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**The Dawn of the Plastic Jungle:**
**The Introduction of the Credit Card in**
**Europe and North America, 1950-1975**

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Economics Working Paper 16107

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Abstract:

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# 1 Introduction

Payment cards – credit and debit cards in the vernacular - are an integral part of today's payments ecosystem and a fact of life for urbanites of the 21st century. No-one raises an eyebrow to the rather mundane fact that a piece of plastic enables the transfer of value. At the same time, the companies and financial institutions involved in this industry have grown into significant multinational corporations. For instance, almost 60 years from its origins in 1958 as BankAmericard in California, Visa boasts impressive numbers: 2.4 billion cards issued by 14,100 financial institutions based in 200 countries and territories in 2014.[1] Its worldwide network transfers value an average rate of "56,000 transactions per second reliably, conveniently and securely."[2]

In this paper we detail the emergence of the bank[3] credit card to address the question of how and why it was successful in terms of both business volume and across borders in the context of other contemporary innovations in retail payments. At its dawn half a century ago, the bank credit card was a relatively specialized project, involving substantial investment in industry specific assets. There was no overwhelming evidence of an unmet consumer need while for banks, it was not a well define strategy, and there was scepticism and caution about investing in developing this infrastructure given the poor track record (i.e. low business volume, high delinquency and fraud) observed in pioneering credit card schemes in the USA. All this played into the naturally prudent and conservative instincts of the 1960s banker, even though there was a relatively simple retail payments ecosystem at the time. Hence it was uncertain that the bank credit card would succeed or even take a predominant role as a medium of payment.

However, the business model developed by BankAmericard and Interbank (today MasterCard) in the mid-1960s delivered profitability much

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[1] Data as of December 2014. Source: http://usa.visa.com/about-visa/our-business/global-presence.jsp (accessed 4/Aug/ 2015).

[2] Global average for Visa Inc for the first quarter of 2015. Source: http://usa.visa.com/about-visa/our-business/global-presence.jsp (accessed 4/Aug/ 2015).

[3] We use the term "bank" to denote a deposit accepting financial intuition operating through different distribution channels in markets characterized by low value, high volume transactions.

sooner than originally expected to many of the early adopters inside and outside of the USA. In our view there were three important preconditions for the success in the implementation of credit card schemes by banks, which were essential to build a "critical mass" and an infrastructure of adequate scale. We argue that one of these preconditions for success was the importance of a large distribution network (in the form of retail bank branches) servicing a large customer base of individuals and merchants. Second, success was also contingent to investments in developing the skills, organisational processes and procedures to adopt dedicated computer technology to support the credit card project (so that efficiency in operations enabled capturing economies of scale). A third source for the long-term success of bank-issued credit card was international co-operation. As a result of documenting these three preconditions, research in this paper offers evidence of the transformation of a retail payment technology from a proprietary payment system into a payments network.

More significantly and along the lines of Mair (1999) and Liebowitz and Margolis (1990), evidence documented in this paper questions the tendency towards explanations from economic theory. This enables shedding further light into how the initial conditions for adoption and industry configuration can have a long-term impact. In our case, we tackle the conceptual framework dealing with markets with multiple externalities that has become dominant to explain the growth and behaviour of the credit card market (Rochet and Tirole 2006; Armstrong 2006; Verdier 2006). Our evidence suggest there were important contextual aspects of retail banking which help to explain the long-term success of the bank credit card but which have been otherwise been neglected, namely the availability of a critical mass of clients, international scope and the capacity to invest in technological infrastructure.

The reminder of this study is organised as follows: the next section details conceptual and empirical issues that commonly frame research into the credit card industry. The third section offers detail evidence of the cross-border growth of credit cards during the late 1960s and early 1970s. The fourth and final section concludes.

# 2 Concepts and their Limitations

## 2.1 Researching the bank credit card

The adoption of new payment solutions is an important a topic in the history of retail financial institutions in its own right as well as to better understand today's challenges by electronic payment methods such as mobile and cryptocurrencies. Paying with plastic required building "pipelines", "highways", "rails", authorization procedures and other organizational and technological infrastructures that enabled subsequent moves in the direction of a cashless economy (Bátiz-Lazo, Haigh, and Stearns 2014; Maurer 2012, 2015). To little surprise credit cards have been subject to a number of studies from the seminal contributions of Baxter (1983), Ausubel (1991), and Evans and Schmalensee (2005), to the popular histories such as Manning (2000), industry insider recollections like Mandell (1990). The credit card is also a topic of a large number of systematic contributions such as the history of Visa by Stearns (2011b), retail credit by Olegario (2016), retail debt by Hyman (2012), credit card fraud by Vanatta (forthcoming), and the exploration of the sociocultural by Deville (2013), Ritzer (1995) and Róna-Tas and Guseva (2014). The breadth and depth of systematic, regulatory and industry studies around credit cards challenges any scholar to offer a comprehensive summary of this literature. But in spite of this attention, there is relatively little understanding of how credit card networks outperformed alternative payment technologies as well as the apparent lack of immediate success of investments by a single multinational to articulate cross-border retail payment solutions.

With that aim in mind, we articulate an international comparison to identify common aspects and patterns that belong to the emergence of credit cards while validating our argument by dissociating those patterns from context-specific factors. In this process, we reject naïve suggestions that financial institutions identified and adopted the best technology so that international dissemination of the credit card is a consequence of its success in reducing transaction costs. Our empirical results suggests that such a view and common wisdom beliefs might be incorrect since the use of pre-existing technologies and processes played a key role in cross border adoption of credit cards, while standardization arrived after a number of individual projects were operational. These results are novel as the process of adopting payment cards in economies with different degrees of financial development is relatively unknown.

Following the seminal contribution of Hannan and McDowell (1987), research in this paper explores the drivers of technological change behind the adoption of credit cards in four very different competitive environments: Mexico, Spain, UK, and USA. This enables comparing different regulatory and competitive environments as portrayed by two Anglo-Saxon (UK and USA) and two Spanish-speaking countries (Mexico and Spain); as well as the dissemination of credit cards in Europe and North America and therefore the adoption of financial technology in the presence of different attitudes towards personal debt. We thus explore the interaction between firms during the process of adoption and adaptation of a new and relatively homogeneous financial technology by firms in the same industry but subject to widely varying market conditions.

But in sharp contrast to Róna-Tas and Guseva (2014) study of the credit card in transition economies during the 1990s and early 2000s, our research looks as capitalist economies at the dawn of the innovation. Evidence emerged from surviving business records stored in bank's institutional archives (while those from Spanish and Mexican banks were previously unexplored), [4] contemporary articles in newspapers (ABC, Financial Times, The Times, American Banker and Christian Science Monitor), staff magazines (Spread Eagle, Barclaycard Magazine, Barclaycard Merchant News, Noticia Propia, Información al Personal), magazines (The Banker, The Economist, Time), corporate histories (Ackrill and Hannah 2001; Del Angel 2007; Vander Weyer 2000), annual reports, as well as interviews with key actors. This evidence allowed us to explore the extent to which a competitive milieu affects the adoption of a new financial product or service. In this regard, it could be argued that different stages of financial development influence the timing of the adoption of a financial

[4] Archivo Histórico BBVA (Banco del Bilbao and Banco de Vizcaya) in Spain; Archivo Histórico Banamex; Archivo Centro de Estudios Espinosa Yglesias and Biblioteca Lerdo de Tejada (Secretaría de Hacienda y Crédito Público) in Mexico.

innovation. However, as evidence documented in this paper suggest, this may not always be the case.

Credit cards issued by retail banks emerged alongside other innovations in retail financial services such as cheque guarantee cards, personal loans, hire purchase (instalment credit), overdrafts, traveller cheques and the early forms of electronic transfers and cash dispensers.[5] The success in the implementation of many of these innovations marked a transformation in retail finance from promoting savings and frugality to encouraging debt and consumerism (Ritzer 1995, 9).

Bank issued credit cards started as relatively specialized project while aiming to find alternative ways to distribute retail financial services. They appeared on the back of travel and entertainment (T&E) cards, which pioneered a non-cash solution for on-the-spot payments across different merchants, in different countries. Many of the early attempts failed. However, six years after the introduction of its own credit card, Bank of America (BoA) turned a profit while directors were looking to increase scale through a franchising system that enabled the creation of a national credit card and, at the same time, circumvent legal restrictions to geographic growth within the USA. Stearns (2011b) documented this process in detail and comments on how the franchising system surpassed original expectations and banks recuperated their investments faster than expected. Chart 1 corroborates this finding while portrayng the growth and subsequent expansion of the credit card the United States after the entry of BoA and Interbank as a multi-bank project. Chart 1 illustrates advances granted by bank backed credit cards from 1967 to 1975 growing from 820 million to 9.1 million dollars. This bears witness to the success of both the BoA and Interbank projects.

**[Insert Chart 1 around here]**

[5] "New Phase in Britain's Bank Revolution", *Banking* June 1, 1966; pp. 44-45.

But success was not limited to the USA as both BoA and Interbank expanded across borders between 1967 and 1975. A number of reasons explain this international success. First, financial institutions in our sample were significant players in their domestic market before investing in a credit card scheme.[6] Pre-established distribution networks facilitated massification. At the same time, credit relationships with large retailers were critical for the uptake by other merchants. These two aspects accelerated the process to capture network enhancements. Second, computerization was a requirement for successful management of the clearing of credit card vouchers. Applications of computer technology were key to enable economies of scale while framing the development of payment card networks as we know them today. In summary, like many other business histories that of the bank-issued credit card is a success story of computerization and globalization. Moreover and as expected by Chandler (1990), banks that captured "first mover advantage" evolved to become significant, independent, international players.

International competitive collaboration is also a key feature of our story. For instance, Visa owes its initial success to branching out of the USA into the UK to Barclays; into Mexico to Bancomer; and into Spain to Banco de Bilbao (the last two now part of the Spanish group BBVA). Visa's international growth took place at a time when alternative bank-issued credit card schemes remained local and while cross-border investments of proprietary systems (such as Diners Club and American Express) were still in the process of achieving critical mass. Competitive collaboration amongst banks in different countries, supported and co-ordinated by an international card provider is essential to explain both standardization and the rapid success of the bank-issued credit card project.

In short, success resulting from coordinated transnational efforts rather than the strategic vision of a single company or person is the backbone of our

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[6] According to Ackrill and Hannah (2001, 396 and 9), in 1970 Barclays employed 54,905 people domestically (33% of total staff and 6% of UK financial services employment) at the same time, the bank had 3,215 branches in the UK (mostly through England and Wales) which represented 65% of Barclay's total and 23% of total British bank branches. For the same year, Banco de Bilbao had 422 branches or 10% of the total branches of Spanish commercial banks (Annual report, May 1971). The Bilbao's network distributed across all Spanish provinces and provincial capital cities (with the exception of Huesca and Pontevedra) giving it access to a potential market made out of 84% of the total population and 88% of total income (idem).

story. It also provides further empirical support to the idea that firms can simultaneously engage in competition and co-operation as well as the importance of central coordinating entities for the long-term success of so-called "horizontal alliances", "competitive collaboration" or "coopetition" (Bátiz-Lazo 2004; Bátiz-Lazo and Maixé-Altés 2011; Bátiz-Lazo and del Angel 2003; Maixé-Altés 2015; Del Angel 2011; Bátiz-Lazo, Karlsson, and Thodenius 2014). Research findings are also consistent with those suggesting ownership and organizational structure have greater importance on network size and survival than being an early entrant to the industry (Hayashi and Wang 2011).

## 2.2 Two sided-markets

Payment card transactions occur in a market involving several players: the retail consumer (i.e. cardholder), their bank (issuer), merchants, their bank (acquirer), and a network operator or platform, who coordinates and sets rules.[7] The two sets of end-users (customers and merchants) interact simultaneously.

Paying with plastic is subject to network externalities (Evans and Schmalensee 2005; Evans 2011; Verdier 2006). Anyone can issue plastic money but its success will depend on acceptance (Bell 2001; Wray 1990, 2004). Thus a payment card scheme will be successful as it signs up the greatest number of cardholders and merchants. But there is a conundrum: retail customers will prefer the card with the greatest number of merchants while the latter the scheme with the greatest number of cardholders. Having to solve the demand and supply side of the market simultaneously is the key feature of the so-called two-sided markets.

The research agenda of two-sided markets was established through the seminal contributions of Rochet and Tirole (2002, 2006), Armstrong (2006) and empirical validation by Evans and Schmalensee (2005) while the latter explored the credit card industry in the USA. The novelty of the two-sided market

[7] The rules specify the nature and characteristics of instruments are accepted by the system in the form of payment, the characteristics of acceptance points, risk management, the clearing mechanism and the proceeding of funds transfers (Verdier 2006, 38).

approach, in explaining the workings of retail payment systems, was formalizing the existence of indirect network externalities between at least two distinct groups of users, typically cardholders and merchants (Verdier 2006, 38). This as the value of the network for one set of consumers increases as the number in the second set also increases. The payment system is then seen as an intermediary network, which facilitates the interactions between end-users and internalizes the externality, while trying to get both sides of the market on board by choosing appropriate prices. This line of research has also to argued that failure to account for the consequences of interlinked demand between the two sides can lead antitrust analysis into serious error (Evans and Schmalensee 2008).

According to Williams (2015), empirical evidence supporting two-sided markets is rare and inconclusive. This has not deterred others from using the two-sided market framework to explore issues of regulation of credit card fees (Carbó-Valverde, Chakravorti, and Rodriguez Fernández 2009; McAndrews and Wang 2008). Indeed, growing interest around ideas of two-sided market resulted in the thrust of the discussion about credit cards in a number of empirical studies and conceptual discussions focusing on the economics behind the interchange and card fees and their role to discipline behaviour (e.g. Carbó-Valverde, Chakravorti, and Rodriguez Fernández forthcoming). The focus on the economics of the interchange and card fees is justified as they are seen as the incentive for retail consumers to abandon cash and use other means of payment. However, this not only ignores the sunk (i.e. irrecoverable) costs of building the retail payment infrastructure but goes against increasing reports by banks and retailers of the increasing costs of managing cash. Also, *ceteris paribus*, paying with plastic will reduce social welfare because of fees and other "tolls" inhibit parity of value in the exchange of goods and services for money (Maurer 2012).

Focus on the economics of the interchange and card fees was partly supported by poor cost accounting within retail financial institutions (e.g. Drury 1994, 1998; Bátiz-Lazo and Wardley 2007). But has obscured the process through which economic agents come together to form a platform. Indeed, in 230 words Evans (2011) describes the formation of the BoA credit card franchise model, to devote the rest of his analysis to the interchange fee. In a similar manner Armstrong (2006) considers the implications of alternative technologies for competition in double-sided markets but not how the institutional arrangement came about. It is thus the case that the double-sided narrative considers the market only once it has formed and stabilized.

This suggests how there is relatively little understanding of the "invisible, subterranean" nature of value transfer in today's retail payments ecosystem (Maurer 2012, 28 and 31). Specifically, how at the birth of the credit card networks, the business model was understood not as providing credit but placing a "toll" on settlement (Maurer 2012, 17). This is a business model in which a financial institution generates income though an alternative to cash when exchanging value. Moreover, not only has little been said about this process in an international comparative perspective but focusing research on the interchange fee ignores that "non-discrimination" clauses obscures payment choices for consumers, who ultimately assume the cost of discounts paid by merchants and are seldom placed with appropriate costs and benefits of using alternative payment media to solve on-the-spot on-the-spot transactions.

## 2.3 Open and closed loop payment systems

In contrast to the discussion around two-sided markets, industry studies have taken notice of differences in institutional arrangements. These studies will typically categorize behaviour within retail payments in general and the credit card industry in particular as being "open" or "closed" loop (Verdier 2006).

In a "closed loop" payment network there is no intermediary setting rules nor interchange fee, the bank (or retailer) acts both as issuer and acquirer. The primary source of revenues is the combination of the discount fee charged to merchants who accept the card (or who sell through the retailer) plus an annual fee paid by cardholders. Examples of "close loop" or limited purpose payments networks include Amazon vouchers, American Express or store cards (Verdier 2006, 41; 2011, 273). These networks are also called "three party" or "proprietary" systems.

Different banks serve end users (i.e. cardholders and merchants) in an "open loop" payment network. There is also a marquee company, who coordinates and sets rules (Bátiz-Lazo and Hacialioglu 2005). In this network the issuer earns interest from the cardholder on the loan provided at the time of purchase, and may charge an annual fee for the use of its card. The issuer also earns an interchange reimbursement fee from the acquirer, while the acquirer charges the merchant discount fee for cashing the card receipts. The marquee company will charge processing and servicing fees from issuers and acquirers and is not involved in the lending process. Thus, the marquee company is a clearing house that is not exposed to any credit risk and earns revenue on the volume of transactions carried out through its cards. Visa, Discovery and MasterCard are considered "open loop" payment networks (Verdier 2006, 41; 2011, 273). "Open loop" networks are also known as "four party" or "payment association" systems.

In what follows we focus on the transformation of credit cards from "closed" to "open" loop networks. Throughout the discussion we adopt the terms "proprietary" and "payment" network to denote "closed" and "open" loop networks respectively. This because the distinction between "open" and "closed" loop is not consistent across industry studies as there is widespread disagreement as to what constitutes a "closed" loop network.[8] The latter are often seen as the equivalent of paper gift certificates while, as above mentioned, payment networks consider the whole universe of plastic means to exchange value.[9] However, the notions of payment and proprietary network enables us to bring back historical examples to ascertain the dynamics transformation of systems building around a single company into a system of multiple players.

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[8] See for instance, definitions in the industry digital media: http://www.mastercard.com/us/company/en/docs/All_About_Payment_Cards.pdf and http://www.creditcards.com/glossary/term-open-loop.php (accessed November 23, 2015).

[9] Although payment with debit cards becomes popular in the 1990s, both Bátiz-Lazo, Haigh, and Stearns (2014); and Stearns (2011b) detail a first attempt at a debit card in the 1970s.

# 3 The Dawn of the Bank Credit Card Business Model

## 3.1 Forerunners and early offspring's

The credit card first appears in Edward Bellamy's highly influential 19th century socialist novel *Looking Backward* (2000 [1888]). Bellamy describes them as a "piece of pasteboard" which stores the equivalent in dollars to a citizen's share of the community's annual production (p. 64). Value was redeemed in public storehouses where the card was punched or picked by a clerk to reduce its value.

In commerce, credit cards appear in petrol stations and department stores during the early 20th century, in the form of cardboard and metal charge plates (Smith 2015; Stearns 2011a, 2011b). In 1936 American Airlines started issuing the Air Travel Card, which is generally considered the first "charge card" in history for the reason that upon its launch, it already utilized a numbering system that tied a specific user to a specific number (Smith 2015). All of these early versions of credit card had in common the advantage of offering an alternative to banknotes and coins as well as delay payment in cash (and some even offered rollover credit while paying a minimum amount). But most had the disadvantage of being limited to the issuing merchant (often a local business).

The so-called "travel and entertainment" (T&E) payment card emerged in the USA in the 1950s thanks to Diners Club and American Express (which introduced the use of a plastic card about the size of a businessman's calling card). In this system, a single card could be used in different merchants and locations, typically hotels and restaurants, as the initial target market was the business traveller.  Marketing of T&E built on the practices of direct, unsolicited mass mailing to potential customers (spearheaded by oil companies) and the targeting of the top end of the market. Together with early cross border diversification, the T&E card added the ideas of "prestige" and being part of the "jet set" to the benefits of automatic bookkeeping for corporate reimbursement and tax deduction.

Given the profile of their customer base, Diners Club and American Express grew across borders early on.  Hence Diners entered the Mexican market in 1953 and established in Spain in 1957, whereas American Express in 1953 and 1963 respectively.[10] As mentioned this aimed to serve a small and selected clientele but its incursion into Mexico and Spain attest to the diversification strategy of T&E cards.

US banks were not immune to these developments. Several tried to introduce a "generalized" or "universal" credit card program throughout the 1940s and 1950s but failed because of high start-up cost (Pullen and O'Connell 1966). Some others were successful in offering credit to the cities and towns where they were located, such as that of Marine Midland of Buffalo, NY, which introduced its plan in 1953 and later on helped to form Interbank. There were several variations of these plans: from the credit card scheme as we know them today, to others that offered revolving credit into an overdraft plan and thus tying the line of credit to a chequeing account (ibid).

The main difference of these bank-backed schemes with the T&E card was that they were not merchant, industry, product specific. Stearns (2011b, 14) notes that the idea of a "universal" charge card was not immediately obvious as it had to be explained and sold, both to consumers and merchants. Consumers were often recruited through marketing and direct, unsolicited mass mailing. Merchants had to be convinced of giving up a percentage of their sales without passing it on to consumers. This was often done through research commissioned by the card company suggesting cardholders would spend more than a cash carrying customers (Stearns 2011b, 14). Bank issued cards had two other advantages over T&E cards, namely their marketing and financial muscle (ibid). Their marketing focused on middle-class consumers rather than the well off and businessmen. This gave them a broader user base that appealed to a larger number of customers. Secondly, their financial muscle enabled banks to emphasize the revolving credit facility (which only a handful of other schemes had), forego the annual fee charged by T&E cards and offer merchants immediate

[10] On Mexico see Forston (1990). American Express had an office in Barcelona as early as 1923 (*ABC* Madrid September 21,1923; p. 27) and began to offer its credit card in 1959 (*ABC* Madrid, Noticiario – Blanco y Negro, September 13, 1958; p. 105). The earliest mention of Diners Club in Spain was found in an advertisement dated March 30, 1957 – (*ABC* Madrid; p. 8).

payment upon presenting sales drafts (as opposed to taking days or even weeks by T&E cards).[11]

So if most or all the differences between bank-backed credit cards and T&E cards were in place before or at the time of the launch of the Bank of America (BoA) card program in 1958, why did the payment card system devised by BoA became such a huge success? Why was the BoA business model victorious when replicated in Britain (1966), Mexico (1969) and Spain (1971)? According to Stearns (2011b, 18), prior to 1958 bank card schemes did not offer revolving credit and thus they were unable to benefit from generating interest income.  It was until the mid 1950 that an interest-free period (also called grace or float) where the customer pays no interest in the balance within a specified time, emerged (Ritzer 1995, 34). Foregoing the annual fee further weaken their profitability. Indeed, only 27 of the 100 or so bank card schemes launched in the US after 1947 were still in operation in 1958 (ibid). The survey of New England bankers on the adoption of credit cards by Pullen and O'Connell (1966) also noted bankers were "intentionally being cautious" about credit cards (p.2). But it was regulation limiting geographical growth which really crippled US bankers as none was able to achieve critical mass and would rapidly collapse.

This was not the case of BoA. California in the 1950s was a large and growing economy that allowed intra-state banking and where BoA had a very significant presence with retail branches across the State. The size and scope of BoA operations were thus critical for the success of its credit card project. BoA was also successful in establishing an organization which could recruit banks (and in turn they would recruit merchants and customers) across the USA (Stearns 2011b). But this only came about after BoA's plans to develop national bank operation (on the back of a bank holding company) were stopped by Congress in 1956 (Vanatta forthcoming).

A contemporary view by Larkin (1966), a BoA executive, commented on the novelty of credit cards fizzling, as initiative after initiative floundered during the 1950s. According to him, dozens of banks had been unable to determine key

[11] Franklin National Bank (New York) is recognized as the first bank to issue a card with roll over credit in 1951 (Bátiz-Lazo and Hacialioglu 2005).

variables such as the sort of organization to sign up merchants, the appropriate discount rate to offer (to merchants), how many active cards would be needed to turn a profit or the appropriate computer equipment. Larkin describes how at the dawn of the first international expansion of the card system, BoA had turn BankAmericard to profit with sales of $185,000,000 dollars at the end of 1965, thanks to 1,765,000 card holders and 61,000 establishments.[12] In a rather tayloristic fashion, he claimed to have brought together specialists "who knew the most" from across Bank of America Service Corporation, BoA credit card subsidiary, to write down their experiences. This effort, Larkin claimed, resulted in a three-volume manual covering areas as diverse as electronic data process (EDP), credit collecting, publicity and advertising, costs of start up as well as the nature of interchange between different acquiring banks. In other words, a manual for success.

**[Insert Chart 2 around here]**

Chart 2 illustrates the growth of credit card activity in the United States between 1970 and 1978. Interestingly accounts grew 355%; sales using bank backed credit cards, 633%; and credit granted using this instrument, 533% for the period. These magnitudes suggest that there was greater growth in the intensification of activity (ie the use of the card) than in the number of accounts. This data also shows delinquency dropping during this period. This suggests some form of organizational learning and more resilient systems in awarding credit (in spite of mass mailing of "live" cards).[13]

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[12] Archival data and particularly that relating to advertising in the media, was prone to exaggerate the number of individual merchants accepting a credit card. We opted for "establishment" to denote a magnitude suggesting all points of sale and "retailer" for independent merchants.

[13] Vanatta (forthcoming) arrives at an opposite assessment and argues that the growth of the credit card associated with significant increases in delinquent accounts.

## 3.2 Assembling the parts: a two sided market yet to come

The emergence of today's dominant players in global retail payments took several gradual steps. We can trace a straight line between BankAmericard in 1958 (today's Visa) or Interbank in 1966 (today's MasterCard) and the reproduction of their business model in United Kingdom in 1966 and 1972, Mexico in 1969 and 1968 and Spain in 1971 and 1970 (respectively). This progression involved significant investments, which included sunk (i.e. irrecoverable) costs, and decisions to cooperate in otherwise competitive markets. Decisions to adopt the credit card outside of the USA were also surrounded by the uncertainty of an unproven product that, at the same time, was considered of marginal importance to profitability. Specially in countries such as Mexico or Spain where income levels and size of the middle class were clearly below those of the US or Britain.[14] However, it offered the possibility to displace cash by inserting the bank between merchant and card user at the time and point of the exchange of value. Thus opening an opportunity for fee income generation. Admittedly, fee income was a minor item of most retail banks' profit & loss in the 1960s but the introduction of the credit card should be seen as part of a broader move to diversify banks' product offering which began in western Europe and north America in the late 1950s.

Prior to the arrival of the BankAmericard, British bankers were following developments in US credit cards with close interest. This as Finders' Services, a company offering support to professionals, diversified into and offered the first T&E card in Britain in 1951.[15] A second similar company, called Credit Card Facilities established in 1953. Finders' Services signed a reciprocal agreement with Diners Club in 1959.[16] In a stroke Finders' expanded the number of establishments accepting its card and available to its 19,000 cardholders from

[14] Archivo Histórico BBVA, Tobar, J. M. (2006) *El lado humano de Wall Street: 50 años después, 1956-2006,* mimeo.

[15] Lombard "Banking and Finance: Credit Card Systems", *Financial Times* May 22, 1953; p. 6.

[16] "Credit Card Controversy", *Financial Times* June 27, 1960; pp. 8 and 13.

850 to 35,000 – although the expansion was mostly overseas.[17] Later Finders' credit card operations plus those of Credit Card Facilities merged to become Diners Club UK Ltd in 1962.[18] Shortly after, in 1963, American Express began to offer card services in the UK. There were other T&E cards in Britain but with smaller business volume. For instance the British Hotels and Restaurants Association card (established in 1961).

A pivotal event took place in 1966 when Barclays launched its credit card with the support of BoA. A contemporary observer stated:

> "By joining the credit card business the British banks, with their enourmous prestige, have brought credit card business (in whatever variation) in from the cold."[19]

It is not clear whether the British approached the Californians or *vice versa* (Ackrill and Hannah 2001, 185-9). The fact remains that Barclays was the first UK bank to embrace the full the potential of credit cards. At the same time, BoA was looking for opportunities to develop a national franchise and the agreement with Barclays opened the opportunity to grow abroad.

Barclays negotiated a franchise in exclusivity from BoA at the end of 1965. A small team was set up to plan a UK launch under the *Barclaycard* brand (Bátiz-Lazo and Hacialioglu 2005). Except for minor amendments to allow for differences in postal codes as well as Imperial measures, Barclays adopted the business and organizational model of BoA.

After six months 30,000 establishments were signed up. These were primarily small and medium-sized stores as larger retailers had their own credit scheme (and did not want to agree to pay Barclaycard a service charge of between 3% and 5%). Early promises to retailers to publish the name and address of every shop accepting Barclaycard led to what is still believed to be one of the largest ever press advertisements (Bátiz-Lazo and Hacialioglu 2005). It appeared in the *Daily Mail* on 29 June 1966 extending over eight pages and

[17] It was estimated that Credit Card Facilities had 15,000 cardholders and 2,000 hotels and restaurants throughout the UK (idem).

[18] "Issue Comment: Diner's Club", *Financial Times* April 16, 1964; p. 16.

[19] "New Phase in Britain's Bank Revolution", *Banking* June 1, 1966; p. 45.

carrying all the 30,000 names and addresses of participating establishments. Successful acceptance of Barclaycard by the British adult population meant that by the end of 1966 Barclays had passed the milestone of 1 million Barclaycard holders (idem).[20] Note that this growth took place on the back of a card that was effectively the same as other T&E cards in Britain as the Bank of England allowed roll over credit until 1967 (Ackrill and Hannah 2001, 189).

Mexico and Spain also provided exemplary stories of the process of adoption and deployment of bank credit cards. In the case of Mexico, the introduction of the bank credit card was relatively early, compared to other Latin American countries as the first bank credit card in the region was launched in January 1968 by Banco Nacional de México (Banamex), then the largest Mexican bank (in terms of assets).[21] The card was branded *Bancomatico* and affiliated to the Interbank system.[22] The following year, in June 1969, Banco de Comercio (Bancomer), then the second largest Mexican bank and the main rival of Banamex, launched its own credit card while adopting the scheme developed by BankAmericard in the USA.[23]

Shortly after, in August 1969 a group of mid-size banks formed a syndicate to introduce a third card in the Mexican market, branded *Carnet*.[24] These three cards defined the bank credit card market in Mexico during the

[20] As in the case of merchants, data on the size of the consumer base would also be prone to exaggeration. This was evident in internal data of inactive cards. Double counting of subsidiary cards (ie more than a card per household) was not so much an issue at least in the case of Spain and Mexico where card companies targeted male heads of family. Evidence of delinquency cards in the Bilbao suggested there were two to four females per every 100 cardholders. This data should also be taken with care as there was no indication of the methodology to identify and complete case studies for delinquent cards (source: Archivo Histórico BBVA, caja 355, carpeta 2, subcarpeta 1: "Análisis estadistico pasados a mora").

[21] According to the rankings of the *American Banker* in 1969, Banco Nacional de México and Banco de Comercio, together with its affiliate banks, were both among the 300 largest banks of the world; from Latin America, only Banco do Brasil, a large state-owned bank, was larger. See Del Angel, 2002.

[22] Archivo Banamex, *Banamex, Memoria, 1882-1988*, t. II, p. 92; *Noticiero Banamex*, 2 de enero de 1968, primera plana; and Banamex, *Informe Anual*, 1967, p. 19. The bank made a public announcement about the introduction of Bancomatico card on April 7, 1967; *Excélsior*, 8 de abril de 1967, Archivos Económicos SHCP folio D04231.

[23] Archivo CEEY, Bancomer, *Informes Anuales*, 1968 y 1969; see also Del Angel 2007.

[24] The members of the syndicate were: Banco de Londres y México, Banco Comercial Mexicano, Banco Azteca, Banco Industrial y de Comercio, Banco del Atlántico, Banco Internacional, Banco del Ahorro Nacional, Banco del País, Banco Longoria, y Banco Mercantil de México (Archivo Banamex, Jorge España, mimeo, 1997).

subsequent decades. However and until recently, Banamex's Bancomatico was the dominant market player.

Banco de Vizcaya's Interbank-backed Eurocard was the first credit card in Spain, launched in December 1970.[25] Six months later in June 1971, the other bank of importance in northern Spain, Banco de Bilbao, launched a BoA card and soon after became the market leader. In spite of a first comer advantage, the performance of Vizcaya's Eurocard was mediocre throughout the next ten years.[26] Interbank (by this point already renamed MasterCharge)[27] really took hold in Spain after Banca Catalana lead a group of 15 small and regional banks to form the Agrupación Española de Tarjetas de Crédito in 1975.[28]

Although for many banks the credit card project worked well the process of adoption was not uneventful. For instance, the Boards of Barclays in the UK and Banamex in Mexico fully supported the idea. In Spain, however, the Board of the Bilbao approved of the credit card project only after the then CEO, José Ángel Sánchez Asiaín, threatened to resign.[29] In Mexico Manuel Espinosa Yglesias, Bancomer's CEO and President of the Board, had yet to be convinced of adopting

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[25] During Tobar's second visit to the USA in 1963 he was resident in Bank of America. He returned with news of the use of computers and the success of the BoA card in California. This in addition of the long established relationship of Santiago Zaldumbide, Director of Foreign Services (Director del Servicio Extranjero), led to the Bilbao and BoA signing an agreement in 1969 at the time of the opening of the Bilbao's New York office. Interview of José María Tobar by B. Bátiz-Lazo, Bilbao. June 3, 2015. The meeting with BoA in New York was secret. There was no evidence in the archives that directors of the Bilbao were aware of the plans to launch the Interbank-backed Eurocard by the Vizcaya.

[26] Already at the end of 1972, the Bilbao's BankAmericard had 18,000 merchants and 360,000 cardholders while Vizcaya's Eurocard had 17,000 merchants and 18,000 cardholders (Archivo Histórico BBVA, caja 351, carpeta 2, subcarpeta 1: "Principales sistemas de tarjeta de crédito vigentes en España", Felipe Galindo de Lucas, Jefe de la Central de Tarjetas de Crédito, April 7, 1973). By 1980, the Bilbao and other small Spanish banks issuing Visa cards had 2.3 million cards in circulation with annual turnover of 28 billion pesetas, Banca Catalana's Mastercard had 250,000 cardholders and 3 billion pesetas turnover while Vizcaya's Eurocard had 100,000 cardholders and 4 billion pesetas in turnover (Hall, W. "Credit cards start a quiet revolution", *Financial Times,* March 23, 1982; p. VIII).

[27] In 1979 MasterCharge rebranded again into MasterCard.

[28] The earliest mention of Agrupación Española de Tarjetas de Crédito was found in an advertisement dated June 28, 1975 – (*ABC* Madrid; p. 51). Subsequent articles in both *ABC* and *Financial Times* confirm the number of banks in the consortia but not the date of establishment.

[29] Interview of José Ángel Sánchez Asiaín by B. Bátiz-Lazo and G. Del Angel, Madrid. September 5, 2014.

a credit card as late as 1969. However, the competitive pressure from Banamex's innovative introduction of a credit card required Bancomer to respond.[30]

Table 1 below summarizes the state of play in four competitive environments when financial institutions first launched their card. Evidence suggests customers, regulators and banks were somewhat aware of the payment card through the efforts of indigenous T&E cards as well as the efforts to build a cross-border payment platform by American Express and Diners Club.

**[Insert Table 1 around here]**

*Source*: authors based archival sources in addition to hemeroteca ABC, Financial Times, The Times, Frazer (1985), Pullen & O'Connell (1966), Stearns(2011b), and Weistart (1972).

Adoptees of the BoA card replicated the business and organizational models of the California bank. For example, departing from what had been the norm, each adoptee established a card organization that was from the outset set up as a subsidiary, that is, placing credit card operations semi-detached from the main bank. This non only limited the potential credit exposure of the parent company to the capital of the subsidiary but further suggested the credit card project had to be profitable in its own right (Ritzer 1995). Banks sent staff to California to observe the workings of Bank of America Service Corporation first hand.[31] In Britain, Barclays immediately invested in a dedicated computer system to support credit card operations while in Spain, Banco de Bilbao's first computer served the same purpose. This at a time when most other banks in western Europe adopted computer technology to support cheque clearing and

[30] Indeed, the Bancomer reports show some skepticism in the first year of the project. Interview to Amparo Espinosa Rugarcia by G. Del Angel, November-2006, and Archivo CEEY, Bancomer, *Informe Anual*, 1969 and 1970; Del Angel 2007.

[31] A pre-launch visit was that of José María Tobar from Bilbao to BoA in 1963 (Archivo Histórico BBVA: Banco de Bilbao, José María Tobar, "Viaje a Estados Unidos e Inglaterra. Informe-resumen ante la Comisión Permanente" (01/04/1963)). Derek Wilde, Barclays General Manager, and John Dale, then computer specialist and later head of Barclaycard, visited the credit card operations in California for 12 days in 1965 (Ackrill and Hannah 2001, 186).

accounting functions such as payroll (Bátiz-Lazo, Maixé-Altés, and Thomes 2011).

Meanwhile in Mexico, Banamex leveraged the introduction of its credit card by giving it the same name as its computer centre (which had been established in 1966): Bancomatico (Del Angel 2011). Piror to signing up with Interbank, Banamex had tried to adopt an established credit card scheme. For that reason had entered in negotiations with the likes of Chase Manhattan, The First National City Bank of New York (today Citibank) and Bank of America. However, Banamex considered the payment these US banks requested in exchange for brand name, knowhow and opportunities for international clearing too high and therefore opted to form a loose alliance with Interbank as well as developing computer systems in-house (through the effort of Banamex's staff and external IT consultants).[32]

On each instance, the foreign bank adopted the BoA card in exclusivity for their country. This turned out to be significant as it placed Banco de Bilbao and Barclays as the single biggest acquirers in their growing domestic credit card market for the next two decades.[33] Exclusivity also resulted in a competitive response from other domestic banks. In the USA, for instance, in 1967 Citibank tried to match BoA in developing a national system of credit card through franchisees with its Everything Card, but when the effort failed they joined MasterCharge (Vanatta forthcoming). At the same time, other banks came together to form regional networks. One of these formed on December 1966, when several banks from California -Wells Fargo among them- Chicago and New York met in Buffalo to form the not-for-profit association called Interbank. It not only aimed to reach national scale but would typically support overseas banks looking to offer an alternative a credit card scheme to that in exclusivity agreement with BoA in their country.[34]

[32] Interview Agustín Legorreta Chauvet by G. Del Angel, March-2009.

[33] Churchill, D. "Growing Demand for Plastic Money", *Financial Times* 20-May-1981, p. V. and Hall, W. "Credit Cards Start a Quiet Revolution", *Financial Times* 23-Mar-1982, p. VIII.

[34] Negotiations for a non-profit association to facilitate the interchange of bank credit cards across the USA began on August 1966 at the instance of Marine Midland Corp. (New York) and included 14 major banks (four from California, four from Chicago and the rest from other parts of the USA). This initiative had the explicit purpose of competing with the syndicate behind

Without a doubt then, the bank issued credit card was a turning point in retail payments. Most countries observed an explosion in the number of new entrants into the domestic offering of "paying with plastic" following a large participant signing up to either BoA or Interbank. For instance, competitors to Barclaycard in 1972 included Air Travel Card, Hertz Card, Avis Card, Harrods Card, Blue Star Garages and of course, Eurocheque, Access/Interbank, American Express and Dinners Club (of which NatWest, another large British retail bank, owned 40%).

The introduction of the Carnet in Mexico, amidst competition between Banamex and Bancomer, is another example of a playing field where multiple entrants jockeyed for position. As mentioned above in August 1969, ten Mexican banks jointly established an organization named Promoción y Operación S.A. (Prosa) to coordinate the launch and operation of an alternative credit card scheme to those of Banamex and Bancomer. The credit card was branded *Carnet*. Although a couple of the banks behind Prosa had nationwide operations their directors were unsure to be able to generate sufficient business volume for an independent move into credit cards. They joined forces since individually they could not afford the sunk costs of such system. Interestingly, records show that Banamex assisted in setting up of Prosa and particularly in the development of their computer system. This action suggests a "divide and conquer" move by Banamex following the introduction of a BankAmericard card in Mexico by Bancomer –its main competitor. Although banks behind Carnet generated enough business volume for their card scheme to remain viable for the following decades, Carnet was only accepted in Mexico.[35] Consequently, it remained a proprietary network, which never challenged the global ambitions of BankAmericard or Interbank.

Table 1 also shows that in Spain the Bilbao's competitors in the early 1970s included credit cards by Banco de Vizcaya's Eurocard/Interbank, the savings banks' Tarjeta 6000, a Interbank/MasterCharge launched by Banca

BankAmericard. Source: "Association for the National Interchange of Bank Credit Cards Under Discussion", *American Banker*, August 18, 1966; p. 1.

[35] Later, Carnet started business operations in Cuba and Central America.

Catalana and a consortium of 15 banks, and Banco Industrial and Mercantil's Unicuenta. Alongside these there were cheque guarantee cards (Eurocheque and Tarjeta 4B) as well as T&E cards such as American Express, Diners Club, Telelibre (issued by the state telephone monopoly Telefónica), and Melia Club (issued by travel group Melia and the financial support of Banco Coca). The Bilbao was unable to secure acceptance at state-owned petrol stations and highway tolls as these merchants were not ready to pay large discounts to the bank. Some department stores had their own card (such as Sears and El Corte Inglés). But securing acceptance early on by the department store network of El Corte Inglés[36] was essential for other large retailers (such as Galerias Preciado) and smaller merchants to accept the Bilbao's card.

The early move of the Bilbao into credit cards was remarkable when considering the highly conservative environment that otherwise characterised Spain in the middle of the Franco regime. In fact, Banco de Santander was the main partner and correspondent of Bank of America in Spain. However, large Spanish banks showed no interest in introducing the credit card (Arroyo Martín 2006). Soon after, Santander and the then biggest Spanish bank, Banco Español de Crédito (Banesto)[37], for reasons that are unclear, attempted to convince the Bilbao to share the franchise of BankAmericard in Spain. But in spite of the support of the BoA, the Bilbao didn't budge and the negotiations were unsuccessful. Instead Santander joined Banesto and the other two biggest Spanish banks (Central and Hispanoamericano) and launched a cheque guarantee card in 1974 (branded *Tarjeta 4B*) while hoping that personal cheques rather than credit cards were the future.[38] Unfortunately that was not the case

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[36] By 1984 a direct computer line between Visa España and El Corte Inglés cleared 2 million card transactions p.a. At the time similar links were being discussed for the state-own railway company Renfe, airline Iberia and Galerias Preciado. Source: Harris, S. "Rival Groups Locked in Confused Fight for Market Share", *Financial Times*, April 13, 1984; p. 20.

[37] According to Pueyo Sánchez (2003), between 1922 and 1975 the two largest northern commercial banks, Bilabo and Vizacaya, each had approximately 10% of total retail deposits. His estimates for Banco Español de Crédito (Banesto) suggested that it grew from 7% in 1922 to 21% in 1947 and dropped to 14% in 1975. Banco Central had 7% in 1922, grew to 15% in 1947 and had 13% in 1975. Banco Hispanoamericano had 12% in 1922, 29% in 1947 and 13% in 1975. Banco Santander had a negligible share before 1947, when it was 2% and this grew to 6% in 1975. Meanwhile, the biggest savings bank, la Caixa, had 15% of total deposits in 1975.

[38] Cheque guarantee cards were pioneered in Europe by National Provincial (today part of RBS Group) as a direct competitor of the T&E card on October 1965. Over the next couple of years a

as personal cheques failed to generate significant business volume. As a result in 1979, the banks behind the 4B brand turned its card into a proper bank-backed credit card while joining the newly created Visa Spain (at the same time they used their card as activation token for their newly deployed ATM network).[39]

Spanish and Mexican regulators appeared indifferent to the credit card project. Whereas problems relating to fraud and mounting losses at Illinois banks in USA, which rooted in the practice of mass mailing unsolicited "live" cards, led to the passing of regulation in the USA. Notably the hearings around the Truth-in-Lending Act (1968) expose unsolicited credit card mailing practices and generated momentum for their prohibition in 1970. The latter also introduce limited liability for cardholders for lost and stolen credit cards.[40]

Similar debates developed in the UK. The initial concern of British regulators was limiting the growth of credit card schemes to pre-empt foreign cash withdrawals circumventing currency controls.[41] As mentioned, roll-over-credit was delayed in Britain until 1967, so initially Barclaycard was in fact a T&E charge card rather than a credit card. Later on, credit cards were part of the internal British debate on the effects of personal credit on inflation and informed the passing of the Consumer Credit Act 1974 (which, to bankers displeasure, introduced of the Annual Percentage Rate or APR and the supervision of the personal credit market by the Office of Fair Trading).

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standard developed under the aegis of the Cheque Card Sub-Committee of the Committee of London Clearing Banks. Cardholders could obtain up to £20 per transaction (as opposed to the usual floor limit of £25 by Barclaycard) but whereas T&E cards and credit cards ask merchants for a discount, the cheque guarantee cards didn't. Neither did cardholders had to pay an annual fee (Frazer 1985, 249 and 64). A contemporary author noted: cheque guarantee, T&E and credit cards all aim "… at making it easier for the customer to obtain money from their bank accounts when they are away from home." ("New Phase in Britain's Bank Revolution", *Banking* June 1, 1966; p. 44).

[39] Harris, S. "Rival Groups Locked in Confused Fight for Market Share", *Financial Times*, April 13, 1984; p. 20.

[40] In the US, until the amendments to federal regulation of 1970 the credit card industry itself and the legal relationships it created remained largely unregulated (Kennedy 1969; Weistart 1972). Note that early responses by state legislatures in the 1960s were primarily clarifications regarding the applicability of criminal law and that the practice of unsolicited mailings continued and expanded well into the 1970 ban.

[41] We appreciate comments from Sean Vanatta and Sergio Castellanos on regulation of credit cards in Britain and the USA (email to B Bátiz-Lazo, August 6,2015 and November 30, 2015).

## 3.3 Customer selection as the foundation of a global network

To explain the long-term success of bank cards, and specifically the BankAmericard both Stearns (2011b) (explicitly) and Larkin (1966) (implicitly) recognize the importance of access to a large base of middle class customer, brand awareness and banking relationships with merchants that preceded the credit card project. To give an idea of difference of target markets consider that in 1966, American Express issued cards to people earning at least £2,000 p.a. ($7,500 in the US).[42] At the time income per capita was $4,146.30 dollars in the USA and $1,959.60 dollars in the UK (£2,032.11).[43] Credit limits of Barcalycard in 1972 oscillated between £50 and £200 according to individual circumstances (businessmen would typically get more). Individuals using a Barclaycard could withdraw up to £100 at a branch of Barclays. At the same time, a cheque guarantee card of any of the other English banks would allow up to £30 cash withdrawal per cheque.

As had been the case in the USA, both individuals and merchants were target of mass mailings. But in order to avoid fraud or heavy losses as had been the case of a rapid expansion of credit cards in Illinois' banks (Kennedy 1969),[44] managers of retail bank branches in Britain, Spain and other foreign licensees of the BankAmericard were asked to suggest names of credit worthy customers and merchants in their vicinity (regardless of the relationship with the bank). Caution paid off and in spite of mass mailing "live" cards, fraud and delinquency were significantly lower in Britain and Spain compared to the USA.

[42] According to "Measuring Wealth" the value of £2,000 in 1966 would be as little as £30,910.00 using the retail price index or as much as to £92,420.00 using an "economic power" index (http://www.measuringworth.com/ppoweruk accessed November 29, 2015). Either way this was higher than the median income in the UK of £23,300 p.a. in 2012/2013 (Office of National Statistics http://www.ons.gov.uk/ons/dcp171778_400247.pdf accessed November 29, 2015).

[43] Values in current prices according to http://www.indexmundi.com/facts/indicators/NY.GDP.PCAP.CD/compare?country=gb#country=gb:us (accessed December 10, 2015). Source for £1 =US$1.037 was http://ow.ly/VHT3z (accessed December 10, 2015).

[44] Attesting to bankers' caution is the fact that we foud copies of Taylor, H. (1968) "The Chicago Bank Credit Card Fiasco", *Bankers Magazine* 151(1): 49, in both Archivo Histótico BBVA (including translation) and Barclays Group Archives.

Meanwhile Mexican banks faced an uphill battle to introduce the credit card. Incorporating a massive clientele in a developing economy with a weak legal system was a complex task. Banamex initially offered its credit card to customers who were also members of the Rotary Club thus pre-selecting clients that had a previous credit and savings history with the bank and a stable income.[45] Banamex then established a protocol to accept new cardholders. It envisioned the customer demonstrating three or more years working for the same company, at least three years living at the same address, and having a monthly salary of at least of $5,000 pesos (400 US dollars) - a significant income level at the time, but it covered a large segment of population (given a skewed income distribution typical of emerging markets setting the bar high promised to capture the better off).[46] At the same time and as had been the case in Spain, the relationship of Banamex with medimum-sized and large retail business that were its costumers prior to the launch of the card bank facilitated its adoption.

By the end of 1968, Banamex had 46,365 cards in the market and 6,378 affiliated establishments. Even more interestingly is the fact that only 2,803 of those establishments were in Mexico City, and 3,575 were dispersed in 93 cities along the country.[47] Uptake of Bancomatico was unyielding. In 1969 there were 165,000 cards and 17,500 establishments affiliated to the Banamex network. By 1982 there were more than a 1 million cards and 54,665 establishments. These numbers attested to Banamex had consolidated as the leader with a share of 45.3% of the Mexican card market.[48] Chart 3 shows the progress of Banamex cards for this period.

**[Insert Chart 3 around here]**

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[45] Banamex introduced personal loan in the mid to late 1950s thus giving some customers a track record. However, the extent to which this information was used in credit card selection is not altogether clear given that we were unable to determine the nature and extent of coordination between the personal loan and credit card departments. Interview of Agustín Legorreta Chauvet and Rubén Aguilar by G. Del Angel, March-2009 and June-2004, respectively.

[46] In 1968 the recommended minimum payment for a wage earner was 600 pesos per month (46 US dollars); Archivo Banamex, Jorge España, mimeo, 1997.

[47] Archivo Banamex, *Informe Anual*, 1968, 1969 y 1970.

[48] Archivo Banamex, *Informes Anuales*, 1970-1982.

Like Banamex, Bancomer had built a large network of retail bank branches in Mexican cities (Del Angel 2011b). As mentioned, presence in urban centers was essential for the selection and recruitment of cardholders and retailers and, therefore, for the success of the bank backed credit card.

As mentioned the top echelons of Bancomer were somewhat skeptical about the credit card project. Nevertheless once committed Bancomer pursued an aggressive marketing strategy to create awareness amongst individuals and business. There is little archival information regarding the way Bancomer selected its cardholder. But between 1969 and 1970 their marketing campaign included an alliance with the Mexican subsidiary of *Reader's Digest* magazine (*Selecciones del Reader's Digest México*), that offered a free subscription to the magazine for each new cardholder of the Bancomer card.[49] Bancomer initially had less than 17,000 establishments affiliated in 1969. By the end of 1970, it had 24,000 and in 1973, these were 34,774. The number of cardholders increased from 217,000 in 1970 to 274,000 in 1974.[50]

BoA was thus successful in turning a proprietary credit card scheme into a payment network by attracting a number of banks to adopt its business model. By 1974 there were 35 million cardholders, almost half a million merchants and 5,700 banks in the BankAmericard system worldwide.[51] The number of issuing banks in the USA was high given the success of in enrolling large banks as issuers and these, in turn, enrolling smaller banks as agents who would solicit card holder applications, sign up merchants and their local geographic area, and clear transactions from these merchants (Vanatta forthcoming). Abroad exclusivity agreements predominated for new members such as Banco Pinto & Sotto Major in Portugal, Sumimoto Bank in Japan, or domestic networks such as Carte Bleue in France and Chargex in Canada. Excluding the USA there were 9.3 million

[49] Archivos Económicos SHCP, Excélsior 27-julio-1969, Novedades 28-junio-1969, folio 003201-Banco de Comercio, Archivos Económicos, Fondo Biblioteca Lerdo de Tejada-SHCP.

[50] Del Angel 2007; Archivo CEEY, Bancomer, *Informe Anual*, 1970; Excélsior 1-junio-1970, folio 003201-Banco de Comercio, Archivos Económicos, Fondo Biblioteca Lerdo de Tejada-SHCP.

[51] Archivo Histórico BBVA caja 351, carpeta 2, sub-carpeta 01, "Tarjeta de Crédito. Información al Presidente", May 6,1974.

cardholders (of which 542,424 or 5.83% of the total were in Spain).[52] Excluding the USA transaction had reached 19 million in volume and $516 million dollars in value (with an average transaction value of $27 dollars).

The BoA card network was made out of a collection of 18 independent, domestic, proprietary credit card schemes. A number of things were putting pressure on the organizational architecture notably how to deal with shop floors and cash withdrawals of foreign issued cards. During the first quarter of 1974 and excluding the USA, there had been 1.1 million domestic cash withdrawal transactions with an estimated value of 76 million dollars.[53] Some banks like the Bilbao were not promoting them (and only allowed them as late as January 1973).[54] Nevertheless marketing had led individual cardholders believe that foreign banks would honour withdrawals on foreign cards. In practice this required telephoning the issuing bank for authorization, provided that the two banks had signed an interchange agreement. In other words, cross border use of the blue, white and gold BankAmericard was contingent on bilateral agreements between individual members of the payment network. Each of these had to negotiate legal restrictions as well as fees for cash withdrawals and interchange using foreign cards. To add insult to injury, this was a world that was just waking up to variable exchange rates.

The future was bright for the international members of the BankAmericard system given the growing number of issuing banks inside and outside the USA plus the success in uptake of the BankAmericard by domestic and foreign users and merchants. But it was clear that bilateral contracts were unsustainable for the future of cross bother growth. The cost of managing bilateral agreements threaten to spiral out of control. International member banks thus pressed Ernest J. Young, president of Bank of America Service Corporation or BSC (the point of contact for and contractual entity of all

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[52] Unless otherwise stated the rest of this paragraph borrows freely from Archivo Histótico BBVA caja 350, carpeta 2, sub-carpeta 07 “Cometarios sobre evolución de nuestra tarjeta de crédito dentro del sistema BankAmericard en el 1er trimestral 1.974”, June 6, 1974.

[53] Ibid.

[54] In the first quarter of 1974 there were 9,795 withdrawals or 0.87% of the total for non-US banks.

international licence holders), to form a "universal credit card company".[55] However and for reasons that are not altogether clear, BoA was reluctant to form in Europe a similar coordinating organization such as National BankAmericard Inc (NBI) was for domestic affiliated banks. International banks had the support of Dee Hock, president of NBI and other directors at BoA (such as Bruce Marcus). BoA eventually acquiescence to licensee pressure but only after that large participants such as Barclays threaten to leave the BoA card system.[56]

The umbrella organization that would set rules for international licensees of the BankAmericard system was called IBANCO and it incorporated in September 1974. This organization was to be modelled on NBI, including the method to formulate the interchange fee.[57] Ernest J. Young was appointed to other duties at BoA and replaced by Ken Lartkin at BSC given that Young was "a sworn enemy of ceding brand name or colours to international licensees."[58] At the same time, international licensees agreed to allow other banks to act as merchants and issue BankAmericards in their countries (but the likes of Bilbao and Barclays many remained the sole acquirer). The by-laws of the new organization also allowed for duality, that is, for merchant banks to participate in competing credit card systems.[59]

[55] Archivo Histórico BBVA caja 193: IBANCO-Comité Inernacional – Correspondencia 1973-1974. Letter from Santiago Zaldumbide (Banco de Bilbao) to Joao Ribeira da Fonseca (Banco Pinto e Sotto Mayor), November 12, 1973.

[56] Archivo Histórico BBVA caja 185 (Alta Dirección Ejecutiva), Reunion Sevilla, September 20, 1973.

[57] Archivo Histórico BBVA caja 185 (Alta Dirección Ejecutiva), Reunion del Comité Internacional BankAmericard en San Francisco, November 19 to 20, 1973.

[58] Archivo Histórico BBVA caja 193: IBANCO-Comité Inernacional – Correspondencia 1973-1974. Letter from Santiago Zaldumbide (Banco de Bilbao) to Joao Ribeira da Fonseca (Banco Pinto e Sotto Mayor), November 12, 1973.

[59] Archivo Histórico BBVA caja 185 (Alta Dirección Ejecutiva), Reunion Sevilla, September 20, 1973.

# 4 Conclusions and Final Discussion

The formation of the global bank credit card industry relied on strong domestic players, all of which had large distribution networks and long standing relationships with individual customers and retailers. The combination of a critical mass of users, together with a capacity to adopt and implement technological change and international collaboration explains the ascent of “paying with plastic”.

Context specific strategies played a role in how things evolved in the formation of a network. There is little doubt in the literature that mass mailings of unsolicited cards played an important role in establishing the bank credit card market. However, its unbridled use not only led contemporary bankers to be cautions but also resulted in significant losses, delinquency and adverse regulation. Mass mailings of unsolicited cards (or for instance, a mobile payment app in today’s world) is a strategy that cannot be replicated today.

So is the case of the so called “no discrimination clause” through which credit card companies forced retailers to offer the same price for goods and services regardless of the payment media. This practice remained in place until relatively recently in most countries. The “no discrimination clause” calls into question the assumption that paying with cash has no transaction cost. Moreover, it hides the fact that the business model behind the credit card is not only aimed at generating interest income from roll over credit but also placing the bank as an intermediary between individuals and retailer, thus, introducing a “toll” in the transfer of value.

The cheque guarantee card is another noteworthy example of a “toll” in the “payments railway” which, at the same time, highlights competitive aspects of the retail payments environment. This alternative form of plastic payments offered bankers and potentially customers and retailers a viable alternative technology to the credit card. The cheque guarantee card built on the pre-existing cheque clearing infrastructure and therefore, could be seen as a possible lower risk and less resource demanding investment opportunity. It was certainly more cost effective as it didn't ask for service charges from merchants nor additional annual fees from individuals. Moreover, building on an established product minimized requirements for the training and education of merchants and users (as was the case of the early marketing campaigns behind credit cards).

To the best of our knowledge there was no attempt to introduce a cheque guarantee card Mexico between 1950 and 1975. There were some attempts in the USA during the 1960s but merchants were reluctant to accept payment from a bank they didn't' know and soon after the credit card became the *de facto* cheque guarantee card from then on (Vanatta forthcoming). However, cheque guarantee card was deployed in several western European countries under the Eurocheque initiative and notably in Germany, where it proved very popular. But so was in the UK where personal cheques had been in use since the 19th century and where the cheque guarantee card remained in use until 2011. In the 1960s and early 1970s all major British banks deployed both cheque guarantee and credit cards. During this process and in a canny move, Barclays succeeded in having Barclaycard accepted as a single plastic token that could be used indistinctively as cheque guarantee or credit card.

But of greater interest is the case of the Tarjeta 4B cheque guarantee card in Spain, a country where personal cheques were insignificant prior to 1970. The consortia behind the deployment of the 4B included Santander and Banesto. Both of which prior to the launch of the 4B card in 1972 failed in their attempt to join the Bilbao in issuing the Spanish BankAmericard. As noted above the 4B transformed into a Visa marquee card and ATM activation token in 1979. For us the significance of the effort of the three largest Spanish banks plus Santander to popularise the use of cheques on the back of the 4B card is yet another manifestation not only of the risks and reluctance of bankers associated with the credit card but that at the heart of this business model there was a deliberate attempt at introducing a "toll" in the transfer of value by placing the bank as an intermediary between individuals and merchants. This result has thus significant implications for future research on payment systems as it should relocate some of the attention on the dynamics of interchange fees towards the assessment of changes in social welfare that associate with the choice of payment medium.

In summary, our research in this paper aims to explain the formation of what is considered a two-sided market. For this, historical research is indispensable. This paper forwards the idea that the dominant approach to envision payment industries, that is, a framework based in literature of two-sided markets, fails to consider the formation of the market and therefore, might be inappropriate for the study of emerging technologies.[60] On the other hand, we find the emerge of the credit card serves as an allegory to understand the effect of fixed costs and critical mass, and how these may constitute initial conditions to analyse these networks.

[60] Erik Brynjolfsson "Kindle-ing Competition" (September 28, 2011) http://www.digitopoly.org/2011/09/28/kindle-ing-competition/ (accessed December 10, 2015).

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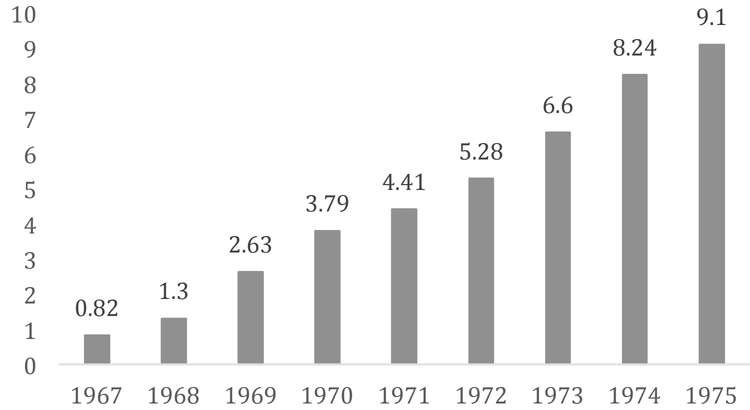
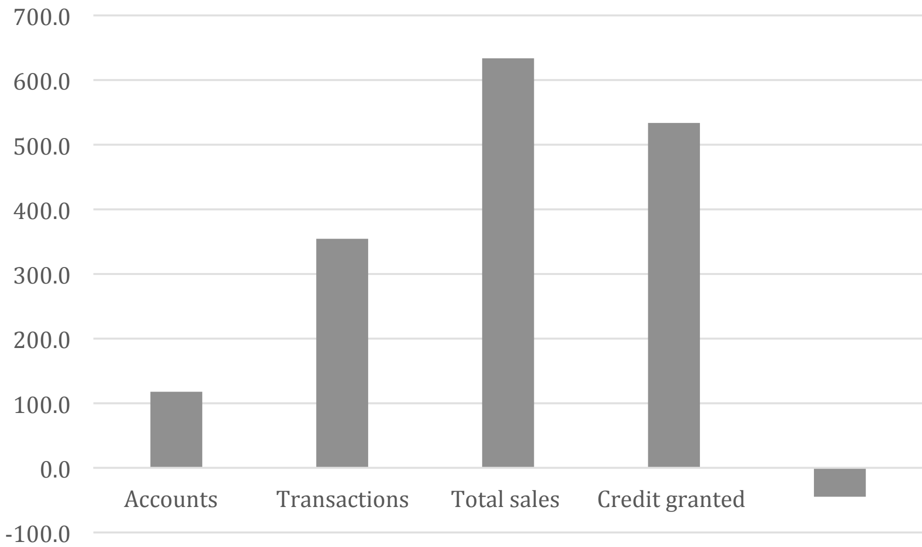
**Chart 1. Credit granted by bank-backed credit cards in the United States, billion dollars, 1967-1975.**



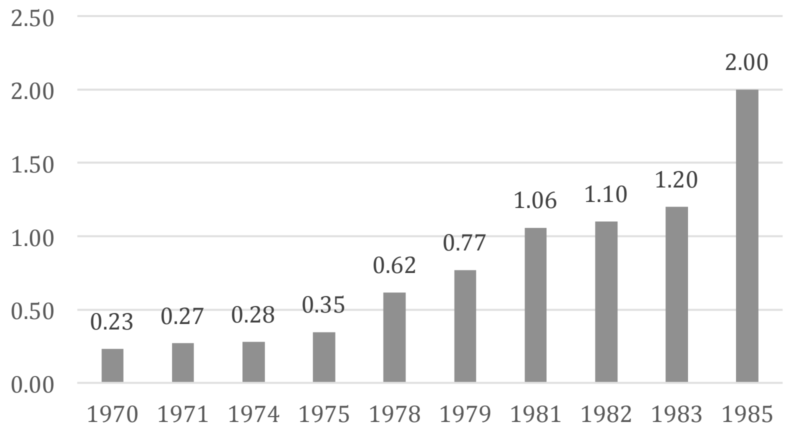

*Source*: Straw (1976) with data from the Federal Reserve.

**Chart 2. Activity of bank backed credit cards in the United States. Growth in percent, 1970-1978.**




*Source*: data from the Bank of International Settlements.

**Chart 3. Credit cards issued by Banamex in Mexico (millions), 1970-1985.**




*Source*: Archivo Banamex, Banamex Informes Anuales, 1970 to 1985.

## Table 1: Main competitors in the credit card market in selected countries, 1950-1975

| | United States | United Kingdom | Mexico | Spain |
|---|---|---|---|---|
| Pioneer (first bank-backed credit card) | *Charge-It* by Flatbush National (1947) | *Barclaycard* by Barclays (1966) | *Bancomático* by Banamex (1968) | *Eurocard* by Vizcaya (1970) |
| BankAmericard (Visa) | 1958 | Barclays (1966) | Bancomer (1969) | Bilbao (1971) |
| Interbank (MasterCard) | 1966 | *Access* (1972) | Banamex (1968) | *Eurocard* (1970)<br>*MasterCharge* (1975) |
| Other bank issued credit cards | Several local and regional throughout the 1950s and 1960s.<br>Chase Manhattan (1958).<br>Citibank *Everything Card* (1967). | *Eurocard* (1967) | Medium and small banks establish *Carnet* (1969). | *Unicuenta* (1972)<br>Savings banks' *Tarjeta6000* (1973) |
| Cheque Guarantee Cards | Introduced in the 1960s but failed to develop. Credit card becomes *de facto* cheque guarantee card. | Cheque guarantee cards issued by all clearing banks (1966).<br>All other banks accept Barclaycard as cheque guarantee card (1969). | Not applicable | *Eurocheque* (1967)<br>*Sistema 4B* (1972) |
| T & E Cards | *Diners Club* (1949)<br>*American Express* (1958)<br>*Carte Blanche* (1959) | Finders' Services (1951 – in reciprocal agreement with Diners Club from 1959).<br>Credit Card Facilities (c. 1953).<br>British Hotels and Restaurants Association card (1961).<br>FS and CCF merge into Diners Club UK Ltd (1962).<br>*American Express* (1963). | *Club 202* (1953)<br>*Diners Club* (1953)<br>*American Express* (circa 1963) | *Diners Club* (circa 1957)<br>*American Express* (1959)<br>*Telelibre* (1973)<br>*Club Melía* (1973) |
| First cash machine (first shared ATM network) | 1969<br>(1972) | 1967<br>(1983)<br>(1998 for the all-industry network) | 1972<br>(1980s for *Carnet* closed network, and 1999 for the all-industry network) | 1968<br>(circa 1979) |