

The Internet has invaded almost every sphere of society. Culture, leisure, sports, learning, and of course, economy and finance. Analyzing banking industry gives us some light on this respect; according to Crede (1995), almost no banker believed up to 1995 on the Internet as an alternative way for delivering financial services. But at the end of the first semester of 1998, 6.3 percent of US national banks was offering transactional services through the web, a figure that increased to a 20 percent in just nine months, according to Furst, Lang, and Nolle (2000). In 15 months the offering was increasing at an amazing rate of 188.2 percent. The Spanish banking system, with the logical gap, is evolving in the same way, as we will later see. At the present time, all the big Spanish banks and the majority of the medium-sized ones are offering transactional Internet services; virtual banks hold a share of 1.2 percent of the Spanish banking industry by December 31, 2000, measured in terms of deposits, with a volume of deposits over Euro 3 billions, according to the Spanish Banking Association. These figures are evolving quite fast, and by the end of Q2 2001 the share jumped until 1.81 percent, at an increasing yearly rate of 100 percent, and the volume over Euro 5.5 billions, a yearly rate of 167 percent.

The structure of the present paper is as follows. I will first sum up the evolution of e-banking in the USA, showing the main features of the business. Then I will go on with the characteristics of the business in Spain, with references to the European and South American markets. The special situation of Spain as a member of the EC and as the second investor in South America is the fact behind this work segmentation. Finally, I will explain what are thought to be the main challenges for the final development of the transactional web services.

## **METHOD**

The information about online banking is widespread and difficult to obtain directly from the

banks involved, maybe because it's seen as an strategic asset of the firm. We have collected data from prior studies developed by economists of different Federal Reserve Banks of the USA for the American market; in that sense, the research developed by Furst et al. (2000), along with those by De Young (1999; 2001a; 2001b), or Sullivan (2000), offer an interesting point of view on the financials of online banks. Firms like Gómez, Inc. (2001), eMarketer.com (2001b) or the report by Pew Internet & American Life Project (2001) also offer data on the subject (the latter, just on the use of the Internet by the Hispanics in the States, with some surprising findings on the use of online banking by the Hispanic community towards the wasp one), but their results are neither easily nor directly exportable to the European and Spanish markets. Some consultancy firms as Jupiter MMXI, NetValue, Cap Gemini Ernst and Young, Datamonitor, or some investment banks such as JP Morgan have developed their own research on the subject, with interesting differences. At the time the paper is prepared, the main authority on the European banking system, the European Central Bank, has no official information and has not developed any study on the impact of the Internet on the banking system. And the Spanish Central Bank, the main authority in the Spanish financial system, is just now preparing its own study. In fact, as far as June, 2001, the vice-governor of the Spanish Central Bank stated that a different supervising system should be established for online banks, alleging differences in terms of risk between traditional and online banks (we will later see that Sullivan (2000, p.10) doesn't appreciate any difference between traditional and online banks in terms of risk; but its study just focuses on banks of the American Tenth District, and anyway online American banks are older and they fight in a very different field than their Spanish mates). Our study tries to extract and synthesize the results from these widespread sources with the aim of bringing some light on this new area and show the state-of-the-art in the question.

### **E-BANKING IN THE USA: EVOLUTION AND FEATURES**

According to Eglund, Furst, Nolle, and Robertson (1998), the beginning of e-banking in the USA took place in 1995. It is true that some banks opened their webs before, but if we accept the definition of e-banking as the possibility of acting through the Internet (that is, the bank has to offer a transactional<sup>1</sup> site), we cannot go further. Sullivan (2000) offers a very similar definition, distinguishing between *Internet banks* and *Internet-only banks*. At the end of 1997 there were 103 American banks offering that service. During the first six months of 1998 there was an amazing increase rate of 300 percent, reaching a total of 258 different institutions. The figures at the end of 1998 found 350, 650 at the end of June 1999 and 1100 at the end of that year.

According to the research of the Office of the Comptroller of the Currency and developed in Furst et al. (2000), there was a 54.2 percent of US national banks offering a web site; but just a tiny 20 percent of them were offering transactional financial services. Their importance was not worthless: they represented the 89 percent of the total assets of the national banks, and the 84 percent of the deposits under USD 100.000. At the end of September 1999, maybe not all the US banks had a transactional site, but those in place were from the big ones.

We will now stop for a while on the features of the Internet banks from an economic and financial point of view. Furst et al. (2000) offer some very interesting measures of the return when comparing e-banks to traditional ones. The first research on the matter was published in Eglund et al. (1998), where they did not find any significant evidence of differences from e-banks and banks from a financial perspective. But Furst et al. (2000), mentioned before, did find some divergences when talking of profitability, efficiency or credit quality depending on the size of the bank. For instance, e-banks holding assets over USD 100 millions are clearly more profitable in terms of

ROE, which is just the opposite for the banks under that figure. There also are evidences in terms of efficiency, measured as the ratio of non-financial expenses over the net operating revenue: here the differences lie on the cluster of small banks, with assets under USD 100 millions. And finally, there is a better credit quality in, again, small e-banks than in those of the same size in the traditional business, with just the opposite occurring in the banks assets' cluster between USD 1 billion and 10 billions. The researchers explain that the cause might be in the certainty that big Internet banks focus their credit activity in credit cards more than non-Internet banks do, consequently assuming higher risks. Sullivan (2000), just taking into account banks on the Tenth Federal Reserve District, accomplished a similar research.<sup>2</sup> He divided banks into four segments (Community Banks, Large Community Banks, Regional Banks and Large Regional Banks, depending on the size of the assets; see Sullivan (2000) p. 2, Table 1), and found significant statistical differences in terms of demographic features (for instance, Community Internet Banks were more likely to be situated in urban areas than non-Internet ones), some others related to the market share and market concentration (just in the segment of the Large Regional Banks, and only in the urban areas). And finally, what is more important from a financial perspective, they found no differences in terms of ROA or ROE in any of the four segments. This is true for banks (Internet or not) older than 2 years; those younger, so-called *de novo* banks, are examined in detail and apart. In that case, he does find a significant difference in terms of profitability between those adopting an Internet strategy and those that do not, being higher between these.

Expertise is another point to be underlined. This can be shown from a double perspective, experience in financial business and experience as a technological firm. In De Young (1999) and Furst et al. (2000) we can have some responses on that matter. As it is easy to understand, new banks will be smaller in size, will have to assume high starting costs and

they also will have to reach new clients with higher expenses in marketing than those pre-existing. In the income hand, they will have to compete in prices, a question that reduces margins. And there is another important point: new banks tend to use alternative ways (as the Internet) for delivering their products more than the established ones, with the inconvenience of educating customers and the difficulty of reaching big numbers during the first years. Focusing the analysis on the banks with assets under USD 100 millions, new banks offering transactional services through the www are less profitable and less efficient than their non-Internet neighbors. But there is a reduction of the differences when talking of the same small banks with an experience of at least three years in the banking market; their efficiency may be poor, but not their profitability.

There is then the point of the experience of the bank as a tech firm, not just as a financial one. Furst et al. (2000) divide the institutions into three groups: banks not offering transactional services through the www, banks with an experience of at least one year on the transactional Internet business, and banks with a minor experience. In terms of ROE, they maintain that there are no significant differences between the three groups; but, on the other hand, there are some in terms of accounting efficiency: mature e-banks are not less efficient than traditional ones, but new e-banks are.

It is De Young (2001a) who finds substantial differences between what he calls pure

play Internet banks<sup>3</sup> and non-Internet banks. His research is the first specific one on the matter, and he outlines that these pure Internet players are less profitable than banks (playing on the Internet or not) having commercial branches; in the case of an Internet bank, this is called "clicks and bricks" model. He states that e-banking is a business not quite different from any other *dotcom* one: spectacular growth without profits. He points out that maybe his model is not enough reliable to state that e-banking is not financially viable, but the idea is displayed.

So the future is not as easy as it was having a look just a couple of years back in time. It is true that the accounts are growing, as Gómez, Inc. (2001) shows, stating that by August, 2001, there were over 13.6 millions of Americans playing on the online banking field, almost doubling the figure of 7.5 millions by the end of 1999; but other studies on the matter, as the one from eMarketer (2001) are not as confident on the future, an opinion shared by De Young (2001b). For the latter Internet is just a new distribution channel, and that is a fact that banks must consider; the economist states that it is unlikely that traditional brick and mortar banks will retain an important share of the market without offering an Internet option to their customers. But at the same time, he believes that just few pure-play Internet banks will survive, so that he foresees a future with a handful of virtual banks, another of traditional non-Internet-at-all on the other extreme, and a wide majority of click and mortar banks. De Young does not forecast any fig-

TABLE 1  
Prospected USA Online Banking Users

Source	2000	2001	2002	2003	2004	2005
EMarketer	8.8	12.2	14.5	15.9	18.3	-
International Data Corp.	9.9	14.7	17.1	20.4	22.8	-
Jupiter MMXI	14.6	-	-	-	-	43.5
Gómez Advisors	21	-	-	48.3	-	-
Ipsos-Reid/Red Haring	28.5	-	-	-	-	-

Source: eMarketer (2001). Millions.

ures, but eMarketer (2001b) does. This research company is the most conservative when projecting numbers to the future, as Table 1 shows. And a research by Jupiter MMXI, quoted by Ganar.com<sup>4</sup> in its edition of August, 30<sup>th</sup>, 2001, stated that Americans were decreasing their visits to pure play Internet banks face to the sites of click and mortar ones, from 1.2.millions by July, 2000 to 1.1 by one year later, a rate of -8 percent.

### **THE SITUATION IN SOUTH AMERICA, EUROPE AND SPAIN**

#### **South America: The Challenge of the Penetration Rate**

South America presents a difficult position. If the differences between countries are wide in terms of access to life essentials, it could not be otherwise in terms of Internet access. The estimated number of Internet users by the end of 2001 is 15.3 millions for a population over 350 millions, a tiny 4.3 percent, according to eMarketer (2001a).<sup>5</sup> And just three countries (Argentina, Brazil and Mexico) accounted a 65 percent of the total amount. The effort is being made, but it is true that there are other priorities when compared to the PC penetration rate or the number of telephone lines. Chili is another country where Internet has a good penetration rate, and its impact on the financial sites is increasing at three-figures rates; according to the Supervising Authority, quoted by Ganar.com on July, 14<sup>th</sup>, 2001, visits to the financial sites jumped from 1.7 millions by June 2000 up to 4.9 millions one year later. Transactions increased at a rate of 192 percent in the same period, accounting over 10 millions in June 2001.

The situation in Argentina is similar. Or at least it was, because there is no information at the time the paper is being prepared about the effects on the online banking system of the financial *corralito* imposed by the Duhalde government. Prior to that date, almost two thirds of the Argentinean banking industry were offering home banking to their custom-

ers, according to Balseiro, Selas, and Kotzrincker (2000), with a very tiny response; it would seem that banks were using Argentina as a trial field for developing and trying new systems. Easy Banking, the first bet of the BBVA-Banco Francés, one of the biggest banks in the country, was a successful phone banking trial that has been followed by Francés Net; Citidirect by Citigroup, Boston Access by Bank of Boston, Rio Home Banking by Banco Río, or e-galicia.com by Banco de Galicia are examples of how Argentinean financial institutions are trying to serve an increasing demand.

#### **Europe: One Region, Different Landscapes.**

As in the case of the States, we cannot offer an homogenous figure for the penetration rate of online banking; but there are some that seem to reveal a constant increasing rate on the number of users.

For instance, and according to Forrester Research, quoted by Ganar.com last December 2001, 42 millions of Europeans were active users of online banking; this represents a 14 percent of the adult European population. And they forecast over 110 millions users by 2005. Nordic countries are the most advanced in penetration rates, and over the half of Swedish and Finnish Internet users also bank online. On the other side, the same report states that just a quarter of Greeks and Italians bank online, between Internet users. JP Morgan's *Online Finance Europe* presented quite smaller penetration rates just a year before, but referred to the ratio of online banking customers over the total amount of the customers. Nordic countries had the highest penetration, followed by Switzerland. Italy, with a 3 percent penetration, and France, with a 4 percent, would be the queuing countries. In Table 2 we can have a look at the different figures of both studies.

Datamonitor (2001) shows confidence on the future of e-banking, but foresees that the death of traditional branches is far from imminent. Their report states that 79 percent of

TABLE 2  
Key Figures for Understanding e-Banking in Europe

	<i>France</i>	<i>Germany</i>	<i>Italy</i>	<i>UK</i>	<i>Netherlands</i>	<i>Sweden</i>	<i>Switzerland</i>	<i>Spain</i>
Population (2000)	59.1	82.6	57.6	59.4	15.8	8.9	7.1	40
Internet users <sup>a</sup>	2	23	10.2	20.6	4.5	5.1	4.8	5.9
% bank customers online <sup>a</sup>	4%	12%	3%	10%	8%	26%	19%	6%
Online banking users over Internet users <sup>b</sup>	--	--	25 %	--	--	53%	--	30%

Sources: <sup>a</sup>Online Finance Europe, JP Morgan, Sept 2000. Year 2000 estimations. Figures in millions; <sup>b</sup>Forrester Research, November 2001.

Europeans prefer a person-to-person relation when talking to the bank, for just a 4 percent preferring the Internet channel. Internet TV and mobile phone seem to be the next challengers in terms of distant banking; they expect an increase from 750,000 digital TV banking users and 1.1 millions mobile phone banking users until almost 10 millions for the TV scenario and over 27 millions for the mobile one by 2005. We will later see that the first European non-Internet bank in terms of the ratio Internet users over total amount of customers, the Spanish Bankinter (according to JP Morgan), is handling a 2 percent of its transactions through mobile phones by the end of 2001.

The figures offered by the Central Bank of Italy last October 2001, regarding the evolution of online banking during 2000, shown a very important increase during that year; 2 millions of Italians, the 6 percent of the total amount of customers of the banking system, were using online facilities. An interesting feature of the Italian banking system, when compared to its neighbors, is the high number of banks and thrifts. The Central Bank of Italy got 809 answers from different financial institutions, and 592 of them were offering an electronic site. Unfortunately, the report quoted by Ganar.com last 24 of October does not distinguish between transactional and non transactional sites.

A very interesting study on the subject in Italy is due to Masciandaro (2000). He reveals important differences between e-banks and traditional ones in terms of location, size, and

ROE. Italian banks offering an Internet site are mostly located in the North, have an amount of assets 27 percent higher than the average on the industry, 30 percent more branches (showing that first movers in Italy have been big banks, an interesting difference with the Spanish situation, as we will later see), they hold securities for safeguard and administration in a 21.5 percent over the average of the Italian banking system, and their ROE is 17 percent higher. But the main target of the study was to discover what variables determine the speed of entry into the online market. Prof. Masciandaro finds that there is a strong, significant inverse correlation between the amount of securities in custody and the delay of market entry; other significant variables were the operating margin and the interest margin.

### ***Spain: A Nice Situation in the European Online Banking Industry***

According to the Spanish Internet Users Association, 20.4 percent of the Spaniards (over 7 millions) over 14 have access to the Internet as by April 30<sup>th</sup>, 2001. This represents a jump of 80 percent from the figures of just one year before. It is expected that by 2004 2.64 millions of Spaniards will be e-banking users. Almost 2 millions of households have nowadays an Internet connection. Relating these figures to our topic, and according to NetValue, one of the Internet consulting groups, Spanish people spent an average of 56 minutes in Internet financial sites during Janu-

ary 2001, which place them on the 6<sup>th</sup> place in the world ranking. Over 1.3 millions of people visited financial sites during the month, a 35 percent of the Internet private connections. The figures in May were quite similar, but data reveal that over 20 millions of Europeans visited this kind of pages, with Germans heading the ranking of time spent in the visit and followed by Spaniards and Italians.

The first experiences in electronic banking in Spain started more than 10 years ago through the property PC system. But the penetration was very tiny, representing just a 3 percent of the total banking transactions by the end of 2000, with an expectation of a 7 percent by 2004. At the same time, a much younger experience as e-banking is expected to jump from 1 percent to 10 percent in the same period of time. We should also add the 2 percent of transactions through alternative intelligent devices (such as mobile phone, TV, PDA, .), expected for the same date.<sup>6</sup>

These figures are supported by the bet of the financial institutions: the first Spanish bank, BSCH, paid over USD 575 millions for the Argentinean site Patagon.com in March 2000 and, just three months later, established its stand alone pure play Internet bank, Patagon.es. Mr. Corcóstegui (2001), CEO of BSCH,<sup>7</sup> points out five reasons for the increase of the share of e-banks:

1. the nature of the financial activity, which allows the integration in the Internet without significant problems;
2. the fact that customers are attracted by the new channel, with the possibility of accessing to and acting with the bank at any time and place;
3. a higher efficiency of the channel when compared to others,<sup>8</sup> traditional or not, and what for him is the major incentive: the possibility of jumping from the current 160.000 sale points (branches) in Europe to over 300 millions allowed by the www;
4. the progressive reduction of the risks sustained by a new frame in the legal

regulations and an increase of the security in the www; and

5. the own technological development of the Internet.

In March 2000 BBVA<sup>9</sup> launched his new stand-alone e-bank, Uno-e, along with Terra Lycos and First-e (which sold its part during 2001): a financial supermarket offering products of almost any financial institution. The parent, BBVA, has its own portal<sup>10</sup>. The model is similar to Patagon's, and different from the one of bancopopular-e.com, another independent chartered branchless bank. But the first Spanish bank that offered financial services through the Internet was Bankinter, the bigger of the medium-sized banks. They began offering free access to the Internet to their customers in 1996, as well as free e-mail. During 1997 they opened their Internet transactional branch, and they later changed their name on the www, working on a trade name basis: ebankinter.com. According to JP Morgan's *Online Finance Europe*, it is the first non-Internet European bank in terms of Internet customers over total customers: 20 percent by March 31, 1999, and 37.5 percent by June 2001, over a total amount of almost 1 million customers. New customers come in a 50 percent from the Internet channel, for just a 36 percent coming through the street branches. Transactions by the Internet exceed nowadays those made through traditional branches. According to the results of 2001, transactions through the web accounted for a strong 40 percent, jumping from a 27 percent one year before; and another 2 percent is provided by mobile phone banking devices. 52 percent of their customers were using branches, phone and Internet as their usual way of contact with the bank. In words of CEO Arena, "pure Internet banks will have difficulties when competing with multichannel banks" (16 January 2002, during the presentation of the 2001 results; on news); just one year before, he referred to branches as "advising and person-to-person centers" (Arena, 2001).

Let us now have a look at the figures of the e-banking business in Spain. At the end of 2000, there were two clearly separate groups: virtual banks and traditional banks and thrifts. The first group was made up by five institutions, bancopopular-e, evolvebank, Ing-Direct, patagon and uno-e; they all allowed transactional operations through the Internet as well as a call center, and their main feature was the lack of street branches. The situation has changed nowadays, and Ing-Direct and patagon now operate with few but existing commercial branches. But anyway we will pay attention to the figures of the whole group. Evolvebank has a special situation because it is an English chartered bank, and its data have been excluded of the study.

As by December 31, 2000 the four banks represented a 1.2 percent of the total banking market share, with liabilities over Euro 3.000 millions—with just one of them, Ing-Direct, holding Euro 1.600 millions. These figures imply an increase of 4 times the share in just one year and they represent the 7.3 percent of the new banking deposits; again, Ing-Direct headed the pack, with a 30 percent of the rate, establishing itself just behind the two bigger banks and the two bigger thrifts. Figures show that on the 12 months from July 2000 to June 2001 they attracted 12.4 percent of new banking deposits. By the end of Q2 2001 the share jumped until 1.81 percent, at an increasing yearly rate of 100 percent, and the volume of liabilities over Euro 5.5 billions, a yearly rate of 167 percent. They were holding over 190.000 customers by the end of 2000, with a third for Ing-Direct, a 31 percent for patagon, a 27 percent for Uno-e and a 9 percent for bancopopular-e. As by 30<sup>th</sup> of June, 2001, Ing-Direct has almost 300.000 customers, Uno-e announced its first 100.000 customers, with 80.000 of them active, Patagon has over 60.000, and bancopopular-e 33.000.

During the first semester of 2001, two new banks have entered the Spanish Internet banking field, Activo Bank and AllFunds. This one is not a commercial one, but the first one has come into the scene with a huge marketing

effort and a target of 150.000 customers for 2004, the 15 percent of their prospected potential customer portfolio. By the end of Q2 2001 it shared a tiny 0.1 percent of the volume handled by virtual banks, with an amount of Euro 4.6 millions; and considering that it has started its job during May, it seems the effort is worth.

The battle is hard because the market is narrow; during 2000, bancopopular-e, patagon and uno-e lost around Euro 84 millions, according the Spanish Banking Association; during the first quarter of 2001, these three plus the two new ones lost Euro 14.45 millions. The aggregated figure by September, 2001 accounted losses of Euro 55.6 millions.

The other group is made up with traditional banks and thrifts that offer Internet to their customers as an alternative channel for delivering their products. Thrifts have around 1.6 millions of online customers by the end of 2000; and between banks, BBVA had around 300.000 customers, Banesto 283.000, Bankinter 270.000; this one has by the end of the first semester 2001 almost 350.000, and the smallest of the big banks, Banco Popular, with over 4 millions customers, stated that 468.000 of them (11%) are users of the Internet facilities. BSCH didn't offer any information about the Internet customers, but according to a Datamonitor report (05.03.01) it should be the first bank in Spain and the fourth in Europe. According to a report by NetValue quoted by Ganar.com on September, 10<sup>th</sup>, 2001, over 1.1 millions of Spaniards visited online banking sites during July 2001; of them, over a 55 percent visited the portals by the biggest thrifts (La Caixa and Cajamadrid) and BSCH attracted 153.000 people. With over 5 millions customers (for a total population of 40 millions), over 1700 street branches, Cajamadrid announced 312.000 online customers by Q1 2001, at an increasing rate of 257 percent over the figures of one year before.

According to the researches by NetValue and Jupiter Media Metrix, over a million of Spaniards visited financial portals during Jan-

uary 2001, with an increase of 246 percent in time spent in connection in the period Sept 00 – Jan 01 (up to 54 minutes), the first relative increasing rate in the world. Of them, over an 85 percent were visiting portals by online banks, a figure that jumped up to 1.1 millions during July 2001; and this one is not a good month for measuring Internet connections, because a lot of Spaniards take their vacations during that month. According to the Datamonitor report dated March 5, 2001, 29 percent of Spanish Internet users were also e-banking customers, preceded by Swedish (44 percent), Danish (41.6 percent, according to Jupiter's report on January 14, 2001) and Germans (34 percent), and followed by French (20 percent), and British (16 percent); the average of European users will exceed at the end of Q1 2001 the rate of Americans, around 18 percent. On this respect, IDC Research forecasts 22.8 millions of Americans using online banking by 2004, a figure that eMarketer reduces until 18.3, as Table 1 reports.

### ***Prospects and Challenges for e-Banking***

The success of e-banking is almost out of doubt. But it depends on the strategic model built, and in any case it would have to meet some questions, as the risk of cannibalization, the increase of the penetration rate, the training of employees, the education of customers (from a double perspective: the surpass of the branchless system and the increase of the trust), the legal regulation of the activity and problems derived of the globalization of the economies (with faster, cheaper, easier capital transactions, and an increasing difficulty for following them).

Cannibalization is the fact that a new stand alone Internet bank unit gets a rate of its customers from the parent's one. The experts see this as one the main dangers of the business. The case study of *m*banx (JP Morgan's *Online Finance Europe*, p. 42) is significant. In October 1996 the Bank of Montreal launched this stand alone and separately branded Internet

subsidiary, with a target of 1 million customers. Three and a half years later they had just 170.000, and in August 99 both electronic offerings, the parent one and *m*banx, were folded into *m*banx Direct. Even the address *m*banx.com doesn't exist nowadays. One of the main reasons of the fiasco was cannibalization: almost 80 percent of the accounts were customers from its parent, who wanted to retain their branch privileges and capture attractive online rates. This situation is similar in *bancopopular-e*, independently chartered but owned by Banco Popular, another big Spanish bank; but in respect to this one, its Managing Director stated that at the end of 2000 only a discrete 6 percent of the customers came from the parent bank. And when asked about *Uno-e*, the stand-alone Internet bank of the Spanish BBVA and Terra-Lycos, managers from BBV Banco Francés, the Argentinean bank of BBVA, saw on it a competitor of their alternative delivering system, Francés Net, according to Balseiro et al. (2000).

One of the main problems is the penetration. According to JP Morgan estimates, online banking in the USA will raise from the current 15 percent of online households to a 33 percent in 2004.

These data are not comparable to those offered about Europe, where we have the real penetration rate estimate as a ratio of bank customers online over total bank customers. In the 2000-2004 period, France will grow up from a tiny 4 percent to a 21 percent, Germany from 12 percent to 25 percent, Italy from 3 percent to 16 percent, the Netherlands from 8 percent to 24 percent, Sweden from 26 percent to 50 percent, Switzerland from 19 percent to 36 percent, UK from 10 percent to 22 percent, and Spain from the present 6 percent to a 15 percent. As we can see, at the moment Spain is not in a bad situation when comparing to its neighbors, but if projections are right, at the end of the reference period it will be queuing the pack. The reason is neat. The penetration of e-banking is directly related to the household penetration of the Internet. The 2001 expected household Internet penetration rate is an 18

percent for Spain, faced to a 32 percent for France and a 41 percent for Germany and the UK. But while France will equal its own rate to those of UK and Germany in 2010 to a penetration of 95 percent, Spain will maintain 51 percent. In Figure 1 we can see the evolution of the Spanish rate compared to the average of the other three neighbors.

Other studies go on the same direction. BSCH—Andersen Consulting (2000) prospects a 24.2 percent Internet penetration by 2003, with e-banking representing a 25 percent among Internet users and 6.1 percent among the total population.

Banks that have betted on the Internet are the first concerned, and they have reacted in many different ways. They offer renting, leasing, tailor-to-measure credits, and Bankinter went further, offering the devolution of the monthly paid interests if the customer connected at least one a month to have a look into his accounts.

The second of the challenges is directly linked to this one. Every bank that wants to play on the Internet field has to have a specialized task force, and the training of employees is one of the main transition-to-the-Internet costs. The second Spanish thrift,<sup>11</sup> Cajamadrid, has launched a specific portal for its employees and their families, e-personas

(*e-people*), following they get familiar to the use of new technologies.

Employees and their families are one of the main links on the value chain of the business, but customers are the key part. And the problem facing them is double. E-banks would have to surpass the double challenge of trust and a branchless system.

Starting by this one, Constanzo (2000) and O'Sullivan (2000) have pointed out the difficulties of growing without traditional street branches. Also, Bank Technology News (2000) stated that customers wishing electronic billing have a well-marked preference for traditional branch banks. Masciandaro (2000) offers a very similar conclusion on the Italian field. This has lead many financial institutions (not just banks and thrifts) to the referenced clicks and bricks model. One of the first virtual Spanish banks, Ing-Direct, began during Q1 2001 opening what they call "cafés", a mixture of branches and coffee-shops, where customers and non can have something to drink, talk, chat, access to their accounts, and ask whatever to the employees of the bank. Patagon, the pure-play Internet bet of Spanish BSCH, has by the end of 2001 around 10 street branches. Another significant case is Bankinter, the oldest experience in e-banking in Spain. Instead of opening a stand alone

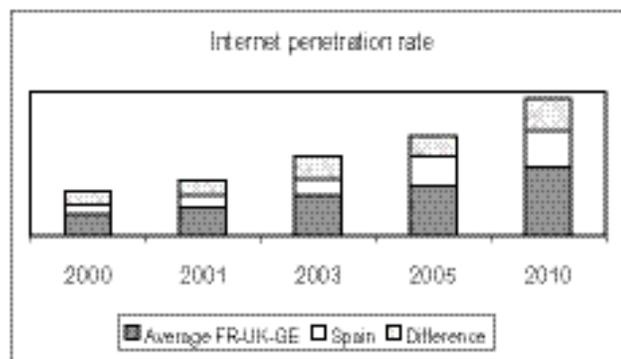


FIGURE 1  
Evolution of the Differences in the Internet Penetration Rate.

Internet bank, they switched to a trade name strategy, e-bankinter.com in the www, transforming their over 200 street branches into “advising and person-to-person centers, and places to deliver financial products and services of a certain complexity”, according to Mr Arena (2001), CEO. A report from Cap Gemini Ernst and Young—CGE&Y (2001) points out interesting findings on the same direction. According to data provided by 120 financial institutions from 13 countries around the world, street branches will keep a 60 percent of the total amount of banks sales by 2004. And they conclude that bank will tend to transform their street branches into more fashionable stores, with the shape of a boutique, where people will be tempted to spend more time having a look into the offering they get.

On this respect, an European research by Shandwick International (2000) showed that 66 percent of the Spaniards, and 53 percent of Europeans, state they will never use e-banking facilities. But the same research guesses that it is in Spain where the situation can change in the short term; the reason is that, of the referred 66 percent, just 11 percent alleges questions of trust, faced to the 45 percent of Germans, 41 percent of Dutch and 31 percent of French and British. The main reason alleged by European people when asked why they do not bank online is that they prefer dealing with someone in person (45%), and just 30 percent are concerned about security measures. And according to Deloitte Consulting (2001), two thirds of consumers do not pay attention to online banking facilities. The over 200 worldwide people sample shows that the main valued factors still person-to-person relation and a wide net of street branches. The report considers that customers have fallen into the cost trap, asking for a personal touch in their relation with the bank but not willing to pay for it. This shows that an effort has to be made by entities in the sense of teaching customers the advantages of the digital relationship.

The matter of trust is directly linked to the perception of security among customers. According to Caro and López-Zafra (2001),

investment in security is around 10 percent of the total investment done by the firms in the e-business area. Some studies state that it should increase by three times. At the moment, all banks use the 128 bits SSL protocol (Security Socket Layer), which prevents the interception of data travelling through the www. But it seems that the solution will come with the arrival of the electronic signature, because there is an asymmetry problem in the relationship between the bank and its customers: these have the almost complete certainty of who is in front of them, something that is not true from the bank’s perspective. While this comes, banks should have to improve the trust of customers with privacy statements. If during a survey by the Federal Trade Commission showed that only a tiny 17 percent of the American financial portals had something on this respect as by Q1 1998, the improvement during the year was huge: as by June 30, there was a 40.4 percent, and a 51.6 percent in November. Furst et al. (2000) pointed out that 84 percent of American banks on the Internet were offering enough information on the privacy matters as by Q3 1999.

The situation in Spain is quite good. Of course, the number of banks and thrifts is much lower, but after visiting (Q1 2001) the different sites, all the big ones plus the bigger medium-sized ones plus the four working virtual banks offered easy-to-reach information on the matter.

Another challenge for e-banking is the one related to the legal regulation of the activity, which travels on behalf of the globalization of the economy. Besides of the matters outlined before (privacy, electronic signature), the Electronic Bank Group of the Basel Committee points out the necessity of a “cooperative approach” in the supervision of the banking activity through the Internet in the way to surpass the different national regulations, as stated on OCC (2000). According to the President of that Group, Mr. Hawke, Internet bank is a special challenge for the international bank supervising organizations, because it enables banks increasing their customer base out of

their natural boundaries. The rivalry between banks (and no banks) increases with the disappearance of the borders, and this could lead to unfair trade practices. Vigilant of the problem, and with the aim of increasing their customers' calmness (and, of course, with the one of avoiding capital escapes to other countries), the Federal Deposit Insurance Corporation, on behalf with the Federal Reserve Bank of New York, the Office of the Comptroller of the Currency and the Office of Thrift Supervision published a very simple 11-pages pamphlet, "Tips for Safe Banking Over the Internet," where they provide information about the activity. As stated in the Preface, it offers a guide for the Internet banking user for discovering whether the bank is legitimated or not to practice the activity, how to keep information confidential, what are the rights of the user as a consumer and where to go if help is needed. The spirit of the "cooperative approach" is the attempt of finding solutions that would make unnecessary new national regulations that would obstruct free trade.

The previously quoted Group also develops supervising practices that would settle the lines for fair Internet banking activities. They pretend to supply proceedings to international community on risk management in e-banking, emphasizing on commercial trade. Since 1996, the OCC has published a dozen of reports on the online banking practice question, including matters on electronic security, privacy, and risk management. In 1995, according to Crede (1995), the necessity of an international regulation of the payment systems was seen as one of the main questions to improve e-commerce. The paper quoted a report from the British Intelligence stating that around USD 500 billions a year was the money laundering business through the Internet. It seems so that some measure on the question would be very useful.

A new May 2001 report from the Basel Committee quoted by the vice-governor of the Spanish Central Bank during a presentation last June 2001 states that banks have to strengthen security questions and improve

mechanisms with the target of increasing customer confidence.

## NOTES

1. In its "Comptroller's Corporate Manuel," the Office of the Comptroller of the Currency (OCC) has published in January 2001 "The Internet and the National Bank Charter", defining four categories of electronic banking: informational web, transactional web, wireless and PC banking. We will pay special attention to those offering a transactional site.
2. The Tenth District consists of Oklahoma, Kansas, Nebraska, Wyoming, Colorado, western Missouri and northern New Mexico.
3. De Young identifies 6 pure play Internet banks and thrifts in the States by June 30, 2000: Ebank, First Internet Bank of Indiana, Gay and Lesbian Bank, Marketplace Bank, NetBank, and Principal Bank. If by December 31, 2001, we could define 4 pure Internet players in Spain—Ing-Direct, Patagon, Uno-e and banco-popular-e-, the situation as changed nowadays, and during the first semester of 2001, Ing-Direct and Patagon have opened commercial branches, called "cafés" by the first one. At the same time, two new Internet banks have entered the field: ActivoBank and AllFunds; this one is not a commercial one.
4. Ganar.com is an Spanish site which specializes on the New Economy field.
5. Nua Internet Surveys increases the figure to the 25.3 millions as by August, 2001.
6. Vert, A (2001). "Del martini Banking al e-banking", *Tiempo* magazine, e-banking special; data from Ernst and Young.
7. Banco Santander Central Hispano is one of the 15 major banks in the world, with presence in 42 countries, leader in South America, the second bank in EuroStoxx 50 by market capitalization, and with over 35 millions of customers.
8. Remember De Young's for a *sensu contrario* opinion.
9. With assets over Euro 315 billions, it is the second Spanish bank and one of the leading ones in Europe; in December 2000 it was awarded "best world bank of the year" by Forbes magazine.

10. This leads to one of the main problems of e-banking: the risk of cannibalization. We will go over the subject later.
11. In Spain, thrifts hold over the half of the accounts of small investors.

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