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INNOVATION IN FINANCIAL SERVICES
CASE STUDY: ASSET-BACKED SECURITIZATION

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I. Introduction: Asset-Backed Securitization as an Innovation

A recent *Business Week* cover story on asset-backed securitization (ABS) carried the intriguing title "A $2.5 trillion Market You Hardly Know." [1] A trillion dollars is a figure beyond our capacity to imagine. We might suspect however that it means that, despite most people's ignorance of the term, ABS affects the lives and living standards of literally millions of consumers in the U.S. and abroad. ABS is a financing technique that has emerged largely in the last ten to fifteen years and, despite its relatively low public profile, is an innovation of undeniable import for the financial services industry. Indeed, according to Leon T. Kendall, a finance professor at Northwestern University (quoted in the same Business Week article), "[ABS] is one of the most important and abiding innovations to emerge in the financial markets since the 1930's."[2]

While perhaps a bit hyperbolic, there is ample reason to accept the basic thrust of Prof. Kendall's statement. The chief virtue of ABS is that it links small borrowers such as homebuyers to the vast resources of the capital markets. As a result, ABS has dramatically reduced the cost of mortgages, practically created entirely new subsectors of the financial services industry (such as high loan to value home equity lending) and, thus far, proven itself a fairly resilient and reliable investment vehicle and funding source. Nonetheless, despite these achievements, ABS remains largely an American phenomenon. In 1998, over $272 billion in asset-backed securities were issued in the United States. The rest of the world combined saw a total issuance of only $76 billion.[3] Although other parts of the

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[1] I was not able to verify the $2.5 trillion figure, nor to determine exactly which markets and instruments Business Week was referring to. Thus figures cited elsewhere in this report may appear to contradict this number.

[2] Quoted in "A $2.5 Trillion Market You Hardly Know," Business Week, October 26, 1998, p. 123.

[3] Federal Reserve Board of Governors, Flow of Funds Report Z.1, December 11, 1998; Financial Times, January 27, 1999. For the purposes of this report, ABS follows the European usage of the term and includes Mortgage-Backed Securities (MBS).

world, particularly the United Kingdom, France, and Japan have seen impressive growth in ABS issuance in the last few years, the United States remains the undisputed center of ABS expertise, innovation and issuance. In stark contrast, Germany lags behind most of the rest of the developed world in asset-backed issuance. In fact, 1998 was the first year of any significant activity with a still fairly paltry $4.6 billion in issuance. As an indication of how much growth that represents, however, one should note that there was only $29 million of activity in 1997. (Source: Fitch IBCA)

Despite this vast difference in experience and success with ABS, securitization still offers a fertile field for comparing the context for financial service innovation in the US and Germany. Most of the technology and expertise for securitization has long existed in Germany. New technologies, particularly information technologies, have certainly been critical for the explosion in ABS in recent years, but they cannot explain the difference between the German and American experience. The technologies in questions are available and understood in Germany and, ironically, many of the basic concepts at the heart of ABS were pioneered in German Silesia over two hundred years ago. Those techniques have evolved into the Pfandbriefe, bonds backed by mortgages or the receivables of public utilities. With over DM1.5 trillion outstanding, Pfandbriefe, although not asset-backed securities in the modern sense of the term, are Europe's largest asset class, exceeding even the market for German government bonds. (Source: Financial Times, January 27, 1999) The existence in Germany of most of the necessary technology and knowledge to accomplish ABS means that it is fair to ask why ABS innovation has been so much more prevalent in the U.S.

One should note, however, that the fact that Germany lags in this area does not necessarily imply a dysfunction in the German process of financial service innovation. That judgment depends ultimately on the answers to two interrelated questions. First, is the creation of ABS market a healthy development for any financial system? Secondly, is ABS an appropriate financing technique in the German context? Because the efficiency and

stability of the financial system are so critical to economic health, the ultimate test of the success of a financial innovation cannot be its potential short-term success in the marketplace, but rather its long-term contribution to the efficient allocation of capital and the stability of the financial system. ABS has certainly succeeded in the marketplace, but its longer-term contribution remains debatable.[4] More importantly for this report, because the German and American financial systems have evolved into very different structures and exist to serve different cultural and economic contexts, a financing innovation that is appropriate and successful in the one, may not meet the needs of the other. Indeed, the most common hypothesis among interviewees for why ABS did not blossom in Germany was that, for contextual reasons, it was not needed.

This report will partially challenge that assertion by tracing the history of ABS as an innovation in both countries and by explaining why ABS has been an area of such tremendous growth and innovation in the United States, while remaining fairly stagnant in Germany. In the conclusion, the report will posit two additional reasons for the this lack of innovative vigor in ABS. First, it will implicate the German system of informal regulation in investment banking. Second, it will trace the lack of ABS innovation to the universal banking structure present in Germany. Although there is no reason to assume that the ABS experience is typical of financial service innovation in either country, its implications for investment banking are potentially revolutionary. Therefore, a deeper understanding of how ABS has developed may point towards some general observations as to the processes of innovation in the US and Germany. Toward that end, the report will begin by explaining the process of asset-backed securitization and by defining what constitutes an innovation in ABS. The next section will sketch the history and state of ABS in both the United States and Germany. The final section will elaborate on the salient differences in

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[4] This issue is controversial and beyond the scope of this report. For various perspectives on an unresolved issue, see, Anand K Bhattacharya and Frank J. Fabozzi, eds.,.Asset-backed Securities (New York, NY: Frank J. Fabozzi Associates, 1996)

how this innovation has evolved in the two countries and make some hypotheses as to the sources of the observed differences.

II. The Process of Asset-Backed Securitization

As with many investment products, asset-backed securitization is quite simple in its broad outline and extraordinarily complicated in the details. At the most general level, ABS is simply the conversion of financial assets, usually the rights to some cash flow such as a mortgage, into negotiable securities. In its basic form, this involves three separate stages. First, the assets are selected and pooled together. Assets are chosen based on specified criteria in terms of creditworthiness and performance. The assets are homogenous in structure (e.g.. all mortgages or auto loans), but, ideally, they are heterogeneous in terms of their source (e.g.. they are well distributed geographically). Such pooling allows models to be built that predict the behavior of the pool's cash flow under a variety of possible stressful scenarios. The models are based either on historical patterns for the given type of asset or other behavioral assumptions. Next, the assets are sold to a special trust (often called a special purpose vehicle or SPV) whose sole purpose is to serve as conduit for the cash flows between the assets and the security owners. This sale moves the assets off the balance sheet of the original owner and protects the investor from any financial problems the original owner might develop, particularly bankruptcy.[5] Finally, participations in the pool are sold to investors, who thereby gain the rights to some portion of the cash flows from the underlying assets.

The above is the "plain vanilla" asset-backed structure, usually called a pass-through structure because the payments simply pass through the trust. Investment bankers have added hundreds, perhaps thousands, of often exotic flavors to this plain vanilla structure, each of which constitutes a (sometimes minor) innovation in ABS. These innovations fall into two basic categories. In the first category are innovations that constitute structural changes in how the cash flows are distributed to the security owners.

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[5] Pfandbriefe do not involve a sale of the assets and therefore do not allow the issuer to move the assets off of their balance sheets. It is for this reason that Pfandbriefe do not qualify as asset-backed securities.

Rather than simply passing through the payment in proportion to each investor's participation in the pool, the trust reallocates the payments in predefined ways. As with derivatives, the basic purpose of these "pay through" structures is to separate out the various risks inherent in the cash flows so that each risk may be appropriately priced and sold to investors who are comfortable with that particular type of risk. The most basic type of innovation in this category is known as a credit enhancement. Credit enhancements are essentially default insurance in which a third party, usually a highly rated bank, provides some degree of guarantee for the underlying collateral in exchange for a fee. Credit enhancements, thus, shift some of the credit risk from the investors in the pool to the provider of the credit enhancement and enables the pool to achieve a higher credit rating than the underlying assets could acquire on their own.

A more complicated example of a structural innovation is the Collateralized Mortgage Obligation (CMO). This structure, created in 1983 by First Boston, was originally meant to deal with the prepayment risk associated with the U.S. mortgage-backed securities (MBS) market.[6] CMOs consist of several tranches with differing priorities over the cash flows on the underlying assets. Prepayments are allocated first to the lower tranches and only when each tranche is completely paid out are prepayments allocated to the next higher tranche. In this way, the higher tranches are protected from prepayment risk, while the owner of the lower tranches are compensated for their willingness to assume this risk by higher interest rates. Prepayment risk does not disappear in a CMO, even for the higher tranches, but is substantially diminished for those investors who do not wish to take the risk.

The second category consists of innovations that entail the creation of new structures for new classes of assets. Because each type of asset has a unique legal context and cash flow characteristics, every new asset (and indeed every new asset/country

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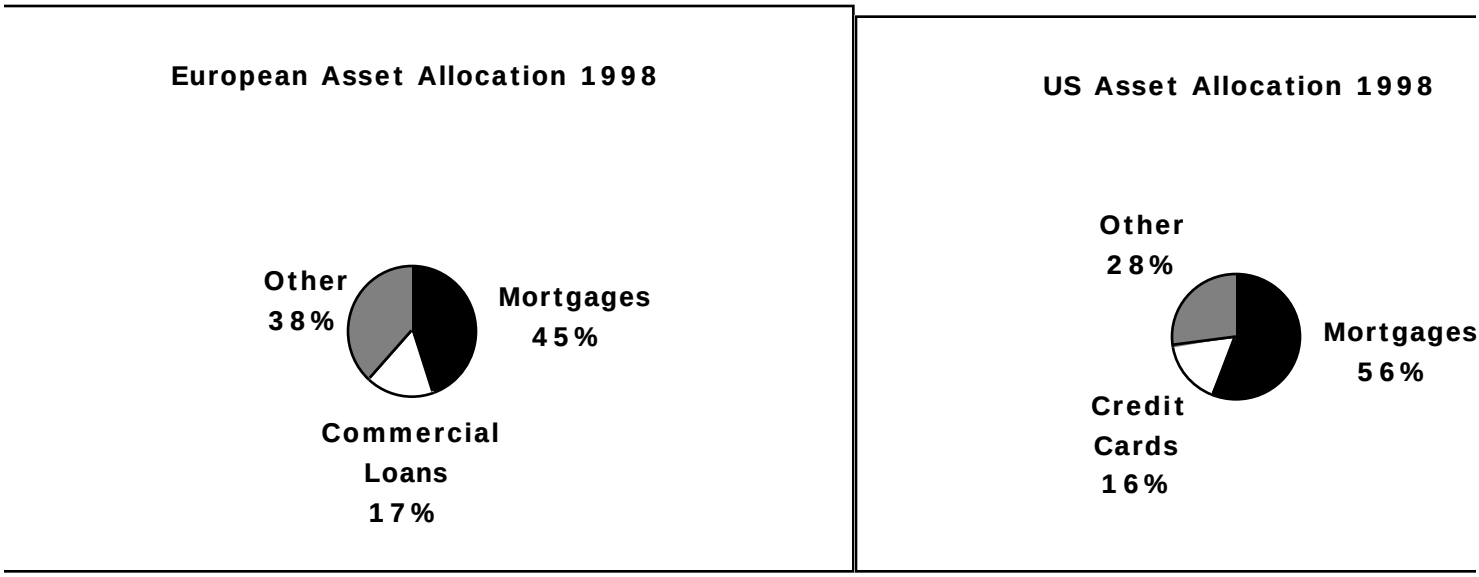
[6] See Helena Morrissey, "Introduction", p. 10 in Helena Morrissey, ed., International Securitisation (London: IFR Publishing Ltd., 1992).

combination) will inevitably require a new structure for securitization. In some cases, this might require only minimal tweaking of existing structures. Frequently, however, new asset classes will require fairly novel structures to reflect their particular circumstances. For example, securitization of auto leases requires a much more complicated trust structure than auto loans because when the lease runs out, there must be a provision for the car to revert back to the originator of the lease. Bankers can always draw on experience in ABS to create these new structures, but they must adapt them to the often quite intricate characteristics of the asset at hand.

In both Europe and the United States, mortgages are the most frequently securitized assets, as represented in the pie charts below. In both regions, however, the "other" category consists of a large and increasingly esoteric variety of asset classes, some of which are particular to specific countries. The "Other" asset class includes consumer loans, pub leases (in the UK), trade receivables, student loans, auto loans, and equipment leases, among many others. According to the investment bankers interviewed for this report, virtually any financial asset that generates a reasonably predictable and sizeable cash flow is a candidate for securitization. Some of the more exotic asset classes that recently have been the subject of securitizations include utility stranded costs, gate receipts and TV rights from sporting events, developing country debt, and all manner of intellectual property, including Italian film libraries and the future royalties from David Bowie's music.



(Source: Fitch IBCA, Federal Reserve Flow of Funds Accounts)

Actors in the Securitization Process

There are a wide variety of institutions involved in the securitization process. Securitization only works because each of them has something to gain from the process. An understanding of ABS, therefore, requires an understanding of the various roles that each type of institution plays and their incentives to engage in ABS. This section will describe securitization from the standpoint of each of the types of institutions involved. In any given securitization, there must be an issuer, investors, and an intermediary, usually an investment bank to connect the two (although under some circumstances the issuer and the intermediary may be the same institution). Additionally, any given securitization may and usually does include an independent role for rating agencies, law firms, credit enhancement providers (insurers) and regulators.

Issuers[7]**:** The most obvious advantages from ABS accrue to the issuers of asset-backed securities. The principal advantage derives from the capacity of ABS to allow low-

[7]Here it is assumed that origination of the loans, issuance of the securities, and servicing of the pool (collecting and disbursing payments) are all done by the same institution. In practice, these three functions can be and often are separated. Indeed, this opportunity for specialization might be counted among the advantages of ABS.

rated issuers to create highly rated debt and thus secure funding at much lower cost. Indeed, this capability has led some commentators to refer to ABS as “financial alchemy”, in effect turning lead investments into gold. This alchemy is possible because ABS always involves the sale of the underlying assets, moving the assets off of the balance sheet of the issuer. This is the principal difference between ABS and Pfandbriefe and the reason that the latter are not considered asset-backed securities. Because the creditors of the issuers would have no recourse to the cash flows from the securitized assets in the event of a bankruptcy, investors are effectively protected from defaults stemming from issuer insolvency or other financial problems. This “bankruptcy remoteness” reduces credit risk and allows asset-backed securities to achieve a higher rating than their issuer. A higher rating implies not only cheaper funding, but also access to a wider variety of funding sources as many types of investors are reluctant or forbidden by law to invest in low rated securities.

Moving the assets off balance sheet also allows issuers to make more efficient use of their capital. Prior to ABS, the limiting factor on the growth of loan portfolios was the capital needed to fund the loans and provide reserves against possible loan losses. By allowing issuers to move loans relatively quickly off their balance sheets, issuers are now in practice only limited by the number of loans they can originate or buy. Removal of this constraint has allowed rapid growth among many issuers and loan originators who now make their money from origination fees or the money left over from the asset pool (excess overcollateralization) rather than from the traditional income source of loan spreads.

Off-balance sheet treatment has been especially advantageous for banks because they are bound by the capital adequacy rules established in the Basle Accords in 1988. The Basle rules do not distinguish between securities based on rating in determining the necessary capital reserve to hold against losses. Instead, Basle rules base their risk weightings on the type of borrower. Consequently, the Basle rules require much greater capital reserves to be held against possible losses on, for example, a loan to a AAA rated

corporate borrower than against a loan to a shaky Japanese bank. The result is that the capital reserves required for the assets that underlie many asset-backed securities are considered excessive by most bankers.[8] By allowing them to sell assets that require excessive capital reserves to investors not bound by the Basle rules, the banks are effectively performing regulatory arbitrage and freeing often precious capital reserves for more efficient, or at least more profitable, uses.

Investors: The market for asset-backed securities is, in practice, almost exclusively institutional. Asset-backed securities are sold in large denominations to various institutional investors including pension funds, mutual funds, and financial institutions, among others. ABS offers such investors access to relatively safe, high-yielding investments that they might not otherwise be able to obtain, either because they are in denominations that are too small or because they are issued by institutions with ratings that are too low. Moreover, the participation of these additional investors creates a virtuous circle whereby increases in the liquidity and depth of the ABS markets that result from institutional participation brings yet more investors into the market.

In a mirror image to the issuers, off-balance sheet treatment allows investors to avoid the credit risk associated with the issuer. If an issuer should go bankrupt, the investor is protected against any interruption in cash flow from the assets underlying his securities because the issuer no longer owns the assets in question. It should be noted, however, that in most circumstances, investors cannot ignore the identity of the issuer because the issuer's origination and collection procedures will affect the performance of the pool and determine how collection of the cash flows (servicing) can continue in the event of an issuer bankruptcy.

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[8]BIS rules require a 100% weighting for non-government guaranteed asset-backed securities, which implies an 8% capital reserve. The loan for a shaky Japanese bank rates a 20% weighting, implying a 1.6% capital reserve. See Richard Williams, "The BIS Framework - A Force for Change", pp. 209-240 in Helena Morrissey, ed., International Securitisation (London: IFR Publishing Ltd., 1992).

Intermediaries: Since securitization is often associated with the phenomenon of disintermediation, it is perhaps a bit counterintuitive to include intermediaries in the process. Most explanations of ABS emphasize the disappearance of intermediaries. Nonetheless, while the role and identity of intermediaries change greatly under ABS, intermediaries remain critical to the process. In the classic picture of the banking industry, commercial or retail banks act as intermediaries by transforming short-term deposits or money market funds into long-term loans. In the process of ABS, investment banks act as intermediaries in the very different sense that they bring investors and issuers together (as well as the other actors involved) and help them structure the transaction to their mutual benefit. In the process, investment bankers garner fees from the issuers of the transaction.

While this may sound like a relatively mundane role, it is in fact the critical link in the ABS process. Interviewees across the range of institutions involved in the ABS process overwhelmingly agreed that the investment banks are the primary source of ABS innovation. In part, this is because investment banks make far greater profits from newer, more innovative ABS deals than from tried and true structures. Because there is no intellectual property protection in the ABS realm, once a deal is consummated, its details and techniques are freely available to everyone in the industry. Indeed, disclosure regulations and the need to circulate information to potential investors guarantees the rapid dissemination of new structures. Of course, reputation, experience and expertise give the original investment bank the edge on securing the next few deals, but very quickly other investment bankers acquire experience with the new type of deal and generate competition. Not long after that, if the new structure is successful, it becomes essentially a commodity, the margins on which cannot justify the high cost of investment banking personnel.

This process of commodization forces investment bankers to constantly seek out new asset classes and issuers, push into new jurisdictions, and constantly devise new structures to accommodate new risk profiles and attract new investors. As institutions, investment banks are ideally suited for this process because they combine experience of

asset-backed structures with knowledge of a wide range industries and extensive contacts in the investor and issuer community, usually gained through their other lines of business. An investment banker wishing to see if ABS can work in, say, the media industry, can avail himself of his bank's media industry analysis group as well as touch base with investors who regularly participate in media industry issues. He can also profit from his bank's relationship to rating agencies and internal or external legal advice to test out the feasibility of the proposed structure. Finally, the reputation and expertise of the bank will also provide a certain comfort level for both issuers and investors participating in the new type of transaction. The investment banker, in short, performs a critical coordinating as well as an innovative role for new deals, making sure that all actors involved, issuers, investors, lawyers, ratings agencies and regulators are happy.

Law Firms: A secondary source of ABS innovation is the law firm that draws up the legal papers associated with any ABS deal. ABS deals are a welter of legal, regulatory, tax, and accounting issues that require tremendous expertise to sort out. The job of lawyers in the ABS process is essentially to ensure that the structure will perform as promised, especially if tested in court. This involves three basic issues. First, the lawyers assure that the sale of assets is a "true sale" in the sense that there is no recourse by creditors of the issuer to those assets. Second, they must assure that the cash flows in the structure are in fact allocated as promised under any imaginable legal scenario. Third, they must assure that there are no tax surprises. Indeed, the ability to (legally) avoid certain taxes, such as VAT in Europe, on ABS transactions is critical to making such deals economically feasible.

In complex ABS deals, the task of the lawyer can be immensely difficult and require voluminous knowledge. Indeed, according to one interviewee, "everything but the legal is easy." Nonetheless, investment banks could probably provide this capacity in house were it not for the fact all of the legal issues are highly dependent on the jurisdiction (country or state) in which the deal is issued. Investment banks are unable to maintain a

repository of legal knowledge that spans multiple jurisdictions, especially since one of their primary concerns is to move into new jurisdictions. This generally requires hiring a local law firm or a law firm with extensive experience in the new jurisdiction. Moreover, the blessing of a law firm with a reputation to protect and a professional liability gives ratings agencies and regulators a greater level of comfort that the structure will in fact operate as promised, even in the face of legal challenge.

Credit Enhancers: As mentioned, most ABS deals that are not guaranteed by the government will contain some form of credit enhancement or liquidity provision that will enable the securities to achieve the desired rating. Credit enhancements can be internal to the pool, such as overcollateralization, whereby the pool contains more collateral than required to make the payments to the security holders in order to allow for a certain rate of default. Credit enhancement can also be external such as third party insurance or a letter of credit from a highly rated bank promising to make good a certain level of defaults. Banks that provide these letters of credit receive a fee from the issuer or the intermediary. More subtly, however, they may also receive detailed knowledge of the process of ABS that might allow them to enter the market at later date as an issuer or an intermediary.

Ratings Agencies: Rating agencies do not view themselves as regulators, but rather as information providers to investors whose job is the assessment and dissemination of information about credit risk.[9] Despite this self-image, the rating agencies cannot avoid playing a quasi-regulatory role. Because many of the ratings are embedded in regulations governing what certain institutional investors, particularly pension funds and insurance companies, can invest in, rating agencies wield a sort of veto power over ABS innovations. In practice, though, asset-backed deals are brought to market with the intention of receiving a specific rating, usually AAA. This means that investment banks generally engage in an

[9]One important detail is that ratings reflect the agency's opinion as to credit risk, that is to say the risk that there will not be timely payment of both interest and principal. Ratings agencies do not base their ratings on other risks, such as prepayment risk or foreign exchange risk. Investors often seem to miss this point.

iterative process of consultation with the rating agencies until the proposed structure achieves the desired rating.

Unlike regulatory authorities, rating agencies are paid by the issuer or the intermediary -- a feature that would appear to create a conflict of interest between the ratings agencies self-avowed duty to act as a watchdog for investors and their pecuniary interest in pleasing the client. The system appears to work, however, because the ratings agencies form an oligopoly.[10] There are, for all intents and purposes, only four ratings agencies (Duff & Phelps, Fitch IBCA, Standard & Poor's, and Moody's). Of those, only two (S&P and Moody's) have a truly global stature and usually at least one of those two rates every deal. The ratings agencies' secure market position and awareness that their primary asset is their reputation causes them to treat the investors as their clients, despite the fact that the investment banks usually pay the bills. Indeed, many investment bankers interviewed mentioned that rating agencies exhibit the same frustrating conservatism and lack of responsiveness usually associated with government regulatory authorities. At the same time, it is clear that ratings agencies, since they do serve a commercial clientele and do rate a great many deals, possess an overall expertise in ABS second only to the investment banks.

Regulators: Although the role and attitudes of regulators with regard to ABS varies a great deal from country to country, all regulators have two basic goals that apply to the ABS.[11] First, they have an interest in the efficiency of the financial system as a key enabler of economic health. To the extent, therefore, that regulators believe that ABS will deliver on its promise to more efficiently allocate capital and provide cheaper funding, regulators will want to encourage it. Second, regulators also need to protect the stability

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[10] On this issue see, Timothy J. Sinclair, "Between State and Market: Hegemony and Institutions of Collective Action under Conditions of International Capital Mobility, Policy Sciences; vol. 27 no. 4 1994, pp. 447-66.

[11] Some might also claim a third universal goal; protection of the small investor. However, as this is not a particularly prevalent motivation in Germany, it is not included here.

and integrity of the financial system and to assure the instruments of monetary policy. There are several reasons why regulators might (and do) believe that ABS will negatively affect the stability of the financial system and the ability to implement monetary policy. [12]

First, regulators worry that ABS will generate excessive loan volume, particularly outside the government-supervised banking industry that will not be covered by capital reserves. In effect, this is the obverse of the regulatory arbitrage explained above. Many regulators feel that the Basle capital adequacy requirements help guard against instability within the financial system and should not be evaded by means of ABS. It has been observed recently that ABS funding has allowed non-bank originators to grow far too quickly and without due regard to internal controls. During the liquidity crisis in late 1998, this explosive growth resulted in some spectacular falls in the equity price of these firms. In addition to creating instability, this process, by disassociating credit growth from bank balance sheets, adversely affects the ability of the central bank to control the money supply.

Second, regulators fear that because ABS means that the originator of, say, a mortgage will not own the mortgage for very long, ABS may encourage the originators to allow looser credit standards. Lower standards might ultimately precipitate wide scale defaults in times of economic stress, thus destabilizing the system as a whole. Issuers and originators, especially in the U.S., have attempted to counter this perception (both on the part of regulators and investors) by adopting objective credit scoring methods that purport to maintain a certain standard for origination. Many regulators believe, however, that there is no standardized replacement for a long-term relationship with the customer and the incentives for good credit standards that comes from owning a loan to maturity. Conversely, another concern is that ABS will result in a deterioration of bank balance

[12] On this issue see Thomas R. Boemio and Gerald A. Edwards, "Asset-Backed Securitization: A Supervisory Perspective," Federal Reserve Bulletin vol. 75, no. 10, pp. 659-669.

sheets as banks are encouraged to sell their highest quality assets into the market in order to achieve the highest possible rating.

In more general terms, however, regulators express a certain amount of discomfort with ABS simply because it takes them into an unknown area that they have little capacity to evaluate. They are aware that as ABS structures grow ever more complex, they are losing ground in terms of expertise and that they are becoming increasingly unable to quickly identify and react to any problems that might emerge. They are becoming increasingly reliant on investment banks, ratings agencies and law firms to ensure the smooth functioning of the market and even to protect consumers from fraud and abuse. This is perhaps not a problem while the market remains overwhelmingly populated with large institutional investors, but if the market wishes to broaden its appeal to smaller investors, as it inevitably will, this system of *de facto* self-regulation may not be appropriate.

III. History and State of ABS in the United States

A. United States

The MBS Market: In the United States, ABS began in the mortgage market as part of a wider government effort to reduce the cost of residential mortgages. Starting in the 1930's, three separate government agencies were created to promote housing finance through the establishment of secondary markets for mortgages. The Federal National Mortgage Association (FNMA or Fannie Mae) was established in 1938 to buy and sell mortgages insured by the Veteran's Administration. The Government National Mortgage Association (GNMA or Ginnie Mae) was formed within the Department of Housing and Urban Development in 1968 to develop a secondary market for government insured mortgages. Finally, the Federal Home Loan Mortgage Corporation (FHLMC or Freddie Mac) was formed in 1970 to perform the same function for non-governmentally insured mortgages. Because the financial services industry was fragmented by barriers to interstate banking, secondary mortgage markets were necessary to create a nationwide market. A larger, national market for home loans would prevent the regional imbalances in savings that had habitually plagued certain states and allow investors to more easily achieve geographic diversification in their mortgage portfolios, thus reducing the cost of home loans nationwide.

In 1970, Ginnie Mae issued the first US mortgage-backed securities (MBS). Freddie Mac followed the next year. These early government issues were simple "plain vanilla" structures without any special allocation of cash flows or credit enhancements. Such enhancements were unnecessary in any case as the securities were protected by either implicit or explicit government guarantees. Rather than credit risk, the principal impediment to widespread adoption of agency mortgage-backed securities was prepayment risk. US mortgage borrowers typically have fixed rate mortgages that give them the option to prepay their mortgage at any time without penalty. Consequently, in the case of a drop

in interest rates, prepayments would rise at an unpredictable rate, and the holder of the securities would be forced to reinvest the prepaid principal at the lower rates that now prevail. Prepayment rates proved extremely difficult to predict because they were based not only on the interest rate environment, but also on regional economic circumstances and even demographics.

Prepayment risks meant that the MBS market grew very slowly in the 1970's. Although the investment bank Salomon Brothers introduced private, non-agency MBS in 1977 with a Bank of America deal[13], the MBS market did not really take off until another act of Congress, intended to save the Savings and Loan (S&L) industry, gave the market a final push. S&L's are local banks intended to offer small commercial and mortgage loans to the community. Because S&L's traditionally took short-term deposits and made long-term loans as basically their only business, they were very vulnerable to a rise in interest rates. As interest rates soared starting in 1979, S&L's soon found themselves paying more for deposits than they were receiving on their loans and began to suffer dramatic losses. By 1981, nearly a quarter of the S&L's in the US had collapsed and most others were set to follow.

In an attempt to stem this crisis, Congress passed legislation in 1981 allowing the S&L's to sell their existing mortgage loans, write down the losses and offset these losses against any taxes they had paid over the last ten years. The thrifts immediately turned to the government housing agencies and began to sell their mortgage portfolios at a very rapid rate. This transformed the MBS market, practically overnight, as suddenly supply greatly exceeded demand. Lewis Ranieri, head of the mortgage-trading department at Salomon Brothers saw an opportunity in this imbalance.

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[13] Non-agency MBS consist of pools of mortgages that don't conform to the Fannie Mae or Freddie Mac guidelines, usually because they are too large. Such securities do not carry a government guarantee and therefore usually require some form of credit enhancement to achieve a AAA rating.

Ranieri set up an MBS research department in order to create better models for prepayment risk and Salomon itself began investing heavily in mortgage-backed securities while at the same time trying to persuade investors that the attractive spreads they offered over treasury and corporate bonds amply compensated for the prepayment risk. Salomon's example brought many new investors into the market. It also allowed Salomon to dominate the market and earn a fortune for some time before the competition could catch up. Although prepayment risk once again caused a hiccup in the market when interest rates began to come down in 1983, the introduction of the CMO by First Boston that year (described above) helped the MBS market to continue to grow. By the 1985, the secondary mortgage had burgeoned to over $270 billion dollars. (Source: US Banker, January 1985, p.22)

Ranieri and Salomon Brothers, as well as the other Wall Street investment banks, also pushed Congress for more favorable tax and accounting legislation for CMOs. The result was the Real Estate Management Investment Conduit (REMICs), created by Congress in 1986. REMICs allowed the investment banker to more creatively arrange and rearrange the cash flows from a pool of mortgages into almost limitless variations without incurring double taxation or casting into doubt the true sale of the assets. This legislation allowed much greater variety in CMOs to the point where they could be tailored to suit specific investor's needs.

The ABS market: The success of the MBS market, as well as the expertise and experience gained by investment bankers and investors, encouraged movement into other asset classes. The first non-mortgage ABS issues drew explicitly on the structures created for the mortgage market and were underwritten exclusively by investment banks that had gained their experience and reputation in the MBS market, particularly the three leaders: Salomon Brothers, First Boston and Drexel Burnham Lambert.

The beginning of the non-mortgage ABS market is usually dated from March 1985, when First Boston underwrote the first public issue, a $192 million dollar securitization of

computer leases for Sperry Corporation. The First Boston mortgage group under Larry Fink used its mortgage expertise and its reputation to sell the deal to a skeptical market.[14] Of more lasting import, however, was the entrance that year of the financing arm of General Motors, General Motors Acceptance Corporation (GMAC) into the ABS market. A series of cut-rate financing promotions for auto loans (2.9%) had dramatically swollen GMAC's balance sheet. At the time, GMAC was already the largest corporate borrower in the world. (Source: Euromoney, September 1986) Despite an excellent reputation and credit rating(AA), it simply could not fund itself to the level required through direct corporate borrowing on the capital markets.

In December 1985, GMAC securitized more than half a billion dollars in auto loans in a deal lead managed by First Boston. Following that issue, GMAC dominated the non-mortgage ABS market for the next couple of years. Within the next year, GMAC securitized over $8 billion in auto loans, almost 80% of the total non-mortgage market, all lead managed by First Boston, including a "monster" $4 billion dollar issue in October 1986 that was, at the time, the largest corporate-sponsored capital issue in history. This last issue was consciously patterned after the CMO structure in order to insulate investors from the prepayment risk inherent in auto loans.[15]

The entrance of GMAC into the market legitimized the market in the eyes of investors and induced other investment banks to seek out potential new issuers. Auto loans began to wind down as source of securitization in 1987, but they were quickly replaced by credit cards as the main source of assets to securitize. The first credit card deal was issued in 1986 by Banc One and lead managed by Salomon Brothers.[16] However, as in auto

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[14] See Frederic Dannen, "The Failed Promise of Asset-Backed Securities", Institutional Investor , October 1989, p. 261.

[15] Robert Garsson, "General Motors Unit Unveils Monster Offering," American Banker October 10, 1986, p.3.

[16] Everette D. Hull and Leslie Annand, "Time to Jump on the Securitization Bandwagon?", ABA Banking Journal, October, 1987, p. 137.

loans, credit cards really took off after the entrance of one big issuer legitimized the market, in this case Citibank in 1987. In its first two years in the market, Citibank securitized about $5 billion in credit card receivables. Citibank remains the biggest issuer to this day.

Securitization of credit card receivables received a further boost from the creation of credit card master trusts, introduced by First Boston in a deal for First Chicago Bank in 1988. Master trusts, originally created for auto loans, allowed the issuer to create one dynamic trust into which it could continuously place new credit card receivables as needs dictated. Master trusts were particularly important for credit cards because, not only did they save on the administrative and registration costs associated with continual issuance, but they also permitted much more predictable pools. Because credit card receivables do not have the rigid repayment schedules of auto loans or mortgages, they often need to be "topped off" in order to continue to generate cash flow to maturity. Credit card accounts also tend to deteriorate in quality as they age, again unlike other instruments. Dynamic pools therefore allow credit card securities to achieve age diversification and smooth out the performance of the pool. Master trusts helped credit cards to replace auto loans as the biggest segment of the non-mortgage ABS market, a position they have retained to this day.

The Present: The history of ABS in the last ten years has been one of continuous innovation, usually pushed by investment banks in response to the commodization of some previously popular line of business. This process has meant that the ABS market has been subject to a lot of fads as many new business opportunities come about because specific issuers or specific industries face short-term problems that ABS can help solve. The change in S&L regulation that helped the MBS market take off was essentially a one off phenomenon. Similarly, once GMAC had off-loaded the unusual volume caused by GM's cut-rate financing program, they turned back to corporate bonds for funding their operations. For highly rated issuers such as GMAC, asset-backeds, with their relatively high administrative fees, provide more expensive funding than simple corporate bonds

except in unusual circumstances. However, after GMAC, the Resolution Trust Corporation's (RTC) liquidation of S&L assets in the late 1980's generated a lot of activity that faded once that job was done. While the emergence of certain key issuers, such as the S&Ls , GMAC or Citibank has often allowed the market to move to higher plane, it is difficult to credit any of them with having been critical to ABS as some new issuer or class of issuers always seems to come along. Despite the ups and downs that have resulted from this somewhat haphazard process, ABS has generally prospered as new opportunities always seem to be found to replace those have disappeared or been commoditized.

A recent example of this phenomenon has been the application of securitization to the high loan-to-value (HLTV) home equity market. In the mid-1990's, a slew of finance companies were set up to provide loans to home owners that enabled them to borrow up to 125% of the value of their home, even if borrowers had a bad credit history. Despite the lack of a track record on which to base models for this type of loan, investors were, by this point, so comfortable with ABS structures that they snatched up billions of dollars of such debts. Because various types of credit enhancements backed them, most tranches of HLTV asset pools tended to be rated AAA. The finance companies that originated such loans were able to grow at an astounding rate on very slender capital bases, specifically because they were able to easily securitize their portfolios.

The good times came to end, however, in the fall of 1998, when liquidity suddenly dried up in the wake of the Russian crisis. HLTV issuers couldn't sell the lower-rated tranches of new issues as investors fled to quality. Without the ability to bring new issues to market, profits dried up quickly, the share prices of finance companies plummeted and many teetered on the edge of bankruptcy. This produced worry on the part of holders of already issued securities, despite the bankruptcy-remote structure of asset-backeds. Because HLTV issuers usually also collect the payments on the loan, there was uncertainty as to how the loans would be serviced in the event of a bankruptcy.

Thus far, however, while the finance companies have taken a huge hit in their share prices and many may yet go bankrupt, the ABS market as a whole has performed essentially as promised. No existing bonds have defaulted, indeed investment bankers are proud of noting that no AAA-rated asset-backed has ever defaulted, even during the S&L debacle of the late 1980's. The market is, in the words of one banker, "pristine." Moreover, ratings downgrades have been few, especially given the extraordinary nature of last year's liquidity crisis.

The ABS market, while certainly dramatically affected by the liquidity crisis, seems to have weathered the storm relatively well with spreads widening less than other instruments. It appears then that the inexorable push forward into new asset classes and new structures will continue, only briefly interrupted by this fall's crisis. Many bankers believe that the next hot class will be the media where they hope to securitize royalties, film libraries, and TV rights. Many US investment banks also hope to use their expertise to push into new foreign jurisdictions that haven't yet availed themselves of ABS much as of yet. With the advent of the Euro, Europe and especially Germany, with its large market and underdeveloped ABS market is considered prime territory for this expansion.[17] The Bond Market Association, an industry association of U.S. investment banks has begun a European Securitization Group specifically to promote the establishment of a legal framework that will ease ABS in Europe.

b. Germany

The history of ABS in Germany is a much shorter story than the U.S. story. As mentioned, ABS only really began to catch on in Germany in 1998. Although Pfandbriefe, a sort of on-balance-sheet securitization for mortgages and public utilities, have existed for a long time in Germany, there was no use of ABS as defined in this report until 1990,

[17] See Merrill Lynch Global Securities and Research Group, ABS in Euroland: Full Speed Ahead?, 23 June 1998.

when Citibank introduced the technique into the German context. The Citibank story is worth telling in detail because it illustrates quite clearly many of the principal reasons that ABS has thus far failed to prosper in Germany.

In 1990, Citibank was in big trouble. It was severely undercapitalized and badly needed to shrink its balance sheet or raise new capital, both in order to meet the new Basle requirements then being phased in and to cover some of the mammoth loan losses then flooding in from its commercial real estate loan portfolio. As noted, Citibank was already a big player on the ABS market in the US where it dominated the issuance of credit card backed securities. ABS had been very successful for Citibank in the US and generated a lot of profits. The home office in New York decided that ABS could work in the regional offices as well and might be instrumental in allowing the bank to shore up its balance sheet and book new profits. They sent word out to all of the regional offices that they should attempt to build up ABS as a financing technique in their regions.

In Germany, Citibank owned a highly successful consumer bank called KKB (which assumed the Citibank name in 1991). With the help of Citicorp Securities in London, KKB pooled together small, unsecured consumer loans that it offered through its consumer outlets. These loans turned out to be ideal for securitization. The bank knew their customers very well, had a credit history on all of them and a very predictable portfolio of loans with a long record behind it. The legal framework also appeared ideal. There was no personal bankruptcy law, no statute of limitations on loan collections, and according to its German law firm, no legal impediment to securitizing the loans and moving them off the balance sheet. The biggest problem was avoiding German VAT on the sale of the assets and in achieving a "true sale" in both Germany and the US. They accomplished this by developing, with the help of lawyers in the UK and Germany, a three-trust structure headquartered in the Cayman Islands. They achieved a AA1 rating, despite Citibank's precarious status by buying a credit enhancement from Westdeutsche Landesbank Girozentrale(WestLB).

Because this was a novel deal in the German context, Citibank sent an emissary to the local branch of the Bundesbank (the executive agent for the German banking regulator - the Federal Banking Supervisory Office or FSBO) to explain the deal to the regulators in the summer of 1990. According to a Citibank executive present at the meeting, after he explained the deal to a high level Bundesbank official, the regulator replied, "It should be illegal." The Citibank executives informed him that as it was not illegal, they would go ahead with the deal anyway.

Shortly before the deal was to be consummated in early December 1990, Citibank received a letter from the President of the FSBO, instructing them not to carry out the deal. Citibank replied that if the FSBO denied them the transaction then Citibank would sue them for the expenses incurred in setting it up. Citibank knew that FSBO had broad discretion to deny "anything that threatens the banking system" but felt that the legal opinion they had gotten from a respected German law firm entitled them to compensation for FSBO's arbitrary decision. In an attempt to allay their objections, Citibank even sent them an article from the *Federal Reserve Bulletin* describing the fairly good American regulatory experience with ABS.[18]

In the face of this threat, the FSBO backed down and allowed Citibank to carry out the transaction, but insisted that they never do it again. The initial deal was quite successful and demonstrated a lot of demand for these types of securities, both in Germany and abroad. Although Citibank had intended to do follow-up deals, they toned them down considerably. Citibank did not structure the follow-ups as securitizations but rather sold the loans directly and only to other German banks without a rating or a letter of credit.

The regulators presented several objections to Citibank, many of which mirror the concerns of regulators presented above. For instance, the FSBO and the Bundesbank were

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[18]Almost undoubtedly this was Thomas R. Boemio and Gerald A. Edwards, "Asset-Backed Securitization: A Supervisory Perspective," Federal Reserve Bulletin vol. 75, no. 10, pp. 659-669.

worried that ABS would allow banks to create credit without limit, thereby undermining the tools of monetary policy and the stability of the financial system.[19] They also presented some specifically German objections. They felt, for example, that German banks would not, for reasons of reputation, allow asset-backed bonds that they had issued to default, even though they had sold them on a non-recourse basis. In practice, this meant that off-balance sheet treatment was an accounting fiction that would allow banks to be undercapitalized and threaten their stability. Finally, according to a Citibank official involved, they objected most strongly to the notion that the assets would pass out of their jurisdiction and that German consumers might be subject to harassment by unregulated creditors located abroad.

After that experience, no public ABS transactions took place in Germany until late 1994 (auto loans by VW and Daimler-Benz) and there were no securitizations of bank assets until 1997.[20] German banks, however, remained interested in the technique and followed events in the US and UK carefully. Many German banks were able to profit from their high ratings by providing credit enhancement facilities to deals in the US and Europe and in so doing gained some ABS experience. WestLB, for example, played this role in the Citibank deal, partially for the purpose of gaining expertise. Shortly, thereafter, they formed an ABS product development team in Dusseldorf and a few months later they lead-managed a DM 600 million private placement deal. However, unlike Citibank, WestLB was not willing to risk its relationship with the FSBO by pushing ahead with a public

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[19] For the Bundesbank's view on the potential implications for monetary policy of ABS, see Deutsche Bundesbank, "Trends towards securitisation in the German financial system and their implications for monetary policy," Deutsche Bundesbank Monthly Report, April 1995, p. 19ff.

[20] It is difficult to say what if any private deals were going on in this period. There was some activity, especially for non-bank assets, but it is unclear how much. Public securities are registered with the regulatory authorities, are rated and can be resold. Private placements may not be rated, generally are not negotiable, and cannot be bought by many types of institutional investors, such as pension funds. All of the number quoted above are for public deals.

German transaction without regulatory support. WestLB product development proceeded very slowly until 1998 and really only represented an effort to remain abreast, not to be innovative.

In 1993, WestLB, along with the other large German banks, began to press the FSBO to provide guidelines on how to conduct ABS transactions using German bank assets. Although German banks did not have the type of undercapitalization problems that plagued Citibank, they wanted to be able to securitize their assets for two important reasons. First, they felt that ABS would be an important area in which to have expertise in the future. Although the German banks could always participate in deals abroad, they lacked the contacts and the reputation necessary to get lead management mandates in foreign markets, especially the heavily saturated U.S market. Without the ability to securitize their own portfolios and to capitalize on their long-standing relationships within the German market, they would eventually lose ground to more experienced foreign banks that would be able to invade their territory *en masse* after financial integration followed EMU. In short, the banks needed some time to practice on their home turf before the highly touted teams from New York and London arrived in force.

The other reason the German banks wanted the capacity to securitize their assets stemmed from a change in the way that their shareholders and consequently they themselves viewed the bank's capital base. In stark contrast to many American banks, German banks had always been excessively well capitalized. For this reason, the Basle rules proved fairly easy to adapt to because, although they raised the required capital reserves in Germany, the change was less dramatic then in most countries and many German banks already exceeded the required threshold. Instead, what pushed the German banks toward ABS was exactly the opposite issue: too much capital. In the past, German banks had measured their success primarily by the size of their balance sheets and the income generated by their large volumes of loans. This measurement encouraged bankers to grow their loan portfolios as large as possible and discouraged the sale of assets.

From a shareholder's viewpoint, however, the size of a bank's balance sheet is less relevant than the return on his capital investment, usually called return-on-equity (ROE). ROE became the most important measure of bank health in the US following the deregulation of the financial services industry in the 1970's and 1980's. The ROE of German banks has for many years been low relative to the American banks. In the last few years, the "ROE culture" has penetrated Germany, as the globalization and deregulation of financial markets have increasingly enabled bank shareholders to demand value for their money. Increased attention to ROE means maximizing the efficiency of your capital base. Excess capital reserves and low-margin lending decrease ROE, while, as noted, clever use of ABS increases the return on capital. According to one banker, the ROE culture means that at last "greed has come to Germany." German bankers were unanimous in their opinion that a need to increase ROE was a primary motivation in their efforts to secure guidelines from FSBO to do asset-backed securitizations. In contrast, early (1980's) efforts at securitization in Europe were often seen in Germany (and elsewhere in Europe) as an attempt to rescue badly damaged balance sheets rather than efforts to maximize ROE and shareholder value. In this context, the use of ABS was seen as a sign of financial distress and thus to be avoided lest the market draw the wrong conclusions about a bank's financial health.

After multiple consultations with the banking industry associations and the Central Credit Committee (Zentralkreditausschuß- ZKA), the FSBO finally issued the guidelines for ABS in May 1997.[21] The guidelines allow that if an ABS structure meets the long list of FSBO requirements, the selling bank can assume that the FSBO will recognize the transaction for the purposes of reducing capital reserves. As in most other jurisdictions, the guidelines insist that loans be selected at random from the bank's loan book and that

[21]For the guidelines see "Asset-backed securities in Germany: the sale and securitization of loans by German credit institutions," Deutsche Bundesbank Monthly Report, July 1997, pp. 55-64.

they must be sold on a non-recourse basis. They also provide for an unusual level of consumer privacy by restricting the information on the borrowers that can be passed to the investors.

Since these guidelines have been issued, all of the major German banks have begun to expand their presence in the ABS market both as intermediaries and as issuers. Like the American banks, they are looking to expand beyond commoditized products and become innovative leaders in the field. In late 1997 and early 1998, Dresdner and Deutsche Bank both issued asset-backed securities through an asset-backed commercial paper conduit based on commercial loans in their own portfolios, the first such deals since the Citibank deal in 1990. Both banks had been preparing these deals for some time and had rigorously created internal management systems for selecting and servicing securitized loans that far exceeded the standards in other jurisdictions.

It is important to note that the German ABS business is being born as a globalized or at least a regionalized business. Most of the major German banks now compete with foreign banks for ABS mandates and run their ABS operations from London. While German banks may well have an initial advantage in securing lead management mandates from German companies, they understand that the expertise and experience needed to make innovative deals happen and to penetrate foreign markets resides abroad. According to one German banker, the German banks are essentially doing product development by buying expensive personnel from London investment banks.

IV. Conclusion: The ABS Innovation in Comparative Perspective

The section will assess the sources of innovation in ABS, first in the abstract and second in a comparative perspective that will seek to understand why the German and US experiences with ABS have been so different

A. Sources of Innovation

The roots of innovation in ABS are multiple and complex. In the most generic sense, ABS innovation occurs in response to some opportunity or some perceived need: undercapitalization, overcapitalization, an inability to obtain conventional financing, etc. While undoubtedly correct, this perspective is not particularly enlightening as it fails to help us understand why ABS, in particular, arose in response to these needs. More to the point, then, three factors stand out as the roots of most ABS innovations over the last twenty years: technology, regulation, and international competition.

Technology: ABS began without the aid of very much modern technology. The original pass-through mortgage-backed securities issued by the government agencies required very little computational power. Mortgages had a long history of steady behavior that made them easy to predict, while the government guarantee made credit risk a non-issue. Even prepayment risk was not originally considered a big problem in the stable interest rate environment of the early 1970's. However, the survival of the MBS market in the volatile economic environment and the expansion into more novel asset classes was clearly only possible due to the concurrent advances in modeling, computational power, and communications technology.

Modeling allowed newer asset classes without long payment histories to be confidently packaged and priced. It also allowed the various risks inherent in the pools to be sliced and diced with confidence. Computers made it possible for that modeling to be done in real-time and for the ratings agencies to the test the models against literally hundreds of possible scenarios to understand how the securities would behave under

stressful conditions. Finally, communications technologies such as the Internet and the Bloomberg financial information system made it possible to disseminate both these results and the models themselves rapidly to interested investors and to collect data on the assets and monitor the securities after issuance. Today, for any public ABS issuance, an investor can instantly pull up the ratings agency analysis on the Internet or access the detailed analytical models that underlie the pool through Bloomberg. This system gives sophisticated investors the ability to run stress tests on the pools themselves and it acts as a mechanism of dissemination to other investment bankers.

Regulation: The second source of innovation has been regulation, or more precisely the management or avoidance of regulation. Of course, the Basle accords were a significant spur to ABS as they created a much higher premium on efficient balance sheet management. More importantly for the process of innovation, however, every new asset class and every new legal jurisdiction requires new ABS structures to conform with the regulatory, tax and legal requirements of the new context. Lawyers and investment bankers have proven extremely adept at remolding old structures to fit the new contexts. Although this has often been aided by regulatory or legal changes, such as the REMIC mentioned above, as well as the indulgence of the regulators involved, many regulatory barriers have simply spurred clever innovations that bend existing rules to the purposes of the deal without waiting for regulatory changes.

International Competition: A final spur to ABS innovation has been the internationalization of the financial services industry. Internationalization has meant not only that ABS knowledge and the ROE "culture" have diffused quickly across borders, but also that the no domestic banking industry can afford to ignore ABS. This has been important for the acceptance of ABS, because for many banks ABS is a double-edged sword.

As mentioned, ABS offers new opportunities for balance sheet management, increasing the efficiency of capital and garnering new fees through intermediary activity.

However, for banks that have traditionally based their business on lending, it also has the potential to cannibalize a heretofore very comfortable business. Many banks are afraid that if they begin to securitize their own assets, they will increasingly encourage loan customers to securitize their assets, thereby enabling them to bypass bank lending and get funding directly from the capital markets. While this process will still require investment bankers to manage the deals, it will nonetheless require banks to undergo a massive cultural change in order to make the transition from lending organizations to fee-for-service organizations. This change has the potential to undermine and devalue their long-standing relationships with their customers and is very threatening to personnel who have built their careers on lending. Moreover, they have every reason to believe that as ABS becomes commoditized, competition will grow increasingly cutthroat. In short, ABS makes life much less comfortable for banks that are used to the relatively calm world of lending.

In this context, only the threat of foreign competition and the deregulation of the financial industry can propel many banks into the ABS market. Fear of foreign competition forces domestic banks to be proactive in establishing an ABS business by using their superior knowledge of the domestic context and their preexisting client relationships to introduce ABS into their own arena.

B. Comparison of the Innovation Process

The preceding discussion offers ample raw material to go back to the question that started this report. Why has the German ABS market and the German process of innovation in ABS been so stagnant relative to that prevailing in the U.S.? The simplest explanation for this phenomenon was the one most often advanced by interviewees for this report. That is that there was neither the need nor the opportunity for ABS in the German market. In terms of need, Germany's well capitalized banks saw no reason to move assets off of their balance sheet as they had more than enough capital to meet the Basle

requirements. Moreover, the lack of strong bankruptcy protection for creditors in Germany meant that there was less need to secure "true sale" protection for investors.

In terms of opportunity, Germany simply lacked the large classes of assets necessary to jumpstart a securitization industry. In the U.S., early securitization was largely based on mortgages and credit cards. In Germany, mortgages were already tied up in Pfandbriefe. Although these instruments have many disadvantages relative to asset-backed securities, their long history in Germany and the special advantages given by the government to their issuers (in terms of capital reserves and government guarantees) ensured that they had an effective lock on the mortgage market. In terms of credit cards, large pools of credit card receivables simply don't exist in Germany as credit card usage is minimal. Thus, ABS could not take off in Germany because the simpler, obvious asset classes that provided the fuel for the take off in the United States were simply not available in Germany.

There is a great deal of truth in this explanation -- one should after all never dismiss the obvious out of hand. It is probably sufficient to explain why ABS did not start in Germany before it began in other countries, however it is an incomplete explanation of why Germany has been so spectacularly resistant to ABS over the last ten years, despite the threat of foreign competition. If ABS was neither needed nor possible in Germany, why were Citibank and the other German banks so anxious to get the practice approved? The relevant comparison here is probably not the U.S., but other the European countries. The UK, France and Spain, in particular, have made significant strides in adapting ABS to their individual context in the last decade.[22] France, which also had very little ABS issuance a decade ago, is today the second largest issuer in Europe (after the U.K.) with nearly $12 billion in ABS activity in 1997. (Source: Fitch IBCA) Thus, although the ground in Germany was probably not particularly fertile for ABS, it still needs to be explained why

[22] In this regard, see Merrill Lynch Global Securities Research and Economic Group, "Securitisation in Europe", 16 December 1998.

the German financial services industry has failed to adapt ABS to its purposes in the years since it was recognized that ABS did have utility in the German context.

There are two principal reasons for this lack of innovative vigor in the German financial services industry, both of which offer a stark contrast to the American experience. The first reason rests in the difference between the German and American system of regulation of financial services. The story of innovation in the American ABS market often involves investment banks and law firms pushing ahead of the regulatory authorities in way which, while legal, certainly evades the intent of many regulations. While the regulatory authorities in the U.S. are aware of this phenomenon and, as mentioned, often frustrated by it, they are usually unwilling to challenge commercial entities acting within the letter of the law and the regulations. They moreover feel that they simply do not have the resources and the expertise to attempt to vet every innovation in the investment-banking sector. To attempt to do so would limit the dynamism of the market and adversely affect the industry and the economy. Rather, they only interfere when they feel laws are being broken (which is rare) or to protect small investors (also rare in ABS). Indeed, regulation in the U.S. often follows innovation, as new rules tend to ratify and simplify procedures that already exist. REMIC, for example, greatly simplified the process of achieving favorable tax treatment for CMOs. However, such treatment was, in effect, already being achieved, though at somewhat higher administrative cost.

In Germany, in contrast, as the Citibank story illustrates, regulators are unwilling to take this approach, especially when they feel the stability of the financial system or the tools of monetary policy may be threatened. This approach, especially in a time of dramatic change in the financial services, makes the FSBO a very busy place and helps explain why the ABS guidelines were essentially seven years in the making.

Complementing this approach is the attitude of the banks in both countries toward the regulatory authority. In the U.S., the banks always seem to be pushing the envelope of the acceptable, almost challenging the regulatory authorities to stop them. Indeed, many

players in the ABS market feel that to wait for regulatory acquiescence is to allow the competition catch up. In Germany, with the notable exception of Citibank, a foreign bank, the banks tend to accept the idea that anything that is not explicitly approved is forbidden. At least, they are unwilling to risk their relationship with the regulators in challenging that idea. Many observers, when noting the puzzling lack of securitization in Germany in the early 1990's, commented that the reason was that Germany lacked the legal framework for securitization. As two noted securitization lawyers noted, however, this assertion made little sense after the Citibank deal had been announced and completed.[23] In fact, what they really saw was this informal relationship between the German regulators and the banks that trumped the formal legal framework.

Of course, this German system of bank regulation has its advantages. In particular, it is easy to imagine that it has made an important contribution to the stability that the German financial system has traditionally enjoyed, especially in comparison to the periodic severe crises seen in the American context. However, the price is paid in terms of innovative activity, which is severely constrained by a regulatory system that, in effect, forbids what it does not explicitly approve and cannot move faster than the regulators.

The second relevant distinction between the German and American system of financial service innovation rests in the structure of the banking industry. First, as already noted, the lack of an ROE culture in Germany until fairly recently inhibited German movements into ABS. More subtly, however, the universal banking structure in Germany also provided a disincentive for German banks to move into ABS. As noted, banks that also do lending see ABS as a double-edged sword. They would rather avoid it unless forced into the business by the competition for fear it will cut into their loan business. In the U.S., the presence of investment banks that did not do lending meant that there existed an institution with an unequivocal motivation to introduce and innovate in ABS. The

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[23] Robert Palache and Ian Bell, "Legal and Tax Issues", p. 91 in Helena Morrissey, ed., International Securitisation.

commodization process described above also means that investment banks, once started on ABS, are inexorably propelled toward ever more elaborate innovations. U.S. investment banks are conspicuous in the role in they played in pushing ABS in the U.S. markets as they had nothing to lose and everything to gain. Universal banks, especially like those in Germany that see themselves primarily as commercial lending institutions are much less likely to more forward with ABS, unless forced by the prospect of competition.

The end result of this system of strict regulatory control, lack of an ROE culture and universal banking was a fairly stagnant process of ABS innovation in Germany. While time will tell whether the German regulators were right to approach ABS so cautiously, in the meantime the vast lead acquired by U.S. and U.K. financial service firms in ABS does not augur well for the German banking industry as they move forward into a world of global finance.