

Information Sharing and Its Implications for Consumer Credit Markets: United States vs. Europe*

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Abstract

This paper presents insights on differences in credit reporting systems and their implications for the integration of European consumer credit markets and overindebtedness. This analysis compares selected European countries with the United States and emphasizes cross-border information transfers in Europe. Consumer credit markets still differ in several major respects across those countries, moreover, the underlying information sharing mechanisms via credit reporting systems also display differences in their regulation. European countries display an unequal transposition of data protection regulations that may hamper cross-border information exchange as well as credit market integration. The U.S., on the other hand, is characterized by deep and broad credit markets and an intensely competing credit reporting industry. However, there is a rising concern for increasing overindebtedness on both sides of the Atlantic, therefore, we also discuss the implications of the information sharing mechanisms for this phenomenon. Our analysis is updated by a review of the major provisions of the new European Consumer Credit Directive for the information sharing systems in Europe.

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I. INTRODUCTION

Consumer credit markets are depended on flows of highly personal creditworthiness information. This kind of information is collected by credit bureaus that operate in the major industrial economies and that store and process information on several million borrowers. However, only recently academics started to analyze the economic effects of the information allocation and distribution by credit bureaus. In the past, the impact of the regulatory design has largely been ignored in this discussion.

However, in the otherwise increasingly integrated Europe, credit reporting systems and data protection regimes still differ from country to country. Moreover, cross-border data transfers are virtually absent or underdeveloped. When compared to the United States, these differences become even more striking: In the U.S. a highly competitive oligopolistic credit reporting industry exists that is less stringent regulated, whereas in the EU, the industry is currently consolidating and the regulatory regimes only slowly converged in the 1990s. In general, data protection in the EU is more stringent than in the U.S. and cross-border flows are also regulated.

This paper discusses differences in consumer credit markets that can be derived from an analysis of the U.S. and Europe. Descriptive statistics reveal the quantitative differences of these markets: the U.S. market is broader, new credit products are more commonly used and the median American is more indebted than her European counterpart. In Europe, credit markets also still vary widely with the UK constituting the country most closely to the U.S. It seems like differences in credit culture, credit use and regulatory regimes hamper the development of an integrated credit market in Europe.

We also present an overview of the varying credit reporting systems in Europe and discuss the links of this activity with overindebtedness, since the latter is of increasing concern on both sides of the Atlantic. In a further step, we analyze credit market integration as well as segmentation and discuss the implications of the new Consumer Credit Directive for a harmonization of the information sharing mechanism in Europe. As will be shown, the new provisions in the directive are incomplete and there is tentative evidence that they might not have a larger impact on credit markets and overindebtedness. We will also ask as to whether there are lessons that can be learnt from the U.S. experience in credit reporting.

The paper is organized as follows. Part 1. discusses the quantitative dimension of the differences in the credit markets on both sides of the Atlantic. The second part focuses on the informational content in data exchange and the third part analyzes the progress in market integration and the protection of data in the EU and the U.S. The implications of the new Consumer Credit Directive are discussed in part 4. The fifth part concludes.

II. CONSUMER CREDIT MARKETS AND CREDIT REPORTING COMPARED

2.1 Credit Markets Compared: Europe versus the U.S.

A common trend in European credit markets since the early 1980s has been the growth in the volume of outstanding consumer credit. However, the use of consumer credit varies widely across European member states. Until the end of the 1970s, the banking activity in European countries was heavily regulated. Controls were established on both interest rates and credit growth, as part of an anti-inflationary policy based upon the control of money supply. The removal of restrictions on capital movements, the establishment of a harmonized regulatory framework for financial services and the adoption of specific regulation of consumer credit affected consumer credit during the period of 1980-90. As will be discussed further below, the first harmonization attempt, the 1987 directive, was amended and completed by two more texts in 1990 and 1998, respectively.¹

Despite the regulatory efforts to achieve a single market and the expectations raised by the Euro, EU consumer credit markets remained fragmented. Thus according to the ECB, whereas Eurozone interbank and wholesale markets are considered to be integrated, the extent of integration in the retail banking markets appears to be limited, this impression is re-enforced when looking at the limited extent of cross-border lending. For one thing, retail lending products are less exposed to international competitive pressure since proximity to customers is important even when one accounts for advances in modern distribution technology (Kleimeier and Sander 2002).²

Late macroeconomic developments, such as reduced savings in the U.S., might lead to consider a situation of excessive level of indebtedness. However, the levels of savings in Europe are not as low as in the U.S. Even in the U.S., many economists consider that if the wealth effect were to be taken into account and certain imperfections in the construction of saving ratios amended, the ratio would boost considerably (Barnes 2001).³ Studies on household credit have generally concluded that there is a cultural division between U.S. and United Kingdom, on the one hand, and continental European countries on the other (Balaguy 1996). Both U.S. and UK are historically more open to credit. Traditionally, continental countries have “demonized” the use of

¹Council Directive 87/102/EEC of 22 December 1986 for the approximation of the laws, regulations and administrative provisions of the Member States concerning consumer credit, OJ L 42 12/2/87. European Parliament and Council Directive 90/88/EEC of 22 February 1990, OJ L 61 10/03/90. European Parliament and Council Directive 90/88/EEC of 22 February 1990, OJ L 61 10/03/90 European Parliament and Council Directive 98/7/EC of 16 February 1998, OJ L 101 01/04/98.

² Further studies on the integration of European credit markets will be discussed below.

³ The author discusses the imperfections of the official data on savings, namely the treatment of consumer spending on durable goods, pension income and capital gains. Reconsidering the definition of these data, savings ratio will boost

credit to finance purchases, in particular consumer credit, as opposed to other essential credit such as mortgage. Even the term used to name it in continental Europe, *crédito al consumo* in Spanish, *crédit à la consommation* in French among other examples, suggest the association of credit to excessive consumption, whereas the Anglo-Saxon term, *consumer credit*, only refers to credit to consumers (Gelpi and Julien-Labeuyère 1994).

It is difficult to generalize on the use of consumer credit in the EU. Responding to the different mentalities, household debt (including mortgages, consumer credit and other credit) is more relevant (either as percentage of GDP or of disposable income) in the U.S., the UK and Northern European countries. Total household financial liabilities as compared to personal disposable income are relatively low in Italy and Belgium. Total household indebtedness is comparatively the highest in Sweden and the UK, the latter is at a similar level as the U.S. (see Chart 1 in the Appendix). It is also comparatively high in Germany and, to a lesser extent, in France and Spain.

The share of credit to the household sector in the total outstanding credit to the private sector represents on average 45%, with Denmark, Finland, Portugal and the UK over 50% (maximum difference between Denmark and Italy, 66.5% and 30.2% respectively). Considerable national differences appear in the total amount of outstanding household credit. The Figures in the Appendix show the distribution of household credit in most of the EU countries (Table 1).

Classified according to its use, credit to the household sector can be divided in consumer and mortgage credit. Mortgage credit represents the bulk of outstanding credit to households: in all the countries examined, its share varies between 30% and close to 90% of household credit in 2001, but the shares differ remarkably between countries. With the exception of Italy, Luxembourg and Austria, mortgage lending represents at least 60% of all lending to households. Since the 1990s there has been an increase in outstanding mortgage debt in the countries examined with Spain, Italy and Greece experiencing a more rapid growth (Chart 2).

The analysis of consumer credit and its use shows the specific national characteristics of this segment of household credit. These differences may be explained by cultural preferences and by structural factors such as differences in tax, legal and regulatory frameworks. A common trend since 1980 is the increase in outstanding consumer credit measured in nominal terms Table 2 (Appendix). The distribution of consumer credit grew very rapidly in the second half of the 1980s, as a result of the deregulation of credit and a favorable macroeconomic climate and

to 7.8 instead of the official -0.1 percent. This figure would be even larger, if we take the wealth effect into account. In this case, household saving ratio would reach the level of 14 percent.

decreasing interest rates (see Chart 3 in the Appendix). Interest rates have been reduced until the end of the 1990s, very significantly in countries such as Spain and Portugal, the trend halted for the past three years. Reduced GDP growth rates have led to a decrease of consumer credit in the most indebted countries of the EU such as the UK, Sweden, Portugal, the Netherlands and Germany.

The weight of consumer credit in the economy differs considerably across countries. Chart 4 reports the weight of consumer credit to household consumption and GDP, for the year 2001. This Chart indicates that the use of consumer credit to finance consumption is far higher in the American economy than in the average EU countries, with the exception of Sweden, the UK, Austria and Germany following closely. Countries such as Belgium, Greece, Italy, the Netherlands and Finland made a very low use of consumer credit, whereas the rest of the EU countries remain at an intermediate level.

Overall, consumer credit represents 13.7% of consumption by European households and 7.2% of GDP in the EU countries. Despite important growth in the past years its role in the indebtedness of EU households remains secondary.

2.2 Credit bureaus in Europe

Credit registries, or credit bureaus, are databases of information on borrowers in a financial system. The data are provided by lenders, and together with data from other sources (such as courts or tax authorities) they are managed by central banks, private companies or professional associations. The information is compiled by them into a single file. In most cases, credit bureaus operate on a reciprocal basis and only institutions supplying information to the registry can obtain information from it. Data from the registries are made available for a fee in the form of credit reports to credit institutions.

When a lender first evaluates the creditworthiness of an individual, she gathers information from two principal types of sources. The first source is the lender's own database developed through years of experience in the market and which is composed of past and present clients. The second source is the information available via credit bureaus. Consequently, credit bureaus are active players in the credit market. Mastering credit risk is one of the core competencies of credit providers. The process begins when the potential client approaches the lender and ends when the last statement is paid or, in the worst case, when the credit is considered unrecoverable and written off following a judicial procedure or the insolvency of the borrower. Credit bureaus are therefore a key element in this chain.

According to economic literature, several reasons account for the existence of credit bureaus. First, they ensure the assessment of consumers' creditworthiness and their ability to repay prior to the underwriting of credit. Credit reporting thereby allows minimizing the occurrence of default and controlling the moral hazard problem (Dell'Ariccia 2001), acting as a 'borrowers disciplinary device' (Jappelli and Pagano 2000a) and attesting borrower's 'reputation collateral' (Miller 2000). Second, credit reporting assists in eliminating or diminishing the effects of adverse selection (Alary and Gollier 2001), ensuring more credit under better conditions (Barron and Staten 2000). For these reasons, commercial banks or financial institutions operating in the field attach high importance to the process of screening applicants prior to the granting of credit. The screening procedure is also important in relation to the large fixed recovery costs (Khalil and Parigi, 2001).

A credit bureau can issue several kinds of credit reports depending on the information gathered (positive or negative), the purpose of the information (housing or consumer credit) and the amount requested. In some countries, consulting credit bureaus' files prior to the underwriting of credit is obligatory by regulation. We will illustrate below the public debate around positive versus negative data collection.

2.2.1 Credit Reporting Systems in Europe: Positive vs. Negative Data Sharing

The cultural differences of European countries affect the typology of the existing credit bureaus. European countries not only have different credit cultures, but also specific laws regulating this issue. Due to the different national regulations share common characteristics while being unique in other respects. For instance, legislation in almost all countries establishes the type of information, the maximum length of time that such information can be stored on an individual's credit history, the right of access to the information recorded and makes provisions for correcting errors or communicating one's inclusion in a registry (see further discussion below).

Credit bureaus collecting negative or 'black' (B) information only gather data on subjects that have previously defaulted on payments (delinquencies, charge-offs, bankruptcies, etc.). By contrast, positive or 'white' (W) information contains other elements of the financial standing of the individual that would allow for a more precise assessment of her ability to repay, such as accounts currently open, balances or credit limits. Positive reporting is based upon the assumption that the analyses of today's indebtedness indicate tomorrow's solvability, whereas negative reporting considers that defaults and difficulties are the most relevant indicators with which to predict future insolvency. Table 3 (Appendix) indicates the types of information and ownership of credit bureaus in Europe.

The industrial organization of national markets also differs, with most of the countries having one large credit bureau dominating the market, as in the case of Germany, Finland, Ireland, France or Sweden, while in the UK and Italy, two or three companies share most of the market. In addition, public and private credit bureaus co-exist in certain markets, such as in the case of Belgium and Germany.

Credit bureaus' data collection can be also influenced by their ownership structure. In Europe, credit bureaus are in most cases privately owned, independent companies, whose shareholders are banks and financial firms. In some cases, however, they are owned by associations, as in the case of the Belgian UPC, which is owned by the Professional Union of Credit providers.

Some public credit bureaus in Europe have been established to monitor the development of credit to individuals in the economy and the levels of indebtedness and overindebtedness (for instance the Belgian one). Central banks or supervisory authorities mostly operate the public credit registries, except in Finland where it is contracted out to a private company. Access is only granted to authorized central bank staff and to the reporting financial institutions. Despite common characteristics, public registries in Europe differ from country to country and seem to have developed independently without consideration to previous experiences in other countries.

Public registries may collect only negative information, as in the case of Denmark and France, but also credit exposure of borrowers, as is the case of the registry held by the Central Bank of Spain. Belgium has recently passed a law allowing the establishment of positive credit bureaus; Therefore, the register of the central bank will be converted into a positive central office. The main characteristics of EU credit reporting scenarios are presented in Table 4.

European society attaches great importance to the protection of the right of the individual to privacy, and regards with suspicion the compilation and distribution of files containing personal data. It is necessary, therefore, to negotiate a balance between the rights of the individual and the need of lenders to have access to information on the payment history and practices of loan applicants. Despite recent efforts at harmonization in this area, illustrated by the Data Protection Directive, EU countries can apply more restrictive provisions, which explains why the regulatory framework of credit bureaus varies widely across the EU. To illustrate the controversy concerning what constitutes excessive or justified collection of information by credit bureaus, let us look at the argument put forward by the French Commission Nationale de l'Informatique et des Libertés (CNIL). France has been traditionally the country most reticent to open the market of information to private companies. In addition, France only allows the collection of negative information which is administered by the Banque de France (Box 1).

Policy makers focus the debate of positive versus negative data on issues concerning the protection of individual privacy protection and the fight against overindebtedness to justify their choice of regulatory framework. However, the assertion of an imaginary line that separates what constitutes private information, that the individual cannot be devoid of, is a difficult task.

2.2.2 Positive vs. Negative Data Sharing: The Link with Overindebtedness

Since the 1980s, European household debt has been on the rise. Indeed, indebtedness has begun to attract the attention of policy-makers and the media, especially given the current perception of dangerous indebtedness in the U.S. market and decreasing savings ratios. The U.S. ‘open credit society’ model began to be imported to Europe at a significant level as early as the 1960s. Despite this, links have not yet been established between the credit reporting scenario, the level of indebtedness and the occurrence of overindebtedness. We shall see in the following discussion that there are hints that lead to consider that there might be no link between the collection of positive vs. negative data and the level overindebtedness.

Indebtedness together with saving can be considered two faces of the same coin. Indebtedness is a form of income redistribution, using future income to finance spending when this is most necessary, and it is also good for the economy, since it reflects into spending that drives demand. Therefore, indebtedness is not bad per se in an equilibrium situation. Disequilibrium brings overindebtedness caused by an economic downturn (growing unemployment or increasing interest rates) or by life events (divorce, increase of the family members). However, high indebtedness makes families more vulnerable to unexpected situations. Since there is not a straight rule to establish when indebtedness becomes excessive, policy makers might find it difficult to balance both, negative and positive, aspects of indebtedness.

The terms overindebtedness and indebtedness should not be confused. Indebtedness refers to the overall level of debt as compared to the disposable income. Lately, economists have highlighted the dramatic reduction of savings ratios, particularly in the U.S. However, there is not a benchmark for what constitute an excessive ratio of indebtedness, and therefore, in the context of this paper the term as a neutral character. On the other hand, we define overindebtedness as situations when an individual or a family cannot fulfill the repayment of the outstanding debt anymore, and has *de facto* defaulted on at least one of their credits.

The first element to consider is the level of household indebtedness, which has seen a steady increase over the past few decades. So far, the debate on the economic impact of indebtedness ratios in Europe is not particularly intense, since indebtedness levels are in most of the EU countries far below those of the U.S. (see, again, Chart 1 in the Appendix).

An important aspect concerning levels of indebtedness is the relation between the different types of credit. The distribution of credit to individuals between consumer credit and other credit (mainly mortgages) varies significantly across countries. For instance, we see in Chart 2 that the Netherlands, which is one of the most heavily indebted countries, is to a large extent burdened due to housing credit. The contrary applies to Greece and Italy, both with low levels of indebtedness, both for mortgages and consumer credit. These differences should certainly be taken into consideration, as specific solutions will be required to fight overindebtedness.

Although the rise of indebtedness is not particularly worrying from a macroeconomic point of view, it is believed to generate serious social consequences for households. The second element to consider is the phenomenon of overindebtedness across the EU. It has to be noted that despite the public interest attracted by overindebtedness, it is difficult to carry out an accurate assessment of the situation in Europe. The evaluation of the reality of excessive indebtedness is hampered by a lack of statistical data. Furthermore, a common definition at EU level that allows for the comparisons is currently non-existent.

Definitions vary from recognizing overindebtedness only by the initiation of bankruptcy procedures, to the more flexible criteria that regards as over-indebted those individuals or families who merely perceive they have difficulties in repaying their contracted debts, without any default incident. The Economic and Social Committee of the EU, for instance, defines overindebtedness as the state in which a household is ‘objectively unable, on a structural and ongoing basis, to pay short-term debts taken out to meet needs considered to be essential, from their habitual income provided by work, financial investments or other usual sources, without recourse to loans to finance debts contracted previously’.⁴ Overindebtedness for academics is the surpassing of a certain fixed threshold of household debt-service burden with the consequence that the household suspends partially or totally the servicing of debts (Jentzsch 2003a: 12). The industry often classifies a credit as a default when the individual has failed to repay three consecutive installments. Any efforts to measure the magnitude of overindebtedness at EU level are impeded by the above-mentioned lack of a common definition and comparable statistics.

The most useful measure of household indebtedness face to the repayment of outstanding credit is the calculation of the debt-service burden, which considers the regular payments to be made to repay the debt (principal plus interest) at a given moment in time. This calculation uses the rates

⁴ From the Information report of the Section for the Single Market, Production and Consumption on Household overindebtedness, CES 212/2000 fin, Int/043.

corresponding to different types of credit granted, and would allow to establish how much of their annual disposable income households dedicate to repay their credit. Unfortunately, since definitions of most of retail lending rates are not harmonized at EU level the result of the direct comparison is not accurate. Moreover, concerning consumer credit, the broad category published by the ECB (consumer loans to households, N3), does not reflect the diversity of rates offered for different consumer credit products, and therefore would be only a vague approximation.

A first estimation for the totality of the lending to households allows concluding that the growth of debt-service burden has been moderate in comparison to the growth of outstanding debt, reflecting an important interest rate reduction over the past years. Overall, service of debt burden grew from 12 % of disposable income in 1997 to 13 % in 2001. That means that despite the growth of credit in the economy, households dedicate only 1% more of their disposable income to repay loans contracted, in part due to the reduction of interest rates. In fact, the reduction of interest rates (and maybe longer term debt) compensates part of the increase in debt. In some countries, such as France, Italy and UK, the weight of interest payment within the service of debt charges reduced from 1997 to 2001 (see Chart 5).

Using a different approach, a recent study commissioned by DG SANCO estimates that 18% of families in the EU are over-indebted. Such a high estimate is the outcome of a broad definition of overindebtedness: ‘A person is over-indebted if he or she considers that they have difficulties in repaying debts, whether consumer or mortgage debt’ (ORC Macro 2001: 2).

Studies carried out at national level (with methodologies mostly not comparable) show the level of overindebtedness calculated as individuals that have already defaulted payment. Table 5 in the Appendix shows some of those results. In Belgium, for instance, the UPC registers 500,000 individuals with negative records in a population of over 10 million people, which gives a ratio of 5%. Since negative records are kept in the register over some time, however, it includes all individuals that have a negative entry due to problems in the past, not necessarily at present. In France according the Commission d’endettement,⁵ overindebtedness concerns 2% of the total of families with outstanding debt. Table 5 presents estimations of overindebtedness according to different sources in France, Belgium, the UK, Germany, the Netherlands and Sweden.

The third element to be taken into account in the study of overindebtedness is its cause. According to surveys carried out in France and Belgium, it seems that the use of credit is not the only factor causing repayment difficulties faced by over-indebted households, though it is clear

⁵ Indebtedness Commission. Overindebtedness is defined as having a credit default dossier deposited with the Commission for overindebtedness .

that the accumulation of credit contributes to aggravate their financial situation. The advent of external factors is the main cause for the inability of individuals or families to repay debts, it seems clear that the expansion of consumer credit, often blamed for the growth of overindebtedness, it is actually not as decisive as other credit (mortgage). Classified by the type of debt affected, over-indebted families belong to two main groups; those who accumulated an excess of consumer credit debt, and those families with one or several housing credits, often combined also with consumer credit debt. There is also a small percentage of families whose overindebtedness is non-credit related, for instance taxation or clearing of legal procedures (see also Table 6)

Concerning the countries for which data is available, it can be concluded that overindebtedness is more often due to the occurrence of an event in an individual's personal life that disrupts the household's budgetary equilibrium and makes repayment difficult than to the simple accumulation of debts.

There is a tendency to place the onus on the lender to assess and verify the consumer's solvency. Articulating the belief that 'more information is better', a report by the UK Department of Industry and Trade on how to tackle overindebtedness mentions that 'the non-availability of data, such as student loans, current account and overdraft details, income and other regular financial commitments, e.g. rent and utility costs, precludes a full picture of the borrower being available' (Department of Industry and Trade 2001). In line with this reasoning, it is often suggested that lenders should consult positive databases as an instrument to combat overindebtedness.

Nonetheless, even positive credit bureaus do not include important aspects of a household's spending habits that are liable to have an influence on the ability to repay debts nor can a household be expected to foresee the advent of external events. To fully represent the financial situation of a household, credit bureaus would have to include information such as rent, utilities and other spending habits that show the family income with respect to the total of payments to be made. This scenario of *full surveillance* is hardly defensible in the context of data privacy protection traditions, especially in the EU. As mentioned, the knowledge of the present financial situation of the household does not permit the prevention of future events affecting them.

The evidence found in European and U.S. markets does not support the argument that there is a relationship between positive registries and lower levels of indebtedness. We observe that countries with positive credit registries, such as the UK, the U.S., Germany and the Netherlands, also have a high level of indebtedness (see, again, Table 4), whereas Italy and Spain, which also

operate positive registries, rank at the lower end of the Table. On the other hand, France and Belgium, which only permit the operation of negative registries, have also kept low levels of indebtedness. Moreover, one must bear in mind that so far, no relationship can be established between indebtedness and overindebtedness in light of the existing statistical data.

Given the facts presented in this section, it is difficult to argue that positive data collection could be an important tool to reduce overindebtedness. We argue, therefore, that obliging lenders to consult positive information in credit bureaus is an excessively interventionist approach. Credit assessment methods are a key know-how and a competitive advantage of lenders, for whom correct assessment of borrowers' applications is essential to their survival in the market.

In economic terms, the consultation and maintenance costs of such a comprehensive registry will be added to the bill of credit grantors, and ultimately to borrowers, whether good or bad payers, and will have a special impact on smaller lenders and low-value loans. The higher cost of a positive registry is due not only to changes in its structure, the larger number of files treated or the complexity of these files, but also to input of the data and follow-up procedures for these institutions. This, in turn, creates increasingly complex demands, such as the registration of revolving credit, e.g. the need to determine whether new credit only or unused available credit should be included in a particular case.

On the other hand, credit institutions might be tempted to use predatory practices made possible by access to positive information and might exceed acceptable limits in granting credit to 'good payers', in order to attract them to their institutions. Moreover, since credit bureaus are based on reciprocity, stored data will be available to all those inputting data into the registry, which, in the case of positive data, represents a sizeable number of organizations. This, in turn, gives rise to further concerns about privacy.

III. CREDIT MARKET INTEGRATION AND DATA PROTECTION REGIMES

After reviewing the major differences of credit markets, we provide an overview on credit markets integration in the U.S. and Europe. Moreover, the policy initiatives on the federal level in the U.S. and the community level in the EU have to be discussed. In a next step, market barriers are presented and we describe the different regulatory regimes in the U.S. and Europe with respect to credit reporting. The analysis of European regimes will be expanded by reviewing cross-border data transfers and discussing the economic impact of regulations and the new pan-European information sharing system to be established.

3.1 Credit Market Integration in Europe and in the U.S.

Credit markets seem to reveal certain characteristics that might inhibit an in-depth integration of them. The U.S. market is nowadays widely regarded as integrated (see Padoa-Schioppa 2000, for instance). However, European markets are not integrated at all, a fact that can be derived from several integration indicators such as real price and interest differentials, cross-border lending or market penetration by foreign banks. In the past, a number of studies revealed the differences in integration speed and depth depending on the kind of credit market or its individual segment. In the following, we briefly discuss major integration initiatives on the EU level and review their actual effects on credit markets as measured by the aforementioned indicators. We then turn to the U.S. markets to assess as to whether these markets can be really regarded as integrated.

In the past decade, the European Commission implemented several policy measures to harmonize European consumer credit markets. The first directive in 1986 (87/102/EEC) was an attempt to create a European consumer credit market by introducing a common definition of the Annual Percentage Rate of Charge (APR), by mandating certain disclosures in contracts and by creating provisions for licensing and monitoring of creditors. The directive was supposed to be implemented by the member states by 1990. The same year brought further harmonization by the introduction of a common mathematical formula for APR calculation through the directive of 1990 (90/88/EC). This policy measure also defined what kind of costs had to be excluded from APR calculation. This time, member states had two years for a transposition.⁶

In 1995, a review of the developments showed that virtually no progress has been made and that European member states had implemented stricter consumer protection measures such as broadening the scope of the directive or different upper and lower limits for credits (European Commission 1995). This was possible due to the minimum harmonization approach in the

⁶ However, because of a major exemption, member states that had already their own mathematical APR formula implemented before 1990 were allowed to use it until 1996.

directive. In 1998, a slight revision was introduced that included only some technical qualifications such as decimal preciseness. Until 2003, these initiatives did not show any real economic impact for market integration of retail markets. Now a new directive, the Consumer Credit Directive, is supposed to bring further integration, we come back to the point below.⁷

Several studies have analyzed the progress of credit market integration in Europe. These studies vary in several respects: (1) different market integration measures; (2) coverage of markets (ranging from the whole Eurozone to only the largest economies) and (3) observation periods.

Price differentials of comparable services were highlighted by the Cecchini Report (1988). These differentials were matched against the average of the four countries with the lowest prices in these services. One of the major results was that price differences over 100% existed in the member states. A follow-up study by the European Commission (1997) reiterated the comparisons and showed that these differences were still persistent in the second half of the 1990s.⁸

Other surveys concentrate on the banking industry and indicators such as the number of foreign banks in domestic markets as well as the share of assets held by them. Also in this case, we find only marginal signs for integration (European Central Bank 1999, 2000a). The picture does not look better for cross-border lending as White (1998) notes. The author collects information on cross-border activities of banks in nine EU countries for 1996 and 1997.⁹ He shows that only a small fraction of credit granted to non-banks flows across borders. This varies from 2.3% (Austria) to 9.9% (UK). In 1998, 91.6% of credit to non-banks was granted within the borders of the home state and the trend remained virtually unchanged in 1999 (90.8%) and 2000 (90.2%) (European Central Bank 2000b).

Analysis that applies co-integration techniques also reveal the lack of integration. Centeno and Mello (1999) show that in six EU member countries, domestic banking markets remained highly segmented in the years 1985 – 1994.¹⁰ Their indicators for integration are commercial bank lending rates.¹¹ The authors note that spreads charged by banks seem to not have a common link and can freely move away from each other (Centeno and Mello 1999: 98). Possible explanations are the retaining of monopoly power by banks in local markets and geographical segmentation

⁷ The complete title is “Directive of the European Parliament and of the Council on the harmonisation of the laws, regulations and administrative provisions of the Member States concerning credit for consumers.” Here, the short version “Consumer Credit Directive” is used.

⁸ While for some services such as credit cards, prices differences declined, they persisted for other ones such as commercial loans, current cheque accounts and cross-border payment transfers.

⁹ These countries are: Austria, Belgium, France, Germany, Italy, Netherlands Greece, Spain and UK.

¹⁰ Concerned countries are: Germany, France, Italy, Spain and Portugal.

due to proximity preferences. A study on consumer credit markets conducted by Kleimeier and Sander (2002) confirms these results. The co-integration analysis by the authors shows that credit markets are not integrated and interest rates do not easily equalize. Hence all reviewed empirical indicators provide coherent evidence for a lack of market integration in Europe.

The U.S., on the other hand, has a long record of federal legislation in banking as well as consumer credit regulation (an overview of acts is provided in Table 7, Panel A and B). Therefore, one may state that markets were regulated (1) via competition policy and (2) product regulation and price regulation. The first category of regulations included branching restrictions (McFadden Act 1927) and banking activity restrictions (Glass Steagall Act of 1933). This resulted in state-wide branching, limited area branching, unit banking as well as in the division of labour among commercial banks and saving institutions, for instance.

The second is product and price regulation. On the federal level, generally a minimum approach was applied with states having the opportunity to implement further restrictions.¹² These restrictions remained in place even after the passage of the Truth in Lending Act in 1969. Since states also regulated the types of lenders differently, markets were segmented also by type of lender (Durkin and Elliehausen 2003).

When the interest rate ceilings became more restrictive in the 1970s due to inflation, federal court decisions as well as a decision of the Supreme Court allowed creditors to export their interest rates to other states (Marquette decision by the Supreme Court in 1978).¹³ This started a wave of deregulation in the states. Moreover, price regulations (Regulation Q, Glass Steagall Act of 1933), which lasted until the beginning of 1986 (Depository Institutions and Deregulation Monetary Control Act of 1980, DIDMCA) also further biased competition.¹⁴ Despite the deregulation in the 1980s, when states started to reciprocally recognize each other's laws to interstate banking and relaxed interest ceilings, the market remained fragmented. This was also valid for different products, despite an erosion of price regulation due to innovations such as cash management accounts and NOW accounts. However, recent evidence from the U.S. suggests increased integration at least for some market segments. For the late 1980s, Elliehausen and Wolken (1992) showed that 50 percent of households lived or worked within 2 miles of the institution where they had their checking account, and 75 percent lived within 11 miles.

¹¹ Germany is taken as reference point as in Adam et al. (2002). The reason for this is that German interest rates behave more exogenously.

¹² States used this right in setting interest rate ceilings, loan size regulations and maturity restrictions.

¹³ Usury laws in the U.S. (and especially their exemption) resulted in different regulatory regimes in the states. The Marquette decision of the Supreme Court allowed a lender from Nebraska to charge his interest rates to customers in the state of Minnesota. This ushered a wave of deregulation by the states to attract banks and other lenders.

Moreover, the majority of households tended to “cluster” their services at their primary institution where they had more than one account or loan. Amel and Starr-McCluer (2001) also look at the household’s use of financial products between 1989 and 1998. The authors find that for certain types of loans such as mortgages, vehicle loans, student and personal loans, banks appear to be faced with increasing competition from non-local providers and non-depository institutions. The latter are consumer finance as well as mortgage finance companies.¹⁵ There are two trends to point at. First, the percentage of households that use local institutions still remains high, 98.4% in 1998 (Amel and Starr-McCluer 2001: 22). However, an increasing percentage of households use institutions that are non-local and non-depository (11.4% in 1989 to 42.4% in 1998). Second, the share of depositories in bank-type loans such as vehicle loans and other consumer loans declined and shifted to finance companies, “only for lines of credit (home equity and other) did depositories’ share remain above 80 percent.” (Amel and Starr-McCluer 2001: 11).

Historically banks and finance companies segmented markets according to risk profiles of borrowers, banks served low-risk borrowers, finance companies served high-risk ones. However, this kind of market segmentation changes - the differences in the risk profiles narrowed substantially in the past (Durkin and Elliehausen 2003). This is suggesting greater competition and hence integration.

Another study shows that for retail deposit markets, the 1990s did not expand the geographical scope (Heitfield and Prager 2002). Also for checking and savings accounts, Kiser (2002) notes that the primary purpose for changing banks is a household’s relocation, while location and customer service are the primary reasons for staying with the local depository institution.

In summary, U.S. markets remain segmented, but only in key banking services. The majority of households still cluster their products at their primary institution and tend to favour local ones. However, due to the competition from finance companies, we also observe increasing integration. Increasing integration crucially depends on market barriers that are observable in Europe. The point is further elaborated below.

¹⁴The DIDMCA was introduced in 1980. It mandated to phase-out Regulation Q until 1986 .

¹⁵ This category also includes brokerages and real estate lenders.

3.2 Segmentation and Market Barriers in Consumer Credit Markets

It seems that European markets are still segmented, despite several policy initiatives. In the U.S., on the other hand, an increasing integration of certain market segments can be observed, this holds especially for loans, but not for key banking services such as transaction accounts and credit lines. Hence, one may ask as to whether Europe can follow the development path of the U.S. To address this point, we briefly review market barriers in a comparative manner. This constitutes the framework within which informational barriers may be analyzed. The different kinds of barriers are given in Table 8 (Appendix).

It can be derived that especially natural barriers are of great importance for Europe when compared to the U.S. Differences in credit cultures, languages and the geographical distance are sever in the EU. Consumers do not shop around in the whole Eurozone for credit which might be due to preferences for proximity (Padoa-Schioppa 2000: 8). Since one of the major reasons for switching banks is relocation of the household, another barrier might be the rather limited mobility of European households compared to their U.S. counterparts. Differences in consumer protection as well as APR calculation further segment markets (for a more comprehensive account, see European Commission 1995).

On the supply side, we generally face similar natural barriers in Europe that are at least for language and culture absent in the U.S. Moreover, in the EU, there are different legal traditions, also non-existent on the other side of the Atlantic.¹⁶ As noted by Adam et al. (2002: 46), the English common law tradition and the French civil tradition systems work in different ways.¹⁷ This could produce different interpretations of the directives in the individual member states further leading to segmentation. The behaviour of banks may also create barriers to competition: in concentrated markets, banks may exert pricing power or increase switching costs. Again, the competition in the banking industry and its intensity varies in European countries.¹⁸

However, what might be also of importance are market barriers as perceived by consumers. When asked if there were barriers to using financial services anywhere in the EU, those who answered 'yes' stated the following barriers: "lack of information (32%); problems due to language (28%); too risky (22%); poor legal protection in the event of problems (19%); poor reporting (18%); difficulties due to distance (14%);" (European Opinion Research Group 2001:

¹⁶ Finland and Sweden or of Scandinavian legal origin, whereas UK and Ireland are of English origin. Netherlands, Italy and Portugal as well as France are of French origin to name just a few examples.

¹⁷ Civil law relies upon codified laws and professional judges, whereas common law relies upon broader legal principles and case law. This might induce different efficiencies of the judicial systems (Adam et al.: 47).

¹⁸ The pricing policy led to a report by the European Central Bank (2001), which highlighted the need to bring prices of cross-border credit transfers to the level of domestic ones.

37).¹⁹ This reveals that perceived barriers are (1) information asymmetries, (2) language problems, (3) preferences for security/trust; and (4) legal protection.

A large body of theoretical literature has elaborated on the importance of asymmetric information (Dell’Ariccia 2001; Marquez 2002; Padilla and Pagano 1997, 2000; Stiglitz and Weiss 1981, 1983, 1992). With reference to the European Union, Dell’Ariccia (2001: 1959) states: “Different degrees of competition will prevail on different segments of the market, and the effects of financial deregulation will be different for different categories of borrowers.” If credit reporting systems differ from country to country or the access to them differs, this certainly constitutes a further obstacle to a common market. This point is also further discussed below.

3.3 Data Protection Regimes in Europe

Credit markets, as stated, depend on the flows of creditworthiness information. Recent developments in credit scoring techniques and information technology adoption have increased the efficiency in data production and distribution. Hence, the regulation of such flows is of major importance. Data protection acts determine the information sets of market participants, therefore they further influence credit market outcomes. The empirical literature on credit reporting, however, has largely neglected this basic fact so far (see Jappelli and Pagano 2000a, 2000b and Pagano and Jappelli 1993).²⁰ However, there are other strands of literature that provide insights. These contributions have emphasized the regulatory side and the economic effects of data protection restrictions (Avery et al. 2000; Barron and Staten, *forthcoming*; Bostic and Calem, *forthcoming*; del Villar, de Leon and Hubert, *forthcoming*; Jentzsch 2001, 2003b).

In general, it can be observed that data protection regimes differed in European countries until the second half of the 1990s. Only recently, the implementation of the Data Protection Directive (which was enacted in 1995 and had to be implemented until 1998) led to an increasing converge.

Jentzsch (2003b) provides a detailed analysis of data protection regimes in four countries, U.S., France, Germany and Great Britain, by employing a functional similarities approach for analyzing the regulatory regimes in those countries (see Table 9). The countries were rated in the following fields: (1) Supervisory authority; (2) Property rights to information; (4) Obligations of credit bureaus; and (4) Enforcement possibilities and remedies (see Jentzsch 2003b for indicators and a detailed description). For each existing regulation, we granted a value of 1, otherwise of 0.

¹⁹ 16% of Europeans see no obstacles and 24% no opinion (more than voted for legal protection).

²⁰ These works are seminal since the authors introduced information sharing not only in models, but also provided the first empirical analysis of the issue. Therefore, our critique can only be regarded as directed towards the next steps in research.

In the evaluation, we included every single act and modifications as well as directives and administrative rulings for the years 1990 – 2001. The absolute numbers gained by the countries are given in Table 10 in the Appendix.²¹ To produce a time series, an index formula had to be applied. This Cobb-Douglas formula accounts for certain problems that are posed by ratings of countries such as type and weight bias and structural shifts (for the methodological discussion, see Jentzsch 2003c). The results are displayed in Chart 6 in the Appendix. In Jentzsch (2003c: 27) it is also shown that the application of index formulae is robust with respect to the aggregation of absolute values. The relative ranking of countries is not altered in any major respect. Chart 6 also shows that the U.S. remains below the level of regulation established by European countries that, on the other hand, converge in the latter half of the 1990s. The strong increase in 1997-1998 for the EU level shows the implementation of the Data Protection Directive, which constitutes a major advance in integration depth. However, the behaviour of the EU index is also due to interdependencies in the formula. It can be observed that some of the indices also *decrease* (see France and U.S.). This behaviour accounts for the fact that there were rights established that later have been repealed.²²

What are the major U.S.-EU differences? In the supervisory bloc, it is the authorities' competence to administer a publicly accessible list of data controllers and the competence of authorities to regulate international data flows as existent in the EU.²³ In the bloc of property rights to information, we find differences in the opt-out system of the U.S. as compared to the opt-in system in the EU. Moreover, there are regulations on automated decisions in the EU which are non-existent in the U.S. In the case of the obligations on credit bureaus, we find major differences in the absence any registration, restrictions on excessive data collections that exist in the EU, as well as explicit security measures that are absent in the U.S.

Table 11 in the Appendix gives some (non-representative) evidence on costs associated to access and disclosure. It seems like the U.S. bureaus are relatively cost efficient in terms of the average costs (including labour costs) of generating a credit report that is directed to the data subject. For the reviewed companies in the UK, this seems not to be the case: here the costs are relatively high compared to U.S. and Germany. Other indicators such as time efficiency in the case of the preparation of the reports give the same picture. A sign of the confidence in the

²¹ For brevity, we do not present the evaluation forms.

²² This is the case for the 1992 decision of the U.S. Federal Trade Commission to mandate credit bureaus to disclose credit scores to consumers (revised with the CCRRA of 1996). In France, periods for storage of certain data categories have been expanded, thus reducing protection.

²³ This regulation does not necessarily have to be established under a central authority of a data protection officer. As far as judicial courts are involved or governmental departments, the author granted a 1 in the evaluation.

system might be given by the number of consumers that actually demand to see their credit report. When scaled by population, the numbers show that in Germany the consumer is least likely to demand the report. This could be due to the fact that the public is less aware of credit reporting or that the system functions more smoothly. In UK, on the other hand, consumers seem to be more concerned and the number is the highest for the U.S.

In summary, there is an international drift with a weaker regime in the U.S. and a more stringent one in Europe. This data protection drift, however, does not lead to the relocation of data controllers. Rather the 1990s brought a “migration” of credit bureaus to the *stricter* EU regime (Jentzsch 2003b). However, one has to be careful with interpreting the index results. A score twice as high as another country does not mean that the country has *twice as much* data protection. It means that this country has twice as much *data protection regulations*. In the absence of any other proxy to instrument for data protection, we use this one as indicator for strictness.²⁴ Further statistical results will be discussed below (section 4.1 and 4.2).

3.4 Cross-border Credit and International Information Flows

As stated, cross-border credit is largely underdeveloped in Europe (see Table 12) and there is a lack of statistics on consumer credit granted across borders. The Table shows that only a small fraction of loans are granted to non-banks is granted outside of the home country of the financial service provider. Again, this varies from country to country within EU member states.

There is also a lack of statistics on international data transfers in credit reporting. However, we will briefly describe the data exchanges that have developed in the past and we present new evidence on the international consolidation in the industry. As stated above, several countries in Europe display a dual structure with private and public credit bureaus in the market.

Public credit registries in Europe work together in the Working Group on Credit Registers (WGCR). This group brings together representatives from the central registers in Europe, including Belgium, Germany, France, Italy, Austria, Portugal and Spain as well as representatives of the European Central Bank. This Working Group is chaired by Germany and belongs to the Banking Supervision Committee of the European System of Central Banks. Only lately, the group has finalized a “Memorandum of Understanding” as foundation of pan-European data exchange among registers. The group plans to create a reporting system that allows data exchange on a regular basis. The credit register of country A will then receive information from the registers in

other countries on borrowers who also have debt in other European countries (Deutsche Bundesbank 2002). National financial institutions, on the other hand, are supposed to gain access to borrower information of other countries via their home credit registry.²⁵

Private registries in Europe, however, only lately initiated international cooperation and partnerships (see Table 13). Industry officials note that transnational exchange is marginal and underdeveloped. Table 13 shows that a minority of deals are international partnerships, rather the M&A strategy prevails. Currently it is organised via different information networks such as BIGNet (users exchange business information), Eurogate (an information network of reporting companies in Austria, Belgium, Germany, Spain and Great Britain) and EurisConnect (a network among several European credit bureaus that provide a European standard report on consumer credit profiles).²⁶

Especially in the second half of the 1990s, some credit registries pursued market entry through an aggressive M&A strategy. Especially the Anglo-Saxon companies that have been active internationally for years expanded greatly in Europe (see, again, Table 12). These companies have established international networks (their intranets). Therefore, they may have a competitive advantage in the realm of international reporting.

The underdeveloped information structure in Europe is certainly a further reason for the low cross-border flow of credit. This structure can be explained by supply- and demand-side restraints. On the supply side the national focus of European credit registries hindered a quick development of cross-border reporting, moreover, there are considerable problems in technical standardization as well in terminological standardization. On the demand side, there is no great interest of banks in foreign credit reports, and, on one hand, there seems to be no major interest of consumers in credit from other member states. This seems to be the reason why credit registries have not developed a transnational network in Europe so far.

According to the Art. 25 and 26 of the Data Protection Directive, member states are allowed to export data to countries that reveal an adequate data protection standard. This status is evaluated by the Commission (the tool is a document: European Commission 1998). By May 2003 the status was awarded to Hungary, Switzerland, U.S. (safe harbour) and Canada only. The member

²⁴ A even more detailed legal analysis as employed by lawyers would also include the decisions of courts and the legal interpretation of the laws. However, this was beyond the scope of the survey just as the inclusion of legislation in the individual states in the U.S. that might presumably provide more stringent data protection.

²⁵ It is important to note that in mid-2002 only Belgium, Italy, Portugal and Germany had laws that allowed transnational information exchange. Bilateral agreements of regular exchange did not exist at that time.

states as well as the three EEA members Norway, Liechtenstein and Iceland are allowed export data to those countries (for the other countries, the status seems to be unclear).

As stated, cross-border credit transfers are currently marginal in most countries. Hence, international information flows must be also insignificant in terms of outcome variables. We have tested data on restriction of information flows with variables such as GNI pc credit (%GDP average 1997- 2001) and spreads between lending and deposit rates. However, the results were insignificant (results are not reported). Data on cross-border consumer credit is not available, but appears to be marginal only, the larger part of cross-border lending goes to companies (totals are given in Table 12).

IV. THE NEW CONSUMER CREDIT DIRECTIVE AND ITS IMPLICATIONS

4.1 Preliminary Analysis of the Directive's Effects on Integration

The new Consumer Credit Directive is intended to remedy some of the aforementioned problems. We will not discuss the directive in detail, but rather focus on the Art. 7 and 8 which regulate international information flows. The directive recognizes that consumer credit markets are not integrated, because of technical problems of market entry, lacking harmonization and consumer protection. It is also noted that the existing directive has to be modified to account for new credit products and to re-balance the rights and duties of borrowers as well as creditors.

Moreover, it is intended to introduce a structured information framework for creditworthiness information. Currently, the directive employs a maximal harmonization approach which implies that member states are not allowed to implement any further regulations. However, there are two exemptions, Art. 8 and Art. 33. Only the first one is of relevance to the paper.

Art. 7 mandates that data that have been obtained from consumers may only be processed for assessing their financial situation.²⁷ Art. 8, however, introduces a new organization of the information networks that have developed in the EU so far. Member states shall ensure that there is at least a negative registry (or network of registries) operating on their territory. Hence, this constitutes the introduction of a common platform for information exchange (at least for negative information). Moreover, access to the registry of a member country must be ensured under the same conditions as for domestic creditors.²⁸ The exemption from the maximum harmonization

²⁶ Behind the latter are the Schufa Holding AG and CRIF which have jointly developed a “key factor system” that is intended to translate different reporting standards into a universal language.

²⁷ Initially the directive included the obligation of destroying information used for risk assessment purposes after the conclusion of the agreement. However, this obligation, apart from having an impact on the way that financial service providers conduct marketing activities and develop their credit scoring systems, would leave lenders unprotected when confronted with the burden of proof imposed in the directive.

²⁸ This also holds for access either directly or for access through the registry of the home state.

approach is codified in Art. 8 (4). This section leaves it up to the member states to expand the negative data base and to also register credit and surety agreements (i.e. positive information). Creditors *must* consult this registry due to the responsible lending principle established by Art. 9.²⁹

There are a number of larger problems that have been neglected by the Commission in drafting the Directive. Consumer credit reporting is based upon the principle of reciprocity. However, the directive does not mandate which kind of information has to be delivered to the data base by creditors. Hence, in the individual member states the information sharing regimes may still differ. Some members (especially France) may still not allow positive information distribution which has the potential to create considerable problems for cross-border data transfers (see previous discussion in section 2.1 and 2.2). Moreover, the new directive does not clarify how negative data exchange versus positive data exchange works across borders. The technical implementation of this requirement will be difficult and it will take some time to built up complete data bases with all consumers in the member states' area, since coverage rates still largely differ from country to country. If we further include that there are no provisions of a general standardization of information collection which is of utmost importance for information exchange, it is doubtful as to whether the current proposal is improving the situation. The standardization of information, thresholds, items to report, etc. across countries should have been a major concern.

Obviously, it is intended to establish a system of registries of negative information. As the World Bank reports, such registries operate in 54 countries (World Bank *forthcoming*). Some of them were established for supervisory purposes only (such as the one in Germany) while others, such as France, have been set up to explicitly assist in credit allocation.³⁰ Hence, even European public credit registries display diverging institutional designs. The World Bank panel of 110 countries shows that private registries operate in 83 countries.

We can only tentatively conclude what the effects of these new provisions will be on information exchange in the EU and on market integration. As the World Bank reports, private registries are generally more designed to help lenders, they collect information from a wider range of creditors (such as finance companies, telecommunication providers and retailers), they distribute more detailed data and have a higher coverage of firms and individuals compared to public registries. Hence, it is not surprising that the importance of the latter varies. Preliminary

²⁹ The notion of responsible lending in the directive enshrines the use of all the means available to the lenders to ensure that the consumer is able to repay, explicitly referring to consultation to existing databases.

³⁰ For a more detailed discussion of further differences of credit registries in Europe, see Estrella et al. (2000: 77 - 86).

data analysis suggests that for the poorer half of the World Bank's panel, information sharing has a greater impact, whereas in the richer half, the impact on markets is less significant (World Bank *forthcoming*).

In Europe, the establishment of negative registries may not have a major impact on credit market integration. It is true that one obstacle – lacking negative information – is partially reduced, however, there are natural market barriers in the market that might be of even greater importance. Private credit bureaus are already actively competing in the national European markets and the industry is quickly consolidating. If the demand for cross-border credit increases, especially the larger private credit bureaus will have a competitive advantage.³¹

Credit reporting is a network industry, hence strong concentration processes will result in an oligopolistic structure (triopoly) as already observable in many markets (see Jentzsch 2003b for a more detailed discussion). Considered the other obstacles to credit market integration, one may ask as to whether the current approach will have a large impact on market integration.

To increase the volume of credit in the European economies, it seems of great importance to strengthen economic growth. Consumer credit moves in tandem with economic fluctuations, hence households tend to get credit if their future job prospects look bright. This trust in the stability of the income stream is of utmost importance. Therefore, mandating an obligatory information exchange will only partially solve the problem of market segmentation.

4.2 Information Sharing and Credit Markets: Empirical Evidence

After discussing credit market integration and international data transfers, we briefly review the potential effects of data protection and information sharing in credit markets. The American credit market was already characterized above. A further distinction is the high competition intensity in the U.S. credit reporting industry.

The market is mature and has developed over decades. Credit bureaus face high pricing pressure. Already in the 1960s, the consumer credit market coverage reached universality (Pagano and Jappelli 1993: 1712). Nowadays, approximately 1 billion credit profiles are sold per year (Masons 2002: 3). The industry is characterized by the competition of the Top-3 bureaus, Equifax, Experian and TransUnion. Industry officials estimate that they serve 95% of the consumer reporting market. However, below the top-level is a significant number of smaller regional players with less than 100 employees. These firms found their niches in tenant reporting, mortgage reporting or employment screening. The Top-3 bureaus do have positive and negative

³¹ This is also a first-mover advantage, since these bureaus, as stated have established intranets and may also be able to report across borders.

information on several million economically active Americans.³² Hence, we observe a very advanced, market-based system of reporting in the U.S. (see also Hunt 2002).

Several studies have estimated the impact of information sharing on credit markets. Jappelli and Pagano (2000a) find that credit is positively correlated with information sharing mechanisms, also after controlling for country size). Their test of the relationship of information sharing and credit risk shows that countries with data exchange have a lower average credit risk. Information sharing reduces the credit risk indicator by 3 points, which may translate into a 1 percentage point reduction in the fraction of non-performing loans.³³

Other surveys simulated restrictions in information sharing regimes by using scoring models. Barron and Staten (2000) show that negative information decreases allocative efficiency and produces higher rates of type-I and type-II errors.³⁴ Accordingly, the more precise discrimination of formerly pooled borrowers via positive information sharing increases approval rates compared to negative information: “In other words, at a default rate of 4%, for every 100.000 applicants, use of the negative-only model would result in 11.000 fewer consumer loans.” (Barron and Staten 2000: 19). Thus, we observe a reduction in credit volume.

Two sources of model deterioration may be separated: population drift and underfitting. Population drift occurs because populations evolve over time and the distribution of their characteristics changes, hence, a model’s prediction capability erodes. Second, there is a potential for omitted-variables bias (“underfitting”). Avery et al. (2000) analyze the problem of omitted variables.³⁵ They state that scorecards are often developed without reference to regional or local economic information, but they may be affected by it. Hence, scorecards should include such information. Zandi (1998) also proposes a recalibration of models according to business cycle fluctuations. The problem of underfitting is also existent if data protection acts forbid certain variables which results in a reduction of prediction power.

Bostic and Calem (2002) test the potential impact of the restriction of the use of the gender variable on credit granting. The results indicate that there are significant differences by gender in the relationship of credit scores and repayment performance with higher delinquency rates for men. Hence, the authors conclude that the use of gender-specific credit scoring models would have enhanced the efficiency of the lending program.

³² Exact numbers are considered trade secrets. However, industry estimates in general indicate numbers above 100 million Americans.

³³ Risk is a proxy taken from the International Country Risk Guide Financial Indicator, ICRGF

³⁴ Type-I errors are errors of commission in granting loans to bad risks, whereas type-II errors are omission errors in denying good risks credit (i.e. credit rationing).

³⁵ This is done via a sample of 2.5 million households for mortgages via the “The Mortgage Score” (TMS) of Equifax.

In a study conducted by Jentzsch (2003b), it is shown that across a 4-country panel, data protection regulations are negatively correlated with information allocation (that is credit reports sold for credit granting purposes).³⁶ Hence, more stringent data protection regimes as measured by the Financial Privacy Index seems to reduce information allocation. Moreover, the higher information allocation, the higher is the access to credit (as measured by the ratio of consumer credit to GDP). Quite intuitively, higher levels of consumer credit are strongly positively correlated with indebtedness.³⁷ In addition, the analysis suggests that credit risk rises.³⁸ This result remains statistically significant if one controls for population or GDP growth. Several explanations can be advanced in this respect, most of them have been developed as explanations for rising bankruptcy numbers in the U.S. Black and Morgan (1998) analyze the risk composition of households: their survey reveals that increased access to credit worsened the mix of credit card holders and affected the risk of delinquency.³⁹ Fay, Hurst and White (1998), on the other hand, investigate the stigma effect. They find that the probability of filing increases with the economic benefit of filing and with the lagged variable on stigma.⁴⁰ In summary, credit card debt, unemployment, illness and declining stigma contribute to financial stress of households even during a prolonged economic boom.

Gross and Souleles (1999) have tested both competing explanations. They find that unemployment, weak house prices and risk-composition are associated with more default, but they explain only small part of the change in default or bankruptcy rates. They concluded that the stigma effect is more important. The authors note that they do not provide an explanation of the cause of stigma. Hence, a previous deterioration of the risk-composition could lead to a decrease in bankruptcy stigma due to more people declaring bankruptcy.

All in all, evidence suggests that information sharing increases the access to credit. The impact on credit risk, however, maybe not so clear due to the noisy proxies used as instruments. Positive information sharing increases prediction precision, moreover, restrictions on individual significant variables reduces the efficiency of credit allocation. On the overall level, higher data protection reduces information allocation. However, several aspects contribute to rising bankruptcy rates, such as unexpected life events, a change in the risk-composition and the decline in the stigma effect. It remains to be asked as to whether there are any lessons that may be learnt from the U.S. in general.

³⁶ The countries are U.S., Germany, Great Britain and France.

³⁷ Indebtedness is measure as consumer credit outstanding to household disposable income (see Jentzsch 2003b).

³⁸ We used a rough proxy for credit risk: the estimated household debt-service burden. In Europe, there is no official data. Hence, we used estimates from the industry and the national interest rates as published by the ECB.

³⁹ New card holders tend to earn less, work in cyclical blue-collar jobs and are more willing to borrow.

V. CONCLUSIONS

There is evidence of an increasingly integrated credit market in the US. In Europe however, all integration indicators provide a negative picture. Market integration remains an objective far from achievement. Current EU consumer credit markets present divergent features, namely the use of consumer credit, the products offered, the legislation applicable and competition in these markets differ widely. The segmentation stated in retail credit markets is also applicable to information sharing mechanisms. Further, all aspects of credit bureaus functioning is regulated by national laws of member states so far not harmonised.

However, informational asymmetries are just an obstacle among many others still existent in Europe. Cross-border credit, as well as international information flows, is still underdeveloped which also depends on the lacking interest of creditors and institutional conditions.

Evidence suggests that information sharing increases the access to credit and that this is quite naturally linked with increasing indebtedness. Moreover, restrictions on individual significant variables reduces the efficiency of credit allocation and allowing only negative information does also reduce this kind of efficiency. The impact on credit risk, however, maybe not so clear due to the noisy proxies used as instruments. This is certainly a field for further research. As stated concerning rising bankruptcy rates, unexpected life events, a change in the risk-composition and the decline in the stigma effect play a role.

What can be learnt from the U.S. experience? The lightly regulated industry provides high volumes of credit reports sold which certainly contributes to the quick integration of consumer credit markets at least for certain market segments. Moreover, access to credit is greater on the other side of the Atlantic; however, a decline on the bankruptcy stigma and the changing risk-composition of the borrower pool contributes to historical bankruptcy rates. It may be doubted that Europe follows this development path.

Differences in languages, credit culture and strong preferences for privacy contribute to a credit market that will remain distinct “European” and that will remain segmented for probably a much longer time. The new Consumer Credit Directive might not change this picture greatly, as our tentative analysis suggests. Even if information sharing regimes are more harmonized other barriers might inhibit a deep integration of credit markets in Europe.

⁴⁰ „Bankruptcy stigma“ is measured as aggregate filings in the debtor’s state over the past three years. The authors assume that the higher the bankruptcy rate, the lower the stigma.

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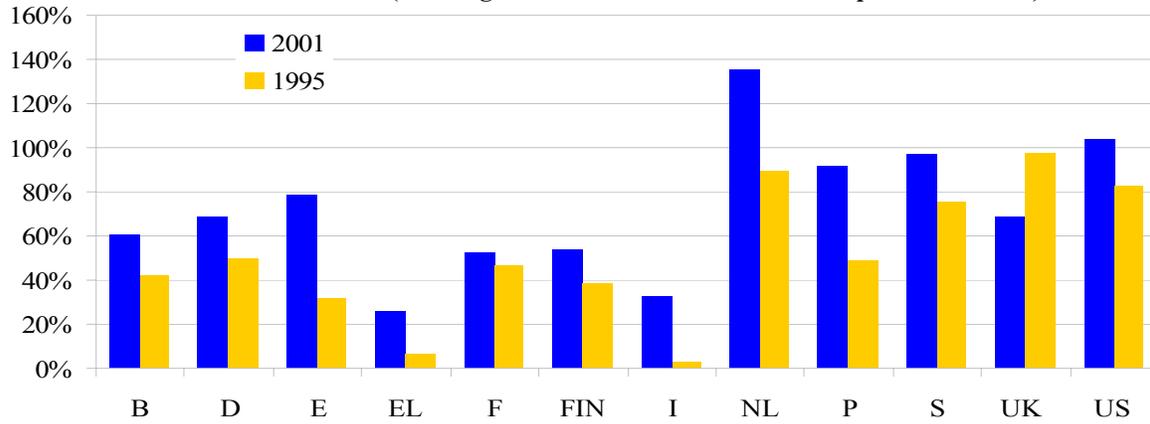
APPENDIX

Table 1. Lending to the Private Sector (2000 – 2001)

	Loans billion EUROS	House holds	Consumer	Housing	Other	Non-Profit Institutions serving households	Business
	1	2	3	7	11	15	16
2001							
A	193,446	60,653	25,767	27,058	5,912	1,196	131,597
B	275,934	98,944	13,231	73,319	12,394	*	176,990
D	2.236,300	926,700	222,400	704,300	0,000	14,100	1.295,600
DK	234,570	155,899	13,854	128,962	13,083	1,468	77,199
E	789,096	324,730	62,355	205,709	56,666	*	464,366
EL	71,183	24,707	7,852	15,952	0,903	*	46,476
F	1.031,900	500,400	117,400	319,400	63,500	8,900	522,600
FIN	68,691	37,511	3,108	27,096	7,307	9,432	21,748
I	922,575	278,580	40,972	102,230	135,378	*	643,995
IRL	129,078	45,594	9,300	34,705	1,590	*	83,484
LU	65,900	20,200	1,100	6,500	12,600	0,300	45,400
NL	469,744	295,080	13,903	259,811	21,366	*	174,664
P	147,380	75,950	8,074	57,365	10,511	0,000	71,430
S	240,849	113,709	26,632	72,014	15,063	*	127,140
UK in `£	1.436,700	756,000	141,715	592,035	22,250	*	680,700
US in \$	14.614,200	7.692,900	1.703,300	5.385,200	604,400	*	6.921,300
2000							
A	187,240	57,570	23,926	26,136	5,964	1,544	128,126
B	273,715	98,877	12,739	74,624	11,514	*	174,838
D	2.187,300	905,500	222,500	683,000	0,000	14,000	1.267,800
DK	212,158	143,670	14,014	117,984	11,672	1,266	67,220
E	682,163	288,784	51,111	176,653	61,020	*	393,380
EL	55,203	16,016	5,511	7,852	2,653		39,187
F	990,800	476,700	112,634	301,300	62,700	8,700	505,400
FIN	64,402	37,511	3,053	24,308	10,150	9,148	17,743
I	861,353	266,392	37,112	96,963	132,317	*	594,961
IRL	111,207	39,231	7,751	30,048	1,432	*	71,976
LU	61,000	19,800	1,000	5,800	13,000	0,300	40,900
NL	435,551	269,061	13,831	232,274	22,956	*	166,500
P	130,158	68,813	8,177	50,735	9,901	7,468	61,345
S	223,830	105,202	27,472	66,465	11,265	*	118,628
UK in `£	1.296,300	682,700	128,037	535,950	18,713	*	613,600
US in \$	13.607,600	7.078,300	1.593,100	4.904,300	580,900	*	6.529,300

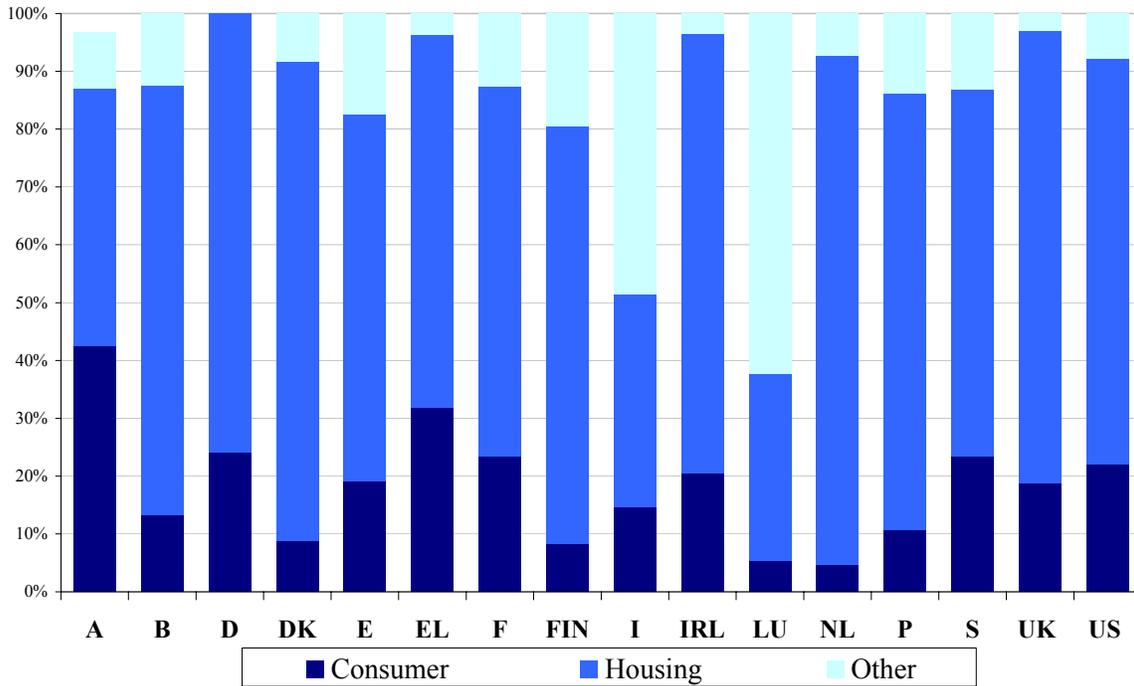
* NPISH included in Households

Chart 1. Household Indebtedness (Lending to Households / Households Disposable Income)



Source: National central banks and national statistics offices

Chart 2. Composition of Lending to Households (2001)



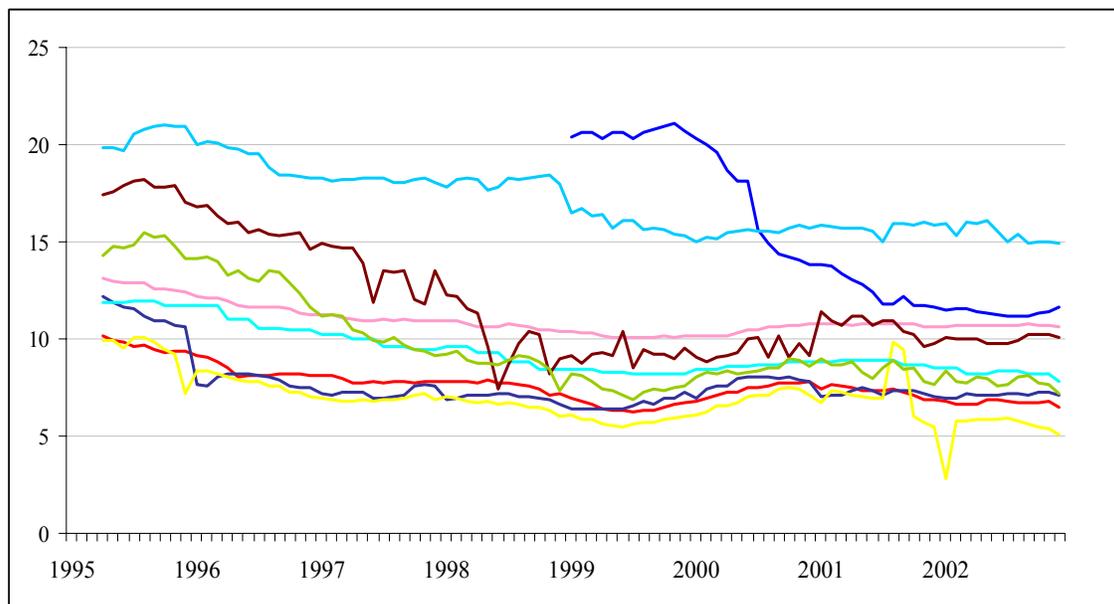
Source: National central banks

Table 2. Consumer Credit Growth (nominal)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
A	...	...	...	...	...	...	...	...	-4.4%	44.8%	7.7%
B	7.1%	6.9%	2.6%	-9.0%	6.8%	0.3%	3.7%	10.2%	6.9%	6.6%	3.9%
D	14.5%	9.5%	9.0%	3.9%	4.7%	1.0%	1.8%	6.0%	-0.4%	3.2%	-0.1%
DK	...	-4.9%	-10.1%	-2.2%	4.6%	5.1%	6.6%	9.0%	4.0%	11.7%	9.5%
E	3.4%	-1.0%	-1.7%	-7.2%	5.7%	5.2%	5.4%	26.7%	17.2%	7.8%	22.0%
EL	1.9%	20.5%	21.4%	54.0%	89.7%	34.6%	13.8%	38.3%	30.7%	42.4%	42.5%
F	-1.8%	6.2%	4.6%	18.8%	2.2%	8.6%	10.0%	11.9%	10.9%	8.4%	4.2%
FIN	...	...	...	-10.5%	-5.9%	-4.0%	6.0%	0.6%	-8.0%	1.3%	1.8%
I	6.4%	-7.0%	-18.5%	2.9%	-9.9%	11.7%	30.7%	12.1%	18.8%	16.5%	10.4%
IRL	...	...	6.8%	3.9%	10.1%	11.4%	12.5%	34.3%	35.1%	13.8%	20.0%
LU	...	...	...	...	...	...	...	20.0%	66.7%	0.0%	10.0%
NL	10.0%	17.6%	7.1%	5.0%	7.3%	3.0%	4.9%	-10.9%	8.4%	25.5%	-6.0%
P	...	...	...	...	...	...	0.2%	23.4%	9.9%	20.4%	-1.7%
S	-12.1%	-8.7%	-29.4%	-5.0%	-2.3%	1.1%	-6.7%	5.5%	9.0%	17.9%	-3.1%
UK	1.8%	-1.7%	-0.4%	8.9%	17.5%	13.6%	13.7%	16.0%	13.6%	22.0%	-2.0%
US	-1.5%	0.6%	7.2%	14.5%	14.4%	7.6%	4.4%	5.4%	7.1%	9.4%	9.5%
JP	7.5%	2.3%	-2.3%	-1.8%	-0.4%	2.3%	0.8%	-1.8%	1.1%	-0.3%	-6.4%

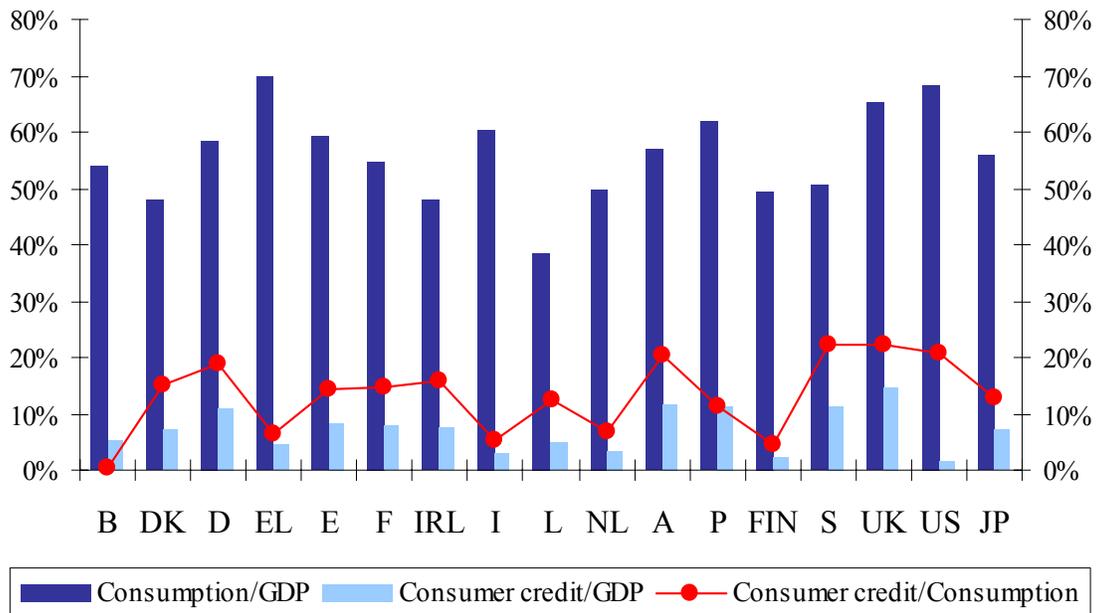
Source: National central banks

Chart 3. National Lending Rates (Consumer Loans to Households, 1995 – 2002)



Source: ECB

Chart 4. Consumer Credit as Percentage of Consumption and GDP (2001)



Source: National statistic offices and central banks

Table 3. Types of Information and Ownership of Credit Bureaus in Europe*

Country	State- owned	Consortium of credit providers and associations	Private company owned by financial institutions	Private company not owned by financial institutions
Austria		X (B+W)		
Belgium	X (B)	X (B)		
Denmark			X (B)	
Finland	X (B)			
France	X(B)			
Germany			X(B+W)	
Ireland			X(B+W)	
Italy		X (B)	X (B+W)	
Netherlands				X(B+W)
Portugal	X (B+W)			X(B+W)
Spain	X (B+W)			X (B+W)
Sweden			X(B+W)	
UK				X (B+W)

* Note: B = black information. W = white information.
Source: San José Riestra (2002).

Table 4. Main Characteristics of EU Credit Reporting Scenarios

	Main credit bureaus	Contributors to the files	Cost of negative info	Cost of positive info	Time records are kept for	Threshold information collected
AT	KSV	Mail order companies, telecommunications and other	Avg. 1.5€/report Fixed fee 200-600€	Avg. 1.8-2.76€/report Fixed fee 200-600€	3 years debts recovered 30 years unpaid debts	1000€ positive 35€ negative
BE	UPC NBB	Lending institutions, leasing, liberal professions	0.1-0.45€/report	n.a.	1-10 years	
DK	RKI	Lenders, official registries	1.34€/report Fixed fee 537-2418€		5 years debts unpaid Deleted as soon as repaid	134€
FR	Banque Nationale	Lenders	Depending on volume			
DE	Schufa		0.5€/report (minimum)	2.3€/report (maximum)		100€
IE	Irish credit bureau	Lenders		1.86-2.22€/report	5 years	
IT	CRIF CTC	Lenders	18000€/year depending on members	2.3€/report		
NL	BKR	Lenders		From 0.45€/report	5 years if paid Indefinitely if unpaid	
PR	Credinformações Bank of Portugal	Lenders	0.5-0.6€/report	0.7-0.8€/report		50€
ES	ASNEF Banco de España					
SE	UC AB	Lenders, other financial information on the individual, properties owned, utilities, telecommunications	2€/report	Up to 6€/report	Avg. 3.5 years Indefinitely if recovery is pursued 10 years if no recovered	
UK	Equifax Experian	Lenders, telecommunications, utilities and retailers	From 0.5€/report	Up to 3€/report		

Source: San José Riestra (2002)

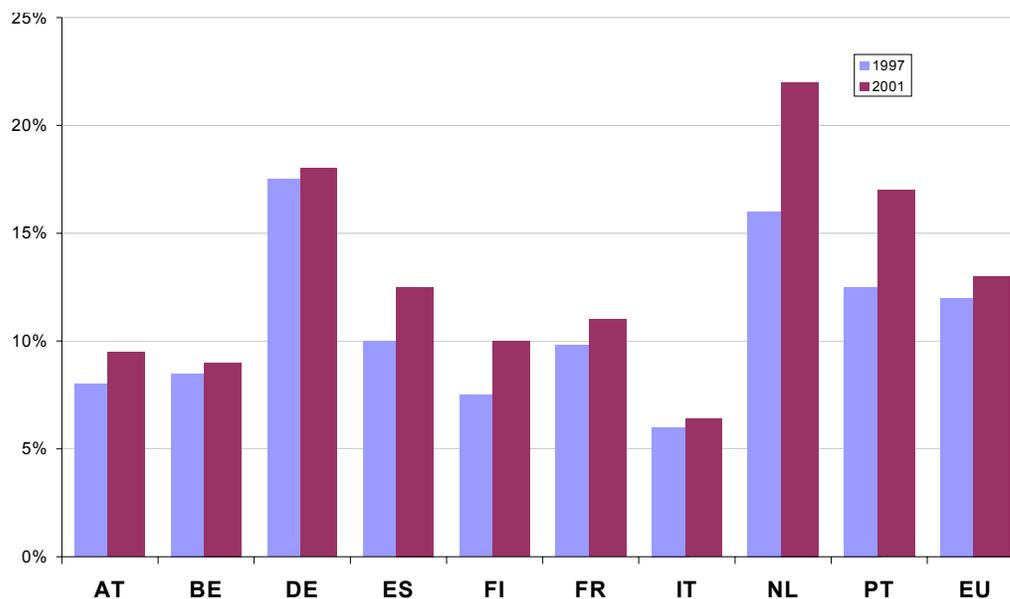
Box 1. The Ambiguity of Defining Privacy

The CNIL prevented several credit grantors from using borrowers' nationality as a factor to estimate their repayment ability. CNIL inspections found that scoring techniques often used categories such as *français*, *CEE*, and 'other'. The purpose of the inclusion of such criteria, according to credit institutions, is to facilitate the assessment of the difficulty to recover the debt in the case of the borrower moving to his country of origin. However, the CNIL sustained that a more appropriate criterion for foreign residents would be the inclusion of the '*titre de séjour*' validity period. It would constitute a relevant variable at least for long-term credits. Furthermore, CNIL argued that nationality does not constitute a determining criterion for the assessment of payment behaviour independently of social, financial and economic conditions of the borrower.

Later, the *Conseil d'Etat* annulled the CNIL decision and recognised that when the result of scoring techniques do not exclude automatically the individual treatment of the demand of credit, the information regarding nationality is adequate and permissible.

Sources: CNIL 1998 press release published on its website and Resolution from the *Conseil d'Etat* regarding to the file n° 204909, 30 October 2001.

Chart 5. Debt-Service Burden (as Percentage of Gross Household Disposable Income)



Source: del Rio (2003)

Table 5. Overindebtedness in Europe: A Preliminary Approach

	Alternative source			
	Population affected	% of total population	Population affected	% of total population
Austria ^a		2.7%		
Belgium	113,000 families ^c	2.5%	30,000-40,000 families ^d	0.8%
Finland ^a		3.7%		
France	500,000 families ^b	2.0%		
UK	1 million individuals ^c	1.6%	200,000 individuals	
Germany	2.5-2.7 million families ^f	7%		
Netherlands	200,000 families ^g	2.9%		
Norway ^a		5.5%		
Spain ⁱ		2.0%		
Sweden	430,000 individuals ^h	4.5%		

^a Korczak (1998) in Jentsch (2003a). Figures from 1992, 1994 and 1996.

^b IEIC, 'Etat du surendettement : éléments statistiques', September 2000.

^c Data from Groupe Action Surendettement de Belgique (Belgium Overindebtedness Action Group). No definition of overindebtedness given.

^d Estimated by the industry.

^e NACAB publishes statistics that quote one million enquiries, not actual people. It is often the case, however, that a person with a debt problem will phone several times. In a letter to the editor of Credit Finance 2001, Nick Pearson, a former employee of NACAB calculates the number of enquiries at roughly 200,000.

^f IEIC, 'Etat du surendettement: Eléments statistiques', September 2000.

^g IEIC, 'Etat du surendettement: Eléments statistiques', September 2000.

^h Individuals with non-settled formal payment claims included in the credit bureau. Past payment incidents settled with the lender are not included.

ⁱ Cuadernos del CEACCU, N° 1, Los españoles y el sobreendeudamiento, Madrid 2003

Table 6. Reasons of Bankruptcy and Overindebtedness: U.S. and EU countries

Country	Survey	Reason	Percentage (%)
U.S.	Gallup Poll 1997 (reasons for bankruptcy filings)	Credit card bills	63
		Unemployment (cut in payments)	50
		Mismanagement of pers. finances	37
		Medical bills	28
Austria	Grohs (1998)	Poor household management	26
		Unemployment	21
		Divorce	20
		Housing debts	16
		Other	17
Belgium	ABB (1996)	Unemployment	19
		Excessive charges	16
		Non-financial causes	15
		Divorce	8
		Illness	7
		Decease	5
		Unexpected charges	3
		Other	27
France⁺	Hyst and Loridant (1997)	Unemployment	42
		Divorce or decease	20
		Illness	11
		Reduction of social benefits	4
		Other	23
Spain	CEACCU (2003)	Income reduction (Due to unemployment, divorce ...)	58
		Bad financial management	12
		Lack of information	26
		Other	4

⁺ Pontoise (Region of France)

Source: The authors.

Table 7. Banking and Consumer Credit Regulation in the U.S.

Panel A. Major Banking Acts in the U.S.

1927 McFadden Act
1933 Banking Act (Glass-Steagall Act)
1934 Federal Home Loan Bank Act
1956 Bank Holding Act
1966 Bank Merger Act
1980 Depository Institution Deregulation and Monetary Control Act (DIDMCA)
1982 Garn-St.-Germain Act
1989 Financial Institutions Reform, Recovery and Enforcement Act
1994 Riegle-Neal Interstate Banking and Branching Efficiency Act
1999 Financial Services Modernization Act (Gramm-Leach-Bliley Act)

Panel B. Consumer Credit Regulation

1941 Regulation W
1969 Credit Control Act
1969 Truth in Lending Act
1970 Fair Credit Reporting Act
1971 Credit Card Issuance Act
1975 Equal Credit Opportunity Act
1978 Fair Debt Collection Act
1978 Electronic Fund Transfer Act
1980 Depository Institution Deregulation and Monetary Control Act (DIDMCA)
1988 Fair Credit and Charge Card Disclosure Act

Source: Jentzsch (2003a)

Table 8. Specific Barriers in the Consumer Credit Market

1. Demand Side	
Natural Barriers	
	Differences in culture
	Differences in languages
	Geographic distance
	Trust preferences
	Limited Mobility
	Preferences for proximity
	Human attention limitations
Policy-induced Barriers	
	Differences in consumer protection
	Differences in financial literacy
Private Barriers	
	Consumer boycotts
2. Supply Side	
Natural Barriers	
	Differences in culture
	Differences in languages
	Geographic distance
Policy-induced Barriers	
	Legal tradition
	Different tax systems
	Different consumer credit regulations
	Obstacles to access to consumer information
	Time lags in implementation of regulations (Directives)
Private Barriers	
	Concentrated markets and reduced contestability
	Pricing policy of incumbents
	Expansion strategies of banks
	Costs of cross-border service provision
	Switching costs

Source: Jentzsch (2003a)

Table 9. Financial Privacy Regimes in Four Selected Countries*

Country	Acts
United States	1970 Fair Credit Reporting Act
	1974 Equal Credit Opportunity Act
	1992 Fair Credit Reporting Act (as amended)**
	1996 Consumer Credit Reporting Reform Act
	1999 Fair Credit Reporting Act (as amended)**
	1999 Gramm Leach Bliley Act
European Union	1981 CEC (Treaty 108/81) Convention for the Protection of Individuals with regards to Automatic Processing of Personal Data
	1995 95/46/EC Directive on the Protection of Individuals with Regard to the Processing of Personal Data and on the Free Movement of such Data
Germany	1977 Federal Data Protection Act
	1990 Federal Data Protection Act
	1994 Amendment to the Federal Data Protection Act
	2001 Amendment to the Federal Data Protection Act
Great Britain	1974 Consumer Credit Act
	1984 Data Protection Act
	1998 Data Protection Act
France	1978 Act on Data Processing, Data Files and Individual Liberties
	1989 Neiertz Act

* The Table includes also the European Union for analytical purposes.

**There were different amendments in 1984, 1989 and 1991, however, the 1992 act includes them. Consumer Reporting Employment Clarification Act of 1998 amends the 1992 FCRA.

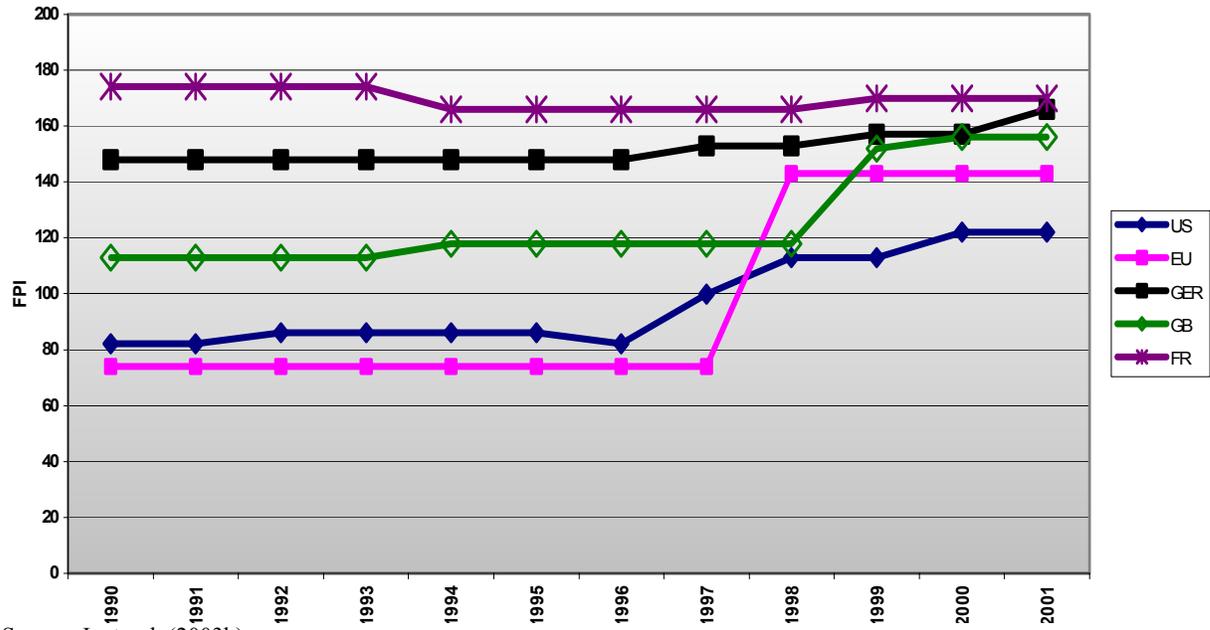
Source: Jentzsch (2003b)

Table 10. Absolute Numbers of Regulations in Four Selected Countries

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
U.S.	19	19	20	20	20	20	19	23	26	26	28	28
Europe	17	17	17	17	17	17	17	17	33	33	33	33
Germany	34	34	34	34	34	34	34	34	35	36	36	38
Great Britain	26	26	26	26	27	27	27	27	27	36	37	37
France	40	40	40	40	38	38	38	38	38	39	39	39

Source: Jentzsch (2003b)

Chart 6. Cobb-Douglas Financial Privacy Indices (1990 – 2001)



Source: Jentzsch (2003b)

Table 11. Average costs related to access and disclosure*

Task of data controller	US (in €)		Germany (in €)		UK (in €)	
	1995	2001	1995	2001	1995	2001
ACCESS AND CORRECTION						
Average total cost of a credit report directed at the data subject	0.45	0.26	9.65	10.77	21.24	15.55
Average working time (in minutes) for preparation of report	8.65 min.	5.20 min.	11.66 min.	12.39 min.	35 min.	37 min.
Fee charged to subject for disclosure of consumer report	7.90	8.61	8.28	7.14	15.67	16.38
No. of credit reports requested by data subjects (scaled by population)	n/a	4 876 270 (0.017108)	540 950 (0.006624)	715 886 (0.008973)	n/a	730 000 (0.01216)
Average total costs of correction of a credit profile	7.89	7.30	21.06	25.87	n/a	n/a
Average working time (minutes) spent on correction	7.22 min.	5.66 min.	30.30 min.	32.65 min.	n/a	n/a
SUPERVISORY AUTHORITY						
Time spent on negotiations with data protection authorities	325 hrs.	500 hrs.	100 hrs.	176 hrs.	n/a	81 hrs.
Time spent on data protection issues by data protection appointee	100,750 hrs./year	125,775 hrs./year	207,550 hrs./year	249,076 hrs./year	n/a	n/a
Opportunity costs produced by data protection appointee (p.a.)	n/a	n/a	6,641,511 €/year	8,304,720 €/year	n/a	n/a
GER/UK: Cost of seminars and training concerning data protection	n/a	n/a	58,141 €/year	74,992 €/year	n/a	1,500
UK: Costs to register with data protection authorities	-	-	-	-	n/a	65

* Numbers represent weighted averages (with weights derived from markets shares of credit bureaus), except for the UK (arithmetic averages). Numbers only hold for requested companies (they are not representative). Exchange rates are as of 17 January 2003; numbers are rounded.

Table 12. Cross-border Banking: Total Loans to Non-banks*

Country	Loans to non-banks (% of total)					
EU Total						
- Euro area	n.a.	2.2	2.6	3.0	3.2	3.4
- ROW	n.a.	6.2	5.8	6.6	6.9	7.7

*Numbers are from Cabral et al. (2002).

Table 13. Credit Reporting Competition and Partnerships in Europe*

Name	Home	Year	Countries	M&A, Invest., Partnership	Firm
Equifax Est.1899	US 20 countries	2000	Italy	Acquisition	SEK
		2000	Italy	Acquisition	AIF Gruppo Securitas
		1998	UK	Acquisition	CCI Group Plc
		2000	UK	Acquisition	Check-a-Cheque
		2000	UK	Investment	Equifax Card Solutions
		1997	UK	Acquisition	GRATTAN
		1994	UK	Acquisition	UATP Infolink
		1996	Spain	Acquisition	Transax Plc
		1997	Spain	Acquisition	Group Incesa
		1998	Spain	Acquisition	ASNEF-Equifax
		1996	Portugal	Investment	ASFAC-Equifax
		1995	Ireland	Acquisition	Infocheck
Experian Est. 1970 Acquired by Great Universal Stores in 1996	US, UK 18 countries	1997	Austria	Investment	Experian Österreich
		n.a.	Belgium	n.a.	n.a.
		1996	France	Acquisition	Coref
		1998	France	Acquisition	SG2
		1999	France	Acquisition	DMC Informatique
		2000	France	Partnership	Steria
		2001	France	Investment	CNTP
		1990	Germany	Investment	Experian Group
		1998	Germany	Acquisition	Directmarketing GmbH
		1998	Germany	Partnership	Creditreform Experian GmbH
		2001	Germany	Acquisition	Cards Direct GmbH
		1990	Italy	n.a.	n.a.
		1998	Italy	Acquisition	Metron
		n.a.	Monaco	n.a.	n.a.
		n.a.	Spain	n.a.	n.a.
		1998	Netherlands	Acquisition	CCM
		1998	Ireland	Acquisition	ITPA
		2001	Ireland	Acquisition	Interface Business Information
		1998	U.S.	Acquisition	Metromail
		1996	UK	Acquisition	CCN Group
n.a.	UK	Acquisition	ICD (Metromail)		
1999	UK	Investment	ChoicePoint		
Trans Union Est. 1968	US 24 countries	1998	Italy	Partnership	CRIF
		2000	Spain	n.a.	n.a.
		n.a.	Netherlands	n.a.	n.a.
BKR Est. 1975	Netherlands n.a.	n.a.	Germany	Partnership	n.a.
		1997	Belgium	Partnership	National Bank of Belgium (DT)
		1999	Italy	Partnership	CRIF
CRIF Est.1989	Italy 6 countries	2000	Austria	Partnership	KSV CRIF
		2001	Czech Rep.	Investment	CRIF
		1999	Denmark	Partnership	RKI
		2000	Germany	Investment	CRIF Decisionline
		1997	Germany	Partnership	Schufa Holding AG
		1999	Spain	Investment	CRIF
		1997	UK	Investment	CRIF Decision Solutions
		1999	UK	Acquisition	QUI Credit Assessment
1999	US	Investment	CRIF North America		

*Includes acquisition and investment in companies outside the traditional credit reporting business like credit card processing. Information was compiled from newspaper articles.