The Ascent of Plastic Money:

The International Adoption of the Bank Credit Card, 1950-1975

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Abstract

This paper studies the genesis and early international expansion of the bank-issued credit card – an American innovation that quickly took hold in Western Europe. Empirical evidence undermines the proposition of a single firm building a proprietary network. In fact it was a constellation of participants who combined three characteristics, namely, a critical mass of both retail customers and retail merchants; the capacity to implement new technological solutions; and the ability to forge resilient collaborations across national borders. This evidence endorses the value of collaboration in retail financial services as means of appropriating network externalities. Moreover, other conceptual and empirical studies, especially those based on two-sided markets; neglect the greater implications that initial conditions in this industry have on long-term success.

JEL Code: E51, L5, N1, N2, N8

Keywords: Credit card, payments, cashless, two-sided markets, payment tolls, Bank of America, Barclays, Banamex, Bancomer, Banco de Bilbao, British banks, Mexican banks, Spanish banks.

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1 Introduction

In terms of business volume and cross border growth, the success of the credit card is self-evident. However, the credit card was at first a relatively specialized project for deposit-accepting financial institutions, involving substantial investment in both working capital and industry-specific assets. Naturally prudent and conservative bankers, observing the low business volume and high delinquency of bank credit card schemes in the USA, were initially cautious over investing in its infrastructure. The bank credit card's success, even its predominant role as a medium of payment, was uncertain.

The historical examples of Mexico, Spain, UK, and USA, however, suggest that banks needed three important preconditions to implement credit card schemes effectively; together they supply sufficient "critical mass" and infrastructure. First, the financial institutions in our sample were already significant players in their domestic market. Pre-established distribution networks facilitated massification. At the same time, credit relationships with large retailers favored the uptake of other merchants. Second, investments in computer technology were key to enable efficiency in operations and capturing economies of scale. A third element for the long-term success of bank-issued credit cards was due to international cooperation: staff from our sample banks regularly and actively shared resources, information and knowledge with other banks, helping newcomers to understand and handle credit card operations. Such support and advice was indispensable in securing the success of the credit card project. By documenting these three preconditions, this paper offers evidence of the transformation of a retail payment technology from a proprietary payment system into a global payments network.

We explore the drivers of a relatively homogeneous innovation, the credit card, in four very different economic climates with different legal and corporate cultures (Mexico, Spain, the UK, and the USA). Anglo-Saxon experiences have been thoroughly documented, but those elsewhere in Europe and North America lack

research attention. We compare the widely different regulatory and competitive situations in two early innovators in the financial system (UK and USA) and two early adopters (Mexico and Spain) all capitalist economies, despite their dissimilar levels of financial development.[1]

Evidence comes from banks' institutional archives,[1] 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, annual reports, together with interviews of key actors. This evidence let us explore how far differences in the competitive milieu affect the adoption of a new financial service. In this regard, it might be argued that different stages of financial development influence the timing of the adoption of a financial innovation, but our evidence suggests otherwise.

We move in this paper from discussing the conceptual and empirical issues that commonly frame research into the credit card industry, to detailed evidence of the cross-border growth of credit cards in the late 1960s and early 1970s. Our final section evaluates this evidence for future studies of the globalization of retail financial markets.

2 Embedding two-sided markets in their historical context

Studies on payment platforms, including credit cards, often rely on a conceptual framework known as two-sided markets.[2] The genesis of this research agenda was

[1] Barclays Group Archives in the UK, 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.

[2] Jean-Charles Rochet and Jean Tirole, "Two-sided markets: a progress report," *RAND Journal of Economics* 37, no. 3 (2006); Mark Armstrong, "Competition in two-sided markets," ibid.37, no. 3 (2006); Marianne Verdier, "Retail Payment Systems: What can we Learn from Two-Sided Markets?," *Communications & Strategies* 61, no. 1 (2006); David S. Evans and Richard Schmalensee, *Matchmakers: The New Economics of Multisided Platforms* (Boston, MA: Harvard Business Review Press, 2016).

validated by exploring the credit card industry in the USA.[3] Its logic runs in the following way: payment card transactions occur in a market involving several players namely, retail consumers (i.e. cardholders), their banks (issuers), merchants, their banks (acquirers), and a network operator or platform, to coordinate and set rules.[4] Two sets of end-users (customers and merchants) interact simultaneously.

Anyone can issue plastic money but its success depends on acceptance.[5] In other words, the payment card scheme that signs up the greatest number of cardholders and merchants will dominate. In this sense, paying with plastic is subject to network externalities.[6] But while retail customers prefer the card accepted by the most merchants, the latter choose the scheme adopted by the most cardholders. The irreconcilable aims of the demand and supply sides of the market characterize so-called two-sided markets, and hence their novel formalization of co-determined prices and indirect network externalities between at least two distinct groups of users, typically cardholders and merchants.

Contributors to the two-sided market research agenda point to the serious error that antitrust analysis incurs if it fails to account for the consequences of the two groups' interlinking demands.[7] According to Williams, however, empirical evidence for two-sided markets is rare and inconclusive.[8] Yet this has not deterred

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[3] Jean-Charles Rochet and Jean Tirole, "Cooperation among competitors: some economics of payment card associations," *RAND Journal of Economics* 33, no. 4 (2002); "Two-sided markets "; Armstrong, "Competition in two-sided markets"; David S. Evans and Richard Schmalensee, *Paying with Plastic: The Digital Revolution in Buying and Borrowing (2nd ed'n.)* (Cambridge, MA: The MIT Press, 2005).

[4] 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. See Verdier, "Retail Payment Systems": 38.

[5] Stephanie Bell, "The Role of the State in the Hierarchy of Money," *Cambridge Journal of Economics* 25, no. 149-163 (2001); L. Randall Wray, *Money and Credit in Capitalist Economies: The Endogenous Money Approach* (Cheltenham: Edward Elgar, 1990); *Credit and State Theories of Money: The Contributions of A. Mitchell Innes* (Cheltenham: Edward Elgar, 2004).

[6] David S. Evans, *Interchange Fees: The Economics of Regulation of What Merchants Pay for Cards* (Cambridge MA: Competition Policy International, 2011).

[7] David S. Evans and Richard Schmalensee, "Markets with Two-Sided Platforms," ed. Einer Elhauge, *Research Handbook on the Economics of Antitrust Law* (Cheltenham: Edward Edgar Publishing, 2008).

[8] Jonathan Williams, "Electronic Banking," in *The Blackwell Encyclopaedia of Management – Vol. IV Finance (3rd ed'n.)*, ed. C.L. Cooper (Oxford: Blackwell Publishing, 2015).

others from using the two-sided market framework to explore the competitive dynamics of retail payments.[9] These studies, however, have been mostly instigated by regulatory and anti-trust concerns.[10] They ignore the sunk (i.e. irrecoverable) costs of building the retail payment infrastructure. They also forget that, *ceteris paribus*, paying with plastic reduced social welfare because fees and other "tolls" inhibit parity of value in the exchange of goods and services for money.[11]

In our view, therefore, the double-sided market narrative considers the exchange of value only once the market has formed and stabilized. This suggests scanty understanding of the physical, technological and organizational infrastructure that today's retail payments ecosystem demands.[12] The preconditions for the functioning of these markets, which are often assumed, remain unexplored. Our research, however, suggests that an historical exploration of these preconditions can complement other (mostly quantitative) studies and help better understand the long-term functioning of the retail payment market. This paper thus joins others in questioning the tendency towards direct explanation from economic theory, seeking to clarify the possible long-term impact from the initial conditions for the adoption of specific technologies and industry configuration.[13]

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[9] Santiago Carbó-Valverde, Sujit Chakravorti, and Francisco Rodriguez Fernández, "Regulating Two-Sided Markets," ed. European Central Bank (Frankfurt am Main2009); James McAndrews and Zhu Wang, "The Economics of Two-Sided Payment Card Markets: Pricing, Adoption and Usage," in *Economics Research Department WP -8-12*, ed. Federal Reserve Bank of Kansas City (Kansas City MO2008); Santiago Carbó-Valverde et al., "A cost-benefit analysis of a two-sided card market," *Moneda y Crédito* 227 (2008).

[10] See for instance Santiago Carbó-Valverde, Sujit Chakravorti, and Francisco Rodriguez Fernández, "The role of Interchange Fees in Two-Sided Markets: An Empirical Investigation on Payment Cards," *Review of Economics and Statistics* 98 (2016).

[11] Bill Maurer, "Forms and Functions of Value Transfer in Contemporary Society," *Cambridge Anthropology* 30, no. 2 (2012); "The Anthropology of Money " *Annual Review of Anthropology* 35 (2006); *How Would You Like To Pay? How Technology is Changing the Future of Money* (Durham, NC: Duke University Press, 2015); Bill Maurer, Taylor C. Nelms, and Stephen C. Rea, "'Bridges to cash': channelling agency in mobile money," *Journal of the Royal Anthropological Institute* 19, no. 1 (2013).

[12] Bill Maurer, "Regulation as Retrospective Ethnography: Mobile Money and the Arts of Cash," *Banking & Finance Law Review* 27, no. 2 (2012): 28 and 31.

[13] Michael A. Cusumano, Yiorgos Mylonadis, and Richard S. Rosenbloom, "Strategic Maneuvering and Mass-Market Dynamics: The Triumph of VHS over Beta," *Business History Review* 66, no. 1 (1992); Naomi R. Lamoreaux, Daniel M. G. Raff, and Peter Termin, "Beyond Markets and Hierarchies: Towards a New Synthesis of American Business History," *American Historical Review* 108, April (2003); Andrew

3 The Dawn of the Bank Credit Card Business Model

3.1 Forerunners and early offspring

3.1.1 Pioneers in the US

The history of credit cards in the USA, in its several stages, is intimately linked to changes in consumption habits.[14] There is some agreement that points its roots in the instalment credit programs to finance large purchases that became popular between the wars, while in the late 1940s charge cards and roll-over credit widened in popularity.[15] Retailers would typically sell at one price for cash and a higher price for credit. Proprietary or cooperative card agreements were offered by retailers to increase sales and loyalty, but not to make profit per se.[16]

The new travel and entertainment (T&E) cards which allowed non-cash on-the-spot payments to many retailers, differed from previous charge cards by being exclusively profit-making. T&E cards for the Diners' Club (from 1950) spread to Mexico in 1953 and Spain in 1957, whereas American Express (from 1958) followed in 1959 and 1963, respectively.[17]

Mair, "Learning from Honda," *Journal of Management Studies* 36, no. 1 (1999); Stan J. Liebowitz and Stephen E. Margolis, "The Fable of the Keys," *Journal of Law and Economics* 33, no. 1 (1990); Brendan McSweeney, "Hofstede's Model of National Cultural Differences and Consequences: A Triumph of Faith - A Failure of Analysis," *Human Relations* 55, no. 1 (2002).

[14] Louis Hyman, *Debtor Nation: The History of America in Red Ink (Politics and Society in Twentieth-Century America)* (Princeton, NJ: Princeton University Press, 2012).

[15] Strictly a charge card does not charge interest, whereas a credit card does but in common usage both terms were synonymous. See Timothy Wolters, "'Carry Your Credit in Your Pocket': The Early History of the Credit Card at Bank of America and Chase Manhattan," *Enterprise & Society* 1, no. 2 (2000): 317.

[16] "'Carry Your Credit in Your Pocket': 321.

[17] On Mexico, see J. R. Forston, *El dinero de plástico : historia del crédito al consumidor y de los nuevos sistemas de pago en México.* (México. D.F. : J.R. Fortson Editores y Carnet, 1990). American Express had an office in Barcelona as early as 1923 (*ABC* Madrid, 21 September 1923: 27) and began to offer its credit card in 1959 (*ABC* Madrid, Noticiario – Blanco y Negro, 13 September 1958: 105). The earliest mention of Diners' Club in Spain was found in an advertisement dated 30 March 1957 – (*ABC* Madrid: 8).

In response, some banks competed with the large retailers by issuing their own charge account cards.[18] Like T&E cards they had no revolving credit and were payable in full. Several US banks tried to introduce charge account programs throughout the 1940s and 1950s but failed because of high start-up and operational costs; only 27 of the 100 or so US schemes launched after 1947 were still viable in 1958.[19] New England bankers' adoption of charge cards was noted as "intentionally … cautious".[20] But the actual reason was the legal limits on banks' geographical growth ensuring the collapse of charge card projects before they could reach critical mass. Indeed, the few bank charge account schemes that were successful in the late 1950s all limited their credit to small and medium-sized local retailers. In this regard, new research has challenged perceived wisdom in re-evaluating the importance of charge accounts for US banks' adoption of credit card programs .[21]

At the end of 1963, one estimate of the US consumer credit market placed it $69,890 million dollars, of which $22,199 million (32%) was reserved for automobiles and only $5,871 million (8%) for charge cards – the latter comprised $4,456 million to diverse retail stores, $895 million to department stores, and $520 million to bank charge cards.[22] This was to change by 1970, when large US banks had ventured into credit cards. Some, notably Bank of America, San Francisco, California, and the network built around Interbank, had been successful but not all, chiefly Chase Manhattan and the First National City Bank (today Citibank), both based in

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[18] In 1951 Franklin National Bank, Long Island, New York, at one point the 20th largest bank in the USA, launched its own credit card project. It is recognized as the first true bank credit card because it used sales slips (that would be processed as checks) rather than script drafts.

[19] David L. Stearns, *Electronic Value Exchange: Origins of the Visa Electronic Payment System*, (London: Springer-Verlag, 2011): 18.

[20] Robert W. Pullen and Frederick D. O'Connell, "Supplement to Bank Credit Card and Related Plans," in *New England Business Review*, Federal Reserve Bank of Boston (Boston, MA1966): 2.

[21] Sean H. Vanatta, "Charge Account Banking: A Study of Financial Innovation in the 1950s," *Enterprise & Society* (forthcoming).

[22] Crowther Committee Report on Consumer Credit (1971): 573. Other major items included $13,766 million of other consumer goods, $3,389 million of repair and modernization loans, $14,391 million of personal instalment loans, $5,959 million of single-payment loans, $4,315 of service credit to medical, public utilities and others.

New York City.[23] Although Citibank's project lasted many years, like Chase, it eventually foregoes going at it alone and joins MasterCard.

Two "national interchange credit card plan(s)"[24] were born in the 1960s and built around two different business models: BankAmericard (Visa International from 1977) and Interbank (named MasterCharge in 1969 and MasterCard from 1979).[25] National interchange meant a bank credit card plan covering the USA after almost twenty years of fragmented experimental local or regional single-bank charge card plans.[26] Fragmentation, on the one hand, would have helped with franchising, since member banks would not, at least initially, compete with each other. On the other, it also meant that, given the fragmented nature of US banking in the mid-twentieth century, bank credit cards remained a local solution until the 1980s.

The pioneering credit card scheme of Bank of America had to overcome the operational shortcoming and negative attitudes among other banks to charge accounts. It allowed, among other things, economies of scale and widespread consumer adoption by credit-worthy consumers, while rivalling revolving credit offerings by large department stores and overcoming consumer perception that credit was a working-class expedient. It revealed the benefits of franchising to uninitiated and skeptical bankers, linked unfamiliar consumer credit to established banking practices, dealt with state restrictions on the interest rates on consumer

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[23] On August 1966 at the insistence of Marine Midland Bank (Buffalo, New York), 14 major banks banded together with the explicit purpose of competing with the syndicate behind BankAmericard. These banks included four from California (the largest competitors of Bank of America, which in 1967 established the California Bankcard Association), four from Chicago and the rest from other parts of the USA. Source: "Association for the National Interchange of Bank Credit Cards Under Discussion", *American Banker*, August 18, 1966: 1 and Wolters, "'Carry Your Credit in Your Pocket': The Early History of the Credit Card at Bank of America and Chase Manhattan": 336.

[24] Andrew P. Hartman, "The economic impact of the bank credit card on the banking and merchant community of Great Falls, Montana" (University of Montana, 1967): 4.

[25] Christine Zumello, "The 'Everything Card' and Consumer Credit in the United States in the 1960s," *Business History Review* 85, no. 3 (2011); Sean H. Vanatta, "Citibank, Credit Cards, and the Local Politics of National Consumer Finance, 1968–1991," ibid.90, no. 1 (2016).

[26] Zumello, "The 'Everything Card'": 554.

loans chargeable by local banks, and advised merchants on sales promotion and the purchasing of equipment.[27]

Yet the long-term success of the bank credit card is manifest.[28] Aggregate data also corroborates the increased use of bank credit cards. Chart 1 portrays the growth and subsequent expansion of such cards in the US after the entry of Bank of America and Interbank as a multi-bank project; it also illustrates the growing advances to bank credit cards from 1967 to 1975, from $820 million to $9.1 billion.

[Insert Chart 1 around here]

Chart 2 illustrates the growth of credit card activity in the US between 1970 and 1978. Interestingly, in this period accounts grew 355%; sales using bank backed credit cards, 633%; and credit granted using them, 533%. These magnitudes suggest that there was greater growth in the intensification of activity (i.e. the use of the card) than in the number of accounts. These data also show delinquency declining during this period, implying some form of organizational learning and more resilient systems in awarding credit (despite the mass mailing of "live" cards).[29] `

[Insert Chart 2 around here]

3.1.2 United Kingdom

Since their late seventeenth century origins, financial intermediaries working in British retail banking markets have experienced sustained and continuous

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[27] Vanatta, "Charge Account Banking"; Stearns, *Electronic Value Exchange*.

[28] Wolters, "'Carry Your Credit in Your Pocket'": 317. The same source also notes that in 1970 and after limited success in licensing the BankAmericard for several years, Bank of America joined the newly created, member-owned National BankAmericard (NBI), which in 1977 changed its name to Visa International. On NBI see Stearns, *Electronic Value Exchange*.

[29] Vanatta arrives at an opposite assessment while arguing that the growth of the credit card accompanies significant increases in delinquent accounts. See Sean H. Vanatta, "Making Credit Convenient: The Political Economy of Bank Credit Cards in Postwar America" (Princeton University, forthcoming).

change.[30] By 1911, a process of amalgamation left some 80% of deposits in the hands of five banks (Midland, Barclays, Lloyds, Westminster, National and Provincial). These, plus some six others, controlled access to the check clearing system, hence the name 'clearing banks'.[31] Amalgamations also had the effect of providing clearing banks with a national web of offices and retail bank branches.[32] By the 1960s, Barclays was the largest clearing bank in terms of total assets, spearheading international diversification and the adoption of computer technology.[33] As the case of the credit cards shows, Barclays was also trail-blazing new products and services to the mass retail finance market in Britain.

Before the advent of the bank credit card, British consumers had access to charge cards, but as late as 1971 there was "…no statistic available on them or information on the trades and their issuers. They [were] it appears more in the catering trades than in the retailing of goods."[34] In other words, charge cards in the UK were largely T&E cards.[35]

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[30] See for instance Lucy A. Newton, "The birth of joint-stock banking: a comparison of England and New England in the nineteenth century," *Business History Review* 84, no. 1 (2010); Bernardo Bátiz-Lazo and Peter Wardley, "Banking on Change: Information Systems and Technologies in UK High Street Banking, 1919-1969," *Financial History Review* 14, no. 2 (2007); Peter Wardley, "The Commercial Banking Industry and its Part in the Emergence and Consolidation of the Corporate Economy in Britain before 1940," *Journal of Industrial History* 3, no. 2 (2000); Richard Davies et al., "Evolution of the UK banking system," *Bank of England Quarterly Bulletin*, no. Q4 (2010); David Kynaston, *The City of London*, vol. I (1815-1890) (London: Pimlico, 1994).

[31] Access to the clearing system was one of the main barriers to access the British market for retail finance. After 1970, the National Giro Bank and the Co-operative Bank joined the clearing system. Other participants in British retail finance included insurance companies, building societies, trustee savings banks and hire purchase companies. Introductory texts in this matter include J. Howells and J. Hine, *Innovative Banking: Competition and Management of the Network Technology* (Cornwall: TJ Press (Padstow), 1993); Peter Howells and Keith Bain, *Financial Markets and Institutions (4th edition)*, (Harlow: Pearson Education, 2004); Shelagh A. Heffernan, *Modern Banking* (Chichester: John Wiley & Sons, 2005).

[32] Lucy A. Newton and Victoria Barnes, "How far does the apple fall from the tree? The size of English bank branch networks in the nineteenth century," *Business History* (2017-forthcoming); David J. Jeremy, *A Business History of Britain, 1900-1990s* (Oxford: Oxford University Press, 1998).

[33] See for instance Ackrill and Hannah, *Barclays*; Ian Martin, "Britain's First Computer Centre for Banking: What did this Building Do?," in *Technological Innovation in Retail Finance: International Historical Perspectives*, ed. Bernardo Bátiz-Lazo, Joan Carles Maixé-Altés, and Paul Thomes (London: Routledge, 2011); "Too Far Ahead of its Time: Barclays, Burroughs and Real-Time Banking," *IEEE Annals of the History of Computing* 34, no. 2 (2012).

[34] Crowther Committee Report on Consumer Credit (1971): 519.

[35] Monopolies and Mergers Commission, *Credit Card Franchise Services*, (HMSO, 1980): 10.

The first T&E card in Britain was launched in 1951 when Finders' Services, a company offering support to professionals, diversified into this market.[36] A second similar company, called Credit Card Facilities, began in 1953. Finders' Services signed a reciprocal agreement with Diners' Club in 1959.[37] At a stroke, Finders' expanded the number of establishments accepting its card and available to its 19,000 cardholders from 850 to 35,000 – although the expansion was mostly overseas.[38] Finders' charge card operations, plus those of Credit Card Facilities, merged to become Diners' Club UK Ltd in 1962.[39] The following year, American Express began operating in the UK and, by 1967, its card was being promoted by Lloyds Bank and Martins Bank.[40] Other T&E and store cards available in Britain had smaller business volume.

Meanwhile, although a number of events had kept British banks outside the mortgage market, they were (directly) involved in consumer credit through a small amount of personal loans and indirectly, through open market operations which secured wholesale funding to hire purchase companies.[41] In this context, Barclays launch of its credit card with the support of Bank of America in 1966 was a pivotal event . A contemporary observer stated:

> "By joining the credit card business the British banks, with their enormous prestige, have brought credit card business (in whatever variation) in from the cold."[42]

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

[37] "Credit Card Controversy", *Financial Times* 27 June 1960: 8 and 13.

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

[39] "Issue Comment: Diners' Club", *Financial Times* 16 April 1964: 16.

[40] *Credit Card Franchise Services*: 8.

[41] On the evolution of the UK mortgage market, see G. Davies, *Building Societies and their Branches: A Regional Economic Survey* (London: Fianey & Co., 1981). The so-called "secondary banking crisis" of 1973 led to the demise of most independent hire purchase companies, which were acquired by clearing banks. See R. Pringle, *A Guide to Banking in Britain* (London: Methuen & Co., 1973).

[42] "New Phase in Britain's Bank Revolution", *Banking* 1 June 1966: 45.

The quotation suggests that before Barclays' initiative, bank credit cards were largely a US phenomenon. It is not clear whether the British approached the Californians or *vice versa*.[43] The fact remains that Barclays was the first UK bank to embrace the full potential of credit cards, while Bank of America saw the agreement with Barclays as a chance to license its credit card system and expand abroad.[46] Barclays' balance sheet was smaller in assets than the American but not in numbers of branches. Barclays employed 54,905 people domestically (33% of all its staff and 6% of those employed in the UK's financial services), and had 3,215 branches in the UK (mostly in England and Wales), representing 65% of Barclay's total and 23% of all British bank branches.[44]

When Barclays negotiated an exclusive franchise from Bank of America at the end of 1965, a small team was set up to plan a UK launch under the Barclaycard brand.[45] Except for minor amendments to allow for different postal codes and Imperial measures, Barclays adopted the business and organizational model of the California bank. In six months 30,000 establishments had signed up, mainly small and medium-sized stores. Larger retailers had their own credit schemes (and did not want to pay Barclays' service charge of 3%- 5%).

Early promises to retailers to publish the name and address of the 30,000 shops accepting Barclaycard led to what is still believed to be one of the largest ever press advertisements.[46] It extended over eight pages of the *Daily Mail* on 29 June 1966. By the end of 1966 Barclays had passed the milestone of 1 million card holders, thanks to its acceptance by the British adult population.[47] Note that it grew despite

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[43] Ackrill and Hannah, *Barclays*: 185-89.

[44] Data for 1970 were sourced in Ackrill and Hannah, *Barclays*: 396 and 99.

[45] Before 1977, international credit cards carried unique names such as *Chargex* in Canada, *Carte Blue* in France and *SumimotCard* in Japan.

[46] Bernardo Bátiz-Lazo and Nurdilek Hacialioglu, "Barclaycard: still the King of Pla$tic?," in *Exploring Corporate Strategy: Text and Cases (7th ed'n.)*, ed. Gerry Johnson, Kevan Scholes, and Richard Whittington (London: Prentice Hall/Financial Times, 2005).

[47] As with merchants, data on the size of the consumer base would also be prone to exaggeration. This was evident in the internal data of inactive cards. Double counting of subsidiary cards (i.e. more than one card per household) was not so much of an issue, at least in Spain and Mexico where card companies targeted male heads of family. Evidence of delinquency cards in the Bilbao suggests there

being effectively the same as other British charge cards because the Bank of England allowed roll-over credit until 1967.[48]

Other large British banks reacted by launching check guarantee cards as part of the six-country consortium meant to integrate national check card systems (i.e. Eurocheque).[49] Indeed, in 1966 other large British banks "were not convinced that credit card operations in [the UK] would prove commercially successful ([given the] losses … incurred by many USA banks)".[50] But soon after they changed their mind. In 1970 these same banks appointed a working group to produce an alternative to Barclaycard, branded Access, which materialized in 1972 under the aegis of the newly named MasterCharge.[51] British credit cards were thus firmly based on US predecessors.

3.1.3 Mexico

Mexico and Spain also provide exemplary stories of the process of adopting bank credit cards. At the time, both countries had enjoyed a period of sustained economic growth, when their banking systems had expanded. Moreover, a rapid increase of urban population in both countries also contributed to the retail banking environment.[52]

In Mexico, the sum of commercial banks' assets totaled 16.5% of GDP in 1959, rising to 32% of GDP in 1970. It was a relatively stable and profitable industry. It was

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were two to four females per every 100 cardholders. These data should also be taken with care since the methodology for identifying and completing case studies for delinquent cards is unknown (source: Archivo Histórico BBVA, caja 355, carpeta 2, subcarpeta 1: "Análisis estadistico pasados a mora").

[48] Ackrill and Hannah, *Barclays*: 189.

[49] Patrick Frazer, *Plastic and Electronic Money: New Payment Systems and their Implications* (Cambridge: Woodhead-Faulkner, 1985): 265-6.

[50] *Credit Card Franchise Services*: 8 and 9.

[51] In 1972 Lloyds, Midland, National Westminster and William & Glyn's established the Joint Credit Card Company (JCC) to organise advertising, publicity, recruit merchants and carry out all card-issuing and processing tasks, including authorisation calls, for the Access credit card. Access was affiliated to Eurocard in 1973 and to MasterCharge in 1974. Source Frazer, *Plastic and Electronic Money: New Payment Systems and their Implications*: 240-1.

[52] In 1960, the urban population in Mexico was 50.7% of the total, 56.6% in Spain and 69.9% in the US, whereas in the UK it was 78.5%. Source: World Bank, http://data.worldbank.org/indicator/SP.POP.TOTL (accessed 15 December 2016).

also highly concentrated: the four largest banks accounted for 50% of the banks' loan portfolio and only the two largest banks had a meaningful national presence; the remainder were distributed in about other 90, mostly regional, banks. Banking laws in Mexico prohibited the operation of foreign banks (except for Citibank, which could not open branches). However, some banks had international financial intermediaries or individual foreign residents as shareholders. Moreover, larger banks had financial relationships with international banks, as well as representation in financial centers in several countries.[53]

Between 1950 and 1970 Mexican retail banks implemented a policy to deliver their services to a mass market, largely in response to the growth of cities and the urban middle class. In 1965, when the biggest banks in terms of assets brought in their first computers, digitized operation started;[54] this move paved the way for credit cards.

The bank credit card in Mexico was introduced earlier than in other Latin American countries; the first of them in the region came in January 1968 from Banco Nacional de México (Banamex), then the largest Mexican bank in terms of assets.[55] The card was branded Bancomatico and affiliated to the Interbank system.[56] In June 1969, its main rival, Banco de Comercio (Bancomer), then the second largest Mexican bank, launched its own credit card scheme based on the BankAmericard.[57] Two months later, a syndicate of mid-size banks introduced Carnet, a third card, to

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[53] Gustavo del Ángel "La paradoja del desarrollo financiero de México," in *Historia Económica General de México*, ed. Sandra Kuntz (México , D.F.: El Colegio de México & Secretaría de Economía, 2010).

[54]Gustavo del Ángel, "Computerization of commercial banks and the building of an automated payments system in Mexico, 1965-1990," in *Technological Innovation in Retail Finance: International Historical Perspectives*, ed. Bernardo Bátiz-Lazo, Joan Carles Maixé-Altés, and Paul Thomes (London: Routledge, 2011).

[55] 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 in the world. In Latin America, only Banco do Brasil, a large state-owned bank, was larger. See Del Angel, 2002.

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

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

Mexico.[58] These three cards have since defined the country's credit card market; led until recently, by Banamex's Bancomatico.

3.1.4 Spain

During the 1960s, the Spanish banking industry increased its penetration in the economy from 53% in 1960 to 75% in 1970, measured as the ratio of deposits of banks and savings banks to GDP. [59] The seven major banks dominated the market and had branches in most regions. Their headquarters were in Spain's financial centers, Madrid and such northern cities as Bilbao in the Basque country and Santander in Cantabria. Madrid-based banks dominated the retail financial market, while the Bank of Bilbao (established in 1857) had a market share of 10% in 1975, when the Banco de Vizcaya (established in 1901) had a 6% stake. As in other countries, the financial system was operated chiefly by Spanish institutions, many having business links with international banks.

Launched in December 1970, Eurocard, Banco de Vizcaya's MasterCharge-backed scheme, was Spain's first credit card. In June 1971, the other bank of importance in the region, Banco de Bilbao, launched its credit card, based on BankAmericard. [60] Banco de Bilbao then had 422 branches, 10% of all the branches of Spanish commercial banks.[61] This network extended across every province and

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[58] 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).

[59] José Luis García-Ruiz, "The Fall of the Madrid Big Banks (1960-2000): The Role of Innovation (Technological and Financial)," in *World Business History Conference* (Frankfurt am Main2014).

[60] José María Tobar, a senior executive at Banco de Bilbao who was instrumental to the project, visited the USA in 1963. He returned with news of the use of computers and the success of BankAmericard in California. This in addition to the long-established relationship of Santiago Zaldumbide, Director of Foreign Services (Director del Servicio Extranjero), led to an agreement in 1969 between the Bilbao and Bank of America when the Bilbao's New York office opened – Interview with José María Tobar by B. Bátiz-Lazo, Bilbao, 3 June 2015. The meeting with Bank of America in New York was secret. There was no evidence in the archives that the Bilbao's directors were aware of any plans by the Vizcaya to launch the Interbank-backed Eurocard.

[61] Data in this paragraph were sourced from *Informe Annual*, Banco de Bilbao, 1971. Two exceptions remain, namely, Huesca and Pontevedra.

provincial capital, giving the bank access to a potential market comprising 84% of the whole population and 88% of total income.

The early performance of Vizcaya's Eurocard was mediocre. For instance, at the end of 1972, the card was accepted by 17,000 merchants and carried by 18,000 cardholders while its rival had 18,000 merchants and 360,000 cardholders.[62] It did no better throughout the next ten years; in spite of its pioneering advantage, Bilbao's card dominated the market.

By 1980, the Bilbao and other small Spanish banks had 2.3 million Visa cards in circulation, with annual turnover of 28 billion pesetas.[63] Meanwhile, MasterCharge took hold in Spain when Banca Catalana formed the Agrupación Española de Tarjetas de Crédito in 1975 from 15 small regional banks.[64] In 1980, MasterCard had 250,000 cardholders and 3 billion pesetas turnover while Vizcaya's Eurocard had 100,000 cardholders and 4 billion pesetas in turnover.[65]

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

The emergence of today's dominant players in the global retail payments market was rather gradual and markedly staged. 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 the UK in 1966 and 1972, Mexico in 1969 and 1968, and Spain in 1971 and 1970, respectively. This progression involved significant investments, including sunk (i.e. irrecoverable) costs, and decisions to cooperate in otherwise competitive markets. Deciding to

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[62] 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, 7 April 1973.

[63] Hall, W. "Credit cards start a quiet revolution", *Financial Times,* 23 March 1982: VIII.

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

[65] In 1979 MasterCharge rebranded as MasterCard. Hall, W. "Credit cards start a quiet revolution", *Financial Times,* 23 March 1982: VIII.

adopt the credit card, an unproven product, of marginal importance to profitability, beyond the USA, were not easy, especially in countries such as Mexico or Spain where income levels and middle-class populations were clearly below those of the US and Britain.[66] However, it offered the possibility of displacing cash by inserting banks between merchants and card users during exchanges of value. This opened an opportunity for fee income generation. Admittedly, in the 1960s fee income was a minor item of most retail banks' profit & loss, but the introduction of the credit card should be seen as part of a broader move beginning in the late 1950s to diversify banks' product offering in Western Europe and North America.

Although the credit card project worked well for many banks, 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 then managing director (later CEO) of the Bilbao, José Ángel Sánchez Asiaín, had to threaten resignation before the Board would approve the project.[67] In Mexico Manuel Espinosa Yglesias, Bancomer's CEO and President, was not convinced even in 1969 of its soundness. However, competitive pressure from Banamex's innovation forced Bancomer to respond.[68]

Table 1 below summarizes the state of play in four competitive environments when financial institutions first launched their cards. Evidence suggests customers, regulators and banks knew something of payment cards through their experience of indigenous T&E cards and the efforts by American Express and Diners' Club to build cross-border payment platforms.

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[66] Archivo Histórico BBVA, Tobar, J. M. (2006) *El lado humano de Wall Street: 50 años después, 1956-2006,* mimeo. Contemporary studies also note that before the regulatory changes of the late 1970s and early 1980s, the bank credit card was aimed at high-income and middle-class customers in the USA. See for instance Robert Harris Flashman, "The effects of consumer education of low-income consumers' attitute toward credit and their use of a bank credit card." (Ohio State University, 1976); Mark John Gieser, "Motives and models of credit card use" (University of Southern California, 1989); Zumello, "The 'Everything Card'": 554.

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

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

[Insert Table 1 around here]

Source: authors, based archival sources in addition to *Hemeroteca ABC, Financial Times, The Times*, Frazer , Pullen & O'Connell , Stearns, and Weistart .

As mentioned, foreign licensees replicated the business and organizational models of the US banks. For example, unlike the international norm hitherto, Bank of America and each foreign adopter of BankAmericard and Interbank set up a card organization that was always a subsidiary, that is, an organization focused on credit card operations, semi-detached from the main bank but consolidating its financial results. This move not only limited the possible credit exposure of the parent company to the capital of the subsidiary, but further suggested that the credit card project had to be profitable in its own right.[69] Banks sent staff to the USA, especially California, to observe first-hand the workings of US banks.[70] We also found frequent, multilateral, and intense exchange of ideas amongst executives of the growing international licensees of BankAmericard. These took shape in many forms including letters, annual and semi-annual meetings, as well as sharing of newsworthy articles sourced in English speaking newspapers and magazines such as *The Wall Street Journal, Financial Times,* and *The Economist.* The latter were often translated into Spanish (or English) for them to have a wide internal readership at the recepients' bank.

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. These at a time when most Western European banks were

[69] George Ritzer, *Expressing America: A Critique of the Global Credit Card Industry* (Thousand Oaks, CA: Pine Forge Press, 1995).

[70] A pre-launch visit was made in 1963 by José María Tobar from Bilbao to Bank of America (Archivo Histórico BBVA: Banco de Bilbao, José María Tobar, "Viaje a Estados Unidos e Inglaterra. Informe-resumen ante la Comisión Permanente" (1 April196). 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, *Barclays*: 186.

adopting computer technology to support check clearing and accounting functions such as payroll.[71]

Meanwhile in Mexico, in a sign of modernity Banamex leveraged the introduction of its credit card by giving it the same name as its computer center, established in 1966: Bancomatico.[72] Before signing up with Interbank, Banamex had tried to introduce an established US credit card scheme. Hence, Banamex staff had negotiated with major banks in New York City, specifically Chase Manhattan and First National City Bank (today Citibank) as well as Bank of America in California. However, Banamex considered the payment demanded for brand name, knowhow and opportunities for international clearing too high; instead they formed a loose alliance with Interbank while developing computer systems in-house with the co-operation of external IT consultants.[73]

Typically, foreign banks adopted the BankAmericard in exclusivity for their country. This exclusivity turned out to be significant for making Banco de Bilbao and Barclays the single biggest acquirers in Spain's growing domestic credit card market for the next two decades.[74] Exclusivity also brought competitive responses from other domestic banks joining Interbank – which encouraged the formation of locally shared licences, creating very different incentives for interbank cooperation, together with different organizational hierarchies linking member banks.[75]

The bank-issued credit card unquestionably marks a turning point in retail payments. Most countries observed an explosion in the number of new domestic entrants into "paying with plastic" following widespread signing up to either BankAmericard or Interbank. For instance, competitors to Barclaycard in 1972

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[71] Bernardo Bátiz-Lazo, Joan Carles Maixé-Altés, and Paul Thomes, *Technological Innovation in Retail Finance: International Historical Perspectives* (London and New York: Routledge, 2011).

[72] del Ángel, "Computerization of commercial banks and the building of an automated payments system in Mexico, 1965-1990."

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

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

[75] We appreciate the comment by an anonymous reviewer making this point.

included Air Travel Card, Hertz Card, Avis Card, Harrods Card, Blue Star Garages and of course, Eurocheque, Access/Interbank, American Express and Diners' Club (49% owned by NatWest, another large British retail bank).

The introduction in Mexico of a third bank credit card, amidst competition between Banamex and Bancomer, is another example of multiple entrants jockeying for position. As noted above, ten Mexican banks jointly established Promoción y Operación S.A. (Prosa) in August 1969 to coordinate the launch and operation of a third credit card scheme, Carnet, supplementing those of Banamex and Bancomer. Although a couple of the banks behind Prosa operated nationwide retail branch networks, their directors could not guarantee sufficient business volume to move independently into credit cards and joined forces in order to meet the sunk costs of the system. Interestingly, records show that Banamex helped to set up Prosa and develop its computer system. This action suggests that after Bancomer brought the BankAmericard to Mexico, Banamex followed a "divide and conquer" policy. Although the banks behind Carnet generated enough business volume for their card scheme to remain viable for decades afterwards, Carnet was accepted only in Mexico.[76] Consequently, it remained a proprietary network, never challenging the global ambitions of BankAmericard or Interbank.

Table 1 also shows that the Bilbao's competitors in Spain in the early 1970s included Banco de Vizcaya's Eurocard/MasterCharge, the savings banks' Tarjeta 6000, a MasterCharge card launched by Banca Catalana and a consortium of 15 other mid-sized banks, and Banco Industrial and Mercantil's Unicuenta. These co-existed with check guarantee cards (Eurocheque and Tarjeta 4B) and such T&E cards as American Express, Diners' Club, Telelibre (issued by the state telephone monopoly Telefónica), and Melia Club (issued by travel group Melia with financial support from Banco Coca). State-owned petrol stations and highway tolls refused the Bilbao card, unwilling to pay the large discounts. Some department stores, for example, Sears and El Corte Inglés, had their own cards. But given the early acceptance of the Bilbao card

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

by the El Corte Inglés and its large network of stores across Spain, other large retailers (such as Galerias Preciado) and smaller merchants began to accept the Bilbao's card.[77]

The early move of the Bilbao into credit cards was remarkable, considering the highly conservative environment that otherwise characterized Spain in the late stages of Franco's regime. In fact, the Bank of America had Banco de Santander as its main partner and correspondent there. However, this and other large Spanish banks showed no interest in inaugurating a credit card.[78] Soon after, Santander and the then biggest Spanish bank, Banco Español de Crédito (Banesto)[79], for reasons that are unclear, attempted, albeit in vain, to persuade the Bilbao to share the franchise of BankAmericard in Spain, apparently with support from the Bank of America. Instead Santander joined Banesto and the two other biggest Spanish banks (Central and Hispanoamericano) to launch a check guarantee card in 1974 (branded Tarjeta 4B), hoping that personal checks rather than credit cards were the future.[80] Unfortunately personal checks failed to generate significant business volume in Spain. Consequently the banks behind the 4B brand turned their card into a proper

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[77] 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-owned railway company Renfe, airline Iberia and Galerias Preciado. Source: Harris, S. "Rival Groups Locked in Confused Fight for Market Share", *Financial Times*, 13 April 1984: 20.

[78] José Victor Arroyo Martín, "Los origenes de la tarjeta de crédito bancaria en España, 1970-1980," ed. Archivo Histórico BBVA (Bilbao2006).

[79] According to Javier Pueyo Sánchez, "Oligopolio y competencia en la banca española del siglo XX: concentración económica y movilidad intra-industrial, 1922-1995," *Revista de Historia Económica* 1 (2003)., between 1922 and 1975 the two largest northern commercial banks, Bilbao and Vizcaya, each had approximately 10% of total retail deposits. His estimates for Banco Español de Crédito (Banesto) suggest 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% but this grew to 6% in 1975. Meanwhile, the biggest savings bank, la Caixa, had 15% of total deposits in 1975.

[80] 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. Frazer, *Plastic and Electronic Money: New Payment Systems and their Implications*: 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* 1 June 1966: 44).

credit card in 1979 and joined the newly created Visa Spain (at the same time using their card to activate their new ATM network).[81]

Spanish and Mexican regulators appeared indifferent to the credit card project, whereas the USA had passed regulations following problems relating to fraud and mounting losses at Illinois banks stemming from the mass mailing of unsolicited "live" cards. The hearings around the Truth-in-Lending Act (1968) exposed such practices and generated momentum for their prohibition in 1970. These hearings also introduced cardholders' limited liability for lost and stolen credit cards.[82]

Similar debates developed in the UK. The initial concern in Britain was to limit the growth of credit card schemes allowing foreign cash withdrawals to circumvent currency controls.[83] Credit cards later figured in the internal British debate about the effects of personal credit on inflation and informed the passing of the Consumer Credit Act 1974 (which, to bankers' displeasure, introduced the Annual Percentage Rate or APR, and supervision of personal credit transactions by the Office of Fair Trading).

3.3 Customer selection as the foundation of a global network

Credit cards issued by retail banks emerged alongside such innovations in retail financial services as check guarantee cards, personal loans, hire purchase (instalment credit), overdrafts, travelers' checks, early forms of electronic transfer,

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

[82] In the US, until the amendments to federal regulations of 1970 the credit card industry itself and the legal relationships that it created remained largely unregulated. See Thomas R. Kennedy, "The Plastic Jungle," *Montana Law Review* 31, no. 1 (Fall) (1969); John C. Weistart, "Consumer Protection in the Credit Card Industry: Federal Legislative Controls " *Michigan Law Review* 70, no. August (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 expanded and continued well into 1970, when they were banned.

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

and cash dispensers.[84] The successful implementation of many of these innovations marked the transformation from extolling savings and frugality to encouraging debt and consumerism.[85] Explicitly in research by Stearns[86] and implicitly a contemporary view by Kenneth V. Larkin[87], an executive at Bank of America, marketers realized the value of access to a large middle class customer base, brand awareness, and banking relationships with merchants (preceding credit cards) as factors which help to explain the long-term success of bank-issued credit cards.

To give an idea of difference between target markets, consider that in 1966 American Express issued cards to people earning at least £2,000 p.a. ($7,500 in the US).[88] At the time, average income per capita was $4,146.30 dollars in the USA and $1,959.60 dollars in the UK (£2,032.11).[89] Credit limits of Barclaycard 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 check guarantee card from any other English bank would allow up to £30 cash withdrawal per check, while some banks limited cash machines to £10 per withdrawal (and no more than two withdrawals per month).

As in the USA, both individuals and merchants in Britain were targets of mass mailing. But to avoid the same fraud or heavy losses as the Illinois' banks had

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

[85] Ritzer, *Expressing America: A Critique of the Global Credit Card Industry*: 9; Rowena Olegario, *The Engine of Enterprise: Credit in America* (Cambridge, MA: Harvard University Press 2016).

[86] David L. Stearns, "Automating Payments: Origins of the Visa Electronic Payment System," in *Technological Innovation in Retail Finance: International Historical Perspectives*, ed. Bernardo Bátiz-Lazo, Joan Carles Maixé-Altés, and Paul Thomes (London: Routledge, 2011).

[87] Larkin, "Launching A National Credit Card."

[88] According to "Measuring Wealth" the value of £2,000 in 1966 could be as little as £30,910.00 using the retail price index or as much as £92,420.00 using an "economic power" index (http://www.measuringworth.com/ppoweruk accessed 29 November 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 29 November 2015).

[89] 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 10 December 2015).

suffered,[90] managers of retail bank branches in Britain, Spain and other foreign licensees were asked to suggest names of credit-worthy customers and merchants in their vicinity (regardless of relationship with the bank).[91] Caution paid off and despite the mass mailing of "live" cards, fraud and delinquency were significantly lower in Britain and Spain than the USA.

Meanwhile, Mexican banks faced an uphill battle to introduce the credit card. It was complex to incorporate a massive clientele in a developing economy with a weak legal system. Banamex initially offered its credit card to customers who were also members of the Rotary Club, thus pre-selecting clients with a stable income who had a credit and savings history with the bank.[92] Banamex then established a protocol to accept new (mostly male) cardholders. It envisaged covered a large segment of population: customers who for three or more years had had the same address, worked for the same company, and earned at least $5,000 pesos (US$400) per month, then a significant income level. Setting the bar high promised to capture the better off, given the skewed income distribution typical of emerging markets.[93] As in Spain, the relationship of Banamex with mid-sized and large retail businesses that had been its customers before the bank card era facilitated its adoption.

By the end of 1968, Banamex had 46,365 cards in the market and 6,378 affiliated establishments. Only 2,803 of those establishments were in Mexico City, with 3,575 dispersed in 93 cities around the country.[94] The uptake of Bancomatico was unyielding. In 1969 the Banamex network had 165,000 affiliated cards and

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[90] Kennedy, "The Plastic Jungle". Attesting to bankers' caution is the fact that we found 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.

[91] *Credit Card Franchise Services*: 55.

[92] Banamex introduced personal loans 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.

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

[94] Archivo Banamex, *Informe Anual*, 1968, 1969 and 1970.

17,500 establishments. By 1982 it had more than 1,000,000 cards and 54,665 establishments. These numbers established Banamex as the leader with a share of 45% of the Mexican card market.[95] Chart 3 shows the progress of Banamex cards in this period.

[Insert Chart 3 around here]

Like Banamex, Bancomer had built a large network of retail bank branches in Mexican cities.[96] As mentioned, presence in urban centers was essential for selecting and recruiting cardholders and retailers and the consequent success of the card.

Although the top echelons of Bancomer were initially skeptical about the credit card project, once committed, the bank pursued an aggressive marketing strategy to create awareness amongst individuals and business. There is little archival information on Bancomer's methods of selecting cardholders. But between 1969 and 1970 its marketing campaign included an alliance with the Mexican subsidiary of *Reader's Digest* magazine (*Selecciones del Reader's Digest México*), offering a free subscription to the magazine to each new cardholder.[97] Bancomer initially had fewer than 17,000 establishments affiliated in 1969. By the end of 1970, it had 24,000 which by 1973 had risen to 34,774. The number of cardholders increased from 217,000 in 1970 to 274,000 in 1974. [98]

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

[96] del Ángel "La paradoja del desarrollo financiero de México."

[97] Archivos Económicos SHCP, Excélsior 27 July 1969, Novedades 28 June 1969, folio 003201-Banco de Comercio, Archivos Económicos, Fondo Biblioteca Lerdo de Tejada-SHCP.

[98] del Ángel, *BBVA-Bancomer. 75 años de historia*.; Archivo CEEY, Bancomer, *Informe Anual*, 1970; Excélsior 1 June 1970, folio 003201-Banco de Comercio, Archivos Económicos, Fondo Biblioteca Lerdo de Tejada-SHCP.

3.4 The formation of IBANCO

The next step in building global network was to form two international hubs. Surviving business records allowed us to explore IBANCO, later Visa International. This part of the story took place around 1974.

At this time, the international network of BankAmericard had 18 principal members, all independent, domestic, proprietary credit card schemes. It had 35 million cardholders, almost 500,000 merchants and 5,700 banks worldwide.[99] Outside the USA, it had 9.3 million cardholders (5.83% of whom were in Spain), while transactions had reached 19 million in volume and 516 million dollars in value.[100] Bank of America had thus been successful in turning its proprietary credit card scheme into a payment network by persuading a number of domestic and overseas banks to adopt its business model. But a major difference was that the international licensees had no common language, legal framework, or broad business and banking climates environments (as had been the case with the US licensees).[101] The international organization thus had to extract those system elements that were truly global.

When domestic licensees established National BankAmericard Inc. (NBI) in 1970, an initial attempt was made to break away from Bank of America and form an international organization, apparently influenced by the creation of NBI. This, however, collapsed because the international "licencees failed to organise".[102] The organizational architecture was also under pressure from problems as dealing with shop floor issues and cash withdrawals using cards issued abroad.

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

[100] 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", 6 June 1974.

[101] Stearns, *Electronic Value Exchange*: 110.

[102] Ibid.

During the first quarter of 1974, 1.1 million domestic cash withdrawals were made beyond the USA, at an estimated value of 76 million dollars.[103] Some banks, like the Bilbao, were not promoting them (although it allowed cross-border cash withdrawals but only after January 1973).[104] Nevertheless marketing had led individual cardholders in many countries to believe that foreign banks would honor withdrawals on foreign cards. But since each licensee bank had signed an agreement only with Bank of America Service Corporation, in practice international withdrawals depended on an interchange agreement between the two banks concerned and telephoned authorization from the issuing bank, that is, bilateral agreements between individual members of the payment network. Each had to negotiate legal minutiae, fees for cash withdrawals charged to customers, the system for fixing the exchange rate, and the interchange fee paid by the issuing bank for allowing its customers access to foreign cash.

Clearly the future of cross border growth was bleak while the cost of setting and managing bilateral agreements threaten to spiral out of control. International member banks thus pressed Ernest J. Young, president of the Bank of America Service Corporation, to form a "universal credit card company".[105] But Young was reluctant to form a coordinating organization for Europe analogous to NBI for domestic affiliated banks. However, international banks had the support of Dee Hock, president of NBI, and other directors at Bank of America (such as Bruce Marcus). Finally Bank of America gave in to licensee pressure but only after heavyweight participants such as Barclays threatened to leave the system.[106]

IBANCO, the umbrella organization that would set rules for international licensees of the BankAmericard system, incorporated in September 1974. This organization was to be modelled on NBI, including the method of formulating the

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[103] Ibid.

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

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

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

interchange fee.[107] International licensees agreed to allow other banks to act as merchants and issue BankAmericards in their countries (but many such as Bilbao and Barclays 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.[108]

4 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 with the capacity to adopt and implement technological change and international collaboration explains the ascent of "paying with plastic".

Context specific strategies played a role in the evolving formation of its network. For instance, few writers doubt that mass mailings of unsolicited cards played an important role in establishing the bank credit card market. However, its unbridled use, resulting in significant losses, rising delinquency, and adverse regulation, led contemporary bankers to be cautious.

The so-called "no discrimination clause" through which credit card companies forced retailers to offer the same price for goods and services regardless of payment medium was another contributory factor. Most countries retained this practice until relatively recently. The "no discrimination clause" calls into question the assumption that paying with cash has no transaction cost. Moreover, it hides the fact that the

[107] During this process Ernest J. Young, as "a sworn enemy of ceding brand name or colors to international licensees" was appointed to other duties at Bank of America and replaced by Kenneth V. Larkin at Bank of America Service Corporation. Archivo Histórico BBVA caja 185 (Alta Dirección Ejecutiva), Reunion del Comité Internacional BankAmericard en San Francisco, 19 and 20 November 1973 and 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), 12 November 1973.

[108] Archivo Histórico BBVA caja 185 (Alta Dirección Ejecutiva), Reunion Sevilla, 20 September 1973. "Duality" resulted from a successful legal challenge by the US Department of Justice. See Stearns, *Electronic Value Exchange*: 109.

business model behind the credit card is aimed not only at generating interest income from roll-over credit, but also at making a bank the intermediary between individuals and retailers, 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 serves to highlight the competitive aspects of retail payments. This alternative form of plastic payment offered bankers (and potentially customers and retailers) a viable alternative technology to the credit card. During the 1960s, some attempts were made to introduce check guarantee cards in the USA. But merchants were reluctant to accept payment from bank they did not know; soon afterwards the credit card became the *de facto* check guarantee card, as it remains.[112]

However, check guarantee cards were deployed under the Eurocheque initiative, in several Western European countries, notably Germany, where it proved very popular. So it was in the UK where personal cheques had been used since the nineteenth century and the check guarantee card remained in use until 2011.

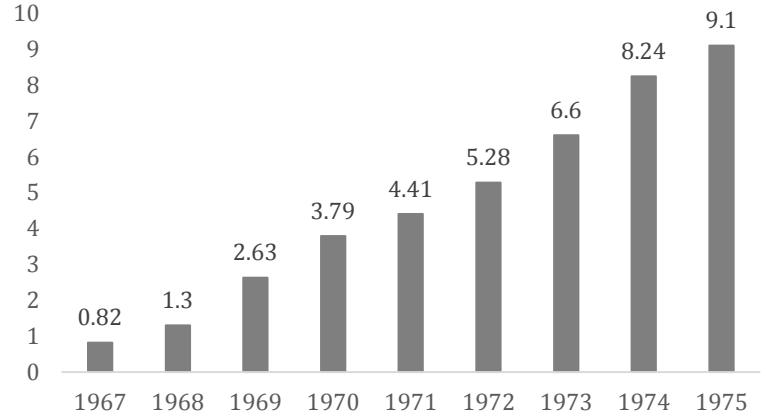
In the 1960s and early 1970s all major British banks deployed both check guarantee and credit cards. During this process Barclays cannily succeeded in having Barclaycards accepted as single plastic token that could be used both as credit card and to guarantee cheques. Of equal interest is the Tarjeta 4B check guarantee card in Spain, where personal checks were insignificant before 1970. At the heart of this business model there was a deliberate attempt to introduce a "toll" in the transfer of value by making a bank the intermediary between individuals and merchants. Meanwhile there was, to the best of our knowledge, no attempt to introduce a check guarantee card in Mexico between 1950 and 1975.

In summary, our research in this paper explains the formation of what is considered a two-sided market. For this, historical research was indispensable. This paper posits the view that the dominant approach to envisioning payment industries, that is, a framework based on the literature of two-sided markets, fails to consider the formation of the market and therefore, may require refinement for the study of

emerging technologies within the retail payments space.[109] Nevertheless, we find that the emergence of the credit card serves as an allegory for understanding the effect of fixed costs and critical mass, and the way in which these may constitute initial conditions for analyzing market networks.

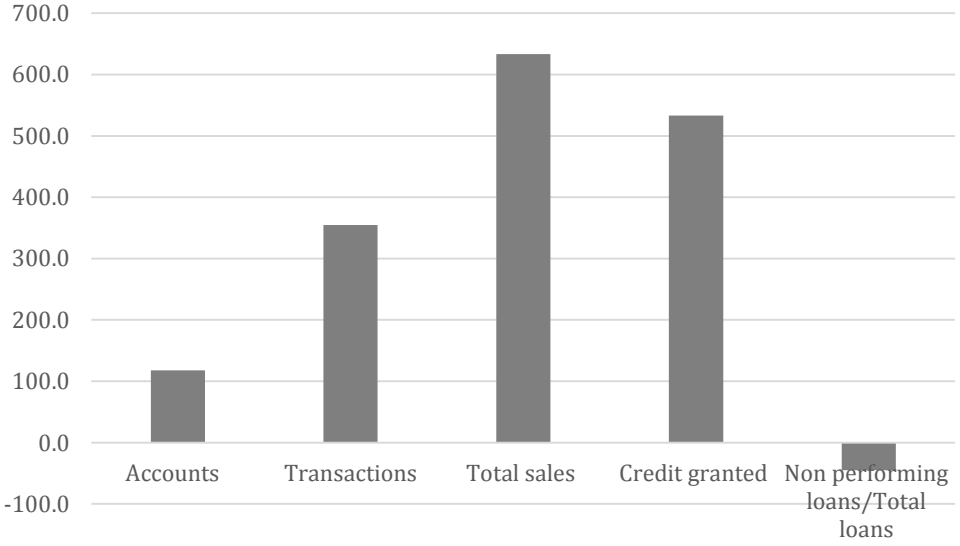
[109] Erik Brynjolfsson "Kindle-ing Competition" (28 September 2011) http://www.digitopoly.org/2011/09/28/kindle-ing-competition/ (accessed 10 December 2015).

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



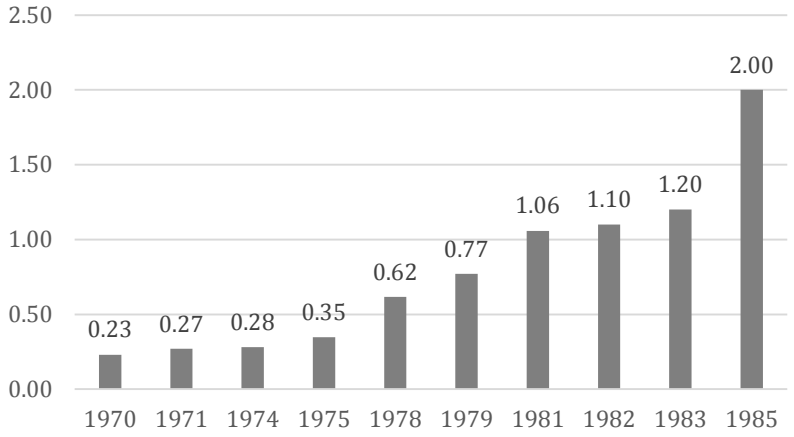
Source: with data from the Federal Reserve.

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