component of credit.

Factoring was introduced in the late nineteenth century in the U.S. textile industry. Over a hundred years later, it has become a key sector of the global financial system and it represents an important source of financing for many companies. Factoring is currently offered in over 50 countries and the world market rose from 47 billion dollars in 1980 to 1,615,352 billion dollars in 2009[4]. As shown in Figure 2.1, the European markets reported consistently higher business volumes than other markets (e.g. the United States), the UK market has decreased significantly since 2007, while other countries reported stable average volumes.

The Italian market (like the British and the French[5] one) is particularly interesting in the world scenario as it represented the world's third largest market in 2009 (after United Kingdom and France) with a market share of about 9.7%[6].

Operators specialized in factoring were 34 in 2009 (Figure 2.2), most of whom were specialized in banking (62% in 2009) and industry (24% in 2009), while the number of independent companies is (WAS IN 2009?) a minority (14%), as shown in Figure 2.3.

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[4] Data source: Factors Chain International (2010).

[5] See chapter 3 and chapter 4.

[6] Data source: Factors Chain International (2010).

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**Figure 2.1**

*The amount of turnover of factoring in major world markets (in millions of euro)*
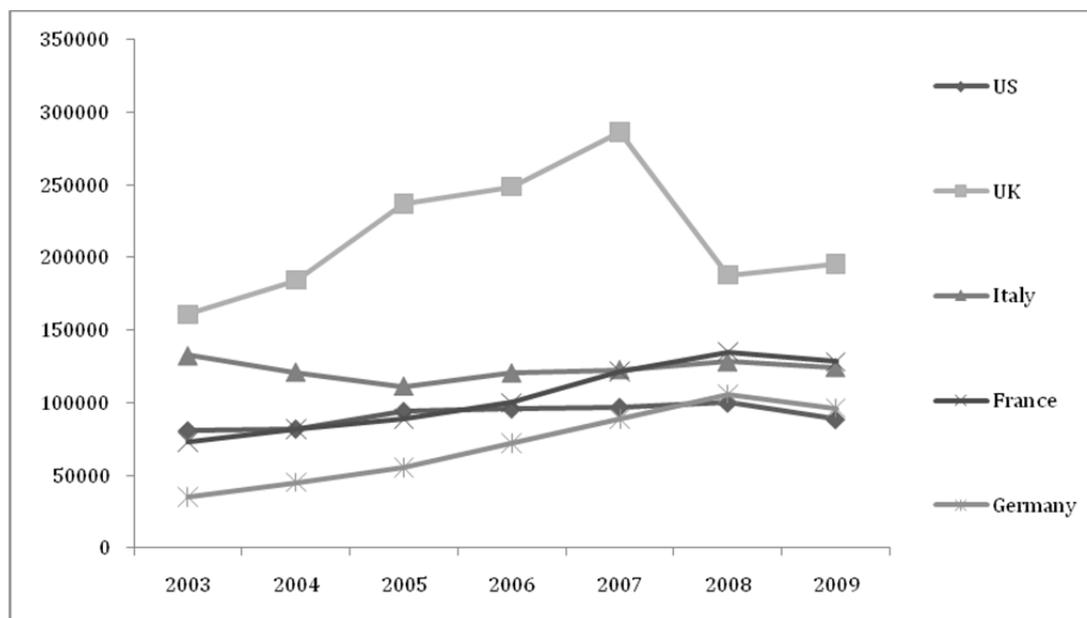


*Source: Factors Chain International (2010)*


**Figure 2.2**

*The number of operators in the factoring sector in Italy*
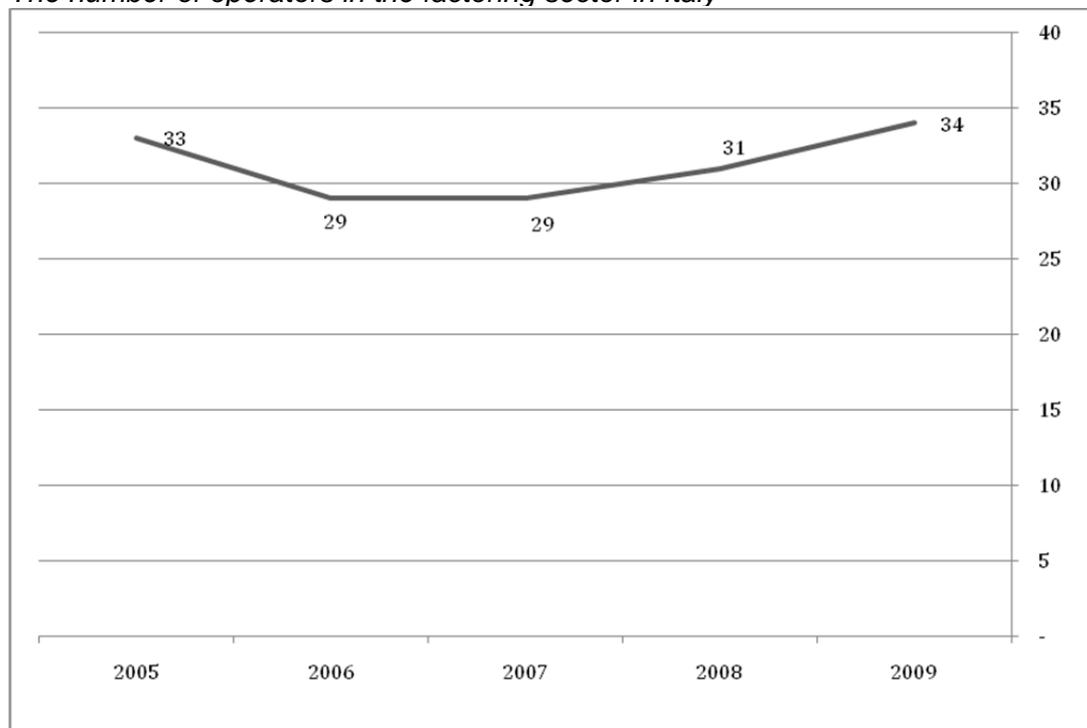


*Source: Assifact (2010)*

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**Figure 2.3**

*The composition of the supply of factoring market in Italy (in percentage)*



| | 2005 | 2006 | 2007 | 2008 | 2009 |
|---|---|---|---|---|---|
| Percentage of indipendent companies operating in the sector | 12,12% | 12,90% | 13,79% | 12,90% | 14,71% |
| Percentage of companies with captive nature operating in the sector | 30,30% | 22,58% | 27,59% | 25,81% | 23,53% |
| Percentage of companies with banking nature operating in the sector | 57,58% | 64,52% | 58,62% | 61,29% | 61,76% |
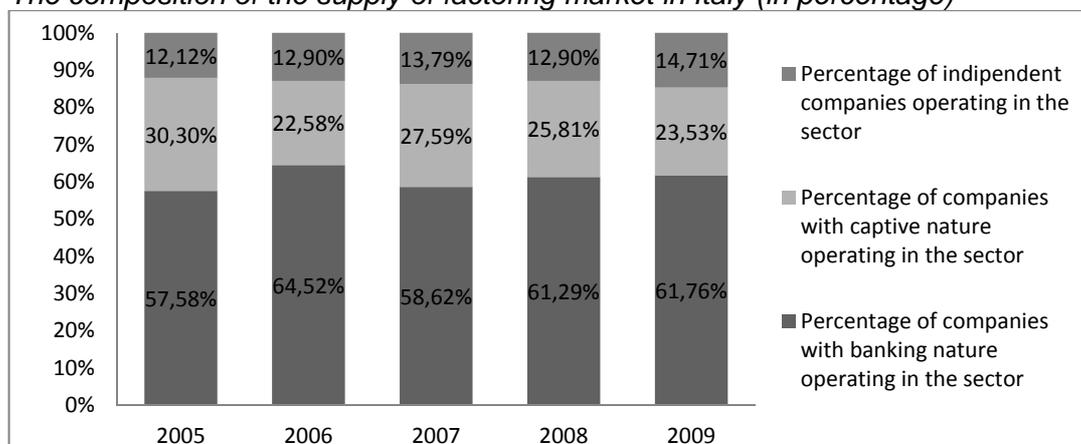
*Source: Assifact*

## 2.2. The direct effect

This section focuses on the direct contribution provided by factoring to the economy in Italy. This is estimated by the impact created "directly" to the main *stakeholders* of the company such as:

a) Employees and the external collaborators;
b) Borrowers;
c) Public Administration;
d) Lenders.

The indicators identified are presented in absolute and relative value. In particular, they are compared with the main macroeconomic indicators of the country (e.g. gross domestic product, consumer spending, investment spending and overall tax revenues) to appreciate the impact of the direct contribution of factoring in context.

### 2.2.1.Employees and external collaborators

The contribution of factoring can be assessed primarily in terms of employment generated and, therefore, labor income attributed to the existence of such activities. This contribution has been evaluated considering both the overall cost of personnel supported by factoring's operators and the cost of external consultants (e.g., third party networks, brokers, agents, etc...). The total fees expenses is used as an approximation of the latter cost item, representative of the income paid to external service providers[7] such as financial intermediaries, agents, experts, etc..

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[7] It should be notedthat the figure for fees expenses is only available for the Italian market: this item is omitted when estimating the economic contribution of factoring for France and United Kingdom.

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In the absence of "aggregate" data publicly available on companies operating in the factoring sector, a sample of twenty-four specialized companies (hereafter, "final sample") has been selected and their budget analyzed (representing 96.6 % of the value of contracts stipulated by factoring companies surveyed by Assifact).

With regard to the number of people employed in the factoring market, the number of employees in 2009 is 1928, equal to 0.6% of the employees employed by credit intermediaries and to 10.4% of those employed in the sector of specialized credit (Figure 2.4).

Figure 2.5 shows the estimated total cost of salaries paid to the personnel of factoring companies (panel A) and to their external collaborators (panel B).

**Figure 2.4**

*Panel A) The number of employees in factoring*
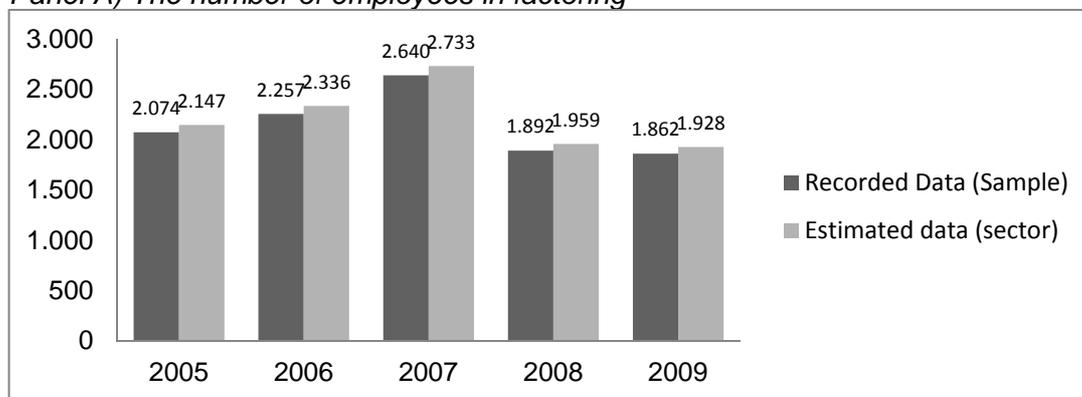


*Source: estimates based on data collected in the financial statements of factoring companies.*

*Panel B) The number of employees in factoring in 2009*
*(Total of credit intermediaries = 348.556)*
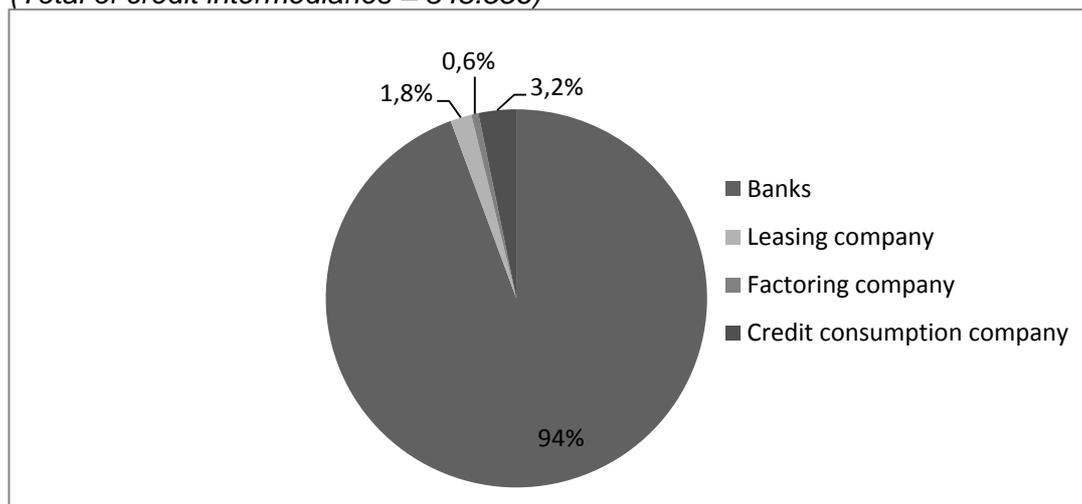


*Source: Bank of Italy and estimates based on data collected in the financial statements of leasing, factoring and consumer credit companies.*

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**Figure 2.5**

*Panel A) The cost of employees' salaries paid by the factoring company (In millions of euro)*
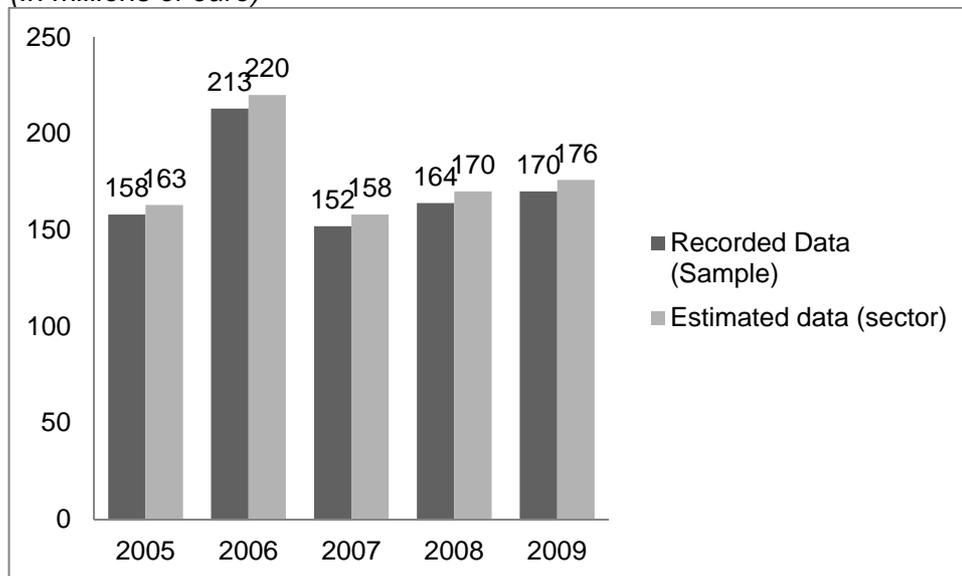


*Source: estimates based on data collected in the financial statements of factoring companies.*

*Panel B) Fee expenses paid by the factoring companies (in millions of euro)*
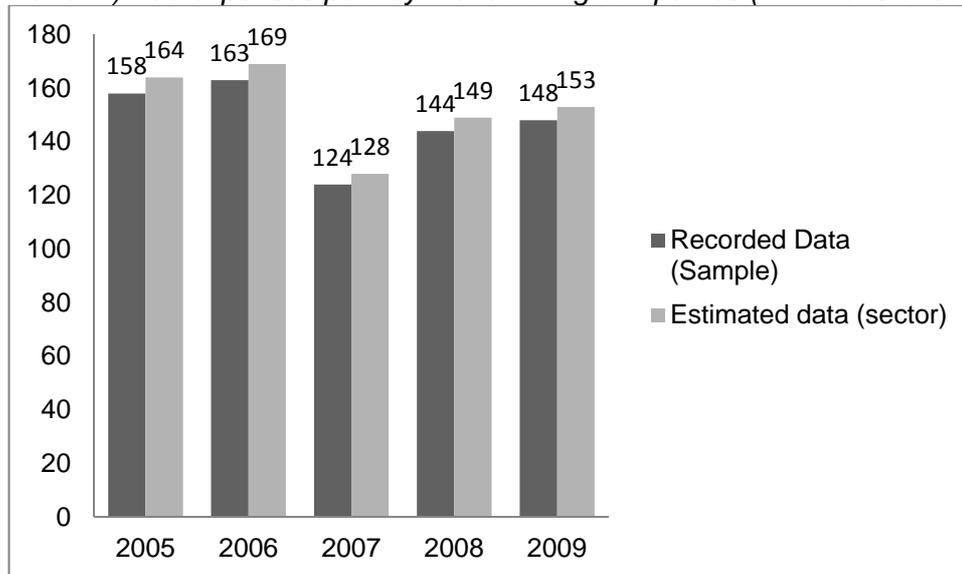


*Source: estimates based on data collected in the financial statements of factoring companies.*

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## 2.2.2. Borrowers

The direct contribution generated by the factoring for financed companies is evaluated looking at the amount of mobilized resources: these are approximated by the volume of loans purchased in the year (so-called *Turnover,* T), the consistency of the purchased loans outstanding at the end of the year (so-called *Outstanding,* OUT) and the amount of advances paid on loans purchased by the factoring company (ANT).

In 2009, factoring has developed a turnover of 118 billion euros (Figure 2.6, panel A) and recorded an *outstanding* amount of 44 billion euros and advances on loans sold of 33 billion euros. The percentage of loans sold in advance by factoring companies was 76.1% in 2009. In relative terms, the turnover is a percentage ranging between 8 and 9% of the GDP over the period considered and *the outstanding* represents about 3% of it (Figure 2.6, panel B).

With regard to the type of contract (Figures 2.7 and 2.8), the operations without recourse range between 65% and 67% in terms of turnover during the analyzed period and between 55% and 65% in terms of *outstanding.*

With regard to the nature of the lender (Figures 2.9and 2.10), the company banks develop most of the activity on the Italian market to an extent varying between 73% and 80% of the turnover and between 71% and 79% of *the outstanding* (between 2005 and 2009). Companies of industrial nature *(captive)* develop a national turnover rate of around 9% and of approximately 7% of *outstanding.* Another type of operator with a significant market share are "specialized banks" that hold a share of *outstanding* between 8% and 10% and develop a turnover between 7% and 8% (between 2005 and 2009). Other operator's categories hold marginal shares in the Italian market.

With regard to the sector of corporate clients of factoring (Figure 2.11), the industrial companies are the most important customers: overall, the percentage of *outstanding* developed towards these subjects fluctuate around 45% in the period 2005-2009. Companies in the service sector are the other category of customers of great importance: overall, the percentage of *outstanding* developed towards these individuals ranges from 39.5% to 48.6% between 2005 and 2009. Companies operating in other economic sectors represent a share of *outstanding* lower than 13%.

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**Figure 2.6**

*Panel A) The main volume indicators of the factoring (in billions of euros?)*
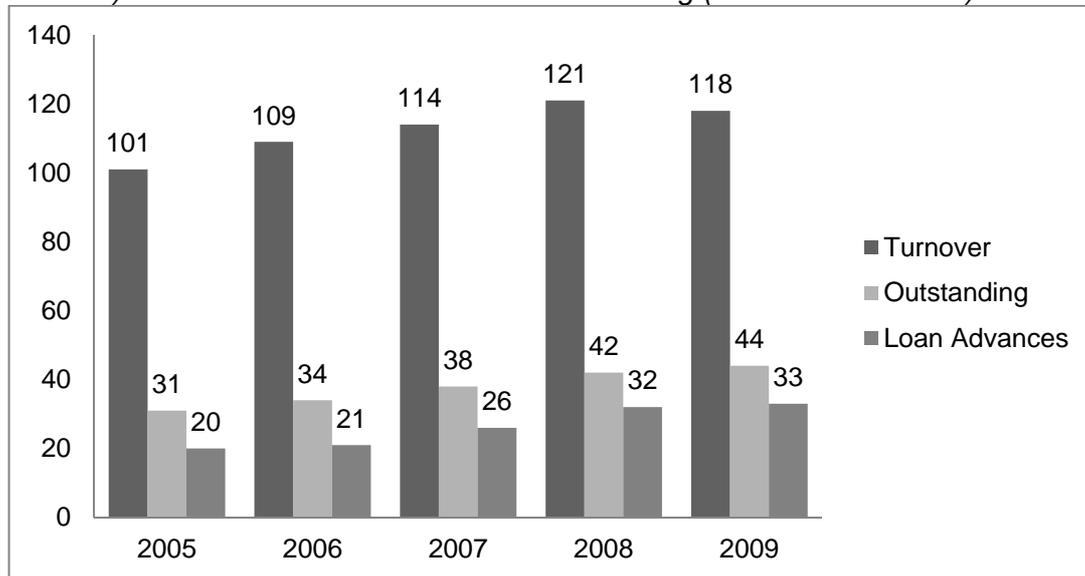
*Panel B) The percentage of the turnover of factoring in GDP at current prices (Turnover / GDP)*

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**Figure 2.7** *THeurnover differentiated according to the type of contract of factoring (in billions of euros?)*

## Figure 2.8

*The outstanding by type of contract of factoring (in billions of euro)*

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**Figure 2.9**

*The turnover of factoring in Italy distinguished by the nature of lender
(In billions of euro)*
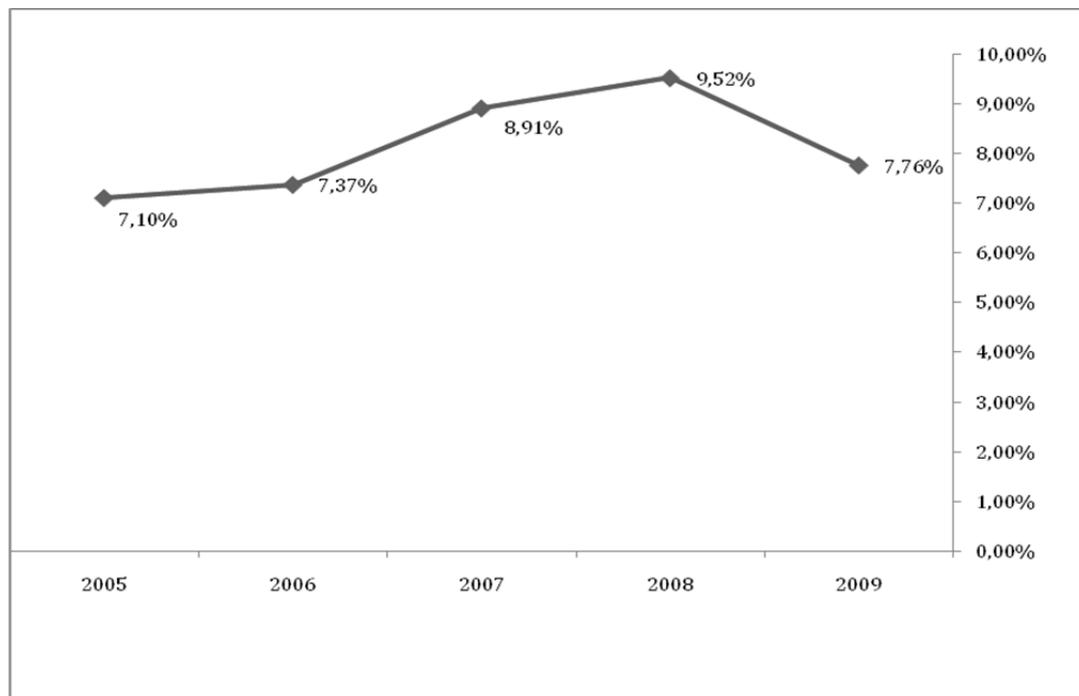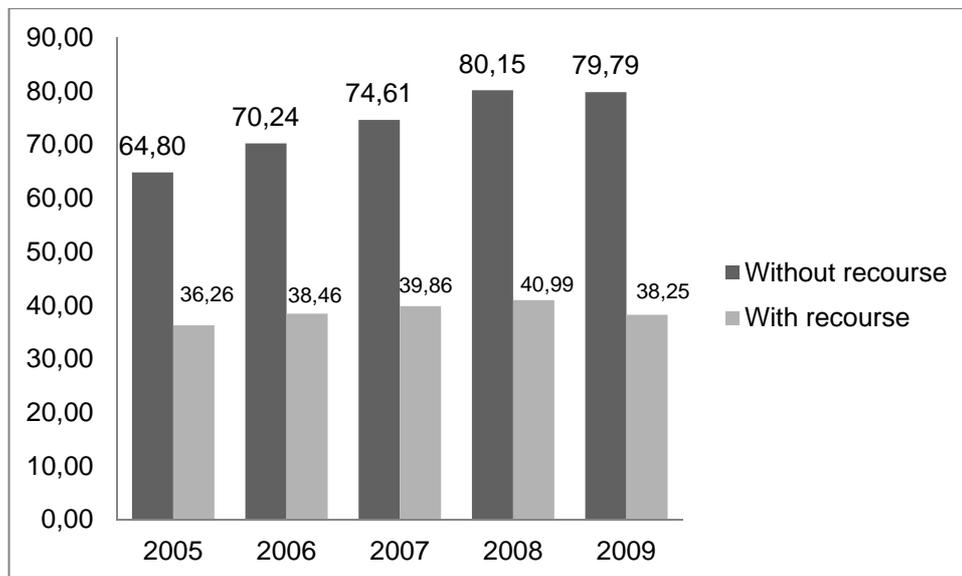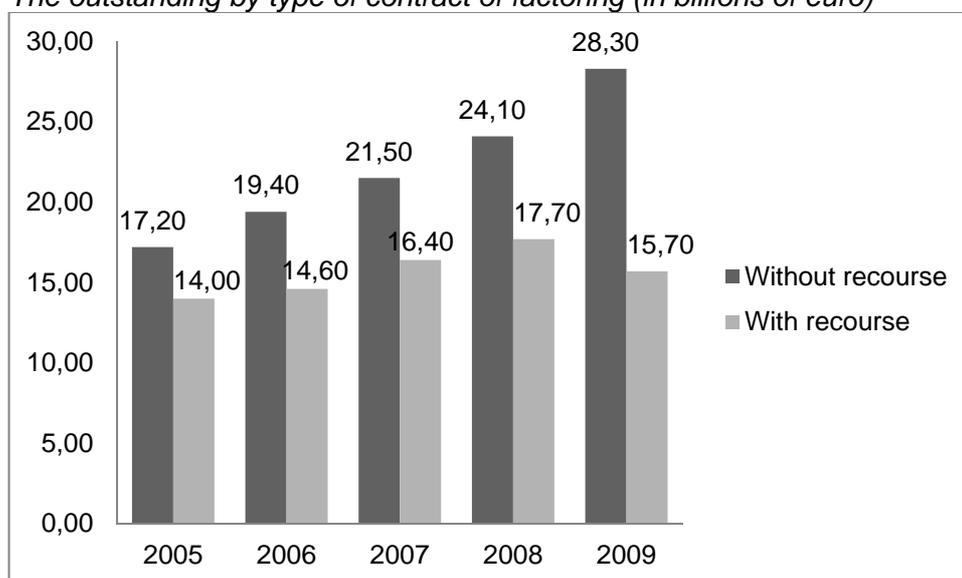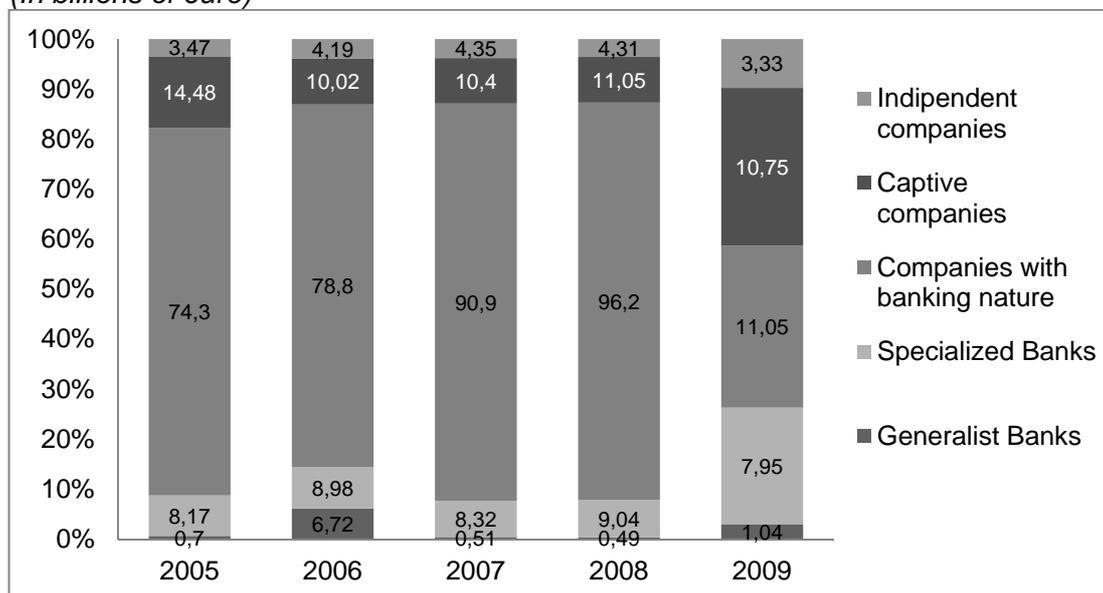


*Source: Assifact*

**Figure 2.10**

*The outstandingof factoring in Italy distinguished by the nature of lender
(In billions of euro)*



*Source: Assifact*

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**Figure 2.11**

*The outstanding of factoring in Italy distinguishing by branch of activity of the client (In billions of euro)*

**Figure 2.12**

*The penetration rate of factoring on trade loans*

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**Figure 2.13**

*The total short-term loans granted (in billions of euro)*
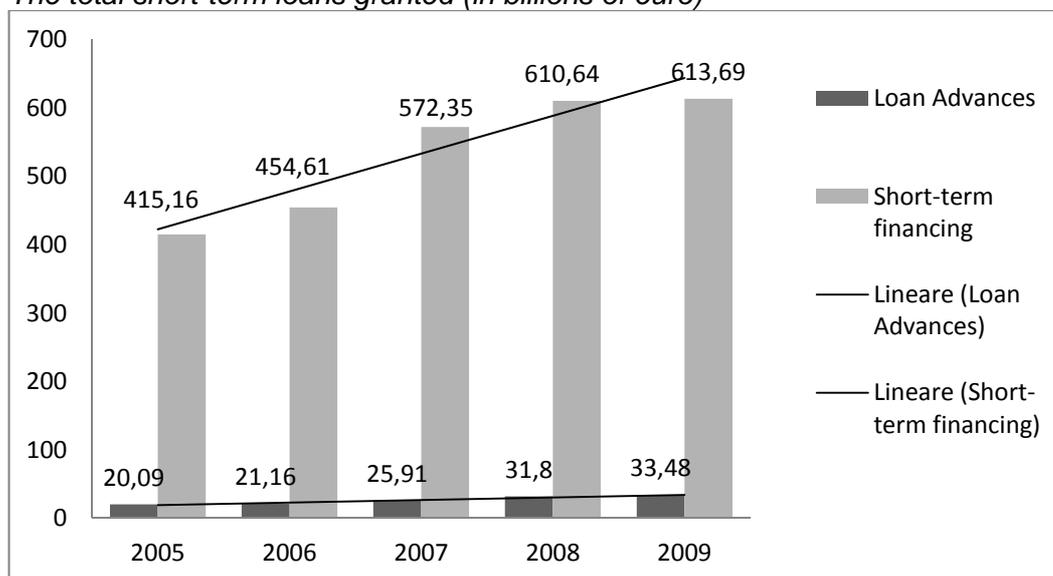
In terms of penetration rate (Figure2.12), the ratio between outstanding and companies' trade loans highlights a significance of factoring of 8.6% in 2009. The data show a sharp decline in factoring between 2007 (12.8%) and 2008 (7.7%): this reduction is, however, not real, but is due to discontinuity in the collection of trade loans from the Bank of Italy from 2008. In order to appreciate the weight of factoring, the penetration rate is also measured by the ratio between the advances on loans and the total of short-term loans provided: the share held by factoring rose slightly in the period observed (5.2% of 2009).

Figure 2.13 finally compares the credit granted by the factoring company through advances with short-term loans granted by banks: both ways of financing have recorded substantial growth between 2005 and 2009, particularly those granted by banks.

## 2.2.3. Public Administration

The direct contribution to the economy provided by factoring to the Public Administration has been estimated by detecting the direct taxes paid by the factoring company.

Using data from the financial statements of the final sample, direct taxes paid by the factoring companies in 2009 are estimated to be equal to 162.3 million euro in 2009 and 888 million euro for the period 2005-2009 (0.12% of GDP).

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**Figure 2.14**

*Overall direct taxes paid by Italian factoring firms (In millions of euro)*
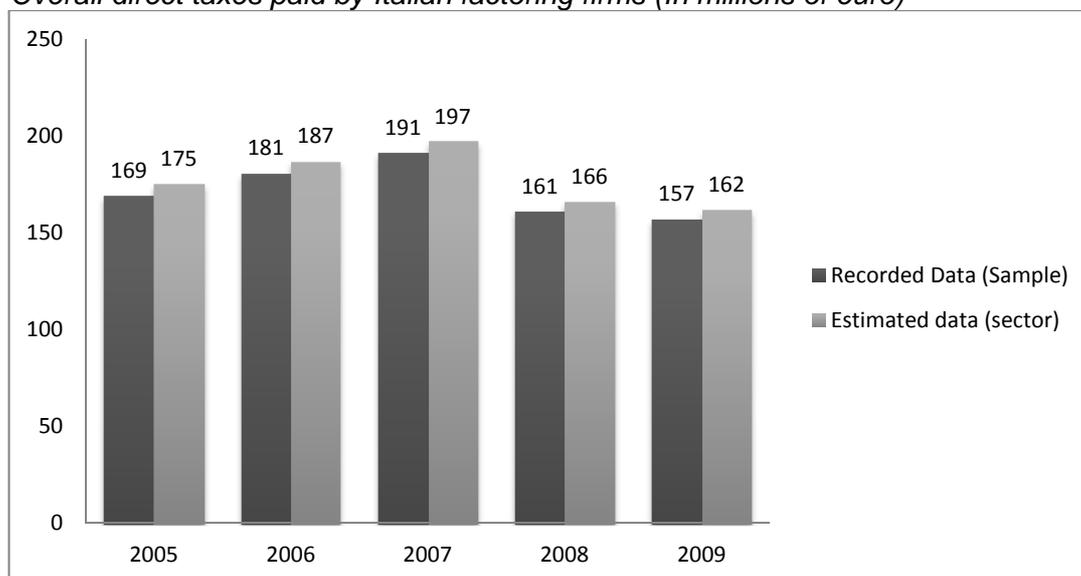


*Source: estimates based on data collected in the financial statements of factoring companies.*

## 2.2.4. Lenders

The Direct contribution of factoring to financial companies operating in the sector is estimated by looking at both the shareholders (in terms of assets under management, generated profits, efficiency conditions and risks undertaken) and to external lenders (in terms of interest paid by the company).

Using data from the financial statements of the companies of the final sample, it is estimated that the factoring operators have generated an overall net profit of 278 million euros in 2009 and 1.4 billion euros in the period 2005-2009 (Figure 2.15).

The total capital base of operators (Figure 2.16) in 2009 was 2.8 billion euros.

*Return on Equity* (ROE), which expresses the ability to remunerate shareholders (Figure 2.17), was equal to 9.7% in 2009.

*Return on Assets* (ROA), which represents the ability of factoring companies to remunerate the total loans outstanding (Figure 2.18), was equal to 0 .68% in 2009.

The level of risk assumed (measured by the ratio of non-performing loans and the total amount of advances paid) was of 0.73% in 2009 (Figure 2.19).

The capital ratio in 2009 compared to credit risk was 10.3%[8]: this value increased by one percentage point in virtue of the provision of a large part of the profit of 2009 as well as by lower risk assets.

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[8]Source: Bank of Italy (2010), Annual report for 2009.

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The direct contribution provided by factoring companies to external funders is measured in terms of income paid on deposits (interest paid). The amount of interest paid by the operators (Figure 2.20) was 481 million euros in 2009 and 4.4 billion euros in the period 2005-2009.

**Figure 2.15**

*Net income generated by Italian factoring companies (in millions of euro)*
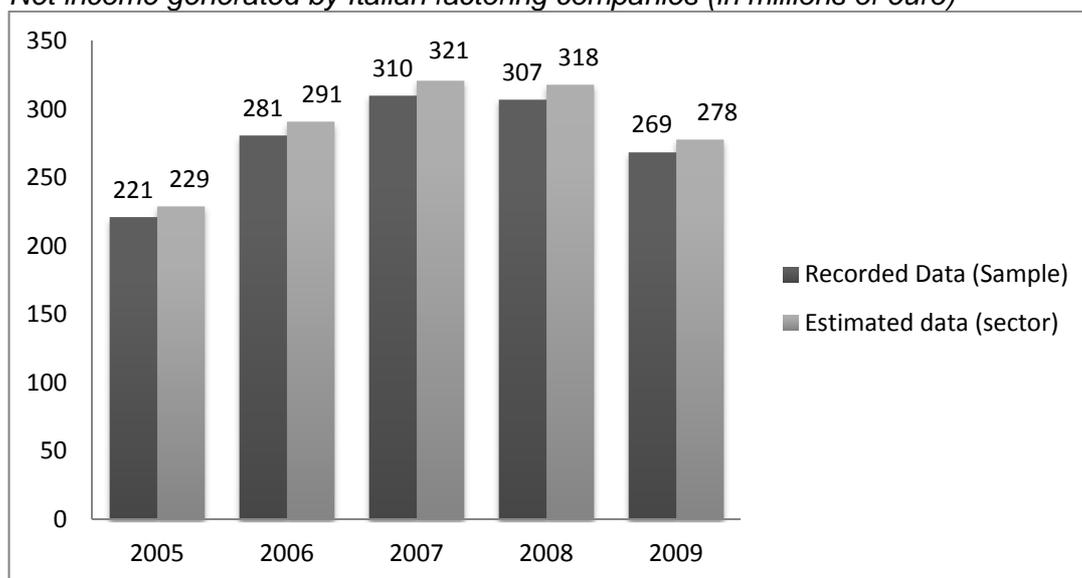


*Source: estimates based on data collected in the financial statements of factoring companies.*

**Figure 2.16**

*The total net assets of Italian factoring companies (in millions of euro)*
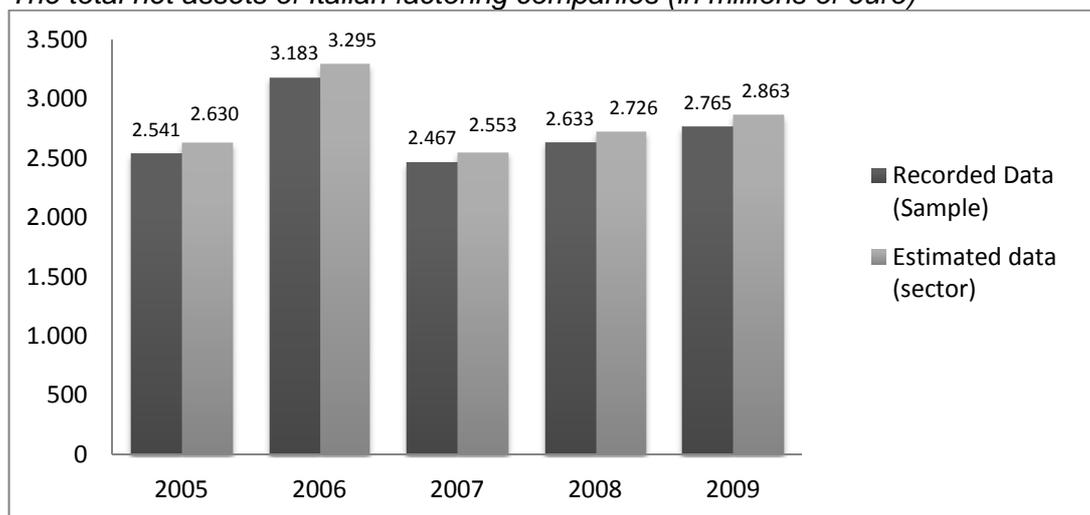


*Source: estimates based on data collected in the financial statements of factoring companies.*

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**Figure 2.17**

*Average Return on Equity (ROE) of Italian factoring companies*
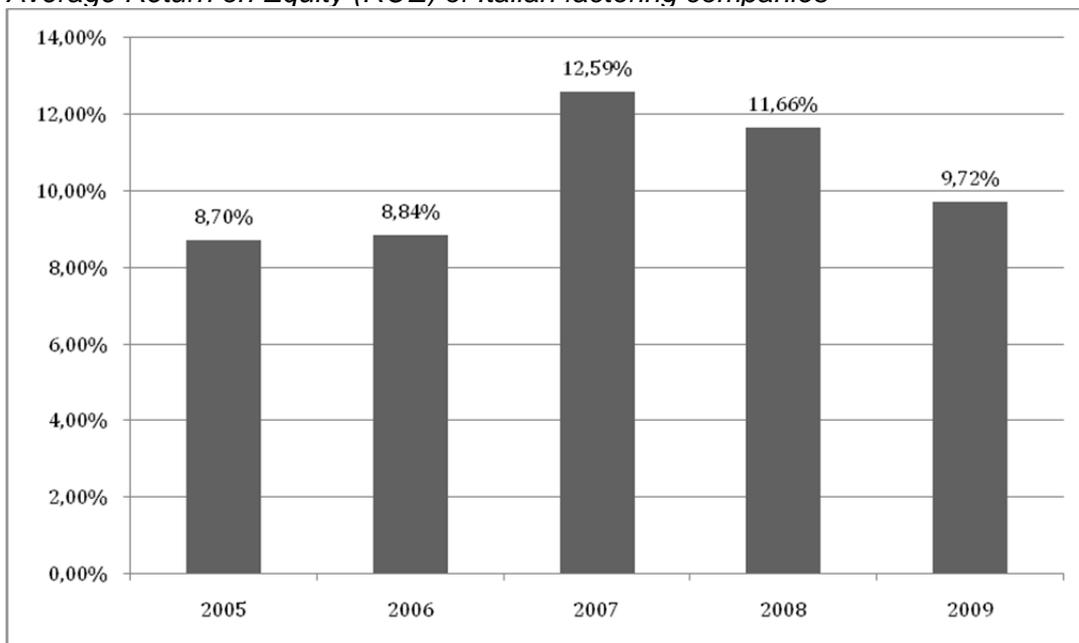


*Source: estimates based on data collected in the financial statements of factoring companies.*

**Figure 2.18**

*Average Return on Assets (ROA) of Italian factoring companies*
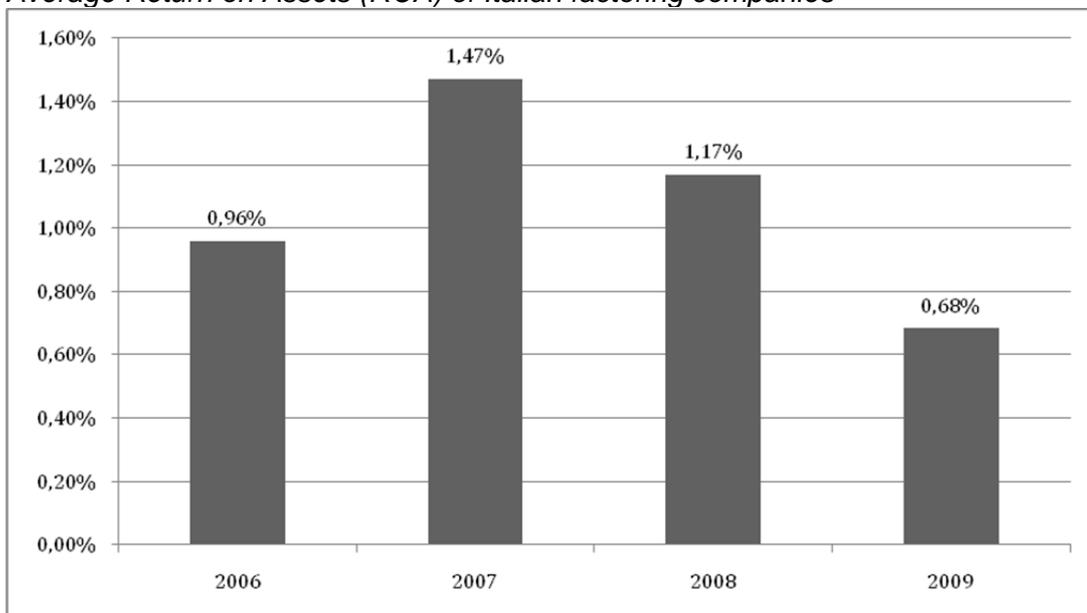


*Source: estimates based on data collected in the financial statements of factoring*

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**Figure 2.19**

*The ratio of non-performing loans to total advances granted by Italian factoring companies*
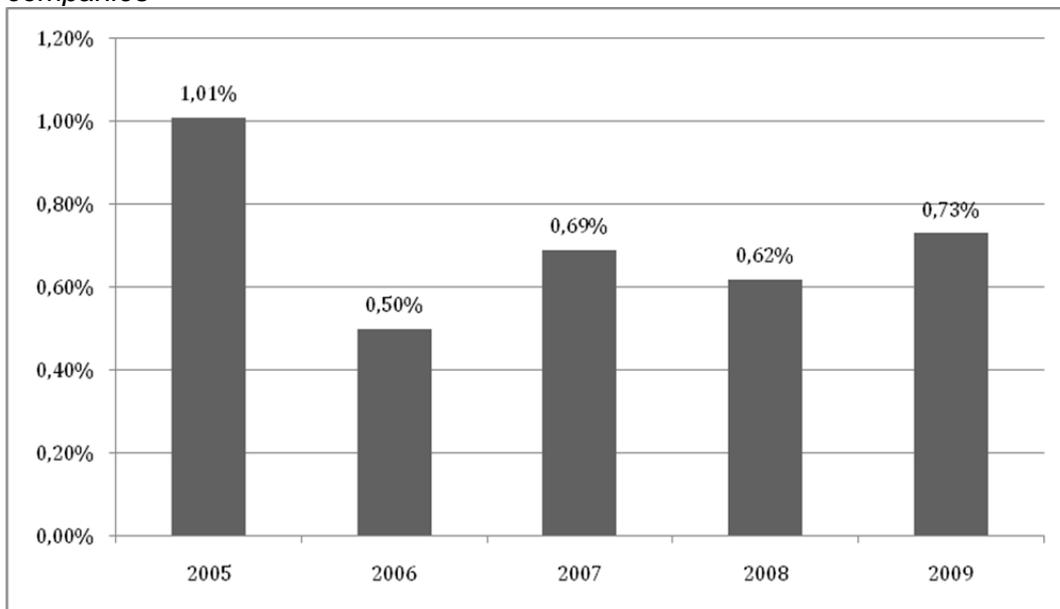


*Source: estimates based on data collected in the financial statements of factoring companies.*


**Figure 2.20**

*Interest expense paid by Italian factoring companies (in millions of euro)*
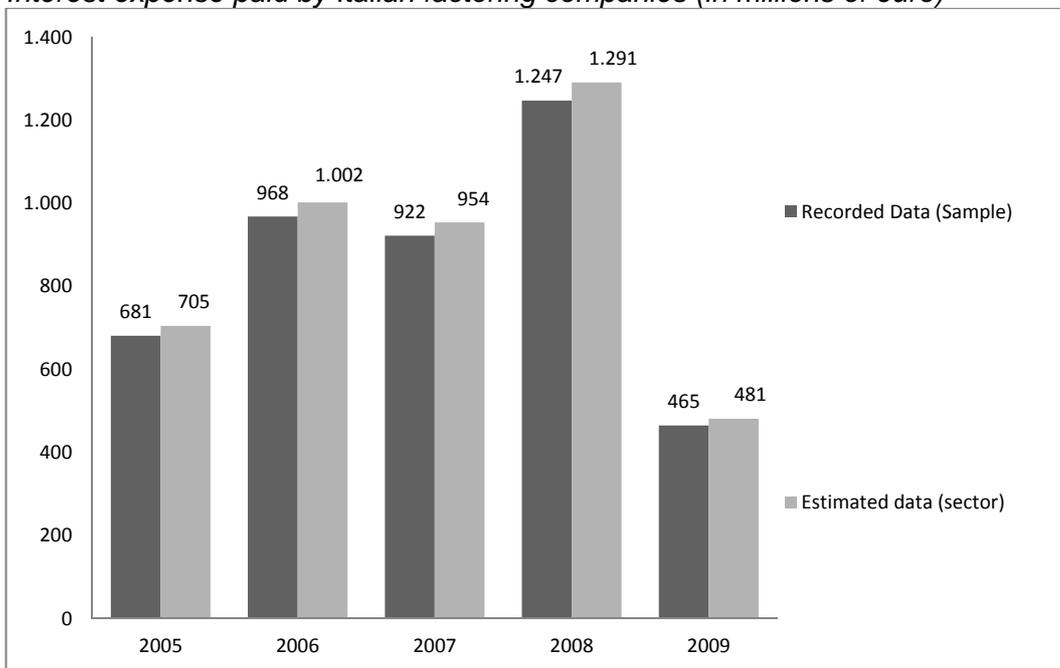


*Source: estimates based on data collected in the financial statements of factoring companies.*

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### 2.2.5.The direct effect of factoring on the Italian economy: initial findings

The first level of analysis proposed to estimate the direct effects produced by factoring on the main stakeholders, such as employees and external collaborators, borrowers, government and lenders (shareholders and creditors).

Table 2.1 and Table 2.2 summarize the estimated direct effect of factoring on the Italian economy both in absolute terms and in relation to the main macroeconomic reference indicators. In summary, the factoring market:

- Developed a turnover of 118 billion euros in 2009 (7.8% of GDP) and 563.4 billion euros in the period 2005-2009;
- Recorded an *outstanding* amount of 44 billion euros in 2009, equal to 8.6% of the companies' trade loans;
- Paid advances on sold loans of 33.5 billion euros in 2009 (equal to 5.2% of short-term loans granted to businesses) and of 132.4 billion euros in the period 2005-2009;
- Employed 1,928 people in 2009;
- Paid the employees a gross income of 176 million euros in 2009 (0.05% of total salaries paid to personnel in Italy and 0.01% of GDP) and 887 million euros for the period 2005-2009;
- Paid income (in the form of commissions) for the acquisition of services for 153 million euros in 2009 and 763 million euros in the period 2005-2009 (equal to 0.01% of GDP);
- Paid taxes (only direct taxes) in 2009 for 162 million euros, or 0.01% of GDP and 0.025% of the national tax revenues;
- Registered positive economic results, generating a net profit of 278 million euros in 2009 and 1.4 billion euros in the period 2005-2009.
- Paid interest to external funders for 481 million euros in 2009 and 4.4 billion euros in the period 2005-2009.

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**Table 2.1**

*The direct effect produced by factoring in Italy (\* in millions of euro)*

| | 2005 | 2006 | 2007 | 2008 | 2009 |
|---|---|---|---|---|---|
| **Employees and external collaborators** | | | | | |
| Total cost of personnel salaries incurred by factoring companies * | 163 | 220 | 158 | 170 | 176 |
| Fee and commission expense * | 164 | 169 | 128 | 149 | 153 |
| Number of people employed in the sector | 2.147 | 2.336 | 2.733 | 1.959 | 1.928 |
| **Borrowers** | | | | | |
| Total loans acquired in factoring during the period *(Turnover)* * | 101.068 | 108.698 | 114.472 | 121.133 | 118.042 |
| Amount of purchased loans outstanding at end of period *(Outstanding)* * | 31.132 | 34.087 | 37.856 | 41.771 | 43.999 |
| Annualized turnover * | 44.919 | 48.310 | 50.876 | 53.837 | 52.463 |
| Advances on loans * | 20.092 | 21.162 | 25.908 | 31.802 | 33.482 |
| **Public Administration** | | | | | |
| Total taxes paid by the factoring company * | 175 | 187 | 197 | 166 | 162 |
| Direct taxes paid by the factoring company * | 175 | 187 | 197 | 166 | 162 |
| **Lenders** | | | | | |
| Total net income * | 229 | 291 | 321 | 318 | 278 |
| ROA % | 0.00 | 0.96% | 1.47% | 1.17% | 0.68% |
| ROE % | 8.70% | 8.84% | 12.59% | 11.66% | 9.72% |
| Bad Loans / advances on loans | 1.01 | + 0.50 | 0.69% | 0.62% | 0.73% |
| Interest expenses | 705 | 1.002 | 954 | 1.291 | 481 |

*Source: Based on Assifact data, Factors Chain International, Bank of Italy, ISTAT, Eurostat*

**Table 2.2**

*The direct effect produced by factoring in Italy (as a percentage of GDP)*

| | 2005 | 2006 | 2007 | 2008 | 2009 |
|---|---|---|---|---|---|
| **Employees and contractors** | | | | | |
| Total cost of personnel salaries incurred by factoring companies | 0.01% | 0.01% | 0.01% | 0.01% | 0.01% |
| Fee and commission expense | 0.01% | 0.01% | 0.01% | 0.01% | 0.01% |
| **Borrowers** | | | | | |
| Total loans acquired in factoring during the period *(Turnover)* | 7.10% | 7.37% | 8.91% | 9.52% | 7.76% |
| Amount of purchased receivables outstanding at end of period (Outstanding) | 2.18% | 2.29% | 2.45% | 2.66% | 2.89% |
| Annualized turnover | 3.14% | 3.25% | 3.29% | 3.43% | 3.45% |
| Advances on loans | 1.41% | 1.42% | 1.68% | 2.03% | 2.20% |
| **Public Administration** | | | | | |
| Total taxes paid by the factoring company | 0.012% | 0.013% | 0.013% | 0011% | 0011% |
| Direct taxes paid by companies in factoring | 0.012% | 0.013% | 0.013% | 0011% | 0011% |
| **Lenders** | | | | | |
| Total net income | 0.02% | 0.02% | 0.02% | 0.02% | 0.02% |
| Interest expenses | + 0.05 | 0.07% | 0.06% | 0.08% | 0.03% |

*Source: Based on Assifact data, Factors Chain International, Bank of Italy, ISTAT, Eurostat*

CrediFact

## 2.3.The effect induced

The analysis concerns the estimation of the effect induced by factoring on the Italian economy. In this case, we take into account the effects generated indirectly by the considered activity (e.g. consumption of the employees of factoring companies) and those produced in other sectors (e.g. consumption of employees in companies financed by factoring companies).

The contribution to the economy "induced" by factoring in the period 2005-2009 was slightly less than 116.1 billion euros (Figure2.21).This value was estimated by distinguishing the various actors of the Italian economy: households, businesses and the public sector.

Table 2.3 and Table 2.4 show the detailed estimates of the effect of induced factoring in Italy both in absolute terms and in relation to the GDP of the year. It is necessary to point out that the ratio tothe GDP of the year may differ from the sector's contribution to the formation of that ?, since the estimation of the induced effect? (manca qualcosa?) includes events that occur in stages (see methodological appendix), that is in a period that may exceed a year. The relationship with the GDP of the year aims to provide a measure of the effect induced by factoring on the Italian economy, in order to appreciate the size of the phenomenon more immediately.

### 2.3.1.Families

As for families, the induced contribution of factoring is estimated according to the method based on a mechanism of income multiplier described in the Appendix methodology.

Specifically, the induced effect on the income *(EIR)* of households in 2009 is estimated to be equal to 25.9 billion euros, that is 1 .70% of GDP. In the period 2005-2009, the income induced by factoring amounted to 103.7 billion euros, equal to 1 .37% of GDP for the same period.

When considering the use of such estimated income by households, we find (Table 2.3andTable 2.4) that:

- The induced effect on consumption *(EIC)* in 2009 is equal to 12.7 billion euros, or 0.83% of GDP. In the period 2005-2009, consumption induced by factoring amounted to almost 50.4 billion euros, equal to 0.67% of GDP for the reference period;
- The induced effect on savings *(EIRIS)* in 2009 is equal to 2.1 billion euros, that is 0.14% of GDP. In the period 2005-2009, the savings induced by factoring amounted to 9.3 billion euros, equal to 0.12% of GDP of the period.

CrediFact

### 2.3.2.Companies

As for companies, the induced contribution of factoring is estimated by looking at its direct effect on bank deposits, loans, and thus on investment. In detail:

- The induced effect produced by factoring on bank deposits *(EIDB)* in 2009 is estimated to be equal to the savings of households, having placed the hypothesis that household saving is fully deposited in bank;
- The induced effect on bank loans*(EICB)* is estimated by assuming that banks transform into loans the collected deposits (net of the share allocated to liquidity reserves) which are derived from savings induced by factoring. Hence it is estimated that factoring has led to new bank loans in 2009 for a total of 2.0 billion euros, or 0.13% of GDP. In the period 2005-2009, the bank loans induced by factoring amounted to 9.1 billion euro, or 0.12% of GDP for the period;
- The effect induced on Investment*(EII)* is estimated by assuming that firms transform the bank loans into real investments. It is estimated that factoring has prompted new real investment in 2009 for an amount of 0.68 billion euros, or 0.04% of GDP. In the period 2005-2009, new investments induced by factoring amounted to 2.3 million euro, equal to 0.03% of the GDP for the period.

### 2.3.3.Public Administration

The induced contribution of factoring for Public Administration *(EIPA)* amounted to 13.7 billion euros in 2009, that is 0.90% of GDP. In the period 2005-2009, the overall taxation induced by factoring amounted to 54.1 billion euros, equal to 0.72% of the GDP of the period.

These values were estimated by distinguishing between the effect of direct taxes and indirect taxes. In detail:

- -the effect on Public Administration induced by factoring *(IICI)* and arising from indirect taxes on consumption is equal to 2.5 billion euros, or 0.17% of GDP. In the period 2005-2009, indirect taxes induced by factoring amounted to 10.1 billion euros, equal to 0.13% of GDP of the period;
- -the effect on ? Public Administration resulting from direct taxes on income induced *(IDRI)* by factoring amounted to 11.2 billion euros, equal to 0.74% of GDP. In the period 2005-2009, direct taxes induced by factoring amounted to 44.0 billion euros, or 0.58% of GDP of the period.

CrediFact

**Table 2.3**

*The induced effect produced by factoring in Italy (in millions of euro)*

|  | 2005 | 2006 | 2007 | 2008 | 2009 |
|---|---|---|---|---|---|
| **Families** |  |  |  |  |  |
| Induced effect on income (EIR) | 16.800 | 17.957 | 19.759 | 23.282 | 25.899 |
| Induced effect on consumption (EIC) | 8.204 | 8.665 | 9.624 | 11.280 | 12.651 |
| Induced effect on savings (EIRIS) | 1.808 | 1.751 | 1.619 | 2.014 | 2.059 |
| **Companies** |  |  |  |  |  |
| Induced effect on bank deposits (EIDB) | 1.808 | 1.751 | 1.619 | 2.014 | 2.059 |
| Induced effect on bank loans (EICB) | 1.772 | 1.716 | 1.587 | 1.974 | 2.018 |
| Induced effect on investment (EII) | 452 | 413 | 355 | 413 | 684 |
| **Public Administration** |  |  |  |  |  |
| Induced effect for the Public Administration (EIPA) | 8.428 | 9.275 | 10.441 | 12.244 | 13.719 |
| Indirect taxes on induced consumption (IICI) | 1.641 | 1.733 | 1.925 | 2.256 | 2.530 |
| Direct taxes on induced income (IDRI) | 6.787 | 7.542 | 8.516 | 9.988 | 11.188 |

*Source: Based on Assifact data, Factors Chain International, Bank of Italy, ISTAT, Eurostat*

**Table 2.4**

*The induced effect produced by factoring in Italy (as a percentage of GDP \*)*

|  | 2005 | 2006 | 2007 | 2008 | 2009 |
|---|---|---|---|---|---|
| **Families** |  |  |  |  |  |
| Induced effect on income (EIR) | 1.18% | 1.21% | 1.28% | 1.48% | 1.70% |
| Induced effect on consumption (EIC) | 0.57% | 0.58% | 0.62% | 0.72% | 0.83% |
| Induced effect on savings (EIRIS) | 0.13% | 0.12% | (0-10) | 0.13% | 0.14% |
| **Companies** |  |  |  |  |  |
| Induced effect on bank deposits (EIDB) | 0.13% | 0.12% | (0-10) | 0.13% | 0.14% |
| Induced effect on bank loans (EICB) | 0.12% | 0.12% | (0-10) | 0.13% | 0.13% |
| Induced effect on investment (EII) | 0.03% | 0.03% | 0.02% | 0.03% | 0.04% |
| **Public Administration** |  |  |  |  |  |
| Induced effect for the Public Administration (EIPA) | 0.59% | 0.62% | 0.68% | 0.78% | + 0.90 |
| Indirect taxes on induced consumption (IICI) | 0.11% | 0.12% | 0.12% | 0.14% | 0.17% |
| Direct taxes on induced income (IDRI) | 0.47% | 0.51% | + 0.55 | 0.64% | 0.74% |

*Source: Based on Assifact data, Factors Chain International, Bank of Italy, ISTAT, Eurostat*
*\* The figures are not meant to express the contribution induced by factoring to GDP in the year (since the estimate of induced? considers the effects that could be produced on a multiannual basis under the mechanism of income), but want to provide a measure to allow a more immediate understanding of the size of the phenomenon.*

**Credi**Fact

**Figure 2.21**

*The contribution to the Italian economy induced by factoring in the period 2005-2009 (Absolute value: 116.1 billion euros)*



Legend:
- Induced effect on consumption (EIC)
- Induce effect on savings (EIRIS)
- Induce effect on investments (EII)
- Direct taxes on induced income (IDRI)
- Indirect taxes on induced consumption (IICI)
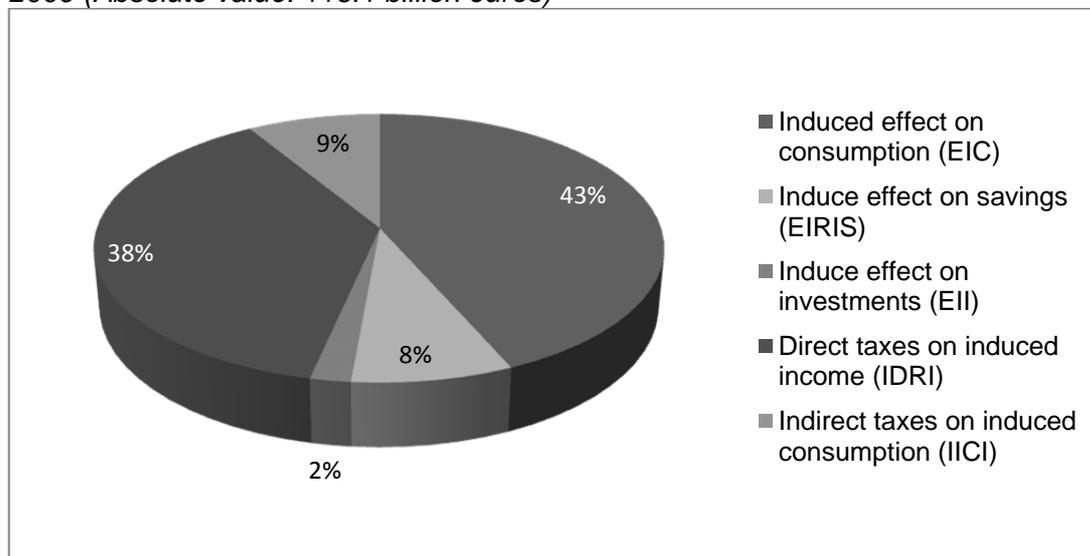
*Source: Based on Assifact data, Factors Chain International, Bank of Italy, ISTAT, Eurostat*

*Verificare se induce deve essere induced*

## 2.4. The total contribution of factoring in Italy

The estimate of the direct and induced effect allows us to evaluate the overall contribution[9] of factoring to the Italian economy (Figure 2.22):

- The overall effect on consumption *(ECC)* is estimated to be equal to 12.7 billion euros in 2009, equal to 0.83% of GDP. In the period 2005-2009, consumption induced by factoring amounted to almost 50.4 billion euros, equal to 0.67% of GDP of the period;

- The overall effect on savings *(ECRIS)* amounted to 2.1 billion euros in 2009, equal to 0.14% of GDP. In the period 2005-2009, the total savings amounted to 9.3 billion euros, equal to 0.12% of GDP for the period;

- The overall effect on investment *(ECI)* is estimated a 40.6 billion euros, equal to 2.67% of GDP. In the period 2005-2009, new investments totaled 177.0 billion euros, or 2.34% of GDP of the period;

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[9]The overall effect on consumption and savings coincides with the induced effect (EIC and EIRIS), whose measure also includes the portion of the income generated directly from factoring, intended for consumption and savings i.e. the employees of companies operating in the sector.

With regard to the overall effect on investment, the direct effect needs to be added, that is investments directly financed by factoring in the reference period (turnover) and the induced effect on investment resulting from the savings portion of the induced income, which is deposited in bank and then transformed into loans to businesses (EII). Finally, the overall effect for the PA is obtained by adding the tax revenue directly generated by each sector (direct taxes, ID, paid by the factoring company) and the induced effect, EIPA (indirect taxes on induced consumption, IICI, and direct taxes on induced income IDRI).

**CrediFact**

- The overall effect of factoring for Public Administration *(ECPA)* is estimated at13.9 billion euros, or 0.91% of GDP. In the period 2005-2009, the total taxation induced by factoring amounted to 55.0 billion euros, or 0.73% of GDP of the period.

**Figure 2.22**
*The overall contribution of factoring on Italian economy (in billions of euro)*
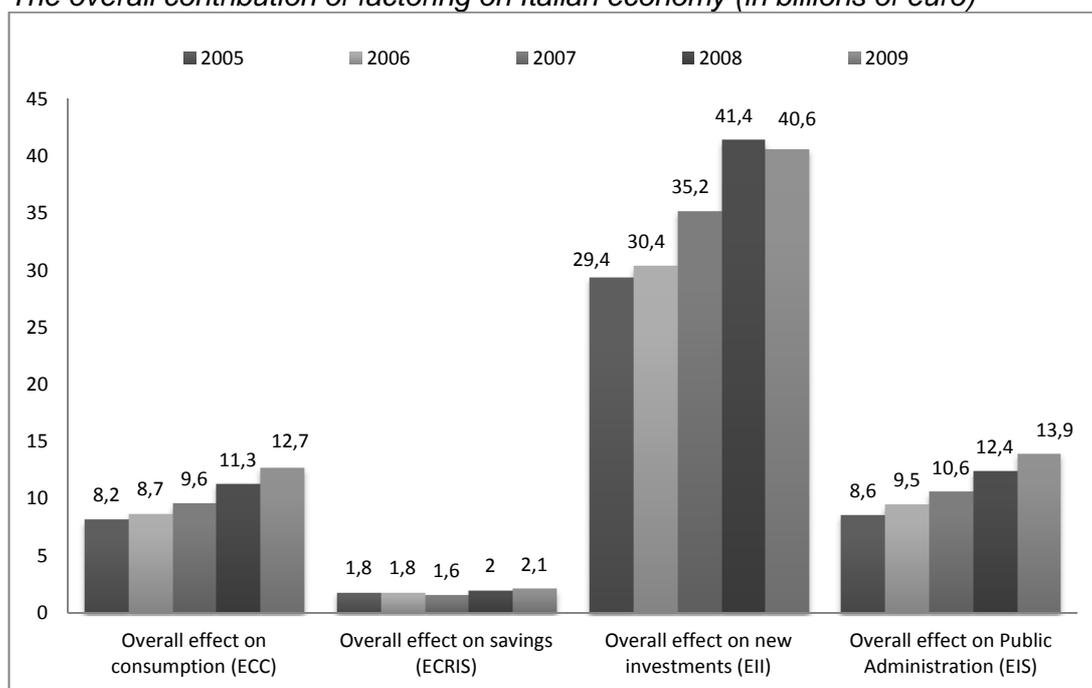


*Source: Based on Assifact data, Factors Chain International, Bank of Italy, ISTAT, Eurostat*

## 2.5. The dynamic level

The third level of analysis is designed to measure the dynamic impact on the economy if the factoring market fails.

In this hypothesis, we estimate the response of the economic system based on its ability to develop "substitutes" products, offered by other operators and appropriate to meet the needs of customers. The "specific" contribution of factoring to the economy is thus obtained as the difference between the overall effect of the sector and the response of the economy when factoring disappears.

The response of the economy to the absence of factoring is estimated assuming five scenarios:

a) <u>Scenario 1): immediate and full adjustment of prices and quantities.</u> It is assumed that there are substitute products to factoring ($D_s$=1) and that prices and salaries in the economy are fully flexible (flex=1). This is sufficient to ensure full employment and the total replacement of the market with alternative operators. In the absence of factoring, it is assumed that the human resources employed in the sector are "liberated" and "immediately" reabsorbed by alternative companies (e.g. banks) able to offer useful

products to meet just as effectively the needs of applicant companies to factoring. In this scenario, companies could still have access to forms of short-term financing: the impact of the elimination of the sector would be immediately absorbed and its specific contribution to the economy could be considered null and void.

b) <u>Scenario 2) failure to adjust prices and quantities.</u> It is assumed that there are no substitute products ($D_s$=0) and/or that there is total lack of flexibility in the adjustment of prices and salaries (flex=0). In the absence of factoring, it is assumed that the "liberated" human resources are not absorbed by alternative companies. In this scenario, companies do not have access to alternative sources of short-term credit: then the impact of the disappearance of factoring would not be reabsorbed and the specific contribution of the sector would be equal to the value of the overall effect previously estimated.

c) <u>Scenario 3) gradual adjustment in five years of prices and quantities.</u> It is assumed that prices and salaries in the economy are partly flexible and that products partially able to meet the needs of applicant companies to factoring are available. Following the (approach of the) study on the impact of leasing in the U.S., we assume a complete adjustment over a period of 5 years (flex$_1$=0.2; flex$_2$=0.4; flex$_3$=0.6; flex$_4$=0.8; flex$_5$=1.0).

d) <u>Scenario 4) gradual adjustment in three years of prices and quantities.</u> It is assumed that prices and salaries in the economy are partly flexible and that products partially able to meet the needs of short-term financing to companies are available. a speed of adjustment of three years is assumed , which produces more cautious estimates of the specific contribution of factoring than in the previous scenario (flex$_1$=0.33; flex$_2$=0.67; flex$_3$=1.0).

e) <u>Scenario 5) gradual adjustment in two years of prices and quantities.</u> It is assumed that prices and salaries in the economy are partly flexible and also that products partially able to meet the needs of short-term financing of companies are available a speed of adjustment of two years is assumed , which produces estimates of the specific contribution of factoring that are extremely conservative compared to the two previous scenarios, since it is assumed that the "damage" to the economy is limited to the first year (flex$_1$=0.50; flex$_2$=1.0), whereas in the second year the system is already able to completely replace the factoring industry.

Table 2.5 and Table 2.6 show in detail the estimates based on the assumption that factoring disappears in 2009 (base: 2008) and estimate the effects of a period of five years[10].

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[10]The dynamic analysis is conducted with reference to the year 2008. Since the data of the overall contribution of specialized credit in 2009 were available for Italy n but not yet for France and the United Kingdom. , the analysis was based on the data from 2008 in order to compare the proposed estimates (see Chapter 5). (phfew!! Molto più scorrevole, spero aver rispettato il senso)

*In the tables and figures that follow, the response of the economy and the specific contribution of the sector are estimated over a period of 5 years and the estimated values are related to GDP in 2008.These data are not intended to express the contribution of factoring to GDP in 2008 (since the estimate of the total effects considers the effects that could be produced on a multiannual basis under the mechanism of income), but want to provide a measure to allow a more immediate understanding of the size of the phenomenon.*

## Table 2.5

*The answer of the Italian economy to the absence of factoring(base: 2008, in millions ofeuro)*

| | $t_1$ | $t_2$ | $t_3$ | $t_4$ | $t_5$ | VA($t_1$;$t_5$) | VA($t_1$;$t_5$)/GDP |
|---|---|---|---|---|---|---|---|
| Dynamic effect on consumption | | | | | | | |
| Scenario 1) Immediate and full adjustment of prices and quantities | 11.280 | 11.280 | 11.280 | 11.280 | 11.280 | 54.117 | 3.45% |
| Scenario 2) Non-adjustment of prices and quantities | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
| Scenario 3) Progressive adjustment in 5 years of prices and quantities | 2.256 | 4.512 | 6.768 | 9.024 | 11.280 | 32.009 | 2.04% |
| Scenario 4) Progressive adjustment in 3 years of prices and quantities | 3.760 | 7.520 | 11.280 | 11.280 | 11.280 | 42.943 | 2.74% |
| Scenario 5) Progressive adjustment in 2 years of prices and quantities | 5.640 | 11.280 | 11.280 | 11.280 | 11.280 | 48.510 | 3.09% |
| Dynamic effect on savings | | | | | | | |
| Scenario 1) Immediate and full adjustment of prices and quantities | 2.014 | 2.014 | 2.014 | 2.014 | 2.014 | 9.661 | 0.62% |
| Scenario 2) Non-adjustment of prices and quantities | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
| Scenario 3) Progressive adjustment in 5 years of prices and quantities | 403 | 806 | 1.208 | 1.611 | 2.014 | 5.714 | 0.36% |
| Scenario 4) Progressive adjustment in 3 years of prices and quantities | 671 | 1.343 | 2.014 | 2.014 | 2.014 | 7.666 | 0.49% |
| Scenario 5) Progressive adjustment in 2 years of prices and quantities | 1.007 | 2.014 | 2.014 | 2.014 | 2.014 | 8.660 | + 0.55 |
| Dynamic effect on investment | | | | | | | |
| Scenario 1) Immediate and full adjustment of prices and quantities | 41.401 | 41.401 | 41.401 | 41.401 | 41.401 | 198.623 | 12.67% |
| Scenario 2) Non-adjustment of prices and quantities | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
| Scenario 3) Progressive adjustment in 5 years of prices and quantities | 8.280 | 16.560 | 24.841 | 33.121 | 41.401 | 117.479 | 7.49% |
| Scenario 4) Progressive adjustment in 3 years of prices and quantities | 13.800 | 27.601 | 41.401 | 41.401 | 41.401 | 157.612 | 10.05% |
| Scenario 5) Progressive adjustment in 2 years of prices and quantities | 20.700 | 41.401 | 41.401 | 41.401 | 41.401 | 178.042 | 11.36% |
| Dynamic effect for the Public Administration | | | | | | | |
| Scenario 1) Immediate and full adjustment of prices and quantities | 12.410 | 12.410 | 12.410 | 12.410 | 12.410 | 59.539 | 3.80% |
| Scenario 2) Non-adjustment of prices and quantities | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
| Scenario 3) Progressive adjustment in 5 years of prices and quantities | 2.482 | 4.964 | 7.446 | 9.928 | 12.410 | 35.216 | 2.25% |
| Scenario 4) Progressive adjustment in 3 years of prices and quantities | 4.137 | 8.274 | 12.410 | 12.410 | 12.410 | 47.246 | 3.01% |
| Scenario 5) Progressive adjustment in 2 years of prices and quantities | 6.205 | 12.410 | 12.410 | 12.410 | 12.410 | 53.370 | 3.40% |

## Table 2.6

*The specific contribution of factoring to the Italian economy(base: 2008, in millions of euro)*

| | $t_1$ | $t_2$ | $t_3$ | $t_4$ | $t_5$ | VA($t_1$;$t_5$) | VA($t_1$;$t_5$)/GDP |
|---|---|---|---|---|---|---|---|
| Dynamic effect on consumption | | | | | | | |
| Scenario 1) Immediate and full adjustment of prices and quantities | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
| Scenario 2) Non-adjustment of prices and quantities | 11.280 | 11.280 | 11.280 | 11.280 | 11.280 | 54.117 | 3.45% |
| Scenario 3) Progressive adjustment in 5 years of prices and quantities | 9.024 | 6.768 | 4.512 | 2.256 | 0 | 22.109 | 1.41% |
| Scenario 4) Progressive adjustment in 3 years of prices and quantities | 7.520 | 3.760 | 0 | 0 | 0 | 11.174 | 0.71% |
| Scenario 5) Progressive adjustment in 2 years of prices and quantities | 5.640 | 0 | 0 | 0 | 0 | 5.608 | 0.36% |
| Dynamic effect on savings | | | | | | | |
| Scenario 1) Immediate and full adjustment of prices and quantities | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
| Scenario 2) Non-adjustment of prices and quantities | 2.014 | 2.014 | 2.014 | 2.014 | 2.014 | 9.661 | 0.62% |
| Scenario 3) Progressive adjustment in 5 years of prices and quantities | 1.611 | 1.208 | 806 | 403 | 0 | 3.947 | 0.25% |
| Scenario 4) Progressive adjustment in 3 years of prices and quantities | 1.343 | 671 | 0 | 0 | 0 | 1.995 | 0.13% |
| Scenario 5) Progressive adjustment in 2 years of prices and quantities | 1.007 | 0 | 0 | 0 | 0 | 1.001 | 0.06% |
| Dynamic effect on investment | | | | | | | |
| Scenario 1) Immediate and full adjustment of prices and quantities | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
| Scenario 2) Non-adjustment of prices and quantities | 41.401 | 41.401 | 41.401 | 41.401 | 41.401 | 198.623 | 12.67% |
| Scenario 3) Progressive adjustment in 5 years of prices and quantities | 33.121 | 24.841 | 16.560 | 8.280 | 0 | 81.144 | 5.18% |
| Scenario 4) Progressive adjustment in 3 years of prices and quantities | 27.601 | 13.800 | 0 | 0 | 0 | 41.011 | 2.62% |
| Scenario 5) Progressive adjustment in 2 years of prices and quantities | 20.700 | 0 | 0 | 0 | 0 | 20.581 | 1.31% |
| Dynamic effect for the Public Administration | | | | | | | |
| Scenario 1) Immediate and full adjustment of prices and quantities | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
| Scenario 2) Non-adjustment of prices and quantities | 12.410 | 12.410 | 12.410 | 12.410 | 12.410 | 59.539 | 3.80% |
| Scenario 3) Progressive adjustment in 5 years of prices and quantities | 9.928 | 7.446 | 4.964 | 2.482 | 0 | 24.324 | 1.55% |
| Scenario 4) Progressive adjustment in 3 years of prices and quantities | 8.274 | 4.137 | 0 | 0 | 0 | 12.293 | 0.78% |
| Scenario 5) Progressive adjustment in 2 years of prices and quantities | 6.205 | 0 | 0 | 0 | 0 | 6.169 | 0.39% |

CrediFact

Considering the overall effect produced by factoring, it is estimated that the Italian economy has a reaction able to ensure a contribution to:

- families' consumption for 54.1 billion euros in the full and immediate adjustment scenario and zero in the failure to adjust scenario). Symmetrically, the specific contribution of factoring is therefore zero or 54.1 billion euro (Figure2.23).The scenarios for partial adjustment predict that the response of the economy ensures an alternative flow of consumption of 32.0 billion euros (if the adjustment is completed in 5 years), of 42.9 billion euros (if the adjustment is completed in 3 years) and 48.6 billion euros (if the adjustment is completed in 2 years). The specific contribution of factoring amounted to 22.1 billion euros, equal to 1 .4% of GDP (if the adjustment is completed in 5 years), to 11.2 billion euros, equivalent to 0.7% of GDP (if the adjustment is completed in 3 years) and 5.6 billion euros, equal to 0.4% of GDP (if the adjustment is completed in two years);
- families' savings between 9.7 billion euros ( full and immediate adjustment scenario) and zero ( failure to adjust scenario).Symmetrically, the specific contribution of factoring is therefore zero or 9.7 billion euros (Figure 2.24).The scenarios for partial adjustment predict that the response of the economy ensures an alternative flow of savings of 5.7 billion euros (if the adjustment is completed in 5 years), 7.7 billion euros (if the adjustment is completed in 3 years) and 8.7 billion euros (if the adjustment is completed in 2 years). The specific contribution of factoring is equal to 3.9 billion euros, equal to 0.2% of GDP (if the adjustment is completed in 5 years), of 2.0 billion euros, equal to 0.1% of GDP (if the adjustment is completed in 3 years) and 1.0 billion euros, or 0.06% of GDP (if the adjustment is completed in two years);
- business investment between 198.6 billion euros ( full and immediate adjustment scenario) and zero ( failure to adjust scenario).Symmetrically, the specific contribution of factoring is therefore zero or 198.6 billion euros (Figure2.25).The scenarios for partial adjustment predict that the response of the economy ensures a flow of alternative investments of 117.5 billion euros (if the adjustment is completed in 5 years), of 157.6 billion euros (if the adjustment is completed in 3 years) and 178.0 billion euros (if the adjustment is completed in 2 years). The specific contribution of factoring amounted to 81.1 billion euros, that is 5.2% of GDP (if the adjustment is completed in 5 years), to 41.0 billion euros, equal to 2.6% of GDP (if the adjustment is completed in 3 years) and 20.6 billion euros, equal to 1 .3% of GDP (if the adjustment is completed in two years);
- Public Administration (in terms of overall tax revenues generated) between 59.5 billion euros (i full and immediate adjustment scenario) and zero ( failure to adjust scenario). Symmetrically, the specific contribution of factoring is therefore zero or 59.5 billion euros (Figure 2.26).The scenarios for partial adjustment predict that the response of the economy ensures an alternative revenue of 35.2 billion euros (if the adjustment is completed in 5 years), of 47.2 billion euros (if the adjustment is completed in 3 years) and 53.4 billion euros (if the adjustment is completed in 2 years). The specific contribution of factoring amounted to 24.3 billion euros, equal to 1 .6% of GDP (if the adjustment is completed in 5 years), to 12.3 billion euros, equivalent to 0.8% of GDP (if the adjustment is completed in 3 years) and 6.2 billion euros, equal to 0.4% of GDP (if the adjustment is completed in 2 years).

Credi**Fact**

**Figure 2.23**

*The "specific" contribution of factoring to the Italian economy (base = 2008):the effect on household consumption in absolute terms (million euros) and as a percentage of GDP in 2008*
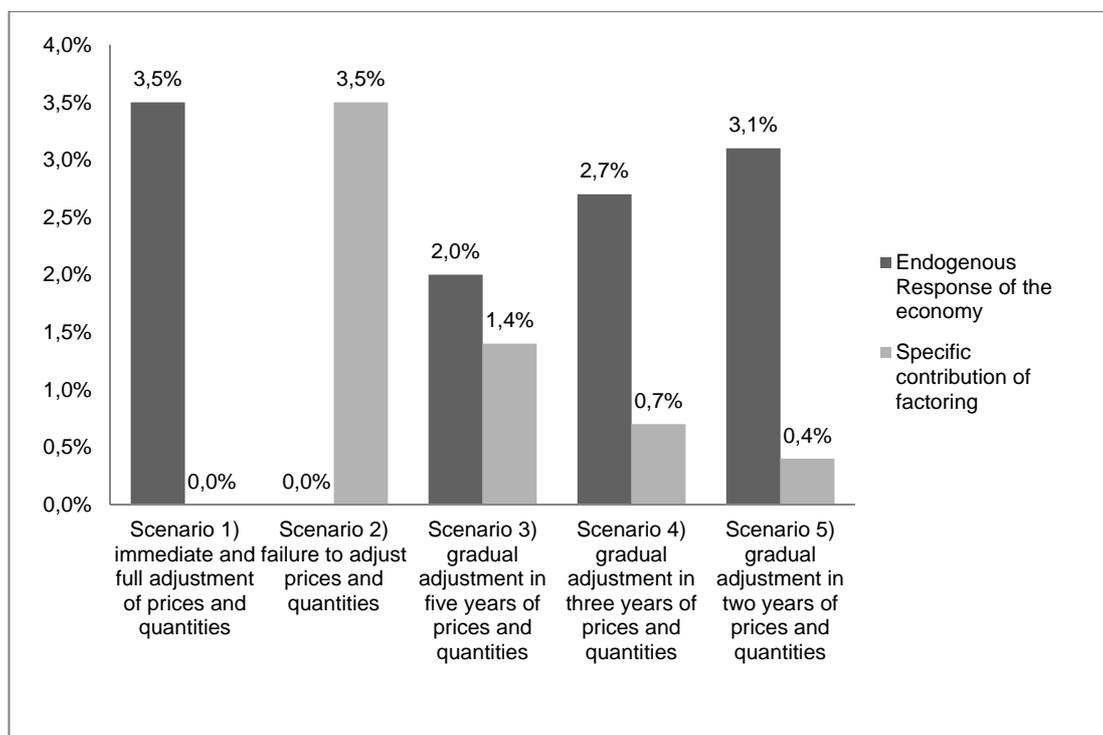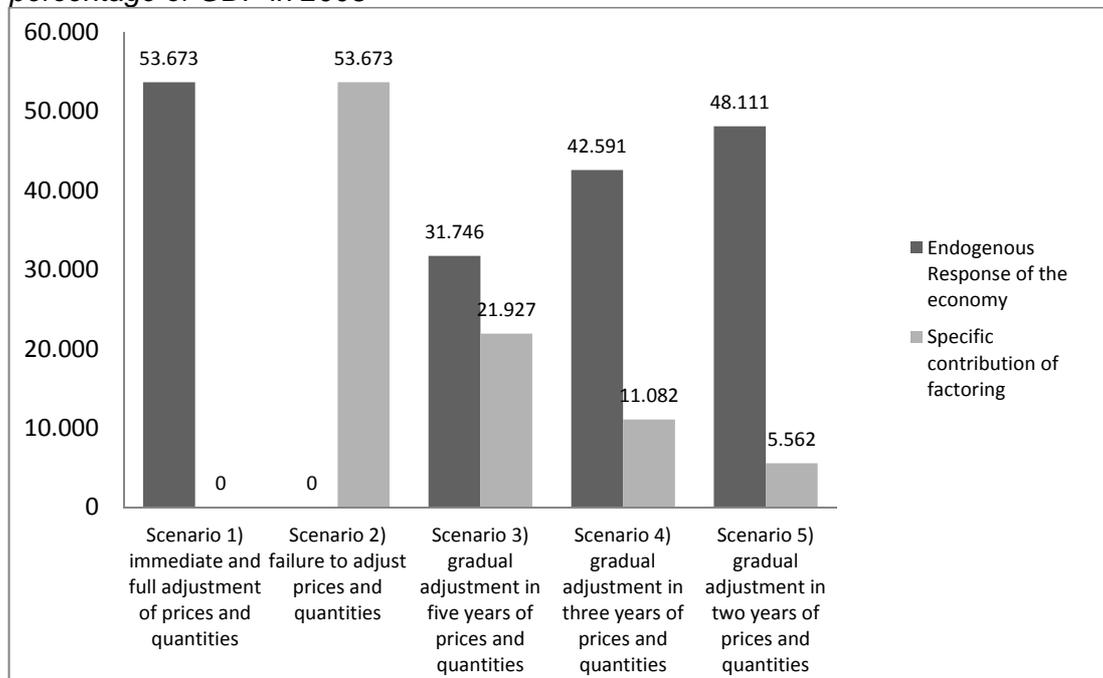
**Figure 2.24**

*The "specific" contribution of factoring to the Italian economy (base = 2008):the effect on household savings in absolute terms (million euros) and as a percentage of GDP in 2008*
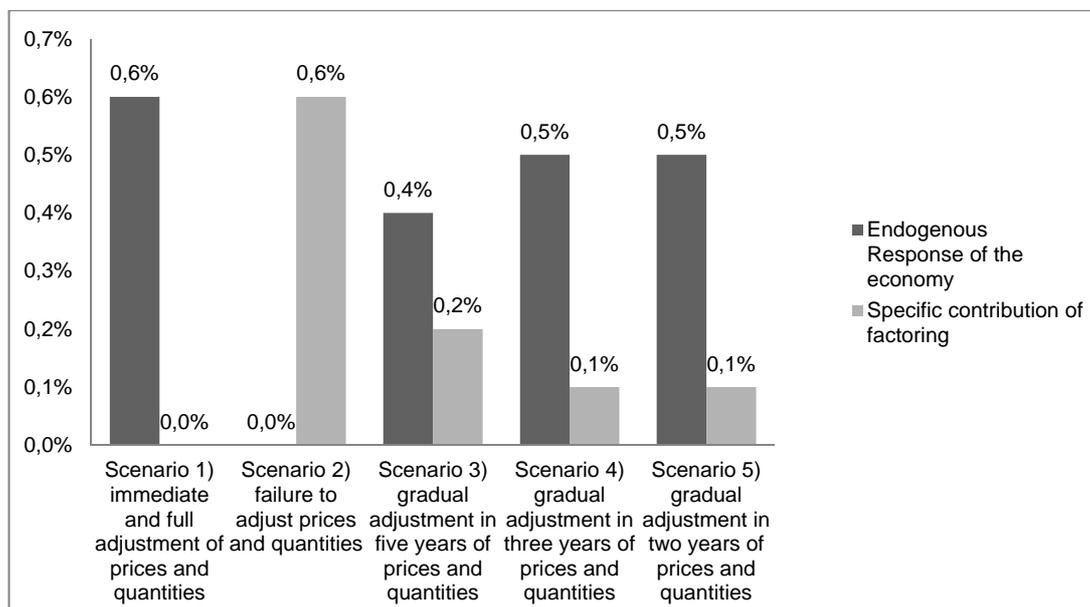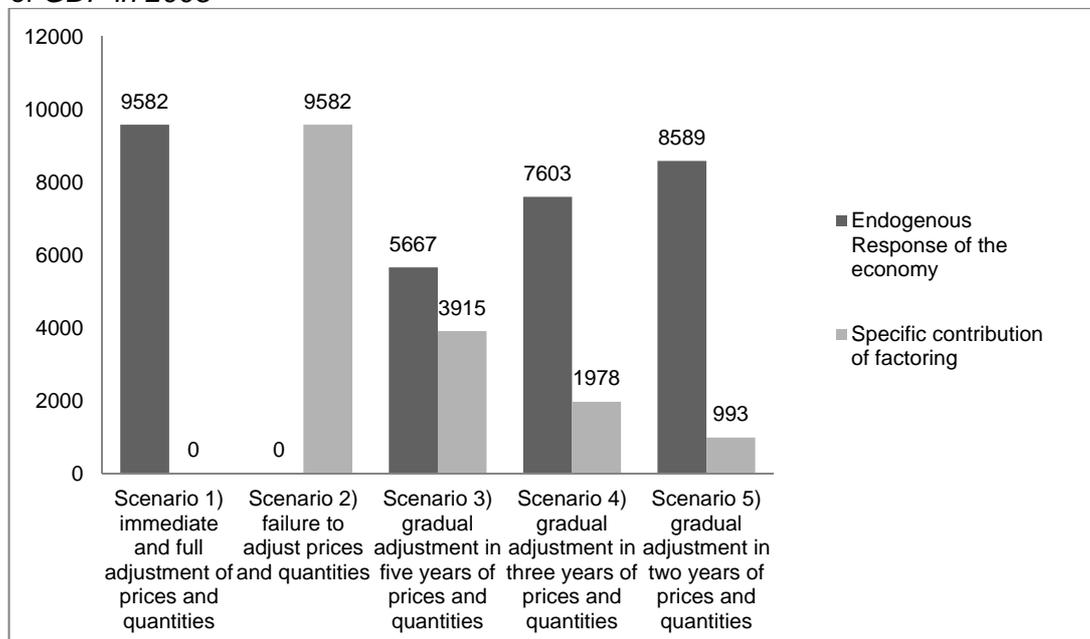
**Figure 2.25**

*The "specific" contribution of factoring to the Italian economy (base = 2008):*
*the effect on real investment in absolute terms (million euros) and as a percentage*
*of GDP in 2008*
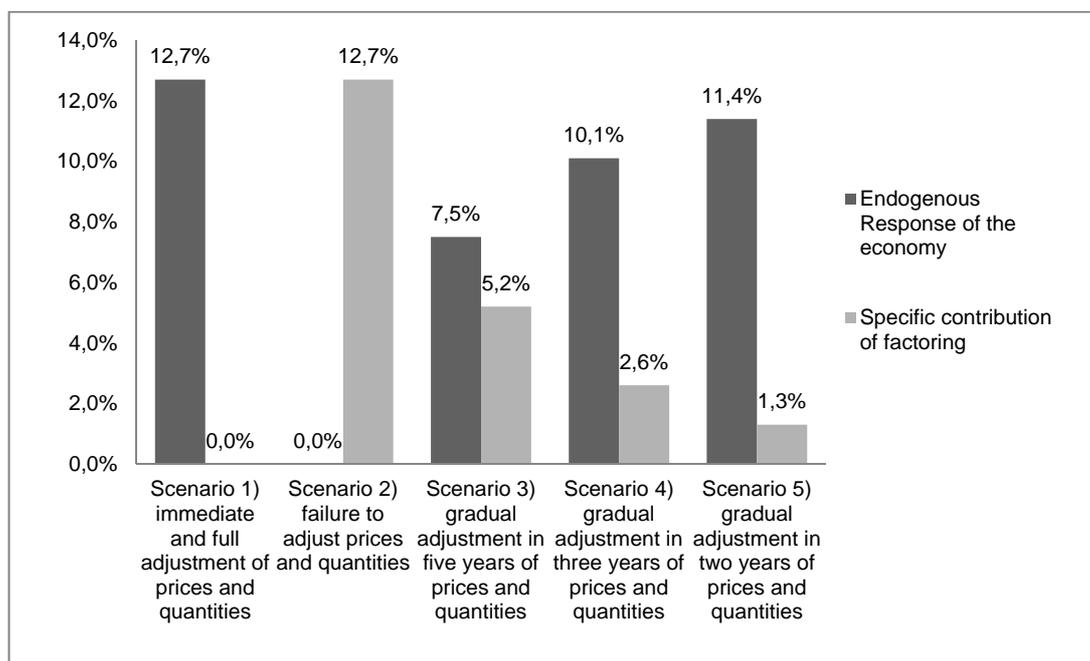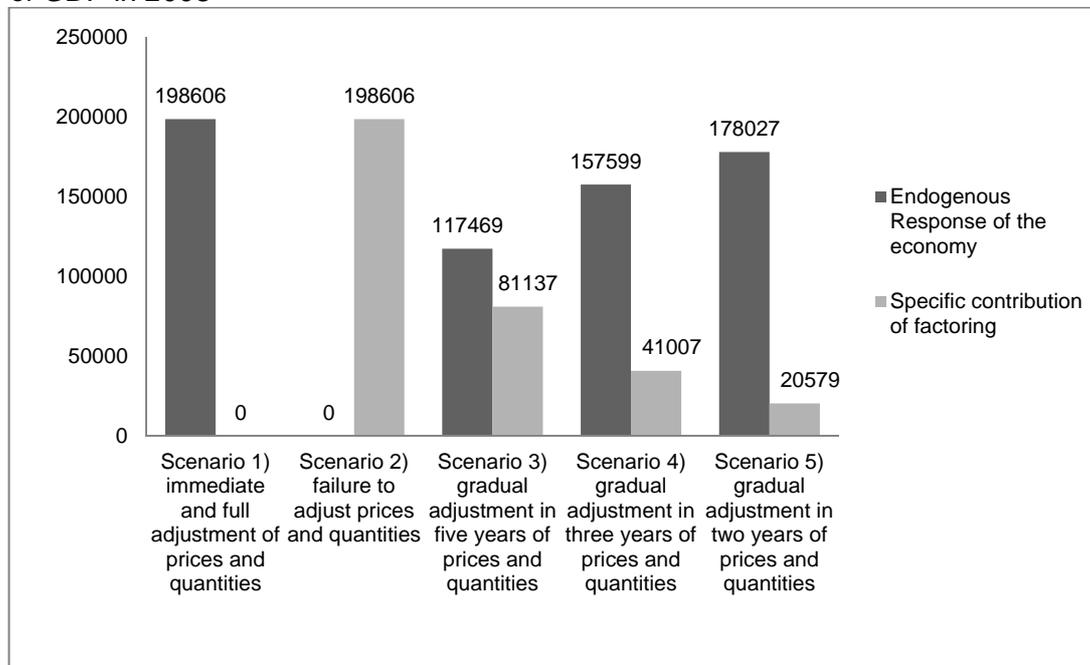
**Figure 2.26**

*The "specific" contribution of factoring to the Italian economy (base 2008):the effect on Public Administration in absolute terms (million euros) and as a percentage of GDP in 2008*
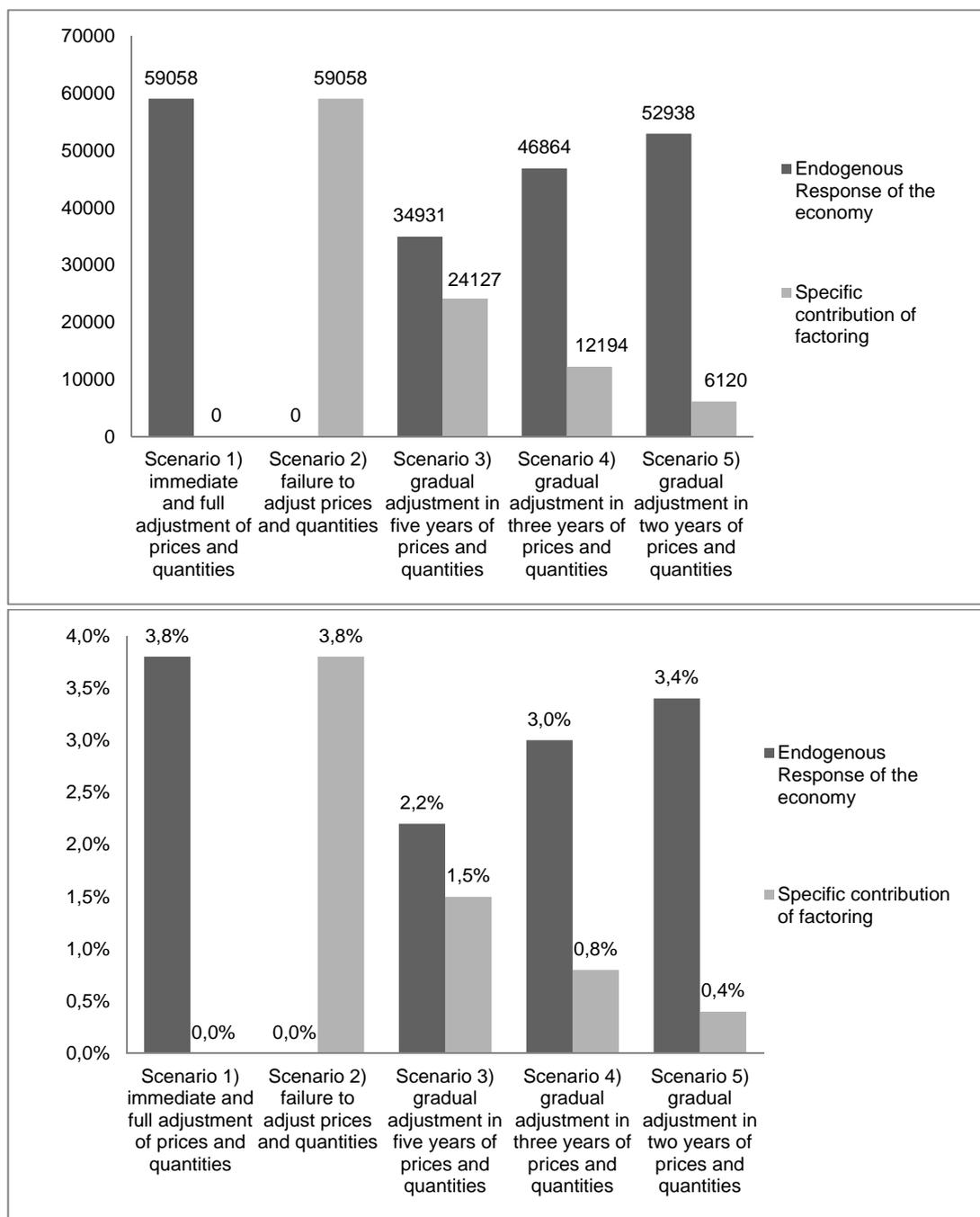
## 2.6.Conclusions

This chapter has analyzed the contribution of factoring to the Italian economy. After estimating the direct and induced effect, it is estimated that the overall effect of factoring:

- on consumption is equal to 12.7 billion euros in 2009 (0.83% of GDP) and 50.4 billion euros in the period 2005-2009;
- on savings is equal to 2.1 billion euros in 2009 (0.14% of GDP) and 9.3 billion euros in the period 2005-2009;
- on investment is equal to 40.6 billion euros in 2009 (2.67% of GDP) and 177.0 billion euros in the period 2005-2009;
- for Public Administration is equal to 13.9 billion euros in 2009 (0.91% of GDP) and 55.0 billion euros in the period 2005-2009.

Assuming the absence of factoring, we estimate the response of the economic system based on its ability to develop "substitute" products offered by other operators and appropriate to meet the needs of users (of the goods). The "specific" contribution of factoring is the difference between the contribution of the sector and the response of the economy in absence of factoring. In particular, we analyzed five macroeconomic scenarios: 1) immediate and full adjustment of prices and quantities; 2) failure to adjust prices and quantities; 3) gradual adjustment in five years of prices and quantities; 4) gradual adjustment of prices in 3 years and quantity; 5) gradual adjustment in two years of prices and quantities.

In the case of the Italian factoring market, a realistic scenario is one that progressively adjusts prices and quantities in 5 years. Over a period of 5 years, the specific contribution provided by factoring to the Italian economy is the following :

- In terms of consumption, it is estimated to be equal to 22.1 billion euros, that is 1.41% of GDP;
- In terms of savings, it is estimated to be equal to 3.9 billion euros, or 0.25% of GDP;
- In terms of investment, it is estimated to be equal to 81.1 billion euros, equal to 5.18% of GDP;
- The tax revenue for the government is estimated to be equal to 24.3 billion euros, that is 1.55% of GDP.

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# Chapter 3
# The impact of factoring on the economy of France

## 3.1.Introduction

This chapter reports the results of the analysis carried out to estimate the contribution of factoring to the French economy. After a brief overview of the sector and the supply structure, we examine the "direct" contribution (see paragraph 3.2) in terms of value created for the main categories of *stakeholders,* such as employees, borrowers, Public Administration and lenders. To better highlight the contribution of factoring, direct impact indicators are also compared with the main macroeconomic variables of the country. Subsequently, the analysis aims to estimate the "induced" effect of the factoring market on the national economy (see paragraph3.3), for example in terms of creating new income or tax revenue. Finally, the chapter examines a measure of the effects produced on the French economy (see paragraph3.4) and evaluates the impact in the case of absence of the factoring market (so-called "dynamic" level, see paragraph 3.5) Section 3.6 presents the conclusions.

Specialized operators of the sector adhere to the *'Association Française des Societes Financières'* (henceforth, ASF), which represents different types of financial companies such as:

- financial companies headed by banking groups. This category includes some of the market leaders, such as the *Compagnie Generale d'Affacturage (Société Générale)* and *Eurofactor (Crédit Agricole);*

- financial companies with a captive nature, established with the aim of promoting the sale of the parent company's products . Examples are *Factobail (GeneralElectric)* and *Caterpillar Finance (CaterpillarInc);*

- independent financial companies, often promoted by multinational companies engaged in different business areas such as *BibbyFactorFrance (BibbyLineGroup).*

The operators specialized in factoring are 18 in 2009, a slight increase compared to 2008 (Figure 3.1).Their activity is subject to supervision in accordance with a principle of proportionality.

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**Figure 3.1**

*The number of operators specialized in factoring in France*
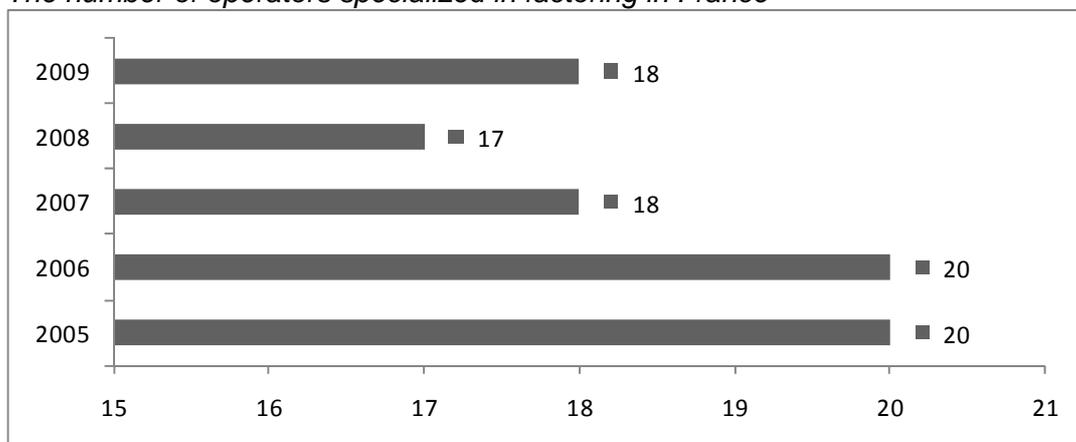
The ASF does not give public accounting information about its members. Data have been obtained by the *Commission Bancaire (*available on the website of the central bank). Such analyses consider several aggregates of financial intermediaries, classified according to type of activity. Factoring is one of the areas examined, but the detail of the aggregated balance sheet and income statement is ublicly available only until 2007, making it necessary to adopt certain assumptions for its projection in 2008, which will in turn be explained. .

## 3.2. The direct effect

This section focuses on the direct contribution provided by factoring to the economy of France. This is estimated by the impact created "directly" on the main *stakeholders* of the company such as:

a) the employees;

b) the borrowers;

c) the Public Administration;

d) the lenders.

Due to limited publicly available data, it is not possible to consider the data of interest for the various categories of *stakeholders* with regard to the various types of financial companies *(captive* companies, independent financial companies, companies headed by banking groups) operating in factoring. Accordingly, the considerations and the data presented here refer to the combination of specialized operators belonging to the association(ASF), unless otherwise indicated.

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The indicators identified are presented in absolute and relative value. In particular, they are compared with the main macroeconomic indicators of the country (e.g. gross domestic product, consumer spending, investment spending, total tax revenues) to appreciate the impact of the direct contribution of factoring in the context.

### 3.2.1. Employees

The contribution of factoring is evaluated in terms of employment generated and, therefore, income from work attributed to the existence of such activities. The number of employees in 2008 was 3.072 units, equal to 0.7% of employees employed by credit intermediaries, which in turn account for about 2% of the workers throughout the economy (Table 3.1).

**Table 3.1**

***Number of employees in the factoring sector in France ****

*(Specialized operators, data in absolute terms and as a percentage)*

|  | 2005 | 2006 | 2007 | 2008 |
|---|---|---|---|---|
| a. Employees of factoring companies | 3.070 | 3.040 | 3.337 | 3.072 ** |
| b. Employees by financial int. (Excluding insurance and auxiliaries) | 453.376 | 453.846 | 458.550 | 457.189 |
| c. Total employees in all sectors of the French economy | 22,874,744 | 23,096,867 | 23,443,668 | 23,580,045 |
| Ratio a/b | 0.68% | 0.67% | 0.73% | 0.67% ** |
| Ratio b/c | 1.98% | 1.96% | 1.96% | 1.94% |

*\* For each year, the number of employees is calculated as the ratio of personnel expenses at 31/12 (see* Table *3.2) and the average unit cost per worker recorded in the period 2005-2008.*
*\*\* Estimated Values. The breakdown by company categorized according to their main activity is provided only until 2007. As for factoring, category "Group 542, is taken into account: Les établissements spécialisés dans l'affacturage.". Since 2008, the publicly available data only provide a breakdown by legal category (e.g. bank or financial company), not allowing to isolate the information about those specializing in factoring. As a result, the 2008 data are obtained using an estimate of personnel costs (see* Table *3.2).*
*Source: for letter a, the Commission Bancaire, Analyses Comparatives. For letters b and c, Institut National de la Statistique et des Etudes Economiques (INSEE)*

Table 3.2 shows the estimated total cost of personnel salaries supported by factoring companies, specialized operators and lenders. Personnel costs in 2008 were 3.2 billion euros, equivalent to slightly less than 7% of the cost incurred by the entire sector of specialized operators and less than 1% of the total attributable to credit intermediation.

The publicly available data also do not allow to quantify the amount of income paid by the company in the form of fees and commissions paid to third parties that collaborate in the distribution of their services.

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**Table 3.2**

*Personnel costs in the factoring sector in France*
*(In millions of euro and percentage)*

|  | 2005 | 2006 | 2007 | 2008 |
|---|---|---|---|---|
| a) Total expenses for factoring companies personnel | 217.85 | 215.7 | 236.82 | 217.99 * |
| b) Total costs for specialist operators personnel | 3,002.73 | 3,280.76 | 3,491.41 | 3,213.91 * |
| c) Total costs for banks personnel (general banks and financial companies) | 33,573.93 | 35,088.08 | 35,704.97 | 34,450.70 |
| *- of which financial companies* | *1,563.37* | *1,698.26* | *1,708.45* | *1,572.66* |
| Ratio a/b | 7.26% | 6.57% | 6.78% | 6.78% * |
| Ratio b/c | 0.65% | 0.61% | 0.66% | 0.63% |

*\* Values estimated. The breakdown by company categorized according to the main activity carried out is provided only until 2007. the category "Group 542, " Les établissements spécialisés dans l'affacturage." is taken into account for factoring: Since 2008, the publicly available data only provide a breakdown by legal category (e.g. bank or finance company), which does not allow to isolate the information about those specializing in factoring. As a result, the estimates for 2008 are made by assuming that all ? factoring operators, included the general category of specialized workers, have had a change in personnel costs equal to that recorded by the legal category of financial institutions. In particular, the cost of personnel has suffered a decline of about 7.95%. A downward trend, although less pronounced (-3.51%), is also observed for the broader category of credit institutions, (établissements de crédit), which includes both generalist banks and financial companies. We decided to refer to the category of financial companies not only because it is the most frequent legal form taken by operators specializing in factoring, but also because generalist banks play a fundamental role among the wider category of credit institutions,, characterized by a much more extensive range of activity and, therefore, more difficult to compare with that of the companies of our interest. Having followed this approach of estimation, the ratio a / b has exactly the same value for the years 2007 and 2008.*
*Source: Commission Bancaire, Analyses Comparatives*

### 3.2.2 Borrowers

The direct contribution generated by factoring to financed companies is evaluated by looking at the amount of mobilized resources: these are approximated by the volume of loans purchased in the year (so-called *Turnover,* T) and the consistency of the purchased loans outstanding at year-end (so-called *Outstanding,* OUT).

In 2009, factoring has developed a turnover of 128 billion euros and reported an outstanding amount of 21 billion euros (Figure 3.2).The turnover in 2009 was lower than in 2008 because for the first three quarters of 2009there has been a decline in contracts paid compared to the same period of the previous year (Figure3.3).This negative trendreversed in the fourth quarter, which did not permit to make up for the reduction accumulated in the previous quarters. The decrease in 2009 is the first reduction on an annual basis ofthe factoring companies' turnover in 40 years of development.

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**Figure 3.2**

*The turnover and Outstanding trend of factoring in France (In billions of euro)*
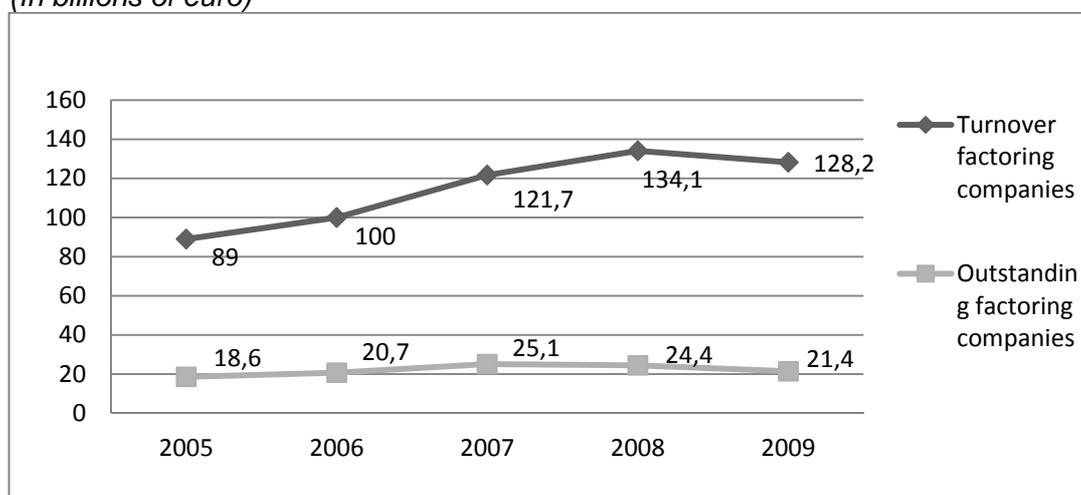
**Figure 3.3**

*Change in turnover according to the previous period (in percentage)*
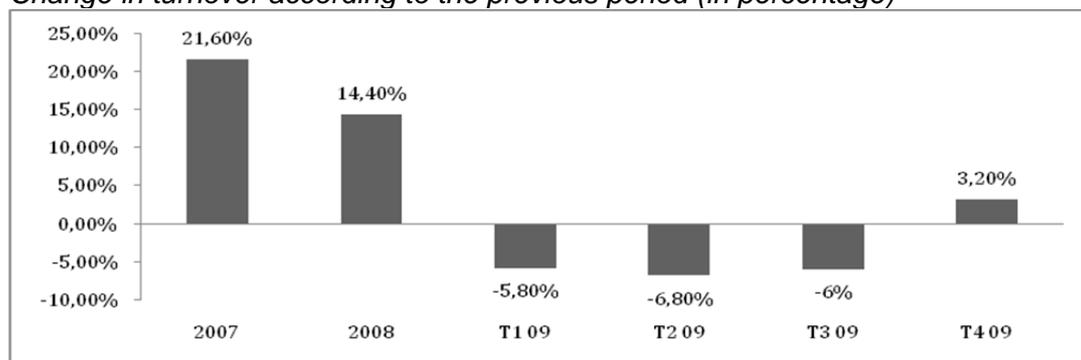
Factoring companies operate in a domestic and international environment. The turnover of the national output shrank in 2009 by about 4% reaching a value of 109.6 billion euros[11].The operations on an international scale reduced instead of 1 .4%, for a total of 18.6 billion euros. As noted in Chapter 2, this result places French companies in the second position in the world rankings, behind the United Kingdom, with a market share of 16% and 10% of the European and world market respectively.

The incidence of factoring on French gross domestic product has increased in the period 2005-2009 showing a slight decline in the last observing period (year 2009). In terms of penetration rate of GDP in France, the new production in 2009 amounted to 6.72% (Figure3.4).

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[11]Source: Annual Report 2009 ASF.

**Figure 3.4**

*The incidence of the factoring sector to GDP in France (In percentage)*
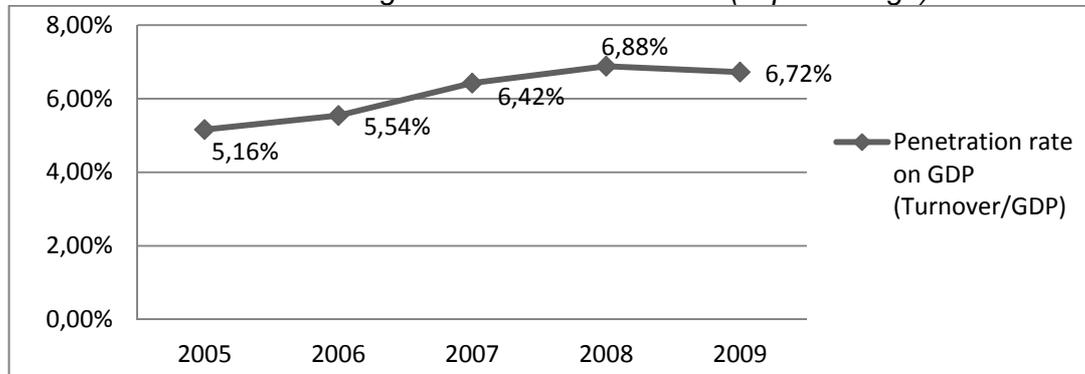
Customers of French factoring companies are mainly small and medium businesses[12].Large companies represent the variable part of the portfolio of these institutions in relation to the business strategy that they prefer. The nature of the relationship with customers is relatively stable: in 2008 more than 35% of the reports have a minimum duration of 3 years (Figure3.5).

**Figure 3.5**

*Seniority of the relationship between the factoring company and its customers in France(In percentage)*

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[12]Banque de France (2008).

With regard to the sector of corporate clients of factoring (Figure 3.6), the activity is lent to companies belonging to different sectors of the economy with a prevalence of manufacturing and commerce industry (58% in 2007).

**Figure 3.6**

*Turnover by the class of business of the customers in the sector of factoring in France(In percentage)*
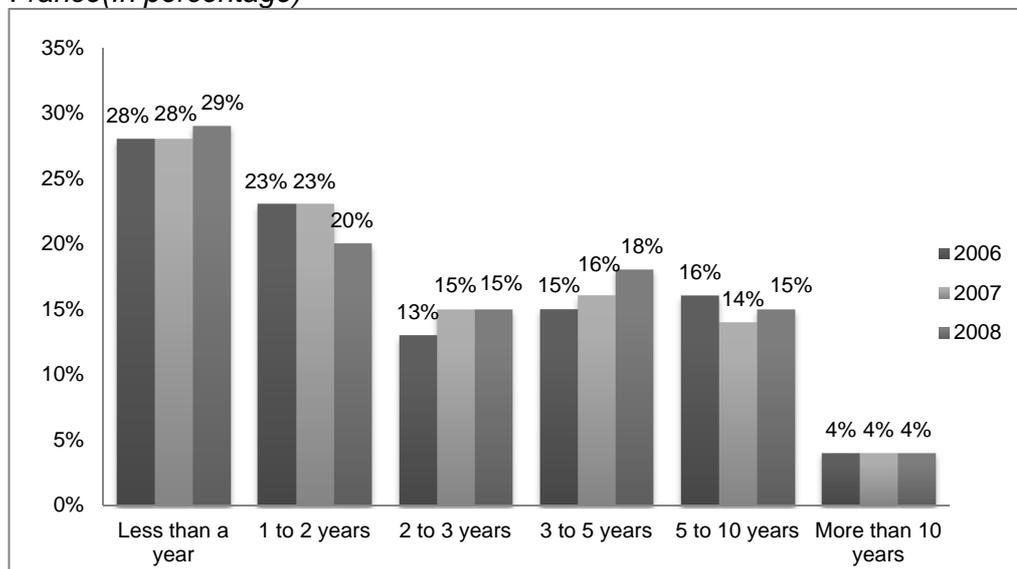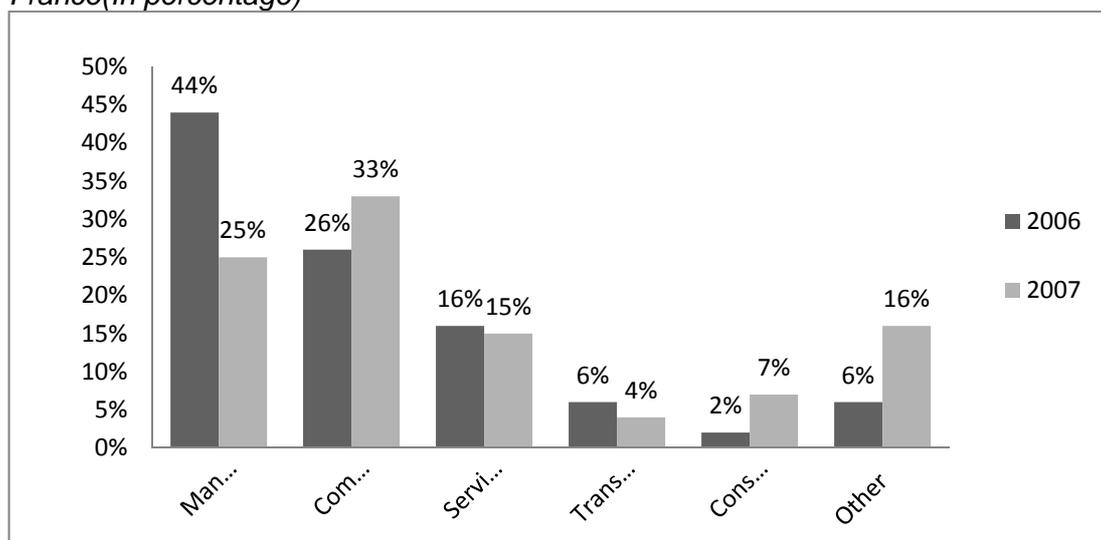


*Source: Secretariat-General of the Commission Bancaire (2007)*

### 3.2.3.Public Administration

The direct contribution (to the economy provided by factoring to the Public Administration has been estimated by detecting the direct taxes paid by the factoring companies. According to the data of the income statement, taxes paid by factoring companies in the period 2005-2007 amounted to 286 million euros (Table3.3).

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**Table 3.3**

*Direct taxes paid by the factoring companies in France
(specialized operators, in millions of euro and percentage)*

|  | 2005 | 2006 | 2007 | 2008 |
|---|---|---|---|---|
| a) Total taxes factoring companies | 75.37 | 92.77 | 118.28 | 92.46 * |
| b) Total tax specialist operators | 1,148.35 | 1,400.04 | 1,488.93 | 1,163.87 * |
| c) Total tax credit institutions (general banks and financial companies) | 4,216.66 | 6,563.59 | 2,181.99 | -855.51 |
| *-of which financial companies* | *1,059.26* | *1,164.87* | *1,246.47* | *974.34* |
| Ratio a/b | 6.57% | 6.63% | 7.94% | 7.94% * |
| Ratio of b/c | 1.79% | 1.41% | 5.42% | - |

*\*Values estimated. The breakdown by companies categorized according to their main activity is provided only until 2007. As for factoring the category "Group 542: Les établissements spécialisés dans l'affacturage.", is taken into account Since 2008, the publicly available data only provide a breakdown by legal category (e.g. bank or financial company), which does not allow to isolate the information about the categories specializing in factoring. As a result, data for 2008 are estimates made by assuming that factoring operators, as well as the general category of specialized operators, have had a change in taxes paid equal to that recorded by the legal category of financial institutions. In particular, the taxes paid have suffered a decrease of approximately 21.83%. A much stronger downward trend, however, , can also be observed for the broader category of credit institutions. It was decided to refer to the category of financial companies, not only because it is the most frequent legal form taken by operators specializing in factoring, but also because the category of lenders includes generalist banks whose range of activities is much wider and, therefore, more difficult to compare with (that of) the companies of our interest. Having followed this approach of estimation, the ratio a/b has exactly the same value for the years 2007 and 2008. In 2008, the ratio b/c is not shown as it assumes a negative value.*
*Source: Commission Bancaire, Analyses comparatives*

### 3.2.4. Lenders

The direct contribution of factoring on lenders' financing companies operating in the sector is estimated by looking at both the shareholders (in terms of assets under management, profits generated, efficiency conditions and risks undertaken) and external lenders (in terms of interest paid by the company).

Table 3.4 shows the main financial statements of factoring companies, specialized operators and credit institutions.

The total assets in 2007 amounted to 24.2 billion euros, equal to 2.37% of the data of the entire sector of specialized operators and to 0.34% of credit intermediation.

The EBITDA in 2007 was 375.8 million euro, equal to 5.68% of the data concerning specialized operators and to 1.21% of credit intermediation.

Net income in 2007 was 215.2 million euros, equal to 4.29% of the data relating to specialized operators and to 0.80% of credit intermediation.

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**Table 3.4**

*Key figures of the financial statement in the factoring sector in France*
*(In millions of euro and percentage)*

|  | 2005 | 2006 | 2007 |
|---|---|---|---|
| a) Total assets factoring companies | 19.422 | 21.828 | 24.209 |
| b) Total assets specialized operators | 650.812 | 842.161 | 1,022,879 |
| c) Total assets of credit institutions | 5,165,488 | 6,040,870 | 7,065,448 |
| Ratio a/b | 2.98% | 2.59% | 2.37% |
| Ratio b/c | 0.38% | 0.36% | 0.34% |
| d) EBITDA factoring Ok | 233.37 | 305.4 | 375.85 |
| e) EBITDA specialized operators | 6.003 | 6.674 | 6.620 |
| f) EBITDA credit institutions | 31.895 | 39.163 | 30.972 |
| Ratio d/e | 3.89% | 4.58% | 5.68% |
| Ratio d/f | 0.73% | 0.78% | 1.21% |
| g) Net income factoring companies | 144.67 | 180.01 | 215.24 |
| h) Net income specialized operators | 3.538 | 4.042 | 5013.72 |
| i) Net income credit institutions | 26.891 | 38.131 | 26.973 |
| Ratio g/h | 4.09% | 4.45% | 4.29% |
| Ratio g/i | 0.54% | 0.47% | + 0.80 |

*Source: Commission Bancaire, Analyses comparatives*

Table 3.5 shows the main financial indicators of factoring companies, specialized operators and credit institutions.

The *Return on Equity*(ROE) index, which expresses the ability to remunerate shareholders, was of 15.09% in 2007.

The *Return on Assets*(ROA) index, which represents the ability of factoring companies to remunerate the total loans outstanding, was of 0.96% in 2007.

The level of risk undertaken (measured by the ratio of non-performing loans and loan portfolio) was 2.5% in 2007.

The liquidity indicator (measured by the ratio of current assets and current liabilities) was 163.47% in 2007.

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**Table 3.5**

*Key financial ratios in the factoring sector in France*

|  | 2005 | 2006 | 2007 |
|---|---|---|---|
| ROE factoring companies | 13.04% | 13.4% | 15.09% |
| ROE specialized operators | 10.95% | 11.03% | 13.65% |
| ROE credit institutions | 11.82% | 15.45% | 9.78% |
| ROA factoring companies | 1.01 | 0.93% | 0.96% |
| ROA specialized operators | 0.60% | 0.51% | + 0.55 |
| ROA credit institutions | 0.56% | 0.67% | 0.42% |
| NPL / TL factoring companies | 3.3. | 2.8% | 2.5. |
| NPL / TL specialized operators | 3.48% | 3.08% | 2.93% |
| NPL / TL credit institutions | 3.32% | 2.80% | 2.45% |
| Liquidity ratio factoring companies | 162.8% | 163.2% | 163.47% |
| Liquidity Ratio specialized operators | 217.47% | 186.69% | 191.82% |
| Lquidity Ratio credit institutions | 162.75% | 163.15% | 163.47% |

*Source: Commission Bancaire, Analyses comparatives*

Finally, we consider the interest paid by companies operating in the sector for the remuneration of debt capital (Table 3.6).

**Table 3.6**

*Interest paid by the operators of factoring in France*
*(specialized operators, in millions of euro and percentage)*

|  | 2005 | 2006 | 2007 |
|---|---|---|---|
| a) Total interest factoring companies | 245.99 | 313.35 | 541.39 |
| b) Total interest specialized operators | 22,585.88 | 28,162.73 | 35,689.05 |
| c) Total interest credit institutions (general banks and financial companies) | 123,503.85 | 174,020.20 | 233,948.89 |

*Source: Commission Bancaire, Analyses comparatives*

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### 3.2.5.The direct effect of factoring on French economy: initial findings

The first level of analysis proposed to estimate the direct effects produced by factoring on the main *stakeholders,* such as employees, borrowers, Public Administration and lenders (shareholders and creditors).

Table 3.7 and Table 3.8 summarize the estimation of the direct effect of factoring in France both in absolute terms and in relation to the main macroeconomic indicators. In summary, the factoring market:

- developed a volume of new business *(turnover)* of 134.1 billion euros in 2008, equal to 6.9% of GDP. In the years 2005-2008, the turnover was 444.8 billion euros, equal to about 6% of GDP;
- recorded an outstanding equal to 24.4 billion euros in 2009, equal to 1.25% of GDP. In the years 2005-2008, the outstanding was 88.7 billion euros, equal to 1.2% of GDP;
- paid advances on sold loans of 17.1 billion euros in 2008 (0.9% of GDP) and 62.1 billion euros in the period 2005-2008;
- employed 3.072 people in 2008;
- disbursed gross income to households in 2008 of almost 218 million euros, equivalent to 0.01% of GDP. In the years 2005-2008, the income paid was 888 million euros, equivalent to 0.01% of GDP;
- paid taxes in 2008 for 92 million euros, equal to 0.005% of GDP. In the years 2005-2008, the amount of taxes paid amounted to 379 million euros, equal to 0.005% of GDP;
- registered positive operating results in 2007 that generated profits of 215 million euros (ROA=0.96% and ROE=15.09%).In 2005-2007, the net profits generated were 540 million euros;
- generated a flow of interest paid to lenders in the 2005-2007 period amounted to approximately 1.1 billion euros, equal to 0.02% of GDP.

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**Table 3.7**

*The direct effect produced by factoring in France (* in millions of euro)*

| | 2005 | 2006 | 2007 | 2008 |
|---|---|---|---|---|
| **Employees** | | | | |
| Total cost of salaries supported by factoring companies * | 218 | 216 | 237 | 218 |
| Number of people employed in the sector | 3.070 | 3.040 | 3.337 | 3.072 |
| **Borrowers** | | | | |
| Total loans granted in factoring during the period *(Turnover)* * | 89.018 | 100.009 | 121.660 | 134.125 |
| Annualized turnover * | 39.564 | 44.448 | 54.071 | 59.611 |
| Amount of loans outstanding at end of period *(Outstanding)* * | 18.583 | 20.688 | 25.106 | 24.369 |
| Advances on loans * | 13.008 | 14.482 | 17.574 | 17.058 |
| **Public Administration** | | | | |
| Total taxes paid by factoring companies * | 75th | 69 | 118 | 92 |
| Direct taxes paid by factoring companies * | 75th | 69 | 118 | 92 |
| **Lenders** | | | | |
| Total net income * | 145 | 180 | 215 | N / A |
| ROA % | 1.01 | 0.93% | 0.96% | N / A |
| ROE % | 13.04% | 13.40% | 15.09% | N / A |
| Loans / advances on loans | 3.30% | 2.80% | 2.50% | N / A |
| Interest expenses | 246 | 313 | 541 | N / A |

*Source: Based on ASF data, Ameco, INSEE, Eurostat, Banque de France*

**Table 3.8**

*The direct effect produced by factoring in France (as a percentage of GDP)*

| | 2005 | 2006 | 2007 | 2008 |
|---|---|---|---|---|
| **Employees** | | | | |
| Total cost of salaries supported by factoring companies | 0.013% | 0.012% | 0.012% | 0011% |
| **Borrowers** | | | | |
| Total loans granted in factoring during the period *(Turnover)* | 5.16% | 5.54% | 6.42% | 6.88% |
| Annualized turnover | 2.29% | 2.46% | 2.85% | 3.06% |
| Amount of loans outstanding at end of period *(Outstanding)* | 1.08% | 1.15% | 1.32% | 1.25% |
| Advances on loans | 0.75% | + 0.80 | 0.93% | 0.88% |
| **Public Administration** | | | | |
| Total taxes paid by factoring companies | 0.004% | 0.005% | 0.006% | 0.005% |
| Direct taxes paid by factoring companies | 0.004% | 0.005% | 0.006% | 0.005% |
| **Lenders** | | | | |
| Total net income | 0.008% | 0.010% | 0011% | N / A |
| Interest expenses | 0.014% | 0.017% | 0029% | N / A |

*Source: Based on ASF data, Ameco, INSEE, Eurostat, Banque de France*

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## 3.3. The effect induced

The analysis concerns the estimation of the induced effect produced by factoring in France. In this case, we take into account the effects generated indirectly by the considered activity (e.g. consumption of the employees of companies specialized in factoring) and those produced in other sectors (e.g. consumption of the employees of companies financed by factoring).

The "induced" contribution due to factoring in the years 2005-2008 was 98.8 billion euros. This value was estimated separately for the various operators of the French economy: families, companies and public administration (Figure3.7).

Table 3.9 and Table 3.10 show the detailed estimates of the induced effect of factoring in France both in absolute terms and in relation to GDP of the year. It is necessary to point out that the ratio to GDP of the year may differ from the sector's contribution to the formation of it, as in the estimation of the induced values?are included effects that occur in stages (see methodological appendix), so in a period that may exceed the year. The relationship with the GDP of the year aims to provide a measure of the effect induced by factoring in the French economy, in order to appreciate more immediately the size of the phenomenon.

### 3.3.1.Families

As regards to the induced contribution of factoring for families, this is estimated according to the method described in Appendix methodology, based on a mechanism of income multiplier.

In detail, the induced effect on families' income in 2008 is estimated to be equal to 25.8 billion euros, equal to 1 .3% of GDP. In the years 2005-2008, the income induced by factoring amounted to less than 87 billion euros , equal to 1 .2% of GDP in four years.

Distinguishing the use of such estimated families' income, it is estimated (Table3.9 and Table 3.10) that:

- the induced effect on consumption *(EIC)* in 2008 is equal to 12.4 billion euros, equal to 0.6% of GDP. In the years 2005-2008, the consumption induced by factoring amounted to approximately 41 billion euros, equal to 0.6% of GDP in four years;
- the induced effect on savings *(EIRIS)* is equal to 1.8 billion euros in 2008, equal to 0.09% of GDP. In the years 2005-2008, the savings induced by factoring amounted to 6.7 billion euros, or 0.09% of GDP in four years.

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### 3.3.2.Companies

As regards to the induced contribution of the factoring for companies, this is estimated by looking at the effect on bank deposits, on loans to enterprises and, therefore, on new investments made by these authorities. In detail:

- the induced effect produced by factoring on bank deposits (EIDB) is estimated to be equal to the savings of families, having placed the hypothesis that the families' saving is fully deposited in bank;
- the induced effect on new bank loans (EICB) amounted to less than 1.8 billion euros in 2008, equal to 0.09% of GDP. In the years 2005-2008, loans induced by factoring amounted to 6.6 billion euros, or 0.09% of GDP in four years;
- the induced effect on Investment (EII) is equal to 0.98 billion euros in 2008, equal to 0.05% of GDP. In the years 2005-2008, the investments induced by factoring amounted to 3.8 billion euros, or 0.05% of GDP in four years.

### 3.3.3.Public Administration

As for the induced contribution of factoring to Public Administration *(EIPA),* it was calculated at almost 14 billion euros in 2008 , , the equivalent of 0.7% of GDP. In the years 2005-2008, the total taxation induced by factoring amounted to 47.3 billion euros, equal to 0.6% of GDP in four years.

These values were estimated by distinguishing the effect of direct and indirect taxes. In detail:

- the effect induced by Public Administration resulting from indirect taxes on induced consumption amounted to 2.4 billion euros in 2008, equal to 0.1% of GDP. In the years 2005-2008, the direct tax induced by factoring amounted to 8 billion euros, equal to 0.1% of GDP in four years;
- the effect induced by Public Administration resulting from direct taxes on induced income (IDRI) amounted to 11.5 billion euros in 2008, equal to 0.6% of GDP. In the years 2005-2008, direct taxes induced by the factoring amounted to 39.2 billion euros, equal to 0.5% of GDP in four years.

**Table 3.9**

*The induced effect produced by factoring in France (in millions of euro)*

|  | 2005 | 2006 | 2007 | 2008 |
|---|---|---|---|---|
| **Families** | | | | |
| Induced effect on income (EIR) | 17.547 | 20.157 | 23.481 | 25.799 |
| Induced effect on consumption (EIC) | 8.132 | 9.462 | 10.993 | 12.435 |
| Induced effect on savings (EIRIS) | 1.466 | 1.484 | 1.945 | 1.832 |
| | | | | |
| **Companies** | | | | |
| Induced effect on bank deposits (EIDB) | 1.466 | 1.484 | 1.945 | 1.832 |
| Induced effect on bank loans (EICB) | 1.437 | 1.454 | 1.906 | 1.795 |
| Induced effect on investment (EII) | 854 | 861 | 1.087 | 975 |
| | | | | |
| **Public Administration** | | | | |
| Induced effect for Public Administration (EIPA) | 9.543 | 11.066 | 12.698 | 13.970 |
| Indirect taxes on induced consumption (IICI) | 1.594 | 1.855 | 2.155 | 2.437 |
| Direct taxes on induced income (IDRI) | 7.949 | 9.212 | 10.543 | 11.532 |

*Source: Based on Asf data, Ameco, INSEE, Eurostat, Banque de France*

**Table 3.10**

*The induced effect produced by factoring in France (as a percentage of GDP the year \*)*

|  | 2005 | 2006 | 2007 | 2008 |
|---|---|---|---|---|
| **Families** | | | | |
| Induced effect on income (EIR) | 1.02% | 1.12% | 1.24% | 1.32% |
| Induced effect on consumption (EIC) | 0.47% | 0.52% | 0.58% | 0.64% |
| Induced effect on savings (EIRIS) | 0.08% | 0.08% | (0-10) | 0.09% |
| | | | | |
| **Companies** | | | | |
| Induced effect on bank deposits (EIDB) | 0.08% | 0.08% | (0-10) | 0.09% |
| Induced effect on bank loans (EICB) | 0.08% | 0.08% | (0-10) | 0.09% |
| Induced effect on investment (EII) | + 0.05 | + 0.05 | 0.06% | + 0.05 |
| | | | | |
| **Public Administration** | | | | |
| Induced effect for Public Administration (EIPA) | + 0.55 | 0.61% | 0.67% | 0.72% |
| Indirect taxes on induced consumption (IICI) | 0.09% | (0-10) | 0.11% | 0.13% |
| Direct taxes on induced income (IDRI) | 0.46% | 0.51% | 0.56% | 0.59% |

*Source: Based on Asf data, Ameco, INSEE, Eurostat, Banque de France*
*\* The figures are not meant to express the contribution of factoring to the formation of GDP in the year (since the estimate of the induced factors ? (ci vuole un sostantivo)considers the effects that could be produced over several years within the multiplier of income), but want to provide a measure to allow a more immediate understanding of the size of the phenomenon.*

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**Figure 3.7**

*The contribution induced by factoring to the French economy in the period 2004-2008 (absolute value: 98.8 billion euros)*
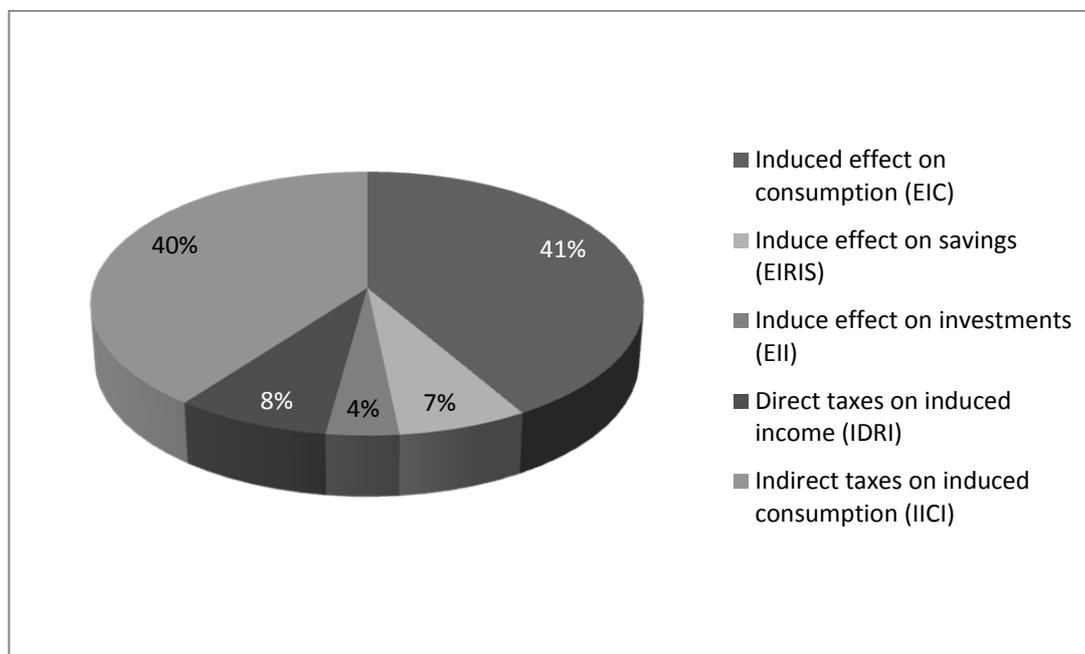


*Source: Based on Asf data, Ameco, INSEE, Eurostat, Banque de France*

## 3.4. The total contribution to the economy of factoring in France

The estimate of the direct and induced effect enables to consider the overall contribution[13] of factoring to economy in France (Figure 3.8):

- the overall effect on consumption *(ECC)* is estimated to be equal to 12.4 billion euros in 2008, equal to 0.6% of GDP. In the period 2005-2008, consumption induced by factoring amounted to 41 billion euros, equal to 0.6% of GDP of the period;

- the overall effect on savings *(ECRIS)* is equal to 1.8 billion euros in 2008, equal to 0.09% of GDP. In the period 2005-2008, the total savings amounted to 6.7 billion euros, or 0.09% of GDP of the period;

---

[13] The overall effect on consumption and savings coincides with the induced effect (EIC and EIRIS), whose measure also includes the portion allocated to consumption and savings of the income generated directly from factoring, i.e. of the employees of the companies in the sector. With regard to the overall effect on investments, the direct effect must be added, i.e. the investments directly funded by factoring in the reference period (turnover) and the induced effect on investments resulting from the portion of savings relative to the induced income, deposited in bank and then transformed into loans to businesses (EII). Finally, the overall effect for the PA is obtained by adding the tax revenue directly generated by the sector (direct taxes, ID, paid by factoring companies) and the induced effect, EIPA (indirect taxes on induced consumption, IICI, and direct taxes on induced income, IDRI).

- the overall effect on investment *(ECI)* is estimated to be equal to 42.7 billion euros in 2008, equal to 2.2% of GDP. In the period 2005-2008, new investments amounted to 142.2 billion euros, equal to 1 .9% of GDP of the period;
- the overall effect of factoring for Public Administration *(ECPA)* is estimated to be equal to 14.1 billion euros in 2008, equal to 0.7% of GDP. In the period 2005-2008, the total taxation induced by factoring amounted to 47.7 billion euros, equivalent to 0.7% of GDP of the period.

**Figure 3.8**

*The overall contribution of factoring to French economy (in billions of euro)*



*Source: Based on Asf data, Ameco, INSEE, Eurostat, Banque de France*

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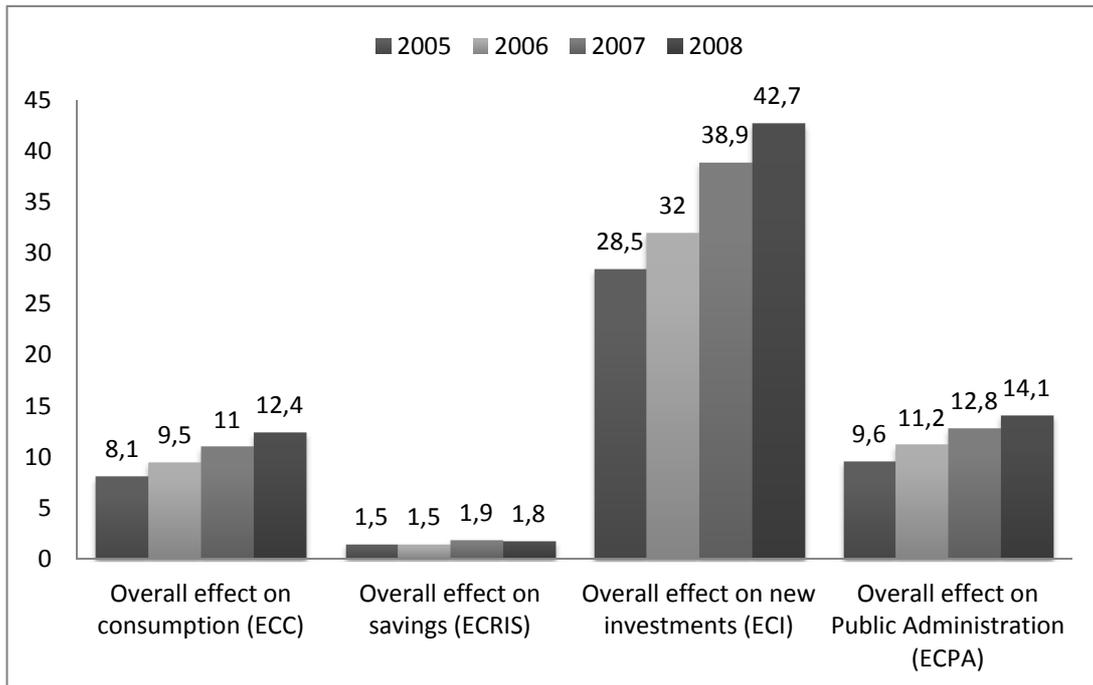
## 3.5.The dynamic level

The third level of analysis is designed to measure the dynamic impact on the economy if the factoring market disappears.

Assuming the absence of factoring, we estimate the response of the economic system based on its ability to develop "substitute" products offered by other operators and appropriate to meet the needs of customers. The "specific" contribution of the factoring to the economy is thus obtained as the difference between the overall effect of the sector and the response of the economy to its absence.

The response of the economy to the absence of factoring is estimated assuming five scenarios:

a) <u>Scenario 1): immediate and full adjustment of prices and quantities.</u> It is assumed that there are substitute products to factoring ($D_s$=1) and that prices and salaries in the economy are fully flexible (flex=1).This is sufficient to ensure full employment and the total replacement of the market with alternative operators. In the absence of factoring, it is assumed that the human resources employed in the sector are "liberated" and "immediately" reabsorbed by alternative companies (e.g. banks) able to offer useful products to meet just as effectively the needs of applicant companies to factoring. In this scenario, companies could still have access to forms of short-term financing: the impact of the elimination of the sector would be immediately absorbed and its specific contribution to the economy could be considered null and void.

b) <u>Scenario 2) failure to adjust prices and quantities.</u> It is assumed that there are no substitute products ($D_s$=0) and/or the total lack of flexibility in the adjustment of prices and salaries (flex=0). In the absence of factoring, it is assumed that human resources "liberated" are not absorbed by the alternative companies. In this scenario, companies do not have access to alternative sources of short-term credit: the impact of the disappearance of factoring would then not be reabsorbed and the specific contribution of the sector would be equal to the value of the overall effect previously estimated.

c) <u>Scenario 3) gradual adjustment in five years of prices and quantities.</u> It is assumed that prices and salaries in the economy are partly flexible and that products partially able to meet the needs of applicant companies to factoring are available. Following the approach of the study on the impact of leasing in the U.S., we assume a complete adjustment over a period of 5 years (flex$_1$=0.2; flex$_2$=0.4; flex$_3$=0.6; flex$_4$=0.8; flex$_5$=1.0).

d) <u>Scenario 4) gradual adjustment in three years of prices and quantities.</u> It is assumed that prices and salaries in the economy are partly flexible and also that products partially able to meet the needs of short-term financing of companies are available. A speed of adjustment of three years is assumed ,that produces estimates of the specific contribution of factoring. These estimates are more cautious than in the previous scenario (flex$_1$=0.33; flex$_2$=0.67; flex$_3$=1.0).

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e) Scenario 5) gradual adjustment in two years of prices and quantities. It is assumed that prices and salaries in the economy are partly flexible and also that products partially able to meet the needs of short-term financing of companies are available A speed of adjustment of two years is assumed that produces estimates of the specific contribution of factoring. These estimates are extremely conservative compared to the two previous scenarios, since it is assumed that the "damage" to the economy is limited to the first year (flex$_1$=0.50; flex$_2$=1.0), while in the second year the system is already able to completely replace the factoring industry.

Table 3.11 and Table 3.12 show in detail the estimates assuming the absence of factoring in 2009 and observing the effects on a period of five years (base: 2008).

## Table 3.11

*The response of the French economy to the absence of factoring ***
*(Base: 2008, in millions of euro)*

| | $t_1$ | $t_2$ | $t_3$ | $t_4$ | $t_5$ | VA($t_1$;$t_5$) | VA($t_1$;$t_5$)/GDP |
|---|---|---|---|---|---|---|---|
| **Dynamic effect on consumption** | | | | | | | |
| Scenario 1) Immediate and full adjustment of prices and quantities | 12.435 | 12.435 | 12.435 | 12.435 | 12.435 | 59.660 | 3.06% |
| Scenario 2) Non-adjustment of prices and quantities | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
| Scenario 3) Progressive adjustment in 5 years of prices and quantities | 2.487 | 4.974 | 7.461 | 9.948 | 12.435 | 35.287 | 1.81% |
| Scenario 4) Progressive adjustment in 3 years of prices and quantities | 4.145 | 8.290 | 12.435 | 12.435 | 12.435 | 47.341 | 2.43% |
| Scenario 5) Progressive adjustment in 2 years of prices and quantities | 6.218 | 12.435 | 12.435 | 12.435 | 12.435 | 53.478 | 2.74% |
| **Dynamic effect on savings** | | | | | | | |
| Scenario 1) Immediate and full adjustment of prices and quantities | 1.832 | 1.832 | 1.832 | 1.832 | 1.832 | 8.787 | 0.45% |
| Scenario 2) Non-adjustment of prices and quantities | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
| Scenario 3) Progressive adjustment in 5 years of prices and quantities | 366 | 733 | 1.099 | 1.465 | 1.832 | 5.197 | 0.27% |
| Scenario 4) Progressive adjustment in 3 years of prices and quantities | 611 | 1,221 | 1.832 | 1.832 | 1.832 | 6.973 | 0.36% |
| Scenario 5) Progressive adjustment in 2 years of prices and quantities | 916 | 1.832 | 1.832 | 1.832 | 1.832 | 7.877 | 0.40% |
| **Dynamic effect on investment** | | | | | | | |
| Scenario 1) Immediate and full adjustment of prices and quantities | 42.703 | 42.703 | 42.703 | 42.703 | 42.703 | 204.869 | 10.51% |
| Scenario 2) Non-adjustment of prices and quantities | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
| Scenario 3) Progressive adjustment in 5 years of prices and quantities | 8.541 | 17.081 | 25.622 | 34.162 | 42.703 | 121.173 | 6.22% |
| Scenario 4) Progressive adjustment in 3 years of prices and quantities | 14.234 | 28.469 | 42.703 | 42.703 | 42.703 | 162.568 | 8.34% |
| Scenario 5) Progressive adjustment in 2 years of prices and quantities | 21.351 | 42.703 | 42.703 | 42.703 | 42.703 | 183.640 | 9.42% |
| **Dynamic effect for the Public Administration** | | | | | | | |
| Scenario 1) Immediate and full adjustment of prices and quantities | 14.062 | 14.062 | 14.062 | 14.062 | 14.062 | 67.464 | 3.46% |
| Scenario 2) Non-adjustment of prices and quantities | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
| Scenario 3) Progressive adjustment in 5 years of prices and quantities | 2.812 | 5.625 | 8.437 | 11.250 | 14.062 | 39.903 | 2.05% |
| Scenario 4) Progressive adjustment in 3 years of prices and quantities | 4.687 | 9.375 | 14.062 | 14.062 | 14.062 | 53.534 | 2.75% |
| Scenario 5) Progressive adjustment in 2 years of prices and quantities | 7.031 | 14.062 | 14.062 | 14.062 | 14.062 | 60.473 | 3.10% |
| Dynamic effect on consumption | | | | | | | |

*\* The response of the economy is estimated over a period of 5 years and the estimated values are proportional to GDP in 2008. These data are not intended to express the contribution of factoring to the formation of GDP in 2008 (since the estimation considers effects that could be produced on a multiannual basis under the mechanism of income), but want to provide a measure for a more immediate understanding of the size of the phenomenon.*

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**Table 3.12**

*The specific contribution of factoring to the French economy ***
*(Base: 2008, in millions of euro)*

| | $t_1$ | $t_2$ | $t_3$ | $t_4$ | $t_5$ | VA($t_1$;$t_5$) | VA($t_1$;$t_5$)/GDP |
|---|---|---|---|---|---|---|---|
| Dynamic effect on consumption | | | | | | | |
| Scenario 1) Immediate and full adjustment of prices and quantities | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
| Scenario 2) Non-adjustment of prices and quantities | 12.435 | 12.435 | 12.435 | 12.435 | 12.435 | 59.660 | 3.06% |
| Scenario 3) Progressive adjustment in 5 years of prices and quantities | 9.948 | 7.461 | 4.974 | 2.487 | 0 | 24.373 | 1.25% |
| Scenario 4) Progressive adjustment in 3 years of prices and quantities | 8.290 | 4.145 | 0 | 0 | 0 | 12.318 | 0.63% |
| Scenario 5) Progressive adjustment in 2 years of prices and quantities | 6.218 | 0 | 0 | 0 | 0 | 6.182 | 0.32% |
| Dynamic effect on savings | | | | | | | |
| Scenario 1) Immediate and full adjustment of prices and quantities | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
| Scenario 2) Non-adjustment of prices and quantities | 1.832 | 1.832 | 1.832 | 1.832 | 1.832 | 8.787 | 0.45% |
| Scenario 3) Progressive adjustment in 5 years of prices and quantities | 1.465 | 1.099 | 733 | 366 | 0 | 3.590 | 0.18% |
| Scenario 4) Progressive adjustment in 3 years of prices and quantities | 1.221 | 611 | 0 | 0 | 0 | 1.814 | 0.09% |
| Scenario 5) Progressive adjustment in 2 years of prices and quantities | 916 | 0 | 0 | 0 | 0 | 911 | + 0.05 |
| Dynamic effect on investment | | | | | | | |
| Scenario 1) Immediate and full adjustment of prices and quantities | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
| Scenario 2) Non-adjustment of prices and quantities | 42.703 | 42.703 | 42.703 | 42.703 | 42.703 | 204.869 | 10.51% |
| Scenario 3) Progressive adjustment in 5 years of prices and quantities | 34.162 | 25.622 | 17.081 | 8.541 | 0 | 83.696 | 4.30% |
| Scenario 4) Progressive adjustment in 3 years of prices and quantities | 28.469 | 14.234 | 0 | 0 | 0 | 42.300 | 2.17% |
| Scenario 5) Progressive adjustment in 2 years of prices and quantities | 21.351 | 0 | 0 | 0 | 0 | 21.228 | 1.09% |
| Dynamic effect for the Public Administration | | | | | | | |
| Scenario 1) Immediate and full adjustment of prices and quantities | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
| Scenario 2) Non-adjustment of prices and quantities | 14.062 | 14.062 | 14.062 | 14.062 | 14.062 | 67.464 | 3.46% |
| Scenario 3) Progressive adjustment in 5 years of prices and quantities | 11.250 | 8.437 | 5.625 | 2.812 | 0 | 27.561 | 1.41% |
| Scenario 4) Progressive adjustment in 3 years of prices and quantities | 9.375 | 4.687 | 0 | 0 | 0 | 13.930 | 0.71% |
| Scenario 5) Progressive adjustment in 2 years of prices and quantities | 7.031 | 0 | 0 | 0 | 0 | 6.991 | 0.36% |

*\* The response of the economy is estimated over a period of 5 years and the estimated values are proportional to GDP in 2008. These data are not intended to express thecontribution of factoring to the formation of GDP in 2008 (since that the estimation considers effects that could be produced on a multiannual basis under the mechanism of income), but want to provide a measure for a more immediate understandingof the size of the phenomenon.*

Considering the overall effect produced by factoring, it is estimated that the French economy has a reaction able to ensure a contribution to:

- families' consumption of 59.7 billion euros (in the scenario of full and immediate adjustment) and zero (in the scenario of failure to adjust).Symmetrically, the specific contribution of factoring is therefore zero or 59.7 billion euros (Figure 3.9).The scenarios for partial adjustment predict that the response of the economy ensures a flow of alternative consumption of 35.3 billion euros (if the adjustment is completed in 5 years), of 47.3 billion euros (if the adjustment is completed in 3 years) and 53.5 billion euros (if the adjustment is completed in 2 years). The specific contribution of factoring is of 24.4 billion euros, equal to 1 .3% of GDP (if the adjustment is completed in 5 years), to 12.3 billion euros, equal to 0.6% of GDP (if the adjustment is completed in 3 years) and 6.2 billion euros, equal to 0.3% of GDP (if the adjustment is completed in two years);

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- families' savings between 8.8 billion euros (in the scenario of full and immediate adjustment) and zero (in the scenario of failure to adjust).Symmetrically, the specific contribution of factoring is therefore zero or 8.8 billion euros (Figure 3.10).The scenarios for partial adjustment predict that the response of the economy ensures a flow of alternative savings of 5.2 billion euros (if the adjustment is completed in 5 years), 7 billion euros (if the adjustment is completed in 3 years) and 7.9 billion euros (if the adjustment is completed in 2 years). The specific contribution of factoring is therefore 3.6 billion euros, equal to 0.2% of GDP (if the adjustment is completed in 5 years), of 1.8 billion euros, or 0.09% of GDP (if the adjustment is completed in 3 years) and 0.9 billion euros, equal to 0.05% of GDP (if the adjustment is completed in two years);

- business investment between 204.9 billion euros (in the scenario of full and immediate adjustment) and zero (in the scenario of failure to adjust).Symmetrically, the specific contribution of factoring is therefore zero or 204.9 billion euros (Figure 3.11).The scenarios for partial adjustment predict that the response of the economy ensures a flow of alternative investments 121.2 billion euros (if the adjustment is completed in 5 years), of 162.6 billion euros (if the adjustment is completed in 3 years) and 183.6 billion euros (if the adjustment is completed in 2 years). The specific contribution of factoring is 83.7 billion euros, equivalent to 4.3% of GDP (if the adjustment is completed in 5 years), to 42.3 billion euros, equal to 2.2% of GDP (if the adjustment is completed in 3 years) and 21.2 billion euros, equal to 1 .1% of GDP (if the adjustment is completed in two years);

- Public Administration (in terms of total tax revenue generated) between 67.5 billion euros (in the scenario of full and immediate adjustment) and zero (in the scenario of failure to adjust).Symmetrically, the specific contribution of factoring is therefore zero or 67.5 billion euros (Figure 3.12).The scenarios for partial adjustment predict that the response of the economy ensures an alternative revenue of 39.9 billion euros (if the adjustment is completed in 5 years), of 53.5 billion euros (if the adjustment is completed in 3 years) and 60.5 billion euros (if the adjustment is completed in 2 years). The specific contribution of factoring is 27.6 billion euros, equal to 1 .4% of GDP (if the adjustment is completed in 5 years), to 13.9 billion euros, equivalent to 0.7% of GDP (if the adjustment is completed in 3 years) and 7 billion euros, equal to 0.4% of GDP (if the adjustment is completed in 2 years).

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**Figure 3.9**

*The "specific" contribution of factoring to the French economy (base 2008):*
*the effect on families consumption in absolute terms (million euro) and a*
*percentage of GDP in 2008 ***

**Figure 3.10**

*The "specific" contribution of factoring to the French economy (base 2008):*
*the effect on families savings in absolute terms (million euro) and a percentage of*
*GDP in 2008 ***



* The specific contribution of the sector and the response of the economy are estimated over a period of 5 years and are related to GDP in 2008. The figures are not meant to express the contribution to the formation of GDP in 2008 (since the estimation considers the effects that could be produced on a multiannual basis under the mechanism of income), but want to provide a measure to allow a more Immediate understanding of the size of the phenomenon.

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**Figure 3.11**

*The "specific" contribution of factoring to the French economy (base 2008):*
*the effect on real investments in absolute terms (million euro) and a percentage of*
*GDP in 2008 \**
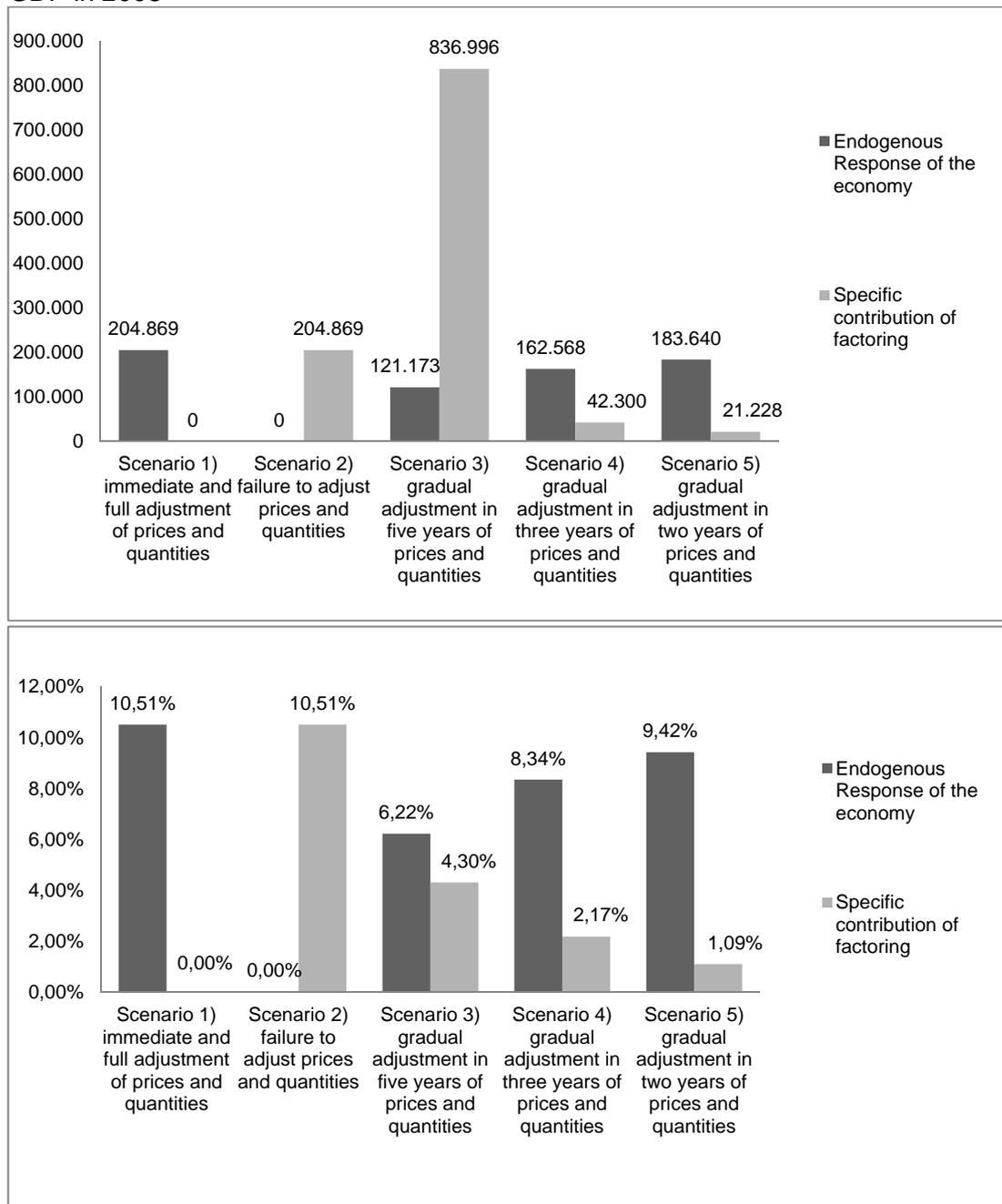


*\* The specific contribution of the sector and the response of the economy are estimated over a period of 5 years and are related to GDP in 2008. The figures are not meant to express the contribution to the formation of GDP in 2008 (since the estimation considers the effects that could be produced on a multiannual basis under the mechanism of income), but want to provide a measure to allow a more Immediate understanding of the size of the phenomenon.*

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**Figure 3.12**

*The "specific" contribution of factoring to the French economy (base 2008):
effect for government in absolute terms (million euro) and a percentage of GDP in
2008 \**
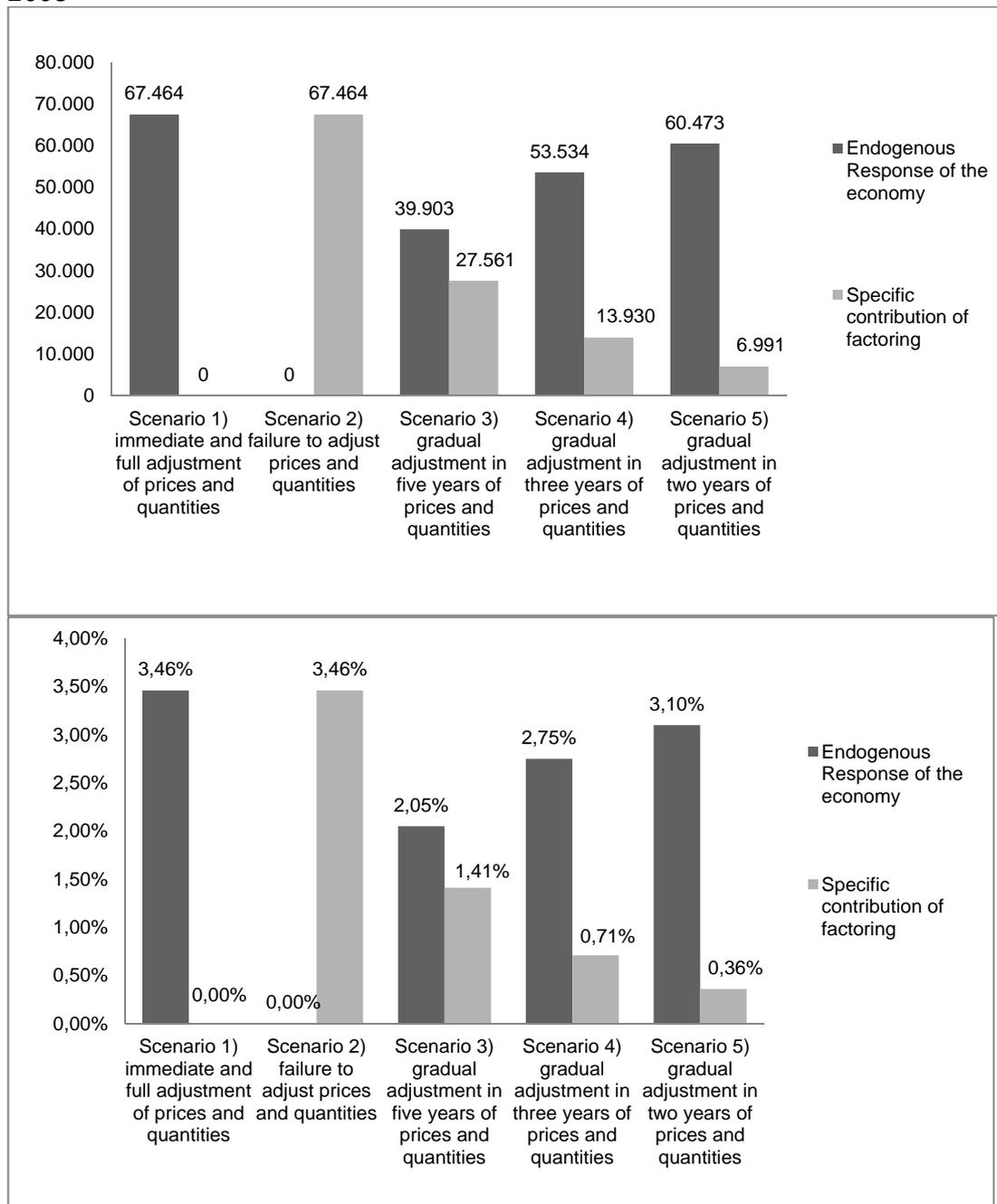
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## 3.6. Conclusions

This chapter has analyzed the contribution of factoring to the French economy. After estimating the direct and induced effect, it is expectedthat the overall effect of factoring:

- on consumption is equal to 12.4 billion euros in 2008 (0.6% of GDP) and 41 billion euros in the period 2005-2008;

- on savings is equal to 1.8 billion euros in 2008 (0.09% of GDP) and 6.7 billion euros in the period 2005-2008;

- on investments is equal to 42.7 billion euros in 2008 (2.2% of GDP) and 142.2 billion euros in the period 2005-2008;

- for Public Administration is equal to 14.1 billion euros in 2008 (0.7% of GDP) and 47.7 billion euros in the period 2005-2008.

Assuming the absence of factoring, we estimate the response of the economy to develop "substitute" products offered by other operators able to satisfy the needs of short-term financing of companies. The "specific" contribution of factoring is the difference between the contribution of the sector and the response of the economy to its absence. In particular, we analyzed five macroeconomic scenarios: 1) immediate and full adjustment of prices and quantities, and 2) failure to adjust prices and quantities, 3) gradual adjustment in five years of prices and quantities, 4) gradual adjustment of prices in 3 years and quantity; 5) gradual adjustment in two years of prices and quantities.

In the case of the French factoring market, a realistic scenario is the 5 years' progressive adjustment of prices and quantities for which the specific contribution of factoring:

- on consumptions is estimated to be equal to 24.4 billion euros, equal to 1.3% of GDP;

- on savings is estimated to be equal to 3.6 billion euros, equal to 0.2% of GDP;

- on investments is estimated to be equal to 83.7 billion euros, equivalent to 4.3% of GDP;

- for Public Administration is estimated to be equal to 27.6 billion euros, equal to 1.4% of GDP.

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# Chapter 4
# The impact of factoring on the economy of the United Kingdom

## 4.1. Introduction

This chapter contains the results of the analysis to evaluate the contribution made by factoring to the UK economy.

In terms of size, the United Kingdom is the largest factoring market with a turnover of less than 200 billion euros in 2009. In detail, market participants develop a business volume equal to 18.9% of the world factoring market in 2009[14] (Figure 4.1).

Factoring transactions have a different structure from those carried out in Italy and France. It is noted that the operations of *invoice discounting* outnumber those of factoring, the percentage of loans sold in advance is normally higher oscillating commonly between 80% and 85% and the fee for services of credit management and of warranty is generally between 0.75% and 2.5% of the turnover[15].

With regard to the supply, the market is composed of a total of about 50 specialized operators in factoring[16] at the end of 2009, mainly represented by companies:

- of banking nature both in the UK (e.g. Bank of Scotland Cashflow Finance, Barclays Asset & Sales Finance, HSBC Invoice Finance Ltd, Lloyds TSB Commercial Finance Ltd, etc...) and in other countries (e.g. Bank of America, Bank of Ireland, Crédit Agricole Commercial Finance, etc.);
- of industrial nature, essentially belonging to large groups (e.g. GE Commercial Finance Hitachi Capital PLC);
- specialized and independent. These can be promoted by corporations involved in various business areas, such as Bibby Financial Services Ltd (Bibby Line Group) or be small independent companies.

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[14] International factoring group survey 2010.

[15] The information provided refers to members of the Asset Based Finance Association (ABFA).

[16] The information provided refers to members of the Asset Based Finance Association.

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**Figure 4.1**

*The volume of business developed by the factoring market in the United Kingdom (In millions of euro)*
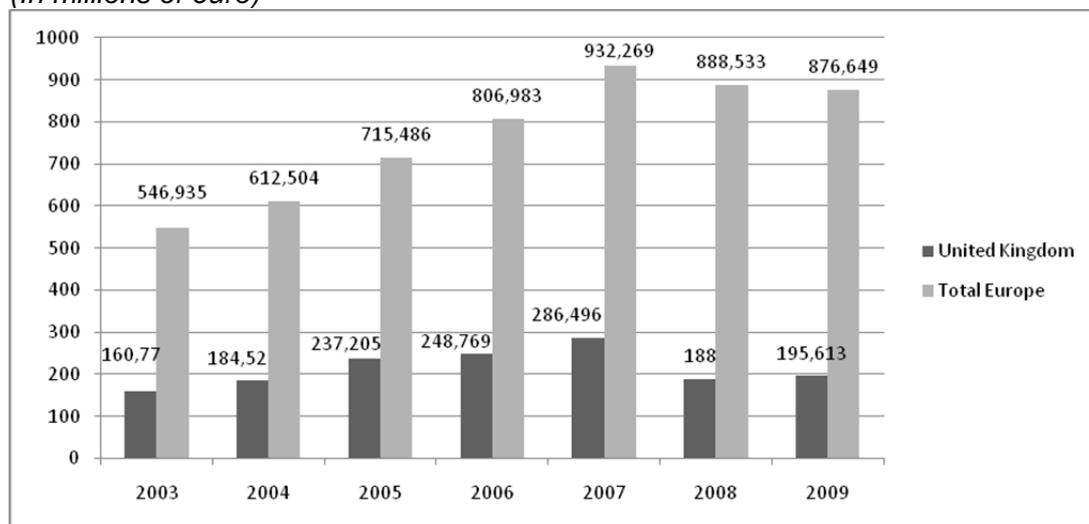


*Source: Factors Chain International (FCI), statistics 2009*


The companies that supply contracts in the form of factoring are for the most part associated with the *Asset Based Finance Association* (ABFA) that gathers 45 members. L 'Association *Factors Chain International* reports a number of 50 operators.

In the absence of official information on the structure of the factoring market, we selected a sample of 28 companies for the years 2007 and 2008 of which balance sheet data were found using the *Amadeus* and *Bankscope* database[17].From the initial sample, it was verified that only 19 factoring companies (from now on, "final sample") had the necessary data to perform the analysis.

In terms of representativeness of the UK factoring market, the companies of the final sample control about 63% of *outstanding* in the United Kingdom market, with reference to the time period being analyzed.

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[17]At the time of data collection, only 5 financial factoring companies were available for the year 2009, representing a market share of less than 18% of the outstanding of ABFA's members in the same year. Given the lack of representativeness of the sample, it was decided not to carry out an estimation of the contribution of factoring to the UK economy in 2009.

## 4.2. The direct effect

This section focuses on the direct contribution provided by factoring in the UK. This is estimated by the impact created "directly" to the main *stakeholders* of the company such as:

  a) Employees;
  b) Borrowers;
  c) Public Administration;
  d) Lenders.

The indicators identified are presented in absolute and relative value. In particular, these are compared with the main macroeconomic indicators of the country (e.g. gross domestic product, consumer spending, investment spending, total tax revenues) to appreciate the impact of the direct contribution of factoring in the context.

### 4.2.1. Employees

The contribution of factoring to employees can be assessed in terms of employment generated and, therefore, labor salaries derived from the existence of such activities.

In the absence of "aggregate" data publicly available for the market participants, Figure 4.2 shows the data collected on the number of employees from the financial statements of the final sample: in 2009, it is estimated that the number of people employed in factoring in the UK is equal to 6,215.

**Figure 4.2**

*The estimated number of employees in the factoring market in the United Kingdom*
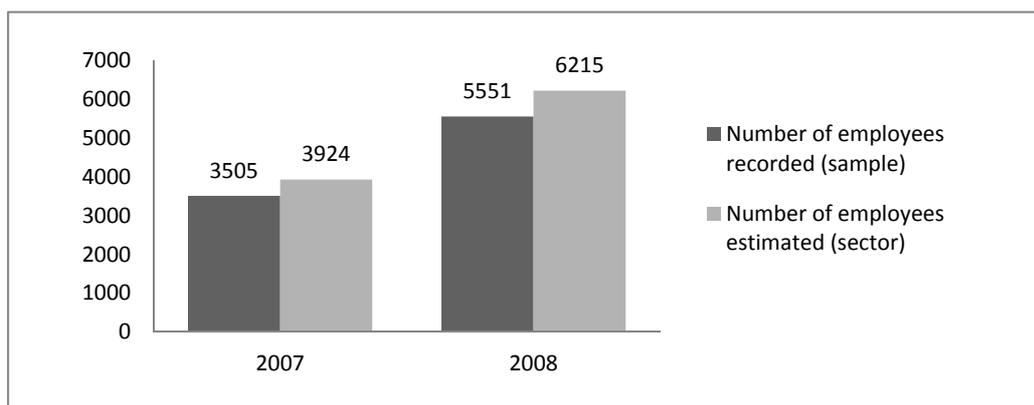


*Source: Amadeus and Bankscope; data on members of the ABFA.*

A similar estimation procedure was followed to determine the total cost of personnel in the factoring sector (Figure 4.3): in 2008, it is estimated that factoring

companies have incurred in personnel costs (i.e. gross income for families) for a total of 2.6 billion euros.

The information of the final sample does not allow to estimate the amount of income paid by the company in the form of fees and commissions paid to third parties who collaborate to distribute their services.

**Figure 4.3**

*Personnel costs estimated in the factoring market in the United Kingdom (In millions of euro)*
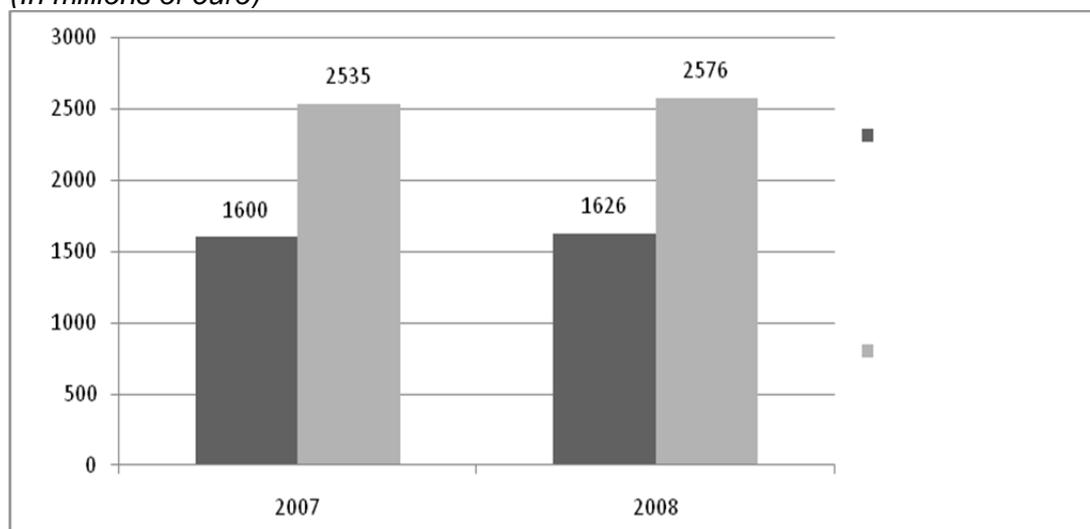


*Source: Amadeus and Bankscope, data on members of the ABFA*

## 4.2.2.Borrowers

The direct contribution generated by factoring for the financed companies is evaluated by observing the amount of mobilized resources: these are approximated by the volume of loans purchased in the year (so-called *Turnover,* T), the consistency of the purchased loans outstanding at year-end (so-called *Outstanding,* OUT)and the amount of advances paid on loans purchased by the factoring company (ANT)[18].

In 2009, factoring has developed a turnover of 195.6 billion euros (Figure 4.4), of which 12.7 billion euros for international operations and 182.9 billion euros for domestic transactions.

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[18]The data collected during the period 2005-2009 are influenced both by changes in the volume of the activity and by the changing trends in the exchange rate between the euro and the GBP.

**Figure 4.4**

*The trend of factoring turnover in the United Kingdom (in millions of euro)*
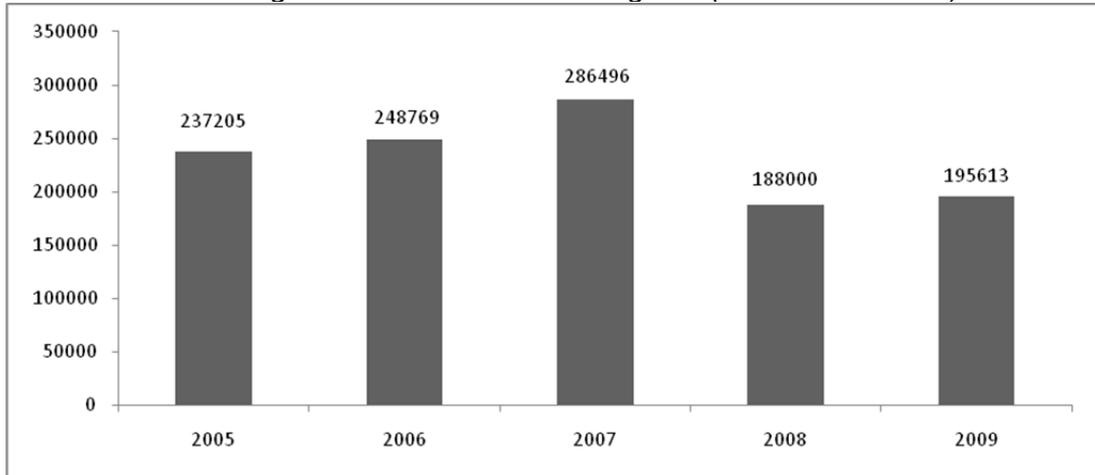


*Source: Factors Chain International/statistics*

In relative terms, the rate of penetration of factoring to GDP and to added value of the production of non-financial companies in 2009 was equal to 12.5% and 20.9% (Figure 4.5).

**Figure 4.5**

*The penetration rate of factoring in the UK*
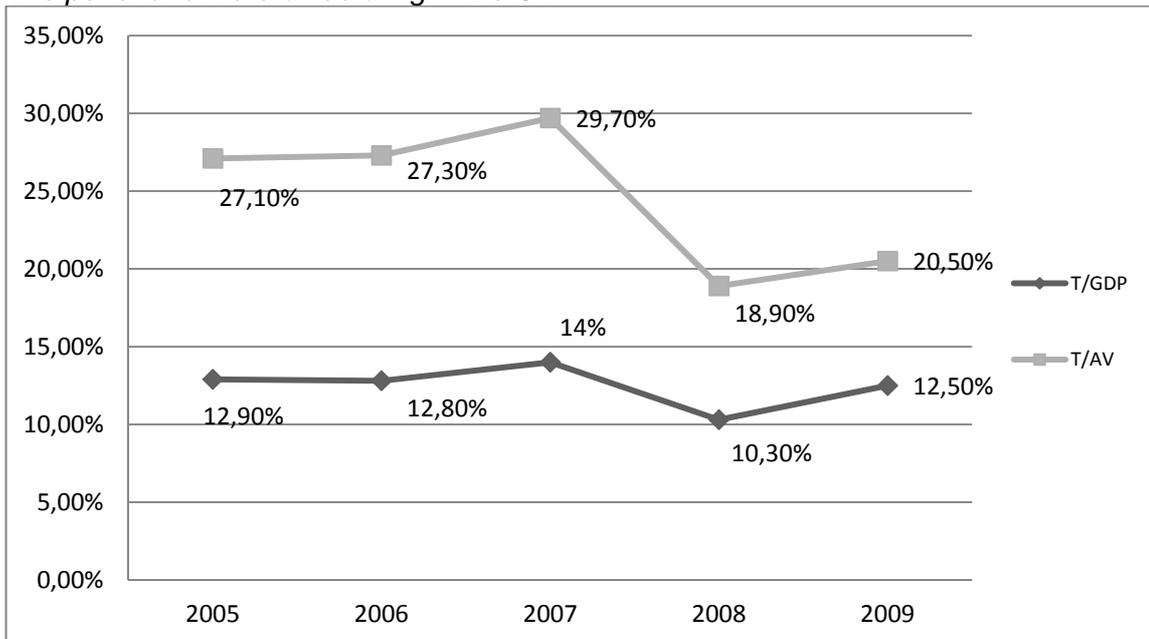


*Source: Eurostat and Factors Chain International*

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Analyzing the data of ABFA for 2008[19], the following weight of factoring on the turnover in the British market can be noted:

1. domestic factoring operations are 8.6% of the total turnover amounted to 20.6 billion euros;
2. domestic operations of advances on invoices account for 85.4% of the total turnover amounted to 202.2 billion euros;
3. factoring transactions to exports constitute 0.8% of the total turnover amounted to 1.9 billion euro;
4. operations of advances on invoices to exports represent 4.8% of the total turnover amounted to 11.6 billion euros;
5. factoring transactions to imports constitute 0.5% of the total turnover amounted to 1.1 billion euros.

According to the information on the guarantee provided by the factoring company, the majority of operations (89.5%) are made with recourse *(recourse factoring),* while the non-recourse transactions *(non-recourse factoring)* represent 10.5% of the total.

In terms of commodity sectors of the firms using factoring, customers are companies operating in the manufacturing sector (31.1% in 2009), in the services sector (30.2% in 2009) and in the distribution (23.3% in 2009). Figure 4.6 shows the evolution over time of the number of users of factoring.

In terms of the duration of the operations, the average length of factoring operations in 2009 was 59.2 days and the operations of advances on invoices are 56.9[20].

**Figure 4.6**

*The number of users of factoring in the United Kingdom according to the type of activity*
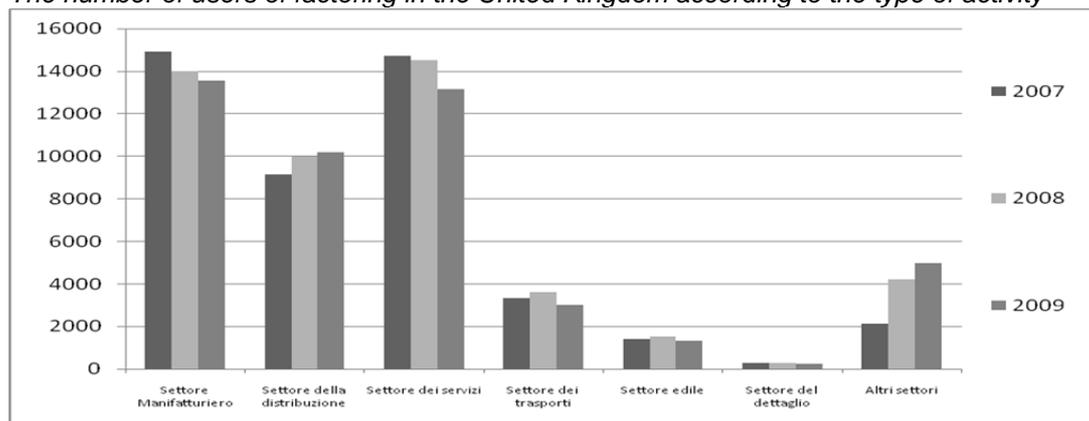


*Source: ABFA, Annual reports, years from 2007 to 2009.*

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[19] Source: AFBA (2009), Quarterly statistics to December 2009.

[20] Source: AFBA (2009), Quarterly statistics to December 2009.

Finally, we estimated that the importance of factoring within the forms of financing (Table 4.1), combining the data of the ABFA with those of the *'Office for National Statistics.* Factoring is equal to 5.2% of short-term investments in 2008.

**Table 4.1**

*The short-term loans in the UK (in billions of euro)*

|   |                            | 2006    | 2007    | 2008    | 2009    |
|---|----------------------------|---------|---------|---------|---------|
| a | Factoring                  | 51.6    | 59.3    | 33.4    | 31.1    |
| b | Short-term loans from banks| 2,888.2 | 3,705.2 | 3,755.5 | 2,812.7 |
| c | Long-term loans            | 2,360.6 | 2,586.0 | 2,384.7 | 2,108.4 |
| d | Total loans                | 5,152.8 | 6,188.9 | 6,059.3 | 4,865.5 |
| e | a/b                        | 1.8%    | 1.6%    | 0.9%    | 1.1%    |

*Source of data:*
*"a"; ABFA / statistics;*
*"b", "c", "d", "e": Office for National Statistics data reported in the UK National Accounts Blue Book 2010, summary accounts, section 1.6.9.*

### 4.2.3.Public Administration

The contribution of factoring to the Public Administration is evaluated by measuring the direct taxes paid by the factoring company.

In the absence of "aggregate" data publicly available for the market participants, the data obtained from the financial statements of the sample allow us to estimate the amount of total direct taxes paid by operators specializing in factoring (Figure4.7). In detail, it is estimated that the taxes paid were equivalent to almost 211 million euros in 2008.

**Figure 4.7**

*Direct taxes by the operators of the factoring market in the United Kingdom (In millions of euro)*
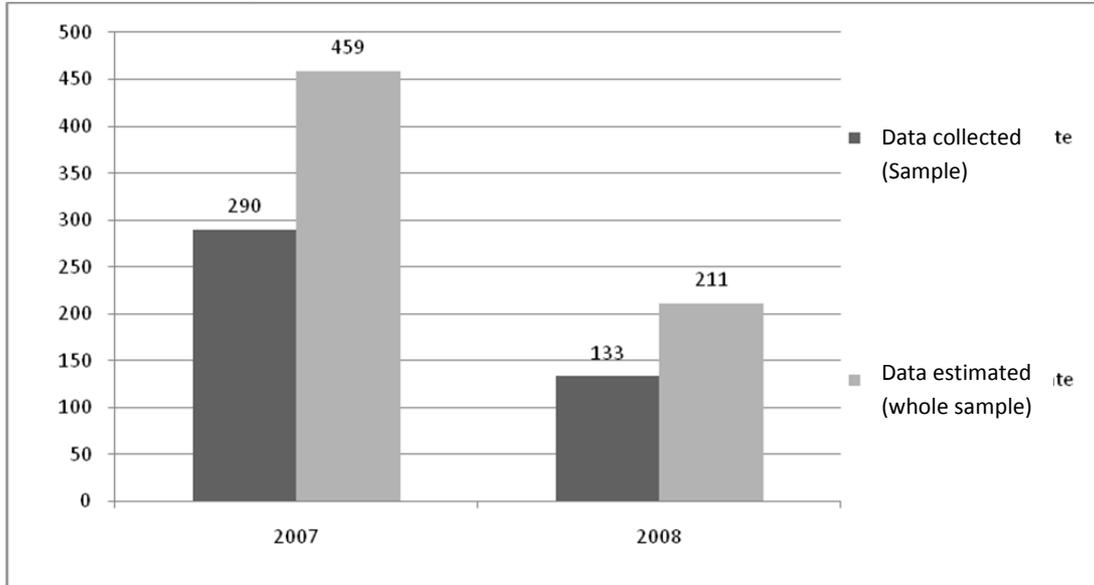


*Source: Amadeus and Bankscope; data on members of the ABFA*

## 4.2.4. Lenders

With regard to the benefits created by the UK factoring company for shareholders, we note the absence of "aggregate" data publicly available relating to economic, financial and equity balance of companies operating in this sector.

The data of the final sample allow us to estimate (Figure 4.8) a net profit of 1.234 million euros in 2008.

**Figure 4.8**

*Net income estimated in the factoring sector in the United Kingdom (in millions of euro)*
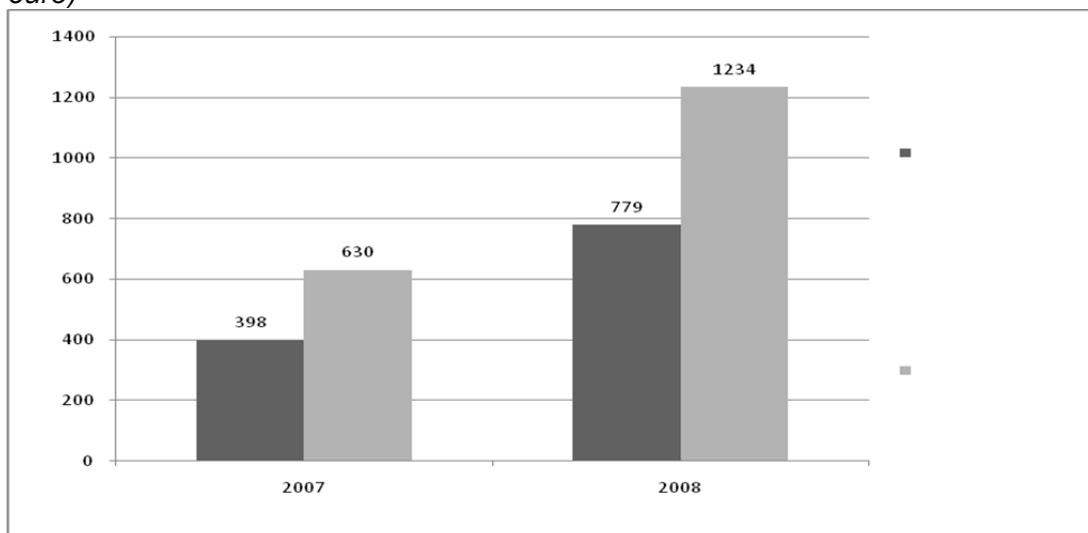
In order to appreciate the ability of factoring companies to remunerate the equity and capital invested, Figure4.9 shows the ratios ROE and ROA in 2007-2008.

In summary, we estimate an ROE of 22.9% in 2008 and an ROA of 3.6% in the same period.

**Figure 4.9**

*Average ROE and ROA recorded in the final sample of factoring in the UK*

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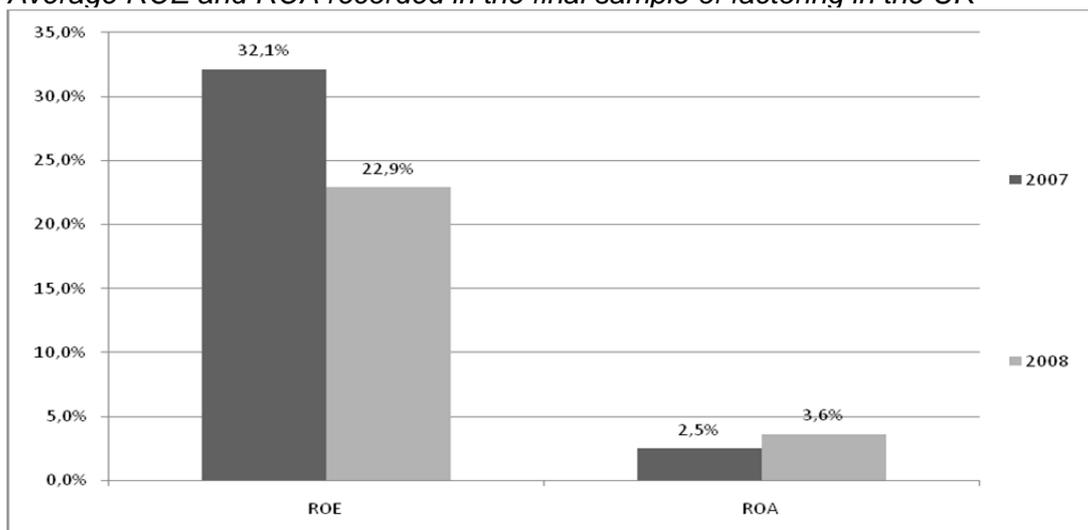
With regard to capital resources, the solvency ratio (which is the ratio between regulatory capital and total risk-weighted assets) shows a level of 16.8% in 2008 (Figure 4.10).

The liquidity ratio (which is the ratio between liquid assets and liabilities in the short term) assumes a value of 1.67 in 2008 (Figure 4.11).

**Figure 4.10**

*The solvency ratio observed in the factoring sector in the UK (percentages)*
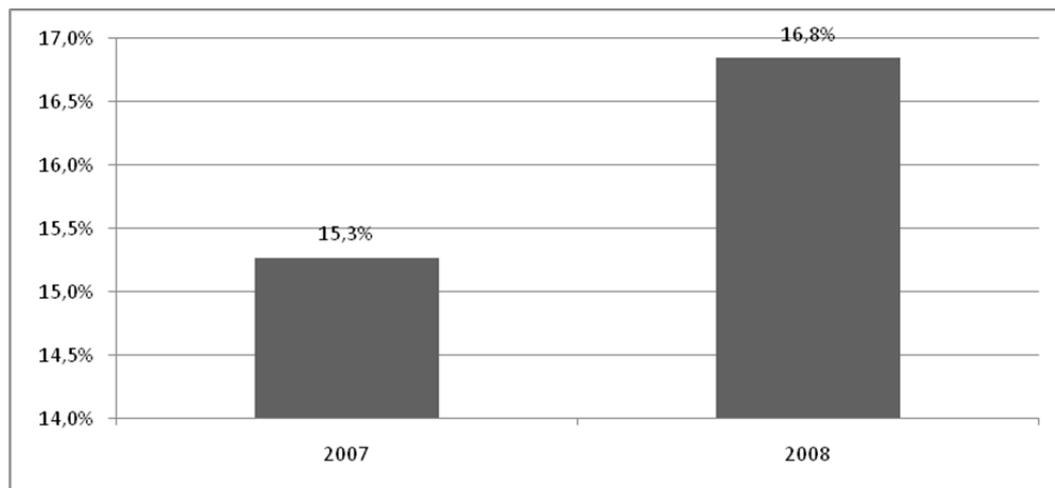


*Source: Amadeus and Bankscope; data on members of the ABFA*

**Figure 4.11**

*The liquidity ratio observed in the factoring sector in the UK*



*Source: Amadeus and Bankscope, data on members of the ABFA*

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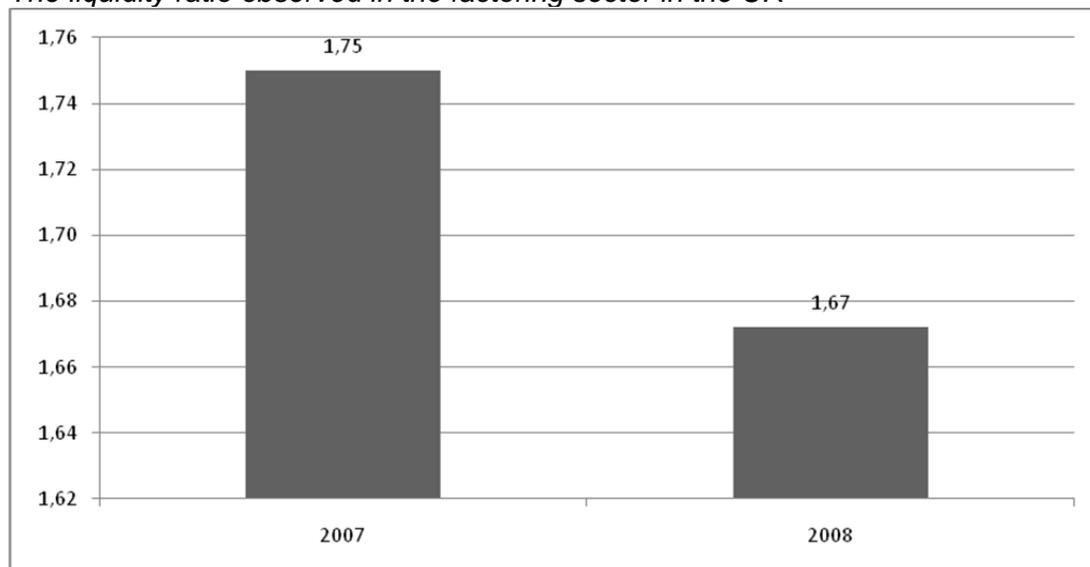
## 4.2.5.The direct effect of factoring on the economy of the UK: initial findings

The first level of analysis proposed to estimate the direct effects produced by factoring on the main *stakeholders* such as employees, companies, Public Administration and lenders (shareholders and creditors). Table 4.2 and Table 4.3 summarize the estimated direct effect of factoring to the UK economy both in absolute terms and in relation to the main macroeconomic reference indicators.

In summary, it is estimated that the factoring market in the UK has:

- developed a turnover of 188 billion euros in 2008, equal to 10.36% of GDP. Note that this figure should be interpreted considering that the average duration of factoring operations in the UK is 58 days. Transforming the turnover on an annual basis (T*58/365), we obtain that its ratio to GDP in 2008 was 1 .65%;

- employed 6.540 people in 2008;

- paid gross income to employees in 2008 of almost 2.6 billion euros, or 0.42% of total wages and salaries paid to personnel in the UK and 0.14% of GDP;

- paid taxes (direct only) in 2008 of 211 million euros, or 0.01% of GDP and 0.03% of the national tax revenues;

- registered positive economic results in 2008, generating a net profit of 1.2 billion euros.

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**Table 4.2**

*The direct effect produced by factoring in the United Kingdom (\* in millions of euro)*

|  | 2007 | 2008 |
|---|---|---|
| **Employees** |  |  |
| Total cost of salaries supported by factoring companies * | 2.535 | 2.576 |
| Number of people employed in the sector | 1.952 | 6.540 |
| **Borrowers** |  |  |
| Total loans acquired in factoring during the period *(Turnover)* * | 286.496 | 188.000 |
| Annualized turnover | 45.525 | 29.874 |
| Advances on loans * | 241.042 | 158.173 |
| **Public Administration** |  |  |
| Total taxes paid by factoring companies * | 459 | 211 |
| Direct taxes paid by factoring companies * | 459 | 211 |
| **Lenders** |  |  |
| Total net income | 630 | 1.234 |
| ROA % | 2.50% | 3.60% |
| ROE % | 32.15% | 22.90% |

*Source: Based on data ABFA, Factors Chain International, Bank of England, ISTAT, Eurostat*

**Table 4.3**

*The direct effect produced by factoring in the UK (as a percentage of GDP)*

|  | 2007 | 2008 |
|---|---|---|
| **Employees** |  |  |
| Total cost of salaries supported by factoring companies * | 0.12% | 0.14% |
| **Borrowers** |  |  |
| Total loans acquired in factoring during the period *(Turnover)* * | 13.96% | 10.36% |
| Annualized turnover | 2.22% | 1.65% |
| Advances on loans * | 11.74% | 8.71% |
| **Public Administration** |  |  |
| Total taxes paid by factoring companies * | 0022% | 0.012% |
| Direct taxes paid by factoring companies * | 0022% | 0.012% |
| **Lenders** |  |  |
| Total net income | 0031% | 0068% |

*Source: Based on data ABFA, Factors Chain International, Bank of England, ISTAT, Eurostat*

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## 4.3 The effect induced

The analysis concerns the estimation of the effect induced by factoring to the economy of the United Kingdom. In this case, we take into account the effects generated indirectly by the considered activity (e.g. consumption of the employees of factoring companies) and those produced in other sectors (e.g. consumption of employees in companies financed by factoring companies).

The contribution to the economy "induced" by factoring in 2007-2008 was 75.0 billion euros. This value was estimated separately for the various economic operators in the UK: families, companies and the Public Administration.

Tables 4.4 and 4.5 show the detailed estimates of the effect of induced factoring in the UK both in absolute terms and in relation to the GDP of the year. It is necessary to point out that the ratio to GDP of the year may differ from the sector's contribution to the formation of it, since the estimation of the induced effect includes effects that occur in stages (see methodological appendix), so in a period that may exceed one year. The relationship with the GDP of the year aims to provide a unit of size to the effect induced by factoring in the UK economy, in order to appreciate more immediately the size of the phenomenon.

### 4.3.1.Families

As regard to the induced contribution of factoring for families, this is estimated according to the method described in the appendix methodology, based on a mechanism of income multiplier.

In detail, the induced effect on the families' income *(EIR)* in 2008 is estimated to be equal to 26.8 billion euros, equal to 1 .48% of GDP. In 2007-2008, the income induced by factoring amounted to 66.7 billion euros, equal to 1 .73% of GDP in two years.

When we distinguish in the the use of such estimated income of families, we observe that:

- the induced effect on consumption (EIC) in 2008 is equal to 16.2 billion euros, or 0.89% of GDP. In 2007-2008, consumption induced by factoring amounted to 40.5 billion euros, equal to 1 .05% of GDP in two years;
- the induced effect on savings (EIRIS) is equal to 246 million euros, or 0.01% of GDP. In 2007-2008, the savings induced by factoring amounted to 794 million euros, equivalent to 0.02% of GDP in two years.

### 4.3.2. Companies

With regard tp the induced contribution of factoring for the companies, this is estimated by looking at the direct effect on bank deposits, loans, and thus on investments. In detail:

- the induced effect produced by factoring on bank deposits *(EIDB)* is estimated to be equal to the savings of families, having placed the hypothesis that families' savings are fully deposited in bank;

- the induced effect on bank loans*(EICB)* is estimated by assuming that banks transform raised deposits into loans (net of share allocated to liquidity reserves) which are derived from savings induced by factoring. Hence it is estimated that factoring has led to new bank loans amounting to 241 million euros, or 0.01% of GDP. In 2007-2008, the income induced by factoring amounted to 778 million euros, or 0.02% of GDP in two years;

- the effect induced on Investment*(EII)* is estimated by assuming that firms transform the bank loans into real investments. It is estimated that factoring has led to new real investments amounting to 53 million euros, equivalent to 0.01% of GDP. In 2007-2008, the income induced by factoring amounted to 194 million euros, or 0.01% of GDP in two years.

### 4.3.3.Public Administration

As regards the induced contribution of factoring for Public Administration *(EIPA),* the total induced contribution estimated in 2008 amounted to 13.6 billion euros, equal to 0.75% of GDP. In 2007-2008, the total taxation induced by factoring amounted to 33.5 billion euros, equal to 0.87% of GDP in two years. These values were estimated by distinguishing the effect due to direct taxes and indirect taxes. In detail:

- the induced effect for the Public Administration arising from indirect taxes on consumption induced by factoring *(IICI)* amounted to 3.2 billion euros, equal to 0.18% of GDP. In 2007-2008, indirect taxes induced by factoring amounted to 8.1 billion euros, equal to 0.21% of GDP in two years;

- the induced effect for the Public Administration resulting from direct taxes on income induced by factoring *(IDRI)* amounted to 10.4 billion euros, equal to 0.57% of GDP. In 2007-2008, direct taxes induced by factoring amounted to 25.4 billion euros, equal to 0.66% of GDP in two years.

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**Table 4.4**

*The induced effect produced by factoring in the UK (in millions of euro)*

|  | 2007 | 2008 |
|---|---|---|
| **Families** | | |
| Induced effect on income (EIR) | 39.952 | 26.781 |
| Induced effect on consumption (EIC) | 24.343 | 16.171 |
| Induced effect on savings (EIRIS) | 548 | 246 |
| **Companies** | | |
| Induced effect on bank deposits (EIDB) | 548 | 246 |
| Induced effect on bank loans (EICB) | 537 | 241 |
| Induced effect on investment (EII) | 141 | 53 |
| **Public Administration** | | |
| Induced effect for Public Administration (EIPA) | 19.931 | 13.598 |
| Indirect taxes on induced consumption (IICI) | 4.869 | 3.234 |
| Direct taxes on induced income (IDRI) | 15.062 | 10.364 |

*Source: Based on ABFA data, Factors Chain International, Bank of England, ISTAT, Eurostat*

**Table 4.5**

*The induced effect produced by factoring in the UK (as a percentage of GDP the year \*)*

|  | 2007 | 2008 |
|---|---|---|
| **Families** | | |
| Induced effect on income (EIR) | 1.95% | 1.48% |
| Induced effect on consumption (EIC) | 1.19% | 0.89% |
| Induced effect on savings (EIRIS) | 0.03% | 0.01% |
| **Companies** | | |
| Induced effect on bank deposits (EIDB) | 0.03% | 0.01% |
| Induced effect on bank loans (EICB) | 0.03% | 0.01% |
| Induced effect on investment (EII) | 0.01% | 0.00 |
| **Public Administration** | | |
| Induced effect for Public Administration (EIPA) | 0.97% | 0.75% |
| Indirect taxes on induced consumption (IICI) | 0.24% | 0.18% |
| Direct taxes on induced income (IDRI) | 0.73% | 0.57% |

*Source: Based on ABFA data, Factors Chain International, Bank of England, ISTAT, Eurostat*
*\* The figures are not meant to express the contribution of the induced factoring to GDP in the year (since the estimate of the induced considers the effects that could be produced on a multiannual basis under the mechanism of income), but want to provide a unit of measure to allow a more immediate understanding of the size of the phenomenon.*

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**Figure 4.12**
*The contribution to the UK economy induced by factoring in 2007-2008 (Absolute value: 75.0 billion euros)*
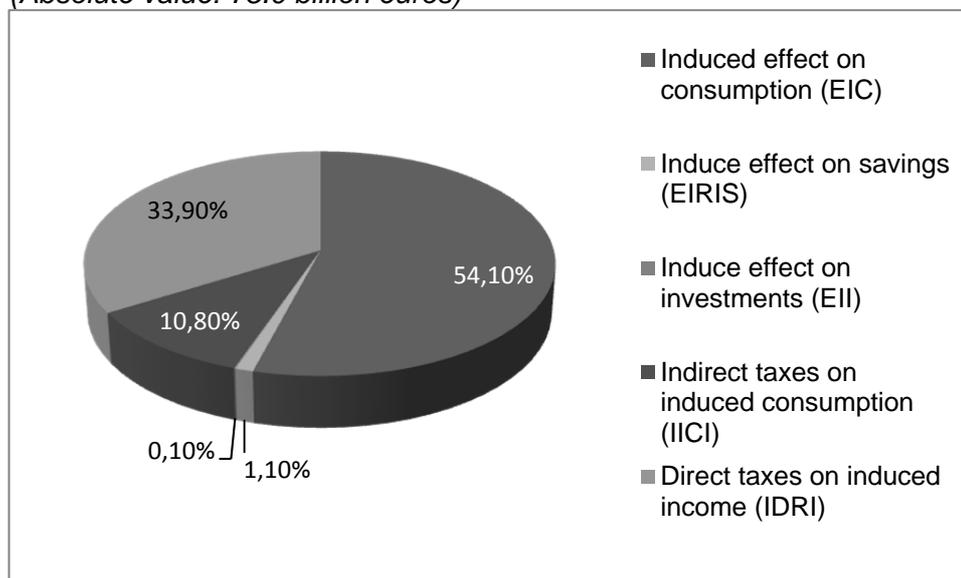


*Source: Based on ABFA data, Factors Chain International, Bank of England, ISTAT, Eurostat*

## 4.4.The total contribution of factoring in the UK

The estimate of internal and external effect is now possible to estimate the overall contribution[21]factoring the UK economy. After considering the internal and external effect, it is now possible to estimate the overall contribution of factoring to the UK economy:

- the overall effect on consumption *(ECC)* is estimated to be equal to 16.2 billion euros, or 0.89% of GDP. In 2007-2008, the total consumption generated by factoring amounted to almost 40.5 billion euros, equal to 1.05% of GDP in two years;
- the overall effect on savings *(ECRIS)* amounted to 246 million euros, equivalent to 0.01% of GDP. In 2007-2008, the total savings induced by factoring amounted to 794 million euros, equivalent to 0.02% of GDP in two years;
- the overall effect on investment *(ECI)* is estimated to be equal to 25.2 billion euro, equal to 1 .39% of GDP. In 2007-2008, the total investments

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[21]The overall effect on consumption and savings coincides with the induced effect (EIC and EIRIS), whose measure also includes the portion allocated to consumption and savings of the income generated directly from factoring, i.e. from the employees of companies operating in the sector. With regard to the overall effect on investment, it is necessary to add the direct effect, i.e. investment directly funded by factoring in the reference period (turnover) and the induced effect on investment resulting from the portion of savings relative to induced income, deposited in bank and then transformed into loans to businesses (EII). Finally, the overall effect for the PA is obtained by adding the tax revenue directly generated by the sector (direct taxes, ID, paid by the factoring companies) and the induced effect, EIPA (indirect taxes on induced consumption, IICI, and direct taxes on induced income, IDRI).

generated by factoring amounted to 63.6 billion euros, equal to 1 .64% of GDP in two years;

- the overall effect of factoring for Public Administration *(ECPA)* is estimated to be equal to 13.8 billion euros, or 0.76% of GDP. In 2007-2008, the total taxes generated by factoring have been slightly lower than 34.2 billion euros, equal to 0.88% of GDP in two years.

**Figure 4.13**

*The total contribution of factoring to the UK economy in 2007-2008 (in billions of euro)*
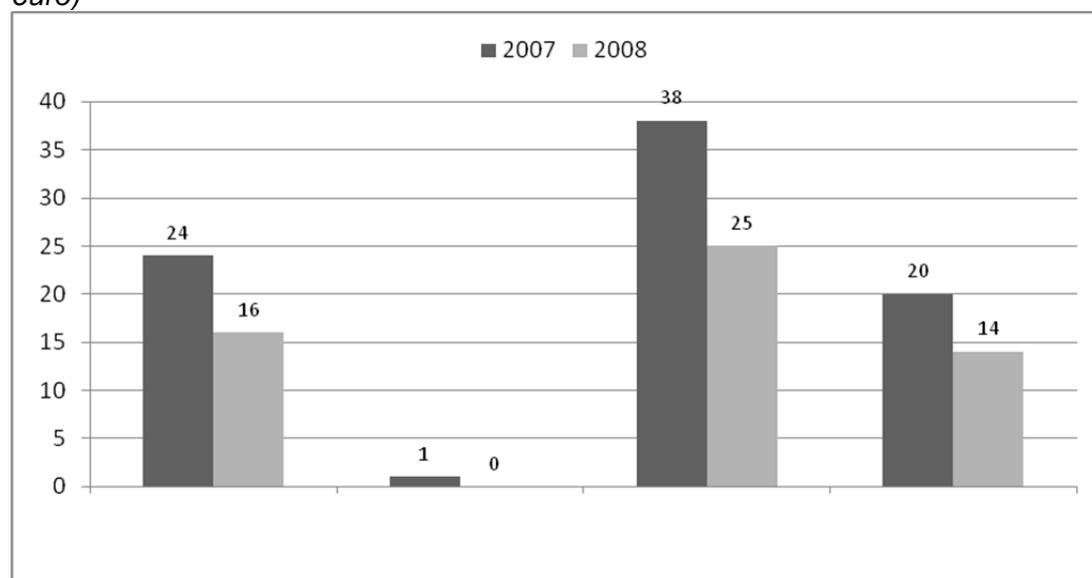


*Source: Based on ABFA data, Factors Chain International, Bank of England, ISTAT, Eurostat*

## 4.5. The dynamic level

The third level of analysis is designed to measure the dynamic impact on the economy if the factoring market fails.

In this hypothesis, we estimate the response of the economic system, based on its ability to develop "substitutes" products offered by other operators and appropriate to meet the needs of customers. The "specific" contribution of factoring to the economy is thus obtained as the difference between the overall effect of the sector and the response of the economy when factoring disappears.

The response of the economy to the absence of factoring is estimated assuming five scenarios:

a) Scenario 1): immediate and full adjustment of prices and quantities. It is assumed that there are substitute products to factoring ($D_s=1$) and that prices and salaries in the economy are fully flexible (flex=1). This is sufficient to ensure full employment and the total replacement of the market

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with alternative operators. In the absence of factoring, it is assumed that the human resources employed in the sector are "liberated" and "immediately" reabsorbed by alternative companies (e.g. banks) able to offer useful products to meet just as effectively the needs of applicant companies to factoring. In this scenario, companies could still have access to forms of short-term financing: the impact of the elimination of the sector would be immediately absorbed and its specific contribution to the economy could be considered null and void.

b) <u>Scenario 2) failure to adjust prices and quantities.</u> It is assumed that there is no substitute products ($D_s$=0) and/or the total lack of flexibility in the adjustment of prices and salaries (flex=0). In the absence of factoring, it is assumed that the human resources "liberated" are not absorbed by the alternative companies. In this scenario, companies do not have access to alternative sources of short-term credit: the impact of the disappearance of factoring would then not be reabsorbed and the specific contribution of the sector would be equal to the value of the overall effect previously estimated.

c) <u>Scenario 3) gradual adjustment in five years of prices and quantities.</u> It is assumed that prices and salaries in the economy are partly flexible and also that products partially able to meet the needs of applicant companies to factoring are available. Following the approach of the study on the impact of leasing in the U.S., we assume a complete adjustment over a period of 5 years ($flex_1$=0.2; $flex_2$=0.4; $flex_3$=0.6; $flex_4$=0.8; $flex_5$=1.0).

d) <u>Scenario 4) gradual adjustment in three years of prices and quantities.</u> It is assumed that prices and salaries in the economy are partly flexible and also that products partially able to meet the needs of short-term financing of companies are available . a speed of adjustment of three years is assumed that produces estimates of the specific contribution of factoring. These estimates are more cautious than in the previous scenario ($flex_1$=0.33; $flex_2$=0.67; $flex_3$=1.0).

e) <u>Scenario 5) gradual adjustment in two years of prices and quantities.</u> It is assumed that prices and salaries in the economy are partly flexible and also that products partially able to meet the needs of short-term financing of companies are available. a speed of adjustment of two years is assumed that produces estimates of the specific contribution of factoring. These estimates are extremely conservative compared to the two previous scenarios, since it is assumed that the "damage" to the economy is limited to the first year ($flex_1$=0.50; $flex_2$=1.0), while in the second year the system is already able to completely replace the factoring industry.

Table 4.6 and Table 4.7 show in detail the estimates based on the assumption that factoring disappears in 2009 and its effects over a five-year period are estimated (base: 2008).

**Table 4.6**

*The response of the UK economy to the absence of factoring (Base:2008, in Euro millions) \**

| | $t_1$ | $t_2$ | $t_3$ | $t_4$ | $t_5$ | VA($t_1$;$t_5$) | VA($t_1$;$t_5$)/GDP |
|---|---|---|---|---|---|---|---|
| <u>Dynamic effect on consumption</u> | | | | | | | |
| Scenario 1) Immediate and full adjustment of prices and quantities | 16171 | 16171 | 16171 | 16171 | 16171 | 77.580 | 4.27% |
| Scenario 2) Non-adjustment of prices and quantities | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
| Scenario 3) Progressive adjustment in 5 years of prices and quantities | 3,234 | 6,468 | 9,702 | 12937 | 16171 | 45.886 | 2.53% |
| Scenario 4) Progressive adjustment in 3 years of prices and quantities | 5,390 | 10780 | 16171 | 16171 | 16171 | 61.561 | 3.39% |
| Scenario 5) Progressive adjustment in 2 years of prices and quantities | 8,085 | 16171 | 16171 | 16171 | 16171 | 69.541 | 3.83% |
| <u>Dynamic effect on savings</u> | | | | | | | |
| Scenario 1) Immediate and full adjustment of prices and quantities | 246 | 246 | 246 | 246 | 246 | 1.181 | 0.07% |
| Scenario 2) Non-adjustment of prices and quantities | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
| Scenario 3) Progressive adjustment in 5 years of prices and quantities | 49 | 99th | 148 | 197 | 246 | 699 | 0.04% |
| Scenario 4) Progressive adjustment in 3 years of prices and quantities | 82 | 164 | 246 | 246 | 246 | 937 | + 0.05 |
| Scenario 5) Progressive adjustment in 2 years of prices and quantities | 123 | 246 | 246 | 246 | 246 | 1.059 | 0.06% |
| <u>Dynamic effect on investment</u> | | | | | | | |
| Scenario 1) Immediate and full adjustment of prices and quantities | 25188 | 25188 | 25188 | 25188 | 25188 | 120.840 | 6.66% |
| Scenario 2) Non-adjustment of prices and quantities | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
| Scenario 3) Progressive adjustment in 5 years of prices and quantities | 5,038 | 10075 | 15113 | 20150 | 25188 | 71.473 | 3.94% |
| Scenario 4) Progressive adjustment in 3 years of prices and quantities | 8,396 | 16792 | 25188 | 25188 | 25188 | 95.889 | 5.28% |
| Scenario 5) Progressive adjustment in 2 years of prices and quantities | 12594 | 25188 | 25188 | 25188 | 25188 | 108.318 | 5.97% |
| <u>Dynamic effect for the Public Administration</u> | | | | | | | |
| Scenario 1) Immediate and full adjustment of prices and quantities | 13809 | 13809 | 13809 | 13809 | 13809 | 66.252 | 3.65% |
| Scenario 2) Non-adjustment of prices and quantities | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
| Scenario 3) Progressive adjustment in 5 years of prices and quantities | 2,762 | 5,524 | 8,286 | 11048 | 13809 | 39.186 | 2.16% |
| Scenario 4) Progressive adjustment in 3 years of prices and quantities | 4,603 | 9,206 | 13809 | 13809 | 13809 | 52.572 | 2.90% |
| Scenario 5) Progressive adjustment in 2 years of prices and quantities | 6,905 | 13809 | 13809 | 13809 | 13809 | 59.387 | 3.27% |

**Table 4.7**

*The specific contribution of factoring to the UK economy (Base: 2008, in millions of euro)*

| | $t_1$ | $t_2$ | $t_3$ | $t_4$ | $t_5$ | VA($t_1$;$t_5$) | VA($t_1$;$t_5$)/GDP |
|---|---|---|---|---|---|---|---|
| <u>Dynamic effect on consumption</u> | | | | | | | |
| Scenario 1) Immediate and full adjustment of prices and quantities | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
| Scenario 2) Non-adjustment of prices and quantities | 16.171 | 16.171 | 16.171 | 16.171 | 16.171 | 77.580 | 4.27% |
| Scenario 3) Progressive adjustment in 5 years of prices and quantities | 12.937 | 9.702 | 6.468 | 3.234 | 0 | 31.694 | 1.75% |
| Scenario 4) Progressive adjustment in 3 years of prices and quantities | 10.780 | 5.390 | 0 | 0 | 0 | 16.018 | 0.88% |
| Scenario 5) Progressive adjustment in 2 years of prices and quantities | 8.085 | 0 | 0 | 0 | 0 | 8.039 | 0.44% |
| <u>Dynamic effect on savings</u> | | | | | | | |
| Scenario 1) Immediate and full adjustment of prices and quantities | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
| Scenario 2) Non-adjustment of prices and quantities | 246 | 246 | 246 | 246 | 246 | 1.181 | 0.07% |
| Scenario 3) Progressive adjustment in 5 years of prices and quantities | 197 | 148 | 99th | 49 | 0 | 483 | 0.03% |
| Scenario 4) Progressive adjustment in 3 years of prices and quantities | 164 | 82 | 0 | 0 | 0 | 244 | 0.01% |
| Scenario 5) Progressive adjustment in 2 years of prices and quantities | 123 | 0 | 0 | 0 | 0 | 122 | 0.01% |
| <u>Dynamic effect on investment</u> | | | | | | | |
| Scenario 1) Immediate and full adjustment of prices and quantities | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
| Scenario 2) Non-adjustment of prices and quantities | 25.188 | 25.188 | 25.188 | 25.188 | 25.188 | 120.840 | 6.66% |
| Scenario 3) Progressive adjustment in 5 years of prices and quantities | 20.150 | 15.113 | 10.075 | 5.038 | 0 | 49.367 | 2.72% |
| Scenario 4) Progressive adjustment in 3 years of prices and quantities | 16.792 | 8.396 | 0 | 0 | 0 | 24.950 | 1.37% |
| Scenario 5) Progressive adjustment in 2 years of prices and quantities | 12.594 | 0 | 0 | 0 | 0 | 12.521 | 0.69% |
| <u>Dynamic effect for the Public Administration</u> | | | | | | | |
| Scenario 1) Immediate and full adjustment of prices and quantities | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 |
| Scenario 2) Non-adjustment of prices and quantities | 13.809 | 13.809 | 13.809 | 13.809 | 13.809 | 66.252 | 3.65% |
| Scenario 3) Progressive adjustment in 5 years of prices and quantities | 11.048 | 8.286 | 5.524 | 2.762 | 0 | 27.066 | 1.49% |
| Scenario 4) Progressive adjustment in 3 years of prices and quantities | 9.206 | 4.603 | 0 | 0 | 0 | 13.679 | 0.75% |
| Scenario 5) Progressive adjustment in 2 years of prices and quantities | 6.905 | 0 | 0 | 0 | 0 | 6.865 | 0.38% |

*\* Estimates are obtained over a period of 5 years and the estimated values are proportional to GDP in 2008. These estimates are not intended to express the contribution of factoring to the formation of GDP in 2008 (since the estimation considers effects that could be produced on a multiannual basis under the mechanism of income), but want to provide a measure for a more immediate understanding of the size of the phenomenon.*

Considering the overall effect produced by factoring to the economy of United Kingdom, it is estimated that the economy has a reaction able to ensure a contribution to:

- Families' consumption between 77.6 billion euros (in the scenario of full and immediate adjustment) and zero (in the scenario of failure to adjust). Symmetrically, the specific contribution of factoring would therefore be equal to 0 or 77.6 billion euros (Figure 4.14). The scenarios for partial adjustment predict that the response of the economy ensures a flow of alternative consumption of 45.9 billion euros (if the adjustment is completed in 5 years), of 61.6 billion euros (if the adjustment is completed in 3 years) and 69.5 billion euros (if the adjustment is completed in 2 years). The specific contribution of factoring amounted to 31.7 billion euros, equal to 1 .7% of GDP (if the adjustment is completed in 5 years), to 16.0 billion euros, equal to 0.9% of GDP (if the adjustment is completed in 3 years) and 8.0 billion euros, equal to 0.4% (if the adjustment is completed in two years);
- Families' savings between 1.2 billion euros (scenario full and immediate adjustment) and zero (in the scenario of failure to adjust). Symmetrically, the specific contribution of factoring would therefore be equal to 0 or 1.2 billion euros (Figure4.15).The scenarios for partial adjustment predict that the response of the economy ensures a flow of alternative savings of 0.7 billion euros (if the adjustment is completed in 5 years), 0.9 billion euros (if the adjustment is completed in 3 years) and 1.1 billion euros (if the adjustment is completed in 2 years). The specific contribution of factoring is therefore equal to 0.48 billion euros, equal to 0.03% of GDP (if the adjustment completed in 5 years), of 0.24 billion euros, equivalent to 0.01% of GDP (if the adjustment is completed in 3 years) and 0.12 billion euros, or 0.01% (if the adjustment is completed in two years);
- Business investment of 120.8 billion euros (in the scenario of full and immediate adjustment) and zero (in the scenario of failure to adjust). Symmetrically, the specific contribution of factoring would therefore be equal to 0 or 120.8 billion euros (Figure4.16). The scenarios for partial adjustment predict that the response of the economy ensures a flow of alternative investments 71.5 billion euros (if the adjustment is completed in 5 years), of 95.9 billion euros (if the adjustment is completed in 3 years) and 108.3 billion euros (if the adjustment is completed in 2 years). The specific contribution of factoring amount to 49.4 billion euros, equal to 2.7% of GDP, to 24.9 billion euros, equal to 1.4% of GDP (if the adjustment is completed in 3 years) and 12.5 billion euros, equivalent to 0.7% (if the adjustment is completed in two years);
- Public Administration (in terms of total tax revenues), between 66.3 billion euros (in the scenario of full and immediate adjustment) and zero (in the scenario of failure to adjust). Symmetrically, the specific contribution of factoring would therefore be equal to 0 or 66.3 billion euros (Figure 4.17). The scenarios for partial adjustment predict that the response of the economy ensures alternative 39.2 Euro billions revenues (if the adjustment is completed in 5 years), of 52.6 billion euros (if the adjustment is completed in 3 years) and 59.4 billion euros (if the adjustment is completed in 2 years). The specific contribution of factoring amount to 27.1 billion euros, equal to 1.5% of GDP, 13.7 billion euros, equal to 0.8% of GDP (if the adjustment is completed in 3 years) and 6.9 billion euros, equal to 0.4% (if the adjustment is completed in 2 years).

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**Figure 4.14**

*The "specific" contribution of factoring to the UK economy (base: 2008):
the effect on families consumption in absolute terms (million euro) and as a
percentage of GDP \**



*\* The specific contribution of the sector and the response of the economy are estimated over a period of 5 years and are related to GDP in 2008. The figures are not meant to express the contribution to the formation of GDP in 2008 (since the estimation considers the effects that could be produced on a multiannual basis under the mechanism of income), but want to provide a measure to allow a more Immediate understanding of the size of the phenomenon.*

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**Figure 4.15**

*The contribution of "specific" factoring the the UK economy (base: 2008): the effect on families' savings in absolute terms (million euro) and as a percentage of GDP \**



\* *The specific contribution of the sector and the response of the economy are estimated over a period of 5 years and are related to GDP in 2008. The figures are not meant to express the contribution to the formation of GDP in 2008 (since the estimation considers the effects that could be produced on a multiannual basis under the mechanism of income), but want to provide a measure to allow a more Immediate understanding of the size of the phenomenon.*

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**Figure 4.16**

*The "specific" contribution of factoring to the UK economy (base: 2008):*
*the effect on investment in absolute terms (million euro) and as a percentage of*
*GDP \**
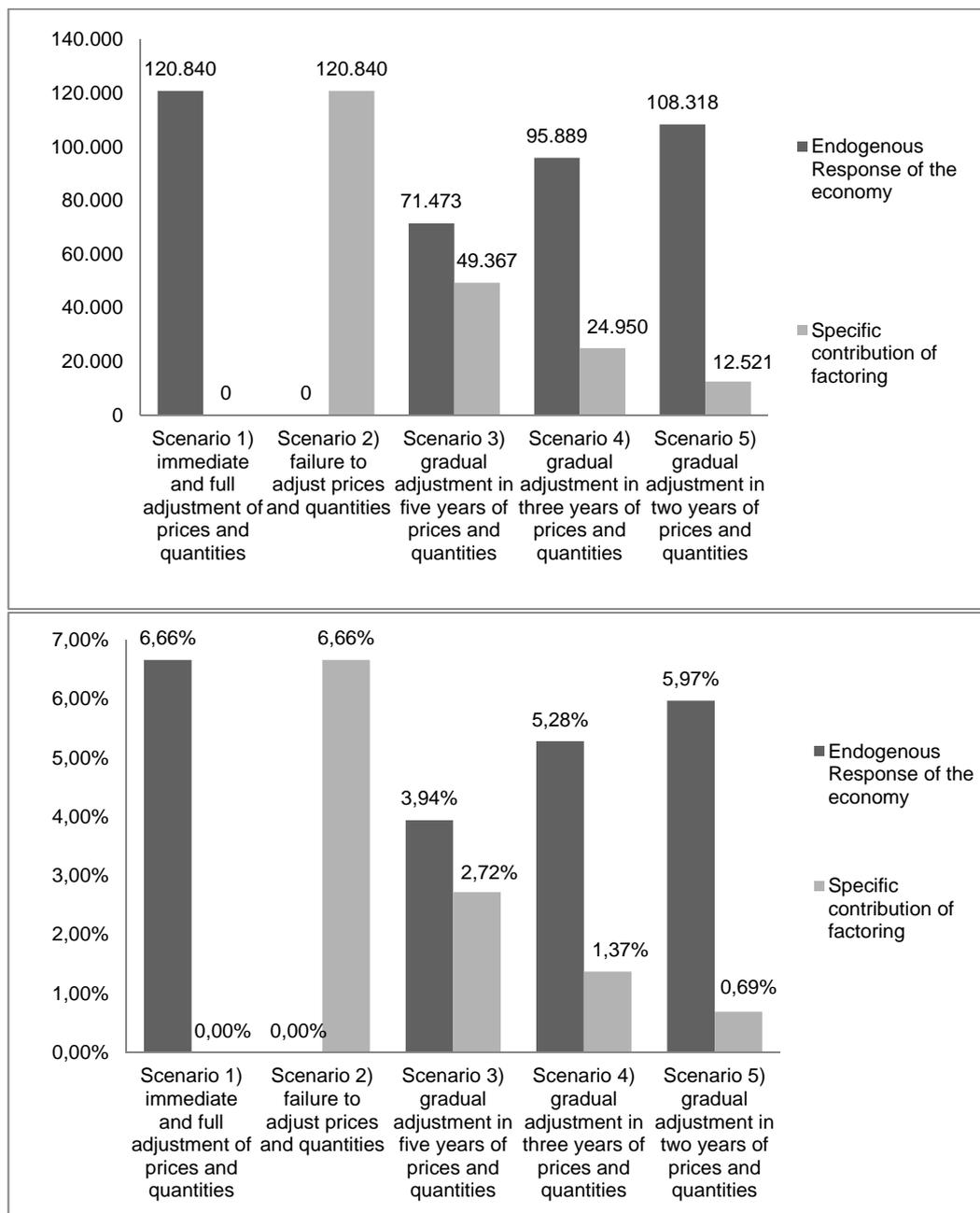
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**Figure 4.17**

*The "specific" contribution of factoring to the UK economy (base: 2008): Effect on Public Administration in absolute values (million euro) and as a percentage of GDP ***
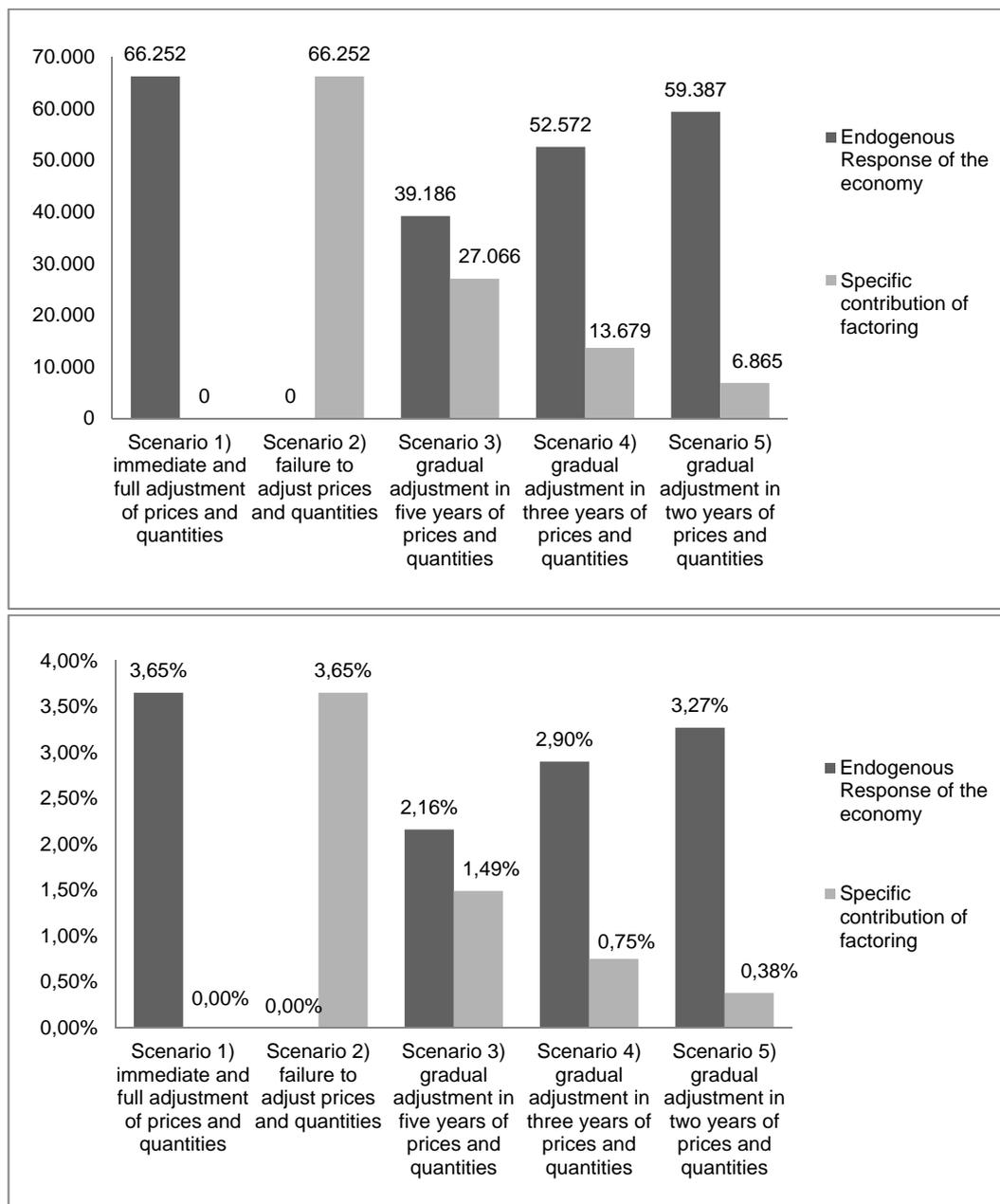
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## 4.6Conclusions

This chapter has analyzed the contribution of factoring to the UK economy. After estimating the direct and induced effect, it is expected that:

- the overall effect on consumption *(ECC)* is equal to 16.2 billion euros in 2008 (0.9% of GDP) and 40.5 billion euros in the period 2007-2008;
- the overall effect on savings *(ECRIS)* is equal to 246 million euros in 2008 (0.01% of GDP) and 794 million euros in 2007-2008;
- the overall effect on investments*(ECI)* is equal to 25.2 billion euros in 2008 (1.39% of GDP) and 63.6 billion euros in the period 2007-2008;
- the overall effect for Public Administration *(ECPA)* is equal to 13.8 billion euros in 2008 (0.8% of GDP) and 34.2 billion euros in 2007-2008.

Assuming the absence of factoring, we estimate the response of the economic system based on the possibility to develop "substitute" products offered by other operators that can satisfy the needs of short-term financing of companies. The "specific" contribution of factoring is the difference between the contribution of the sector and the response of the economy to its absence. In particular, we analyzed five macroeconomic scenarios: 1) immediate and full adjustment of prices and quantities, and 2) failure to adjust prices and quantities, 3) gradual adjustment in five years of prices and quantities, 4) gradual adjustment of prices in 3 years and quantity; 5) gradual adjustment in two years of prices and quantities.

In the case of the UK factoring market, a realistic scenario is a 5-year progressive adjustment of prices and quantities for which the specific contribution of factoring:

- to consumption is estimated to be equal to 31.7 billion euros, equal to 1.7% of GDP;
- to savings is estimated to be equal to 0.5 billion euros, or 0.03% of GDP;
- to investment is estimated to be equal to 49.4 billion euros, equal to 2.7% of GDP;
- to Public Administration is estimated to be equal to 27.1 billion euros, equal to 1 .5% of GDP.

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# Chapter 5
# An overview

## 5.1.Introduction

This chapter concludes the research on factoring in Europe by proposing an integrated analysis of the results obtained for the three countries examined (Italy, France and the United Kingdom).

Similarly to what has been proposed in previous chapters, the assessment is carried out with a step by step approach (so-called "concentric circles" approach) on three levels: direct, indirect and dynamic level.

## 5.2.Factoring in Europe

This section examines the direct, induced and dynamic contribution of factoring in the three countries analyzed (Italy, France and United Kingdom). In the first part of the paragraph we analyze the overall effect generated by the presence of factoring operators in terms of consumption, savings, investments and Public Administration. In the second partwe present the results of the model regarding the analysis by scenarios.

Panel A of Figure 5.1 shows the overall effect produced by factoring in the three countries. A common feature of the three markets is the low percentage of savings, due in part to the high propensity in the three economies to consume (particularly the British one, more than 95%) within a given time horizon.

An interesting aspect is the impact of factoring on investment in working capital: in the three markets examined, the main contribution is on investment with more than 40 billion euros in France and Italy and 25 billion euros in the United Kingdom. The total contribution for Public Administration is more than 10 billion euros in all countries.

The results relating to the effect on consumption deserve special attention. This effect appears to be almost twice higher in Italy than (that estimated for)in the United Kingdom (2.64% of GDP in Italy, 2.19% of GDP in France and 1.39% in the UK). In any of the three countries the effect on savings is more than one percentage point of GDP, and the effect for the Public Administration remains at about 0.7% of GDP.

In the case of the UK, it is necessary to specify that it is a substantially different market than the French and Italian one, in which the predominant product is the advance on invoices *(invoice discounting),* while the true factoring operations play a marginal role.

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**Figure 5.1**

*Factoring in Europe: the overall effect*
*Panel A) Absolute values (in billions of euro)*
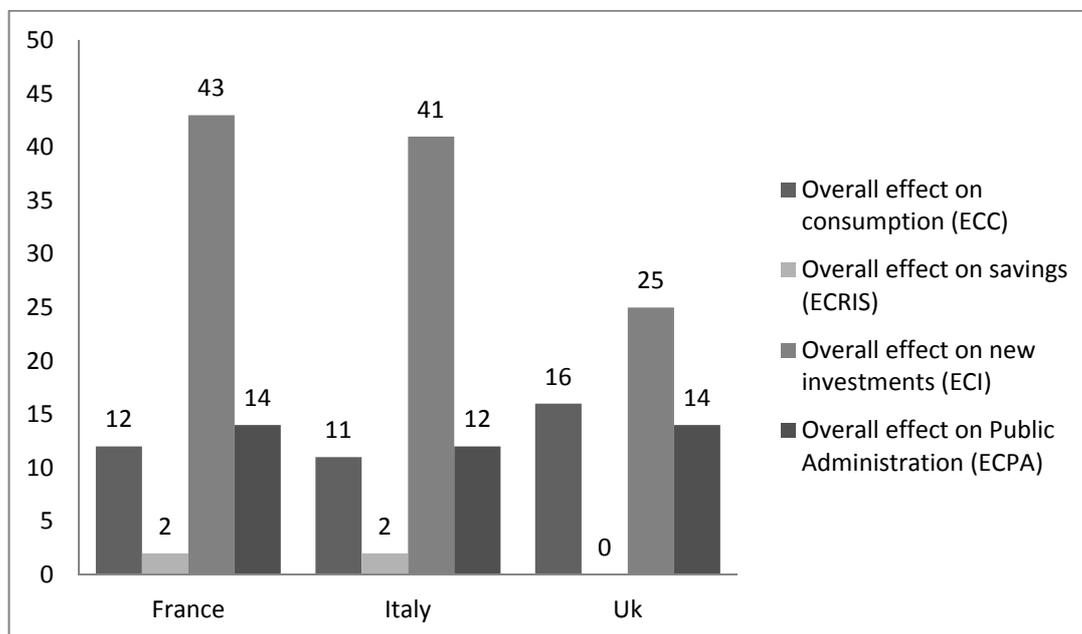


*Panel B) Percentages of GDP*
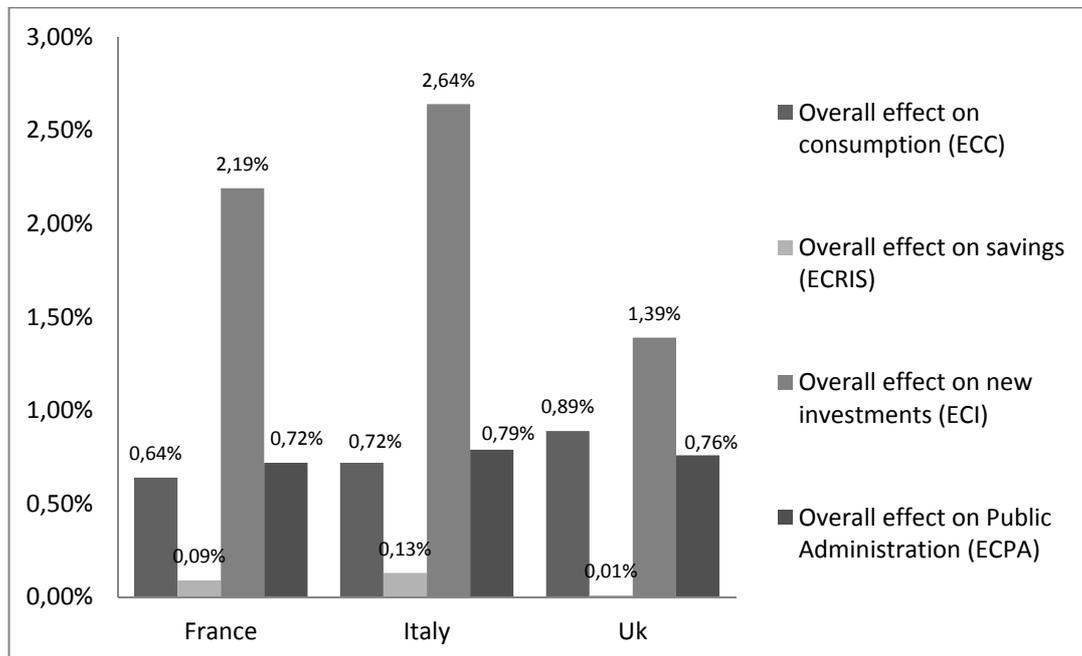


Figure 5.2 shows the results of the dynamic analysis: these confirm that in the absence of factoring, there will be substantial damages to the economies of the three countries (even assuming a complete absorption in 5 years), estimated at 140 billion euros in France (equivalent to 7.14% of GDP in 2008), of which 84 related to

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the financing of investments in working capital, 131 billion euros in Italy (equivalent to 8.39% of GDP in 2008), of which 85 related to the financing of investments in working capital, and 109 billion euros in the United Kingdom (equivalent to 7.14% of GDP in 2008), of which 49 related to the financing of investments in working capital.

**Figure 5.2**

*Factoring in Europe: the dynamic effect*
*Panel A) Absolute values (in billions of euro)*
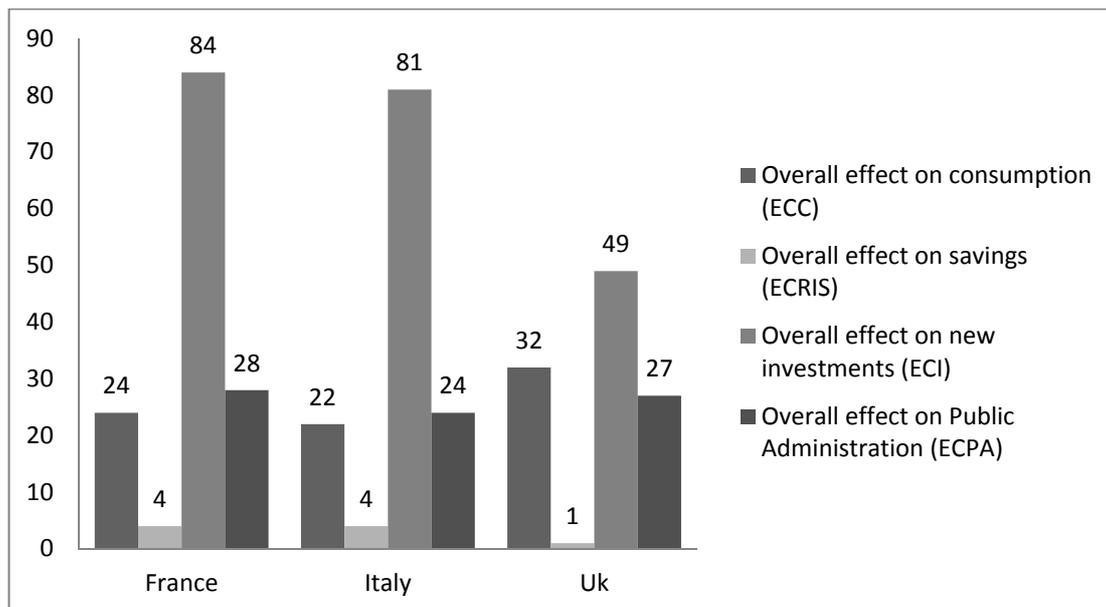


*Panel B) Percentages of GDP in 2008*
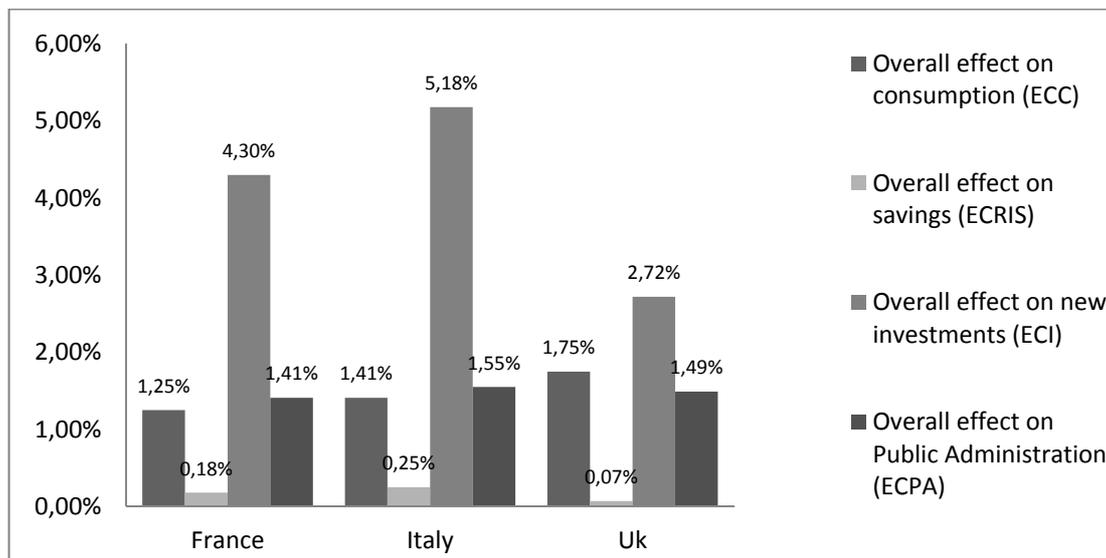
## 5.3. Conclusions

The research analyzed the contribution of factoring to the economy of Italy, France and the United Kingdom. It is an important market, with established positions in financial and real systems and with substantial support to the real economy.

The contribution of the factoring market in a country is estimated by using a methodology based on the supply of specialized credit, following a gradual approach (so-called "concentric circles" approach), in order to evaluate the importance of each of the following three levels: the direct level (given by the effects "directly" produced by market participants), the induced level (given by the effects produced by the *stakeholders* of the market operators, thus "indirectly" related to factoring) and the dynamic level (concerning the damage to the economy in the absence of factoring).In other words, the estimation process is based on the *stakeholder view:* the first level estimates the direct effects on *stakeholders,* the second level estimates the effects produced by the *stakeholders,* the dynamic effect estimates the damage to the *stakeholders* without factoring.

In the estimation process a conservative approach in the estimates has been intentionally chosen since: 1) the model is focused on the supply, leaving out the effects on demand, which affects the estimate of the contribution of factoring, 2) it has not always been possible to consider general operators, and 3) whenever "realistic" hypotheses were possible, the most prudent one has always been chosen , 4) potentially, the estimates may underestimate the true contribution.

In conclusion, the contribution to the economy of the factoring market is important (everywhere) beyond the cyclical trends. The estimation of the contribution varies depending on the context. The results obtained clearly indicate the strong rooting of factoring to real economy, which is directly linked to consumption and, in particular to investments. Of particular importance is the contribution of direct and induced factoring (beyond the economic trend) to meet the needs of employees, customers and tax authorities. The rooting of factoring can be seen by observing the dynamic profile, which even with "strong" assumptions indicates that the absence of this market could create an element of great discontinuity in the financial support of the economy.

The proposed work therefore constitutes a first attempt to estimate the phenomenon. The approach can be improved in the future by collecting more detailed data and refining the estimates, which are very conservative but still quite significant, so as to provide a timely and effective contribution of factoring to the Italian economy.

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# Methodological Appendix

In every country studied, the contribution of the factoring market is estimated based on a "concentric circles" approach in order to assess their importance in each of the following three levels[22]:

a) direct effect;

b) induced effect;

c) dynamic effect.

The first level of analysis are the direct effects produced by factoring on the main *stakeholders,* such as employees and external collaborators, borrowers, Public Administration and lenders (shareholders and creditors).The direct effects are measured by public and semi-public data, as follows:

## *Employees and external collaborators*

1) The direct contribution of factoring to its employees and external collaborators is estimated through two indicators:

a) the total cost of salaries paid by the factoring operators (CRS)[23].If public data is available, we distinguish between the overall cost for the remuneration of employees (including social security contributions) and the amount of fee expenses paid to the networks of dealers external to the company;

b)the number of people employed in the sector (NIS).In this case it refers only to employees, unless there is no information on the number of third parties related to the company.

## *Borrowers*

2) The direct contribution of factoring to financed companies is estimated through three indicators:

a) the total number of credits purchased by factoring operators in the period (i.e.*Turnover,*T)[24];

b) the amount of loans purchased at the end of the period (i.e.*Outstanding,*OUT)[25];

---

[22]As in any estimating economic model, no prediction can be considered perfectly correct, since it is based on assumptions and/or approximations, howeverchosen in the most reasonable and realistic way possible.

[23]Source: data collected from the financial statements of the individual companies or industry aggregate data published by the National Central Banks.

[24]Source: data collected by the national central banks or by industry associations.

[25]Source: data collected by the national central banks or by industry associations.

c) funding by factoring operators for the purchased credits(so called Advance, ANT)[26].

These data are presented separately by type of contract, of customers and of operators (according to their actual availability).

### *Public Administration*

3) The direct contribution provided by factoring to the public administration is estimated by detecting the direct taxes paid by the factoring companies*(ID)[27]*;

### *Lenders*

4) The direct contribution of factoring to financial companies operating in the sector is estimated looking at shareholders (in terms of assets under management, profits generated, efficiency conditions and risks undertaken[28]) and external funders (in terms of interests paid by the company).

The direct effects of products towards the above-mentioned categories of *stakeholders* are examined both in absolute terms and in relation to the main macroeconomic indicators of the country (e.g., gross domestic product, consumer spending, investment levels, total tax revenues, etc.) in order to evaluate the impact of the contribution of factoring in the context.

The second level of analysis concerns the estimation of the induced effect of factoring. In this case, we take into account the effects generated indirectly through the considered activity (e.g. consumption of employees of the factoring companies) and those produced in other sectors (e.g. consumption of employees of companies financed by the factoring company). Distinguishing by institutional sector, the contribution "induced" to the economy of each country is estimated as follows:

### *Families*

The contribution induced by factoring for families is measured from the side of consumption and savings.

5) The induced effect on families' incomes *(EIR).*

They are new income induced by the presence of factoring. These are estimated by the sum of three different elements: a) the effect of the income of employees of the factoring companies and the fees paid for the delivery of

---

[26]Source: data collected by the national central banks or by industry associations.

[27]Source: data collected from the financial statements of the individual companies or industry aggregate data published by the National Central Banks.

[28]Source: data collected from the financial statements of the individual companies or industry aggregate data published by the National Central Banks.

services through the third-party network, b) the effect of the income induced by tax revenues of the factoring companies, and c) the effect induced by the income of employees of the companies selling credits.

First, an estimate of Gross Income Induced by factoring immediately, called time $t_0 (RLI_{t0})$.

With regard to the first element (a), we add up the total cost of labor salaries sustained by factoring operators and the fees paid for services purchased from third parties, obtaining the total income paid by companies of the sector *(CRS)*[29].Since a breakdown of the fees among the various services purchased is not available, the total fee expenses is used as an approximation of the total external services purchased[30]and, therefore, the income distributed to third parties such as financial intermediaries, agents, experts, etc..

Regarding the new income induced by tax revenue of the factoring companies (b), we estimate the total cost of labor salaries of the Public Administration so funded *(CRPA_F)*. First, we measure the tax revenue deriving from factoring *(GFF),*approximated by the sum of the direct taxes paid by the factoring company *(ID).*

$$GFF = ID \tag{1}$$

*The CRPA_F* is determined by the product of the total cost of labor salaries of Public Administration *(CRPA)*[31]and the ratio of tax revenues induced by factoring *(GFF)* and the national tax revenues *(NSG):*

$$CRPA_F = \frac{GFF}{GFN} CRPA \tag{2}$$

The effect induced by the income of employees of companies selling credits to the factor (c) is estimated from the product of the flow of funds on an annual basis ($ANT_A$) provided by the Factor (estimated by the product of the average percentage of advances[32]and the annual turnover), the ratio (at the national level) between total assets *(TA)* and the net working capital *(NWC)* of non-financial companies, the ratio (at the national level) between the total sales revenue *(RIC)* and total assets *(TA)* of non-financial companies[33]and the ratio

---

[29]Source: data collected from the financial statements of the individual companies or industry aggregate data published by the National Central Banks.

[30]It should be noted, among other things, that the figure for fees expense is only available for the Italian market: this element is omitted in estimating the economic contribution of factoring for France and United Kingdom.

[31]Source: National Statistical Institutes, non-financial account relating to the sector of Public Administration.

[32]In the case of Italy, this value is estimated by the ratio of the amount of advances at the 31/12 and outstanding. In the case of France and United Kingdom, this figure is available at the FLA and the ASF.

[33]The ratio (at the national level) between total assets (TA) and the net working capital (NWC) of non-financial companies and the ratio (at the national level) between the total sales revenue (RIC) and total assets (TA) of non-financial firms are estimated using data from Italy's Mediobanca ratio obtained on a sample of 2000 companies. Since no comparable data are available for France and Britain, the ratios TA / CCN and RIC / TA are assumed to be equal to those of Italy.

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(estimated using national accounting data) between the total cost of employees (CPN), including social security contributions, and the amount of sales revenue of the country, which is assumed to be equal to the value of production (VP).

$$CRV = ANT_A \frac{TA}{CNN} \frac{RIC}{TA} \frac{CPN}{VP} \tag{3}$$

In summary, the Gross Income Induced by factoring at the beginning of the cycle ($RLI_{t0}$) is obtained:

$$RLI_{t_0} = CRS + CRPA_F + CRV \tag{4}$$

This total amount of income starts an iterative process (so-called multiplier), shown in Figure A.1.

The income $RLI_{t0,}$ net of the national average tax burden $(NFP)$[34], can be consumed or saved. The portion for consumption ($CI_{t0}$) is estimated as:

$$CI_{t0} = RLI_{t0}(1 - PFN)p_c \tag{5}$$

where $p_c$ is the average propensity of families[35] to consume

.

The portion for savings ($SI_{t0}$),instead, is estimated as:

$$SI_{t0} = RLI_{t0}(1 - PFN)(1 - p_c) \tag{6}$$

where (1-$p_c$)is the average propensity of families to save, complement to 1 of the propensity to consume.

Direct taxes paid by workers ($IDI_{t0}$), then, represent an income for Public Administration[36]equal to:

$$IDI_{t_0} = RLI_{t_0} PFN \tag{7}$$

The income consumed$CI_{t0}$ becomes revenue for the businesses sellers of goods and services, net of VAT. These revenues (coming from consumption at time $t_0$) become new gross income for the employees of these companies

---

[34]Source: ISTAT: The tax burden considered includes: direct and indirect taxes, in capital account, actual social contributions and imputed social contributions of the public administrations.

[35]National Statistical Institutes, non-financial account related to the institutional sector of families.

[36]It is necessary to specify that the taxes paid by the companies were already considered in the formula (1) and the taxes introduced here have the income received by workers and induced by factoring as tax base.

($_{c0}RLI_{t1}$),estimated in proportion to the ratio, considered at the national level, between the cost of labor of non-financial companies *(CPN)*[37]and the value of production *(VP)*[38]:

$$_{c_o} RLI_{t_1} = CI_{t_0} (1 - IVA) \frac{CPN}{VP} = RLI_{t_0} (1 - PFN) p_c (1 - IVA) \frac{CPN}{VP} \qquad (8)$$

These new wages ($_{c0}RLI_{t1}$),net of taxes, become part of ($p_c$)consumption and, always through the mechanism of sales, generate new wages and thus new income($_{c0,c1}RLI_{t2}$),as shown in branch CC of Figure A.1.

$$_{c_0,c_1} RLI_{t_2} = {}_{c_0} RLI_{t_1} (1 - PFN) p_c (1 - IVA) \frac{CPN}{VP} =$$
$$= RLI_{t_0} (1 - PFN)^2 pc^2 (1 - IVA)^2 \frac{CPN^2}{VP^2} \qquad (9)$$

An iterative process follows (consumption$\Rightarrow$ income $\Rightarrow$ consumption$\Rightarrow$ $\Rightarrow$ income $\Rightarrow$...) that can be generalized in *n* stages.

It is also necessary to consider the case in which the revenues induced by the consumption at time $t_1$ ($_{c0}RLI_{t1}$) are subject to saving. It is assumed that the proportion of income saved [$_{c0}RLI_{t1}*(1-PFN)*(1-p_c)$] is placed into the financial system and thus funds units in deficit. For the sake of simplicity, we assume that savings are fully deposited in bank, which in turn will be transformed into loans, keeping a part of it in liquidity *(L)*[39].The business receiving the loan then develops new activities and new salaries can be paid to their employees at time $t_2$ ($_{c0,s1}RLI_{t2}$).These new wages($_{c0,s1}RLI_{t2}$) were estimated by calculating the product of the new funding [$_{co}RLI_{t1}(1-L)(1-p_c)$] and the ratio between the cost of wages in non-financial companies *(CPN)* and the total amount of loans granted to them *(P)*[40], as shown in branch CS of Figure A.1.

---

[37]Source: National Statistical Institutes, non-financial account related to the institutional sector of non-financial corporations.

[38]Source: National Statistical Institutes, non-financial account related to the institutional sector of non-financial corporations.

[39]Source: Statistics of the National Central Banks.

[40]Source: Statistics of the National Central Banks.

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*Figure A.1.*
*The process of the income multiplier induced by specialized credit*

FIRT PHASE ($t_1$)  SECOND PHASE ($t_2$)



$$c_0 \; RLI_{t_1} = RLI_{t_0}(1-PFN)p_c(1-IVA)\frac{CPN}{VP}$$

$$c_0,c_1 \; RLI_{t_2} = RLI_{t_0}(1-PFN)^2 p_c^2 (1-IVA)^2 \frac{CPN^2}{VP^2} \quad C{\rightarrow}C$$

$$c_0,s_1 \; RLI_{t_2} = RLI_{t_0}(1-PFN)^2 p_c (1-IVA)(1-p_c)(1-L)\frac{CPN}{P}\frac{CPN}{VP} \quad C{\rightarrow}S$$

$$c_0,id_1 \; RLI_{t_2} = RLI_{t_0} PFN(1-PFN)p_c(1-IVA)\frac{CPN}{VP}\frac{CRPA}{GFN} \quad C{\rightarrow}I$$

$$RLI_{t_0} \rightarrow s_0 \; RLI_{t_1} = RLI_{t_0}(1-PFN)(1-p_c)(1-L)\frac{CPN}{P}$$

$$s_0,c_1 \; RLI_{t_2} = RLI_{t_0}(1-PFN)^2(1-p_c)p_c(1-L)(1-IVA)\frac{CPN}{P}\frac{CPN}{VP} \quad S{\rightarrow}C$$

$$s_0,s_1 \; RLI_{t_2} = RLI_{t_0}(1-PFN)^2(1-p_c)^2(1-L)^2 \frac{CPN^2}{P^2} \quad S{\rightarrow}S$$

$$s_0,id_1 \; RLI_{t_2} = RLI_{t_0} PFN(1-PFN)(1-p_c)(1-L)\frac{CPN}{P}\frac{CRPA}{GFN} \quad S{\rightarrow}I$$

$$id_0 \; RLI_{t_1} = IDI_{t_0}\frac{CRPA}{GFN} = RLI_{t_0} PFN\frac{CRPA}{GFN}$$

$$id_0,c_1 \; RLI_{t_2} = RLI_{t_0} PFN(1-PFN)p_c(1-IVA)\frac{CRPA}{GFN}\frac{CPN}{VP} \quad I{\rightarrow}C$$

$$id_0,s_1 \; RLI_{t_2} = RLI_{t_0} PFN(1-PFN)(1-p_c)(1-L)\frac{CPN}{P}\frac{CRPA}{GFN} \quad I{\rightarrow}S$$

$$id_0,id_1 \; RLI_{t_2} = RLI_{t_0} PFN^2 \frac{CRPA^2}{GFN^2} \quad I{\rightarrow}I$$

*\* It is assumed that the parameters of the model remain constant over time*

$$_{c_0,s_1} RLI_{t_2} = {}_{c_0} RLI_{t_1} (1-PFN)(1-p_c)(1-L)\frac{CPN}{P} =$$

$$= RLI_{t0}(1-PFN)^2 p_c(1-IVA)(1-p_c)(1-L)\frac{CPN}{P}\frac{CPN}{VP} \quad (10)$$

An iterative process (consumption$\Rightarrow$ income$\Rightarrow$savings$\Rightarrow\Rightarrow$ income$\Rightarrow$ ...) is then started that can be generalized in $n$ stages. Since the assumption that saving is fully deposited and made available to businesses in the form of bank loans could be imprudent, we will proceed by estimating specifically the contribution of the "branch of saving" to the overall effect on the economy of each country, so as to be able to obtain also maximally prudential estimates (assuming, for example, that the savings remain completely unproductive).

The incomes induced by the consumption at time $t_1$ ($_{c0}RLI_{t1}$) used by workers for the payment of taxes generate new tax revenue which, according to what is described above, is transformed into new wages, as evidenced in the branch CI of figure A .1.

$$_{c_0,id_1} RLI_{t_2} = {}_{c_0} RLI_{t_1} PFN \frac{CRPA}{GFN} =$$

$$= RLI_{t0}PFN(1-PFN)p_c(1-IVA)\frac{CPN}{VP}\frac{CRPA}{GFN} \quad (11)$$

An iterative process is then started (consumption $\Rightarrow$income$\Rightarrow$ taxes$\Rightarrow\Rightarrow$income$\Rightarrow$ ...) that can be generalized in $n$ stages.

We consider now the effects produced by the portion allocated to savings ($SI_{t0}$) of the income induced by factoring at time $t_0$ ($RLI_{t0}$). These savings, net of cash held by banks, are transformed into bank deposits, then into new loans and, finally, into new gross income for the employees of the financed companies ($_{s0}RLI_{t1}$), which are estimated in proportion to the ratio considered at the national level, between the cost of labor *(CPN)* and the new loans *(P).*

$$_{s_o} RLI_{t_1} = SI_{t_0} \frac{CPN}{P} = RLI_{t_0}(1-PFN)(1-p_c)(1-L)\frac{CPN}{P} \quad (12)$$

These new wages ($_{s0}RLI_{t1}$), net of taxes, become part of ($p_c$) consumption and, always through the mechanism of sales, they generate wages and thus new income($_{s0,c1}RLI_{t2}$), as shown in branch SC of Figure A.1.

$$_{s_0,c_1}RLI_{t_2} = _{s_0}RLI_{t_1}(1-PFN)p_c(I-IVA)\frac{CPN}{VP} =$$

$$= RLI_{t_0}(1-PFN)^2(1-p_c)p_c(1-L)(1-IVA)\frac{CPN}{P}\frac{CPN}{VP} \quad (13)$$

An iterative process is then started (savings$\Rightarrow$ income $\Rightarrow$ $\Rightarrow$consumption$\Rightarrow$income $\Rightarrow$ ...) that can be generalized in *n* stages.

It is also necessary to analyze the case in which the income induced by savings at time $t_1$ ($_{s_0}RLI_{t1}$) are subject to savings. It is assumed that the portion of income saved [$_{s_0}RLI_{t1}*(1-PFN)*(1-p_c)$] is placed into the financial system and thus funds units in deficit. For the sake of simplicity, we assume that savings are fully deposited in bank, and that they in turn will be transformed into loans, whereas part of them will be kept as liquidity *(L).*The business receiving the loan then develops new activities and new salaries can be paid to their employees at time $t_2$ ($_{s0,s1}RLI_{t2}$), estimated by the ratio between the total cost of wages in non-financial companies *(CPN)* and the national total of loans granted to them *(P),* as shown in Figure A.1 branch SS.

$$_{s_0,s_1}RLI_{t_2} = _{s_0}RLI_{t_1}(1-PFN)(1-p_c)(1-L)\frac{CPN}{P} =$$

$$= RLI_{t_0}(1-PFN)^2(1-p_c)^2(1-L)^2\frac{CPN^2}{P^2} \quad (14)$$

Ann iterative process (savings $\Rightarrow$income$\Rightarrow$$\Rightarrow$ consumption$\Rightarrow$ income $\Rightarrow$...) is then started that can be generalized in *n* stages.

The income induced by savings at time $t_1$ ($_{s0}RLI_{t1}$) used by the workers for the payment of direct taxes generates new tax revenue which, according to what has been described previously, changes into new wages, as shown in the figure A.1. branch SI.

$$_{s_0,id_1}RLI_{t_2} = _{s_0}RLI_{t_1}PFN\frac{CRPA}{GFN} =$$

$$= RLI_{t0}PFN(1-PFN)(1-p_c)(1-L)\frac{CPN}{P}\frac{CRPA}{GFN} \quad (15)$$

An iterative process ia then started (savings $\Rightarrow$income$\Rightarrow$$\Rightarrow$ taxes $\Rightarrow$ income $\Rightarrow$...) that can be generalized in *n* stages.

We consider now the effects produced by direct taxes ($IDI_{t0}$) from the workers' income induced by factoring at the time $t_0$ ($RLI_{t0}$). These are transformed into new salaries of the personnel of the Public Administration ($_{id0}RLI_{t1}$), which are estimated in proportion to the ratio between the total cost of staff personnel of the Public Administration *(CRPA)* and the national tax revenues *(GFN)*.

$$_{id_0} RLI_{t_1} = IDI_{t_0} \frac{CRPA}{GFN} = RLI_{t_0} PFN \frac{CRPA}{GFN} \tag{16}$$

These new wages ($_{id0}RLI_{t1}$), net of taxes, become part of ($p_c$) consumption and, always through the mechanism of sales, new wages will be generated and thus new income ($_{id0,c1}RLI_{t2}$), as shown in the branch IC of Figure A.1.

$$_{id_0,c_1} RLI_{t_2} = {_{id_0}} RLI_{t_1} (1-PFN)p_c(1-IVA)\frac{CPN}{VP} =$$
$$= RLI_{t_0} PFN(1-PFN)p_c(I-IVA)\frac{CRPA}{GFN}\frac{CPN}{VP} \tag{17}$$

An iterative process is then started (taxes$\Rightarrow$ income $\Rightarrow$ consumption$\Rightarrow$ $\Rightarrow$income$\Rightarrow$ ...) that can be generalized in *n* stages.

It is necessary then to analyze the case in which the income induced by direct taxes at the $t_1$ ($_{id0}RLI_{t1}$) is the subject of savings. It is assumed that the portion of income saved [$_{id0}RLI_{t1}*(1-PFN)*(1-p_c)$] is placed into the financial system and thus funds units in deficit. For the sake of simplicity, we assume that savings are fully deposited in bank and that in turn they will be transformed in loans, whereas part of them will be kept as liquidity *(L)*.The business receiving the loan then develops new activities and new salaries can be paid to their employees at time $t_2$ ($_{id0,s1}RLI_{t2}$), estimated by the ratio between the total national cost of wages *(CPN)* and the total national business loans *(P),* as shown in Figure A.1 branch IS.

$$_{id_0,s_I} RLI_{t_2} = {_{id_0}} RLI_{t_1} (1-PFN)(1-p_c)(1-L)\frac{CPN}{P} =$$
$$= RLI_{t_0} PFN(1-PFN)(1-p_c)(1-L)\frac{CPN}{P}\frac{CRPA}{GFN} \tag{18}$$

An iterative process (taxes$\Rightarrow$ income $\Rightarrow$ savings$\Rightarrow$income$\Rightarrow$ ...) is then started that can be generalized in *n* stages.

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The induced income from direct taxes at time $t_1$ ($_{id0}RLI_{t1}$)used by the workers for the payment of direct taxes generates new tax revenue which, according to what previously described, changes into new wages, as shown in Figure A.1. branch II.

$$_{id_0,id_1} RLI_{t_2} =_{id_0} RLI_{t_1} PFN \frac{CRPA}{GFN} =$$

$$= RLI_{t0}PFN^2 \frac{CRPA^2}{GFN^2}$$

(19)

An iterative process (taxes$\Rightarrow$income$\Rightarrow$taxes$\Rightarrow$income $\Rightarrow$...) is then started that can be generalized in *n* stages.

If we stop at the first stage (time $t_1$), the total income induced by factoring is equal to:

$$RLI_{t_1} = RLI_{t_0} \left\{ \left[ (1-PFN)p_c(1-IVA)\frac{CPN}{VP} \right] + \left[ (1-PFN)(1-p_c)(1-L)\frac{CPN}{P} \right] + \left[ PFN\frac{CRPA}{GFN} \right] \right\}$$ (20)

Proceeding to the second stage (time $t_2$), the reorganization of the terms allows to detect how the expressions of the following branches are exactly coincident:

- Branch CS = Branch SC
- Branch CI = Branch IC
- Branch SI = Branch IS

Overall, the income induced by factoring at time $t_2$is estimated as follows:

$$RLI_{t_2} = RLI_{t_0} \begin{vmatrix} (1-PFN)^2 p_c^2 (1-IVA)^2 \frac{CPN^2}{VP^2} + (1-PFN)^2 (1-p_c)^2 (1-L)^2 \frac{CPN^2}{P^2} + \\ +PFN^2 \frac{CRPA^2}{GFN^2} + 2\cdot (1-PFN)^2 p_c(1-p_c)(1-IVA)\frac{CPN}{VP}(1-L)\frac{CPN}{P} + \\ +2\cdot PFN(1-PFN)p_c(1-IVA)\frac{CPN}{VP}\frac{CRPA}{GFN} + \\ +2\cdot PFN(1-PFN)(1-p_c)(1-L)\frac{CPN}{P}\frac{CRPA}{GFN} \end{vmatrix} =$$

(21)

$$= RLI_{t_0} \left\{ \left[ (1-PFN)p_c(1-IVA)\frac{CPN}{VP} \right] + \left[ (1-PFN)(1-p_c)(1-L)\frac{CPN}{P} \right] + \left[ PFN\frac{CRPA}{GFN} \right] \right\}^2$$

For the general case, to the *n-th* stage, the total income induced by factoring at time $t_n$ is:

$$RLI_{t_n} = RLI_{t_0} \left\{ \left[ (1-PFN)p_c(1-IVA)\frac{CPN}{VP} \right] + \left[ (1-PFN)(1-p_c)(1-L)\frac{CPN}{P} \right] + \left[ PFN\frac{CRPA}{GFN} \right] \right\}^n = (22)$$

$$= RLI_{t_0} \left\{ (1-PFN)\left[ p_c(1-IVA)\frac{CPN}{VP} + (1-p_c)(1-L)\frac{CPN}{P} \right] + PFN\frac{CRPA}{GFN} \right\}^n$$

The sequence of income induced by factoring in the various stages sets up a geometric progression[41] where the first term is $RLI_{t0}$:

$$RLI_{t_0} = CRS + CRV + CRPA_F =$$

$$= CRS + ANT\frac{TA}{CCN}\frac{RIC}{TA}\frac{CPN}{VP} + \frac{ID}{GFN}CRPA$$

(23)

and the reason of the geometric progression is:

$$(1-PFN)\left[ p_c(1-IVA)\frac{CPN}{VP} + (1-p_c)(1-L)\frac{CPN}{P} \right] + PFN\frac{CRPA}{GFN}$$

(24)

The total income induced by factoring is the sum of the effects on *n* stages and is therefore obtained as[42]:

$$EIR = RLI_{t_0}\frac{1}{1 - \left\{ (1-PFN)\left[ p_c(1-IVA)\frac{CPN}{VP} + (1-p_c)(1-L)\frac{CPN}{P} \right] + PFN\frac{CRPA}{GFN} \right\}}$$

(25)

6) The effect induced by factoring on families consumption *(EIC)*.

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[41] Recalling that the sum of the terms of a geometric progression (where $a_1$ is the first term and q is the reason) is equal to:

$$S_n = a_1 * \frac{1-q^n}{1-q}$$

[42] Since the reason for the geometric progression is less than 1 [q <1], so $q^n \to 0$ per $n \to \infty$, the expression

$$RLI_{t_0}\frac{1 - \left\{ (1-PFN)\left[ p_c(1-IVA)\frac{CPN}{VP} + (1-p_c)(1-L)\frac{CPN}{P} \right] + PFN\frac{CRPA}{GFN} \right\}^n}{1 - \left\{ (1-PFN)\left[ p_c(1-IVA)\frac{CPN}{VP} + (1-p_c)(1-L)\frac{CPN}{P} \right] + PFN\frac{CRPA}{GFN} \right\}}$$

can be simplified in the equation (25).

We are considering the induced consumption generated by the presence of factoring. This is estimated from the product of the total income induced by factoring *(EIR),* the complement to 1 of the national tax burden (1 - *PFN)* and the propensity to domestic consumption $(p_c)$:

$$EIC = EIR(1 - PFN)p_c \qquad (26)$$

7) The effect induced by factoring on families' savings *(EIRIS).*

We are considering the induced savings generated by the presence of factoring. This is estimated by the product of the total income induced by factoring *(EIR),* the complement to 1 of the national tax burden (1 - *PFN)* and the national propensity to savings( *1-p_c*):

$$EIRIS = EIR(1 - PFN)(1 - p_c) \qquad (27)$$

*Companies*

8) The direct effect on bank deposits (EIDB).

They are the new bank deposits induced by the presence of factoring. Since it is assumed that the savings of companies' employees are fully deposited in the banking system, this figure is equal to the induced savings *(EIRIS).*

9) The induced effect of factoring on bank lending *(EICB).*

This is the credit granted by banks induced by the presence of factoring. Since it was assumed that deposits are always processed into credit for businesses, net of cash held in liquidity *(L),* the induced effect of factoring bank lending is estimated as:

$$EICB = EIDB(1 - L) = EIRIS(1 - L) = EIR(1 - PFN)(1 - p_c)(1 - L) \qquad (28)$$

10) The induced effect of factoring on new investments *(EII)*

We are considering the new investments in fixed capital induced by the presence of factoring. It is assumed that the productive activities that receive the loan can support new investments: these are estimated by the product of the total received bank loans and the ratio of the total national real investments made by non-financial companies *(IM)* and the total national loans granted to them *(P).*

$$EII = EICB \frac{IM}{P} = EIDB (1 - L)\frac{IM}{P} = EIRIS (1 - L)\frac{IM}{P} =$$

$$= EIR (1 - PFN)(1 - p_c)(1 - L)\frac{IM}{P} \tag{29}$$

*Public Administration*

11) The effect induced for Public Administration (EIPA).

As regards the contribution induced by factoring for Public Administration, this is measured (based on the concentric circles approach) considering indirect taxes on induced consumption and direct taxes on induced income[43].

a) Indirect taxes on induced consumption(*IICI*).

For each country, this figure is estimated by the product of the induced effect on families' consumption (EIC) and the standard rate of VAT (20% in Italy, 19.6% in France and 17.5% in the UK).

$$IICI = EIC \cdot IVA \tag{30}$$

12) The direct taxes on new income induced by factoring *(IDRI).*

These are estimated as the product of the induced effect on income *(EIR)* and the national tax burden *(PFN).*

$$IDRI = EIR \cdot PFN \tag{31}$$

A joint consideration of the direct and induced effects generated by factoring now allows to estimate the overall contribution of the sector to the national economy. We measure the following:

- Overall effect on consumption *(ECC).*In the case of factoring, the overall effect on consumption coincides with the induced effect *(EIC),* whose measure also includes the portion allocated to the consumption of the income generated directly from factoring, i.e. the employees of companies operating in the sector and employees of external networks.

- Overall effect on savings *(ECRIS):* the overall effect on savings coincides with the induced effect *(EIRIS),* whose measure also includes the portion allocated to the savings directly generated by factoring from the income, or

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[43] direct taxes paid on induced savings might also be considered . For the sake of simplicity, we assume that the bank's employees deposit their savings in a bank account without remuneration and therefore the tax contribution is null.

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by the employees of the companies operating in the sector and employees of the external networks.

•Overall effect on investments *(ECI).*In this case, it is necessary to add up the total of advances (on an annual basis) of factoring (direct effect) and the induced effect on investments resulting from the portion of savings relative to the induced income, deposited in bank and then transformed into loans to businesses *(EII).*

•Overall effect on the Public Administration *(ECPA).*This effect is obtained by adding the tax revenue directly generated by the sector (direct taxes, *ID,* paid by the factoring companies) and the induced effect, *EIPA*(indirect taxes on induced consumption, *IICI,* and direct taxes on induced income *IDRI).*

The **third level of analysis** is the dynamic one, designed to measure the impact on the economy in the case of absence of the factoring market. Assuming as reference point the estimate of the overall effects of factoring, we provide an analysis by scenarios in which the value of the industry is measured by assuming different market conditions (e.g. the degree of substitution with similar products).

Assuming the absence of factoring, companies find it more difficult to manage their trade loans and eventually anticipate them: consequently, the choice would be restricted between: 1) not granting trade credit, eventually giving up the sale and 2) grant credit without relying to any form of financing, and 3) granting credit and rely on alternative forms of financing. The first assumption is unrealistic: therefore the only hypotheses considered are 2) and 3).

The approach followed consist in estimating the response of the economic system in the absence of factoring, namely its ability to develop "substitutes" products offered by other operators (from now on, called "alternative") so as to satisfy the needs of short-term financing of companies. The "specific" contribution of factoring to the economy is thus obtained as the difference between the estimated total contribution in the second level of analysis and the response of the economy to the absence of the sector. This response is estimated over a period of five years for all sizes previously considered: consumption and families' savings, business investment and tax revenue for the Public Administration *(ECC ECRIS, ECI, ECPA).*

$$\sum_{t=1}^{5} ECC \,/\, ECRIS \,/\, ECI \,/\, ECPA \cdot D_S \cdot flex_t \qquad\qquad (32)$$

where:

- the dummy *D* indicates indicate the presence or absence of "substitutes" products (assuming value equal to 1 in the case these exist and 0 otherwise). In terms of functional use, the various forms of short-term financing provided by banks (e.g. the discount bills of exchange, advance on invoices, the advance of the RIBA) can be considered as a "substitute" product of factoring. In this sense, it is reasonable to predict scenarios in which $D_S=1$;

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- the variable *flex* represents the flexibility of the economy and takes values between 1 (full and immediate adjustment of prices and factors) and 0 (total lack of flexibility of the factors).

The sum of the effects on five years is then actualized for the year taken as basis for the simulation analysis (2008)[44]. It is assumed that all the macroeconomic variables used in the estimation model (e.g. consumer spending and savings propensity, tax burden, etc.) remain constant.

We suggest five macroeconomic scenarios:

1. <u>Scenario 1): immediate and full adjustment of prices and quantities.</u> It is assumed that there are substitute products to factoring ($D_s$=1) and that prices and salaries in the economy are fully flexible (flex=1).This is sufficient to ensure full employment and the total replacement of the market with alternative operators. In the absence of factoring, it is assumed that the human resources employed in the sector are "liberated" and "immediately" reabsorbed by alternative companies (e.g. banks) able to offer useful products to meet just as effectively the needs of applicant companies to factoring. In this scenario, companies could still have access to forms of short-term financing: the impact of the elimination of the sector would be immediately absorbed and its specific contribution to the economy could be considered null and void.

2. <u>Scenario 2) failure to adjust prices and quantities.</u> It is assumed that there is no substitute products ($D_s$=0) and/or the total lack of flexibility in the adjustment of prices and salaries (flex=0). In the absence of factoring, it is assumed that other companies do not hire these human resources. In this scenario, companies do not have access to alternative sources of short-term credit: the impact of the disappearance of factoring would then not be reabsorbed and the specific contribution of the sector would be equal to the value of the overall effect previously estimated.

3. <u>Scenario 3) gradual adjustment in five years of prices and quantities.</u> It is assumed that prices and salaries in the economy are partly flexible and also that products partially able to meet the needs of applicant companies to factoring are available. Following the approach of the study on the impact of leasing in the U.S., we assume a complete adjustment over a period of 5 years ($flex_1$=0.2; $flex_2$=0.4; $flex_3$=0.6; $flex_4$=0.8; $flex_5$=1.0).

4. <u>Scenario 4) gradual adjustment in three years of prices and quantities.</u> It is assumed that prices and salaries in the economy are partly flexible and also that products partially able to meet the needs of short-term financing of companies are available. a speed of adjustment of three years is assumed, which produces estimates of the specific contribution of factoring that are more cautious than in the previous scenario ($flex_1$=0.33; $flex_2$=0.67; $flex_3$=1.0).

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[44]The dynamic analysis is conducted with reference to year 2008.Although the data collected in Italy allows to appreciate the overall contribution of the specialized credit in 2009, the data for France and the United Kingdom are not yet available. Therefore, in order to compare the proposed estimations (see Chapter 11), iwe have chosen to base the analysis on data relative to 2008.

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5. <u>Scenario 5) gradual adjustment in two years of prices and quantities.</u> It is assumed that prices and salaries in the economy are partly flexible and also that there are products partially able to meet the needs of short-term financing of companies. a speed of adjustment of two years is assumed , which produces estimates of the specific contribution of factoring that are extremely conservative compared to the two previous scenarios, since it is assumed that the "damage" to the economy is limited to the first year ($flex_1$=0.50; $flex_2$=1.0), while in the second year the system is already able to completely replace the factoring industry.

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