

**THE RISKS OF
COMMERCIAL REAL
ESTATE LENDING**

FINAL REPORT

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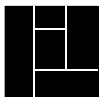
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EXECUTIVE SUMMARY

Market-based commercial real estate lending is quite new in Poland, having developed only in the past three years. As of yet there are only a few players in the market and there are no standardized underwriting procedures, documentation or detailed regulations. The National Bank of Poland (NBP) has primary responsibility for the safety and soundness of the banking system. As Polish banks enter the commercial mortgage market it is essential that the NBP develop appropriate guidelines to monitor and regulate the risk of this sector to the banking system. Likewise, following passage of the Mortgage Bank Act, it will be necessary to develop guidelines for the commercial real estate lending activities of mortgage banks and for the use of commercial real estate loans as collateral for mortgage bonds. This is of particular concern for the Ministry of Finance which has been charged with drafting these guidelines.

The purpose of this study is to provide the NBP and the Ministry of Finance with a comprehensive overview of the risks of commercial real estate lending and how these risks are managed, regulated and supervised in selected European countries and the United States. The risks of commercial real estate lending depend critically on the type of lending, in particular whether loans are for property development or standing investment projects. It is the former more than the latter that is responsible for the enormous losses suffered by lenders in a number of Western countries during the 1980s and 1990s. Furthermore, the risk of commercial real estate lending depends on the legal standing of the lender (i.e., whether the lender has the right to foreclose on a defaulted loan and repossess the property within a reasonable time period and for reasonable cost) and the lessor (i.e., whether long-term lease contracts can be offered and enforced).

Lender underwriting is the key risk control variable. The focus of underwriting has traditionally been on the loan-to-value ratio and the debt service coverage ratio. Property valuation plays a key role in this process and the different approaches to valuation are highlighted in this study. Particular emphasis is given to the German concept of mortgageable value which is a regulatory guideline for valuation of properties collateralizing loans used as security for mortgage bonds. The recent U.S. experience is quite instructive as well. As the funding of commercial real estate has shifted away from traditional intermediaries such as commercial banks and savings and loans and towards securitization, the rating agencies have become more prominent in the risk review process. They have developed detailed, quantitative rankings of the risks of commercial real estate backed securities that provide useful guidelines for regulators.

The last section of the study points to a number of lessons from the European and U.S. experience for Poland. These include:

- The promulgation of policies leading to stable property markets.
- The importance of developing property and loan databases.
- The need to create a creditor-friendly legal system, in particular by improving the lien position of mortgage lenders.
- The harmonization of risk-based capital treatment of commercial and residential mortgage loans at a 100 percent risk weight at least until a body of Polish-specific experience and information can be developed and more differentiated guidelines can be adopted.
- The necessity to discriminate the regulatory treatment of long-term standing investment loans and development loans and the importance of providing incentives for loans with high investor equity (lower loan-to-value ratio) and proper debt service coverage guidelines.
- The importance of developing banking supervision expertise and regulatory consistency in this important area of bank lending in Poland.

THE RISKS OF COMMERCIAL REAL ESTATE LENDING

BANKING CRISES AND COMMERCIAL MORTGAGE LENDING – COMMON CONJECTURES

Credit losses associated with a surge of mortgage lending activity during the late 1980's and early 1990's have been a prominent, in some cases decisive, factor in banking crises that characterized the past decade¹. Declines of both commercial and residential property prices were important factors causing banking problems the Japan, the United States, the United Kingdom, France, Scandinavia, as well as more recently in a number of Latin American and South East Asian countries. The massive financial costs for the financial sector, and most notably for governments standing ready to rescue ailing financial institutions, triggered broad discussions about the causes of the recent crises and the appropriate regulatory response. Typically, the literature has focused on the following combination of macroeconomic factors:

- The effects of internal financial sector deregulation, which changed the rules of the game in many countries during the 1970's and 1980's. Lifting restrictions on deposit raising spurred the growth ambitions of many financial institutions in developed countries in the 1980s. Furthermore, the removal of many traditional investment restrictions for lenders and consequent portfolio diversification taxed their capacities to manage their new risk exposures properly.
- The effects of financial globalization and capital account liberalization, allowing mobile capital to flow with negligible transaction costs to hot investment spots. Special emphasis is typically made on the huge net external creditor position of Japan that had built up by the end of the 1980s. This helped to generate strong and volatile cross-border capital flows and exacerbated the cycles first in domestic Japanese, and later in other local property markets.
- The effects of stop-and-go monetary policy, which generated much greater financial market volatility than before under these new structural conditions. By the end of 1988, short-term interest rates had dropped to the lowest levels in the major developed countries for nearly a decade, only to rise again by 3 percent in the U.S. and 5 percent in Germany over the next 18 months. Assets valued with these short-term rates suffered correspondingly high losses.

¹ For overviews over recent banking system failures in developing and developed countries, see Honohan (1997) and Goldstein and Turner (1996). For commercial mortgage aspects of the lending crisis worldwide see Schinasi and Hargraves (1995) and Renaud (1995).

- The cyclically repeating overexposure of the banking industry to key “high-risk” asset classes, such as commercial property lending, as well as a lack of general constraints on such investment. The key argument is that commercial property markets react differently from other markets to shocks and, by their very nature, create a high-risk asset category.

The macroeconomic factors described in the first three points above can only be necessary conditions for property-related lending crises (that is, none are in a strict sense causal); furthermore, most of the factors are beyond the reach of regulators and even domestic economic policy makers. Therefore, many regulators concentrated their conclusions on the last point, leading partly to extremely restrictive approaches that were designed to discourage lenders from investing in commercial property. Examples of strong regulatory reaction included noted actors, such as the Bank of England² and the Bank of Canada³. In addition, many emerging economies (Singapore, Philippines, Malaysia) have periodically restricted and relaxed commercial real estate lending guidelines, often creating a regulatory property price cycle⁴.

Given these conclusions with respect to the character of commercial property markets and lending behavior, the question becomes identification of suitable, less cyclical, regulatory approaches. This approach implies concentrating on the microeconomic factors of commercial mortgage lending that may control commercial real estate lending risk, including:

- The structure of the commercial mortgage markets, in particular risk behaviors differing by property types, investor types, funding/lending techniques, as well as the nature of the price cycle.
- The legal system determining the relations between lender and property investor, as well as between property investor and commercial tenant.
- The nature of bank lending itself, with risk features differing among other things by lender specialization and diversification, valuation techniques, credit underwriting, foreclosure and property management standards.

² Systematic discouragement of lenders from real estate lending.

³ Limiting bank real estate investment and lending to 70 percent of regulatory capital.

⁴ Interestingly, the most seriously affected economy, Japan, has not introduced any harsh regulatory measures for commercial mortgage lending; similarly in France. A review of a number of cases worldwide reveals no systematic relationship between the onset of commercial mortgage lending crisis and regulatory action ex-post.

While the importance of microeconomic factors regarding the financial sector is stressed by most authors⁵, special conclusions arising from the nature of commercial property are often absent. This report will summarize some key points, elaborating on international empirical evidence brought up in the *empirica* study by Dübel, Pfeiffer et. al. (1994).⁶

COMMERCIAL MORTGAGE CREDIT RISK – DETERMINING FACTORS

Commercial Property Price Risk

The relative price volatility of commercial and residential real estate is shown in Figure 1 and Figure 2. These data convey the impression that commercial property prices are intrinsically more cyclical, for quite a number of countries, than residential property prices. A problem is that most commercial property price data, including that displayed, stem from surveys of real estate agents which typically report only the volatile, high-price, top-location-top-quality end of the market. Also, office price data are often taken as a proxy for the entire commercial property market (which also includes retail, hotel, industrial, and other uses) for which they may not be representative. In contrast, residential property prices are typically covered by public special surveys, and reported in detail by national statistical offices.

The *empirica* study shows that a generalized view of an intrinsically higher price risk in commercial uses of real estate needs correction for the following reasons:

- The cyclical behavior of high-end and mean values for office rents or capital values differs strongly, as Figure 11 in the annex shows for Germany. These observations hold for Italy, the UK and other surveyed countries (note that residential property price data published in statistics typically refer to mean or median concepts).
- High commercial mortgage price cyclicity is a phenomenon of “hot spots,” that is they tend to be geographically concentrated. For example, the study shows that in 9 out of 13 UK regions, volatility of house prices exceed the volatility of office capital

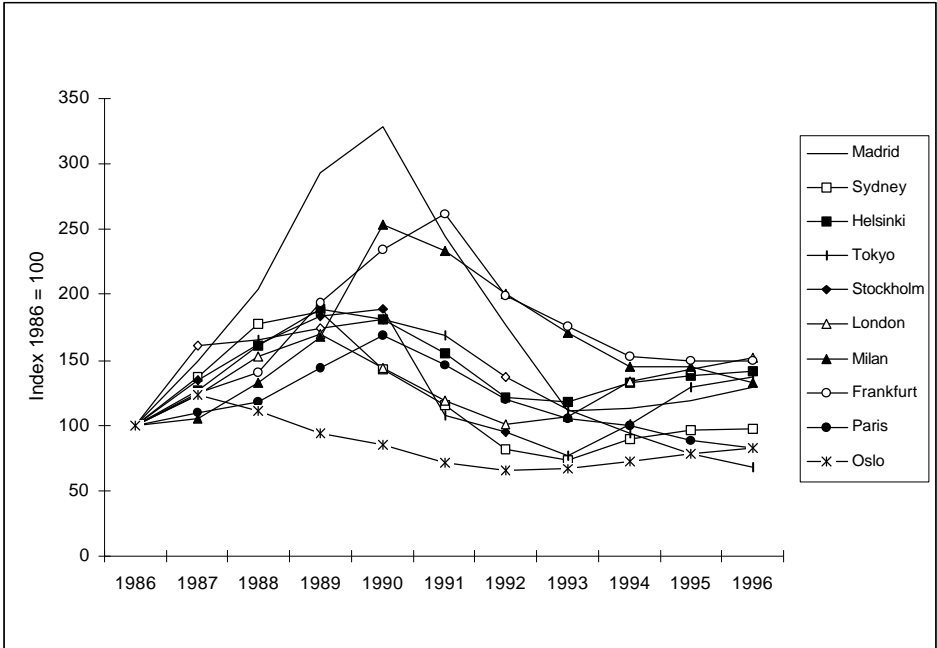
⁵ Honohan (1997) speaks of the „three failures syndrome“: macroeconomic epidemics, poor management and microeconomic deficiencies, and endemic crisis in a government-permeated banking system.

⁶ This section is based on a study undertaken by *empirica* for the Verband Deutscher Hypothekenbanken concerning Article 11(4) of the EU-Solvency Directive in 1994/1995. The article granted a temporary derogation from the general 8 percent Basle equity rules to a 4 percent level for certain commercial mortgage loans in the countries of Denmark, Greece and Germany until 1995. The central point raised in the derogation was whether first mortgages within a 60 percent loan-to-value range were sufficiently effective in cushioning the impact of price shocks on the underlying collateral markets to the bank’s asset quality, or whether additional risk buffers would prove necessary in order to create a low-risk/low-cost commercial mortgage loan benchmark.

values during 1981-1993. Only in Scotland and London were office capital values more volatile (Figure 12; likewise for Paris, Figure 13) and suggest that there can be no generally valid inference on higher price risk for commercial real estate as such.

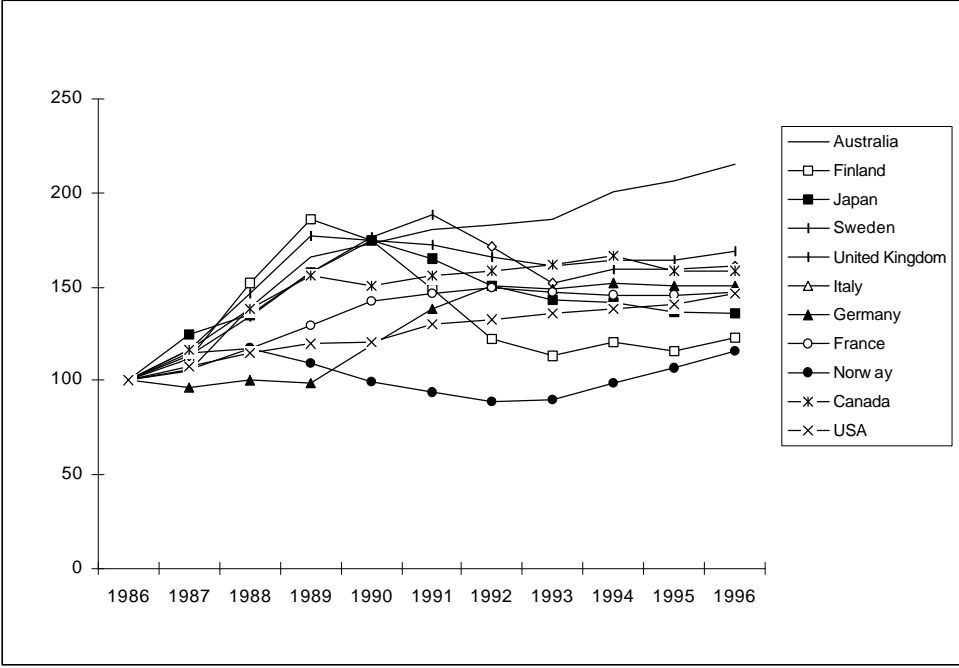
- Depending on which activity is financed – long-term standing investment or property development (see below) – different price indices are the appropriate benchmarks. Standard statistics for residential rental housing typically make this important distinction.
- Even in hot spots, there are very different kinds of cycles: a London-type cycle, where short-term production incentives and disincentives generate a confined short-term cycle (that leaves the long-term investor basically unaffected); and a Paris-type cycle, where structural adjustments (large increase in the supply of developable land due to planning change) created a much stronger long-term price adjustment process.
- Finally it should not be overlooked that commercial property markets comprise very different uses, with some premises offering the investor a conversion option, for example from office into retail or housing, and vice versa.

Figure 1: BIS Data - Commercial Property Prices



Source: empirica (Bank for International Settlements)

Figure 2: BIS Data - Residential Property Prices



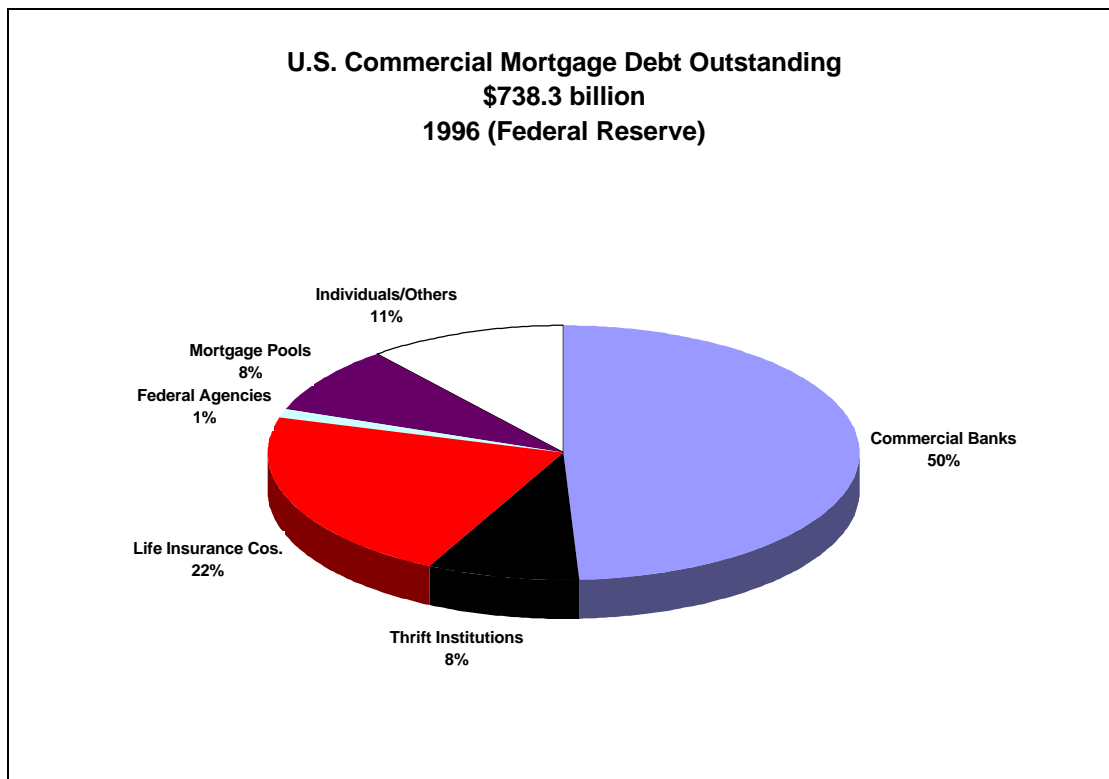
Source: empirica (Bank for International Settlements)

Commercial Mortgage Market Structure

Sources of Funds

Commercial real estate investment is funded from a mixture of debt and equity. At the end of 1996 in the U.S. there was over \$738 billion in non-residential, non-farm commercial real estate debt outstanding (Federal Reserve) representing approximately 9.7 percent of GDP.⁷ This contrasts with \$3.9 trillion of residential (defined as one-to-four family) mortgage debt outstanding (52 percent of GDP). Commercial banks are the largest supplier of mortgage debt, holding approximately 50 percent at the end of 1996. (Figure 3). Life insurance companies are the second largest holder at 22 percent. The fastest growing segment of the commercial real estate debt market is securitized pools which grew from \$15 billion in 1992 to \$63.5 billion in 1996.

Figure 3: U.S. Commercial Real Estate Debt Outstanding



Source: Federal Reserve

⁷ Multifamily mortgage debt is treated as residential. There was \$310.4 billion of multifamily (5+ dwelling units) mortgage debt outstanding at the end of 1996.

There are no comprehensive data on equity investment in commercial real estate in the U.S. As of 1994, real estate holdings of both life insurance and pension funds were in excess of \$60 billion (Clauterie and Sirmans, 1995). Life insurance companies held between 3 and 4 percent of their assets in real estate and pension funds held between 4 and 5 percent. There has been a growing trend towards public ownership of real estate in the form of Real Estate Limited Partnerships and Real Estate Investment Trusts (REITs). Tax law changes have had a large influence on the ownership of real estate in recent years. The Tax Reform Act of 1981 provided significant incentives for individual ownership through limited partnerships. Most of these incentives were taken away in the Tax Reform Act of 1986 (with a predictable negative effect on real estate values).

According to data collected by the European Mortgage Federation (EMF), there was more than \$3.4 trillion of mortgage debt outstanding in Europe as of 1996. This is an underestimate as they do not report commercial mortgage debt outstanding for France, Finland and the UK. Table 1 shows the strong differences in both residential and commercial mortgage market penetration among European countries, suggesting the existence of fundamental differences.

Table 1
Mortgage Lending in Europe

	Commercial Mortgage Debt/GDP (%)	Mortgage Debt Outstanding/GDP (%)	Gross Residential Lending as % of GDP	Gross Commercial Lending as % of GDP
Norway	30.72	60.08	N/A	N/A
Denmark	22.34	55.76	13.79	11.09
Netherlands	22.82	55.73	14.07	5.01
United Kingdom	N/A	54.44	9.70	N/A
Sweden	18.73	51.14	1.44	N/A
Germany	9.89	42.21	3.30	N/A
Belgium	3.37	22.81	5.06	0.29
Ireland	4.07	21.45	4.66	0.00
France	N/A	20.53	2.62	0.00
Portugal	4.84	20.32	5.98	0.57
Spain	8.19	19.46	4.80	2.78
Italy	3.83	7.30	0.43	0.19

Source: European Mortgage Federation, authors' calculations

When conducting cross-country comparisons, one has to keep in mind that mortgages or any other type of financing of commercial property is provided under diverse institutional and legal environments which influence the competitive position of

mortgage loans. These differences are often not the result of market forces, but rather of different legal and institutional frameworks. The *empirica* analysis shows that the structure of long-term finance and the significance of mortgage lending in each country is strongly influenced by the following factors:

- The presence or absence of tax incentives for private investors in real estate.
- The presence of long-term institutional investors, such as pension funds and insurance companies.
- Core legal characteristics of the mortgage loan, such as performance in bankruptcy and foreclosure procedures.

The central question of leverage, i.e., the proportion of equity vs. debt financing of the property, depends largely on the legal position of the creditor (see below) and the resulting regulatory constraints on large institutional investors.

Table 2 displays estimates of the importance of institutional investors as equity investors in property in Europe. Clearly, the significance of institutional investors as equity investors in property is much higher in the UK and the Netherlands than, for instance, in the mortgage bank countries of Germany and Denmark.

Table 2
Estimated Real Estate Holdings of Financial Institutions in Europe

Country	Pension Fund Assets		Life Insurance Assets		Approximate Total	
	Assets % of GDP ^b	Real Estate % of Assets	Assets % of GDP ^c	Real Estate % of Assets	Real Estate % of GDP	Real Estate % of Assets
Denmark	20.1	9.0	49.0	3.0	3.3	4.7
Germany	5.8	11.0	20.5	5.0	1.7	6.3
Spain	2.2	1.0	4.2	10.0	0.4	6.9
France	3.4	7.0	30.0	8.0	2.6	7.9
Italy	1.2	10.0	3.7	12.0	0.6	11.5
Netherlands	88.5	10.0	45.6	6.0	11.6	8.6
Sweden	33 ^a	8.0	36.9	7.0	5.2	7.5
United Kingdom	79.4	6.0	67.1	9.0	10.8	7.4

Notes

a 1991

b 1993

c 1995

Source: Commission of the European Union (1997), author's calculations

In Germany, with its extensive pay-as-you go social security system, private pension funds are weak in comparison to those in Britain. At the same time, portfolio

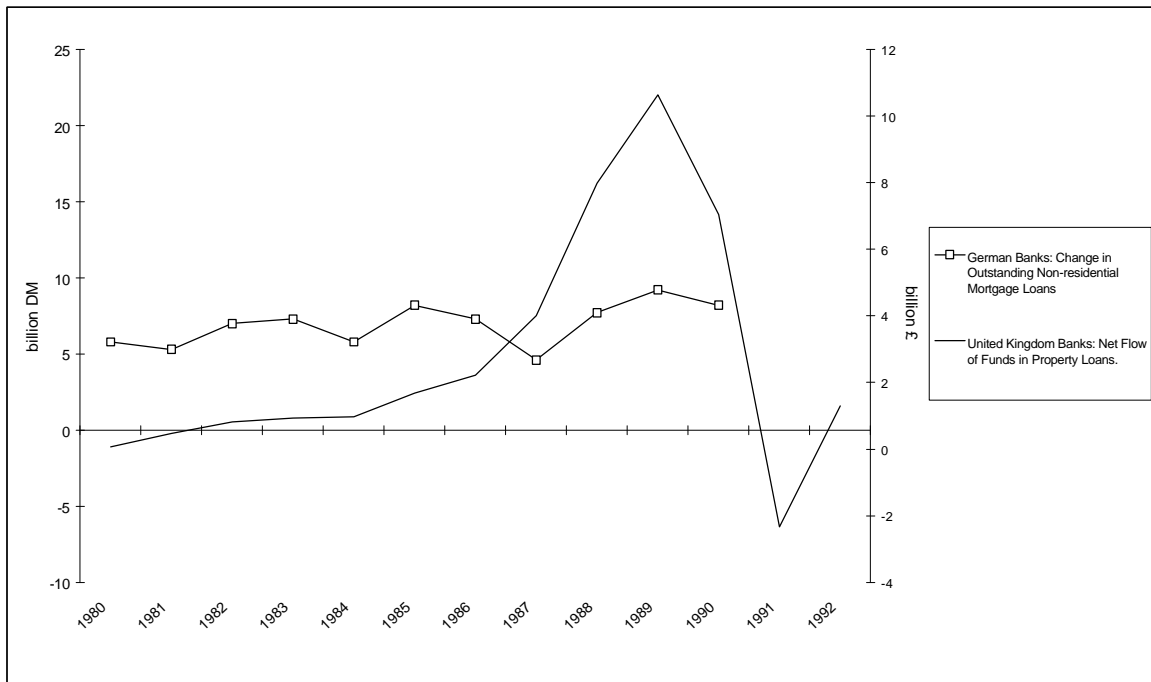
structure analyses show that German insurance companies and pension funds prefer indirect investment via bonds and loans, while British pension funds prefer equity investment. These differences are, among other things, the consequence of statutory regulations. The fact that in Germany, as in Denmark, a low risk loan type is defined by a specific set of regulations makes it easier for pension funds to buy bonds or give direct mortgage loans, while for British funds, equity investment has been traditionally more attractive. In France the Credit Bail (leasing) system was developed for tax and credit risk reasons.⁸

Property Development Lending or Standing Investment Loans

The structure of commercial mortgage markets is often misunderstood; as noted frequently in the discussion about the risk of commercial mortgage lending, no differentiation is made between development loans (“property lending”) and long-term loans for standing investments. These two loan categories represent very different concepts: development loans, unlike standing investment loans, bear the completion risk, the construction time risk, and a much higher underlying price risk. Furthermore, the volume of new property lending is extremely cyclical, reacting to, or inducing, new investment in commercial real estate. By contrast, outstanding standing investment finance is sluggish in response to new investment. Figure 4, comparing data from Germany (high share of standing investment finance) and Britain (high share of property lending), demonstrates the point.

⁸ In a leasing arrangement the bank owns the property and leases back to the user. The lease contract can last for 15 years and the lessee has an option to purchase the building after 5 years.

Figure 4: Comparison United Kingdom/Germany - Non-residential Mortgage vs. Property Lending



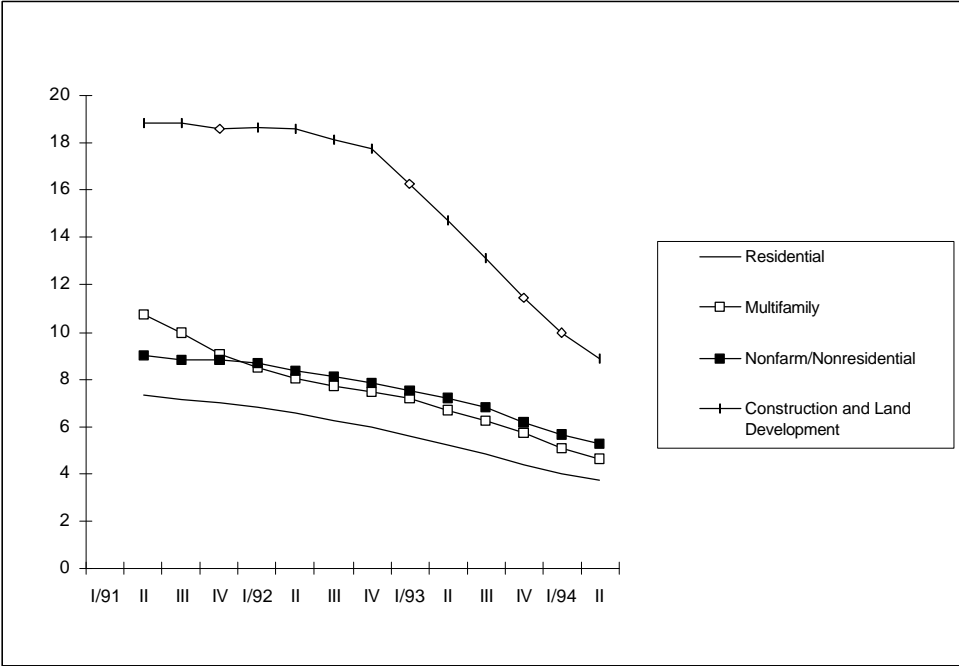
Note: Germany after 1990 not comparable

Source: *empirica*

Development loans are much riskier than long-term standing investment commercial mortgage loans. Figure 5 shows data reported in the Report of Conditions of the U.S. Federal Deposit Insurance Corporation (FDIC), covering loans by commercial banks during the period of 1991-1994. There are limited differences in delinquency (default) rates between single-family loans, commercial loans (non-residential/non-farm), and multi-family loans; on the other hand, however, development and construction loans show twice the delinquency rates of commercial loans.⁹

⁹ The definition of development loans is not easy, as in many cases, bridging loans during the construction period can be seen as the first installment of a long-term loan.

Figure 5: U.S.: Real Estate Loan Delinquency Rates as a Percent of Average Loans, Seasonally Adjusted Quarterly Averages (All insured Chartered Commercial Banks)



Source: FDIC Report of Condition

The difficulties in differentiation also arise from corresponding banking statistics, in which loans to the real estate sector are treated as one category regardless of their function. Lending to the property sector in Britain, for instance, nearly exclusively refers to loans given to property development companies that typically operate under the highly volatile conditions of a narrow domestic property market. It is no surprise therefore, that research in Britain finds much higher default rates in comparison to residential lending.¹⁰

It would be a misunderstanding, however, and impossible in the British data context, to speculate about the relative default risk of commercial real estate loans, including long-term standing investments, given the institutional context in which there is hardly any long-term lending.

¹⁰ E.P.Davis (1993) finds, for instance, in a long-term analysis of a large British clearing bank over the period between 1976 and 1991, mean write-offs of 0,05 percent for loans for house purchases and 0.60 percent for lending to property companies.

Impact of the Legal System

Legal Position of the Creditor

There are two key issues in any credit risk analysis: the likelihood of default and the loss the lender incurs in the case of default.

The amount of loss in case of default is strongly influenced by the legal position of the creditor. In countries with strong protection of lenders' rights to collateral in the event of default, such as in the mortgage bank countries of Denmark, Austria, or Germany, or common law countries such as Britain and the U.S., the mortgage is an absolute claim. Only property taxes and fees for public infrastructure have to be paid first out of property sales. The lending institution has direct access to a property and can use the receipts from sale to cover the outstanding loan balance plus interest.

This situation differs in countries with borrower-friendly, or complicated, bankruptcy procedures. These countries typically have undersized commercial mortgage sectors and have developed alternatives to commercial mortgage loans for the capital market. The classic case is France, where leasing dominates commercial property finance in part due to the weaknesses of the legal position of the mortgage. Bankruptcy procedures are typically avoided by mortgage lenders, as these give preference to other claims (unpaid salaries, all unpaid taxes), forcing lenders to enter an amicable solution vis-à-vis a magistrates court. This situation has compounded French lenders' losses during the extended property cycle.

The ability to realize the value of the mortgage as collateral has been a key contributor to the varying market penetration of commercial mortgage lending and also to loan loss performance in different countries. In those countries in which mortgage loans have an absolute priority over other claims in the bankruptcy procedure, lending has proven to be an attractive alternative to equity investment for institutional investors as risks are lower and less knowledge is necessary to participate indirectly in the real estate markets. In particular, where a low risk type of loan is defined by strict regulations, banks and their clients can invest capital at low transaction costs and with low information costs. These facts have been acknowledged by regulators which allow institutions in some countries to hold large mortgage loan books, and in others which are much more restrictive.

Legal Position of the Lessor

Whether projected rent revenues may cover the debt service of a commercial mortgage loan depends crucially on the form of commercial rent legislation. In some European countries (for example, France and Belgium), rental legislation allows for universal contract termination options for commercial tenants, limiting the maximum period over which rental revenues can be effectively estimated. In Japan, one of the

key factors in the sharp office price decline was the fact that commercial tenants are universally allowed to give notice to landlords every 6 months.

Countries with strong lessor rights (for example, United Kingdom and Germany) experienced less price cyclicity and default problems with rented properties. In the United Kingdom, the data show that rented commercial properties were a powerful hedge against the property price cycle; unrented stock, in turn, was hit hardest.

Unilateral tenant options, combined with uncertainty over timing and frequency of their exercise, make the anticipation of rent revenues difficult; thus they may cause price cycles to intensify. The fundamentally different price cycles in Paris and Tokyo markets in comparison to London are a clear indication of this.

Table 3 displays basic information with respect to the commercial rent legislation in seven EU member states. In Germany, Spain and the Netherlands the typical term of rental contracts is five to ten years; In Britain it is still ten to fifteen years. In the presence of long contract terms, there is generally no legal right for the tenant to achieve extension.

In Belgium and France commercial rent contracts have a typical maturity of nine years. It is important to note, however, that in Belgium both parties have the right to terminate the contract every three years; in France only the tenant has such a right. Tenants have also the right to demand extensions in both countries. In Italy the typical contract lasts six years with a legal option of extension. Only in Britain may rental changes be implemented on the basis of market rents. In other countries the consumer price index or construction cost index forms the basis of rent increases.

Table 3
Commercial Lease Legislation In Selected EU Countries

Country	Typical Contract Duration/Years	Tenant Option on Extension?	Adjustment of Conditions	Frequency
Belgium	9 (3/6)	yes	CPI	Contractually determined
Germany	5 to 10	no	CPI	Contractually determined
Spain	5 to 10	no	CPI	N/A
France	9 (3/6)	yes	CCI	Annual
United Kingdom	10 to 15/25	yes	Market Rent	Freely negotiable, typically every 5 years
Italy	6	yes	CPI	Typically every 5 years
Netherlands	5 to 10	no	CPI	Annual

Notes

CCI = Construction Cost Index

CPI = Consumer Price Index

Source: IFO-Institut, authors' research

In the U.S., office leases are typically 5 to 10 years with 7 years being most common. Retail property leases are frequently longer. Leases for credit anchors (large, well known stores that draw other vendors and customers to a center) can be 20 years or longer. Smaller non-credit anchors are around 10 years and other lessees are typically 5 years. Warehouse leases are shorter (typically 5 years). Leases are frequently indexed to the CPI.

Restrictive rent legislation can be very detrimental for commercial landlords, increasing the default risks of commercial mortgage lending by restricting the ability to raise rents in line with expenses. Mandatory unilateral tenant options in the commercial sector, rooted in the idea to protect small enterprises, can prove highly detrimental to financial stability goals.

UNDERWRITING COMMERCIAL MORTGAGE LENDING RISK

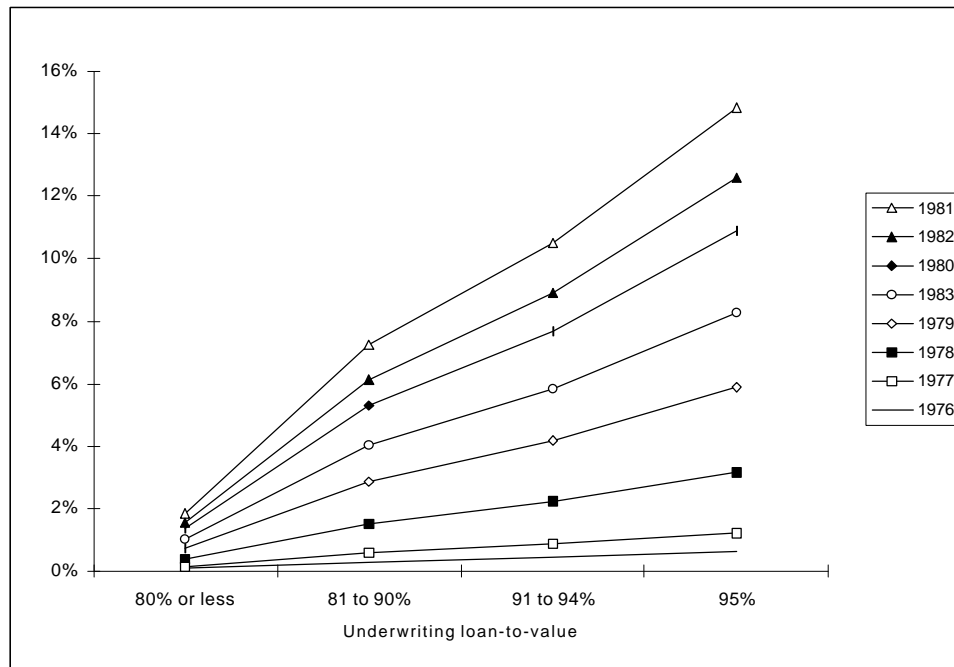
The principal determinants of mortgage default are the willingness and the ability of the borrower to pay. The willingness to pay is based on the amount of equity the borrower has in the property as determined by the current loan-to-value ratio and the ability to pay is based on the ability of the property to produce sufficient cash flow to service the debt.

Loan-to-Value Ratio

It has been shown that the loan-to-value ratio (LTV) by far dominates other underwriting criteria as well as property characteristics as a risk buffer; that is, conservative (low) LTVs will result in both a lower default risk and lower losses in case of a default. This is supported by economic theory which considers loan default as a put option of the borrower, giving him the opportunity to abandon the project if his equity becomes depleted. This typically will happen if property prices drop strongly.

Figure 6 shows the power of loan-to-value restrictions for the case of a large residential mortgage loan pool (725,000 loans) which was analyzed by Van Order (1990). He developed an econometric model designed to capture the impact of loan-to-value ratio and environmental factors (approximated by the loan origination year (interest rates, borrower characteristics)). The result of the analysis is that conservative underwriting clearly dominates other characteristics. While, for instance, loans originated in the high interest-rate environment of 1981 are still subject to a higher default rate, sufficiently high equity in the project reduces the default likelihood to minimal levels.

Figure 6: Cumulative Default Probability of Single Residential Mortgages Cohorts within 10 years of Origination



Source: Van Order (1990)

Similarly, loan-to-value restrictions provide substantial support for the credit quality of commercial mortgage loans. Research by Vandell et al. (1993) has found a similar result with the ratio of the market loan-to-value ratio by far the most significant explanatory variable in an analysis of defaults on commercial real estate loans made by life insurance companies.

The *empirica* study examined the role of underwriting in the loss experience of German Mortgage Banks. Figure 7 presents a time series of loss ratios for 60 percent LTV first mortgages from 1977 to 1991. The data represent write-off balance statements for the sample of 26 mortgage banks which are divided through outstanding loans in the categories of residential and commercial mortgage collateral. Loss ratios oscillate around a very low level of 4.6 basis points (a basis point is 1/100 of a percentage point) for residential mortgage loans (including both owner-occupied housing and multi-family housing) and 5.4 basis points for commercial mortgage loans.¹¹ These data show no systematically different loss behavior between residential and commercial loans, reflecting the conservative underwriting (maximum loan-to-value

¹¹ As of 1993, offices made up for 38.8 percent of total commercial lending of the mortgage banks, and multi-purpose buildings for another 35 percent.

ratio of 60 percent) and the fact that German mortgage loans in general feature a high share of standing (fully leased) investment finance loans.

Figure 7: Loan Loss Rates of German Mortgage Banks 1977-1991 - Residential vs. Commercial First Mortgages (60 percent Loan-to-Value)



Note: Loss rates are indicated in basis points, i.e., hundredths of a percentage point
Source: *empirica*

In the *empirica* study, a survey among 4 mortgage banks sampled 1,900 disaggregate loan files over the period of 1980-1994. The estimates from an econometric model supported the conjecture of the importance of the underwriting loan-to-value as a risk buffer: the model estimated that for every 20 percent increase in the loan-to-value ratio the default probability of an office loan would rise by 43 percent. A number of other analyses with disaggregate data sets support these findings (e.g., Vandell, et al., 1993). Key to all the analyses is that the loan-to-value ratio dominates all other loan characteristics, regardless of whether the use of the property is residential or commercial.

During most European price cycles of the late 1980s to the early 1990s a first mortgage position up to 60 percent of the property value would have been sufficient in order to insulate a diversified lender's portfolio sufficiently from any losses, as the remaining collateral would have suffered to cover the lender's claim. However, this statement does not hold for some single-vintage portfolios (e.g., underwriting in 1989), concentrated on very volatile markets (e.g., London). Additional safety features are therefore needed.

Debt Service Coverage

The debt-service coverage ratio is defined as the ratio of net operating income to the mortgage payment. As shown in Table 4, a project generating a gross rent of \$600,000 in year 1 with a vacancy rate of 5 percent and an expense ratio of 25 percent of gross rent would generate net operating income of \$420,000. If the owner obtained an 80 percent LTV mortgage based on a project valuation of \$2,800,000 at a 12 percent fixed rate for 20 years the annual debt service payment would be \$299,888. The initial debt-service coverage ratio (DCR) would be 1.4 ($\$420,000/\$299,888$) which in this example would grow to 1.84 in 5 years assuming 7 percent annual increase in net rents. The risk in focusing on the initial DCR is that rents may not increase at the rate forecast (e.g., if they are not indexed), vacancies may rise, or expenses may rise at a faster rate than assumed. Also, if the borrower takes out a variable rate loan the mortgage payment may not remain constant.

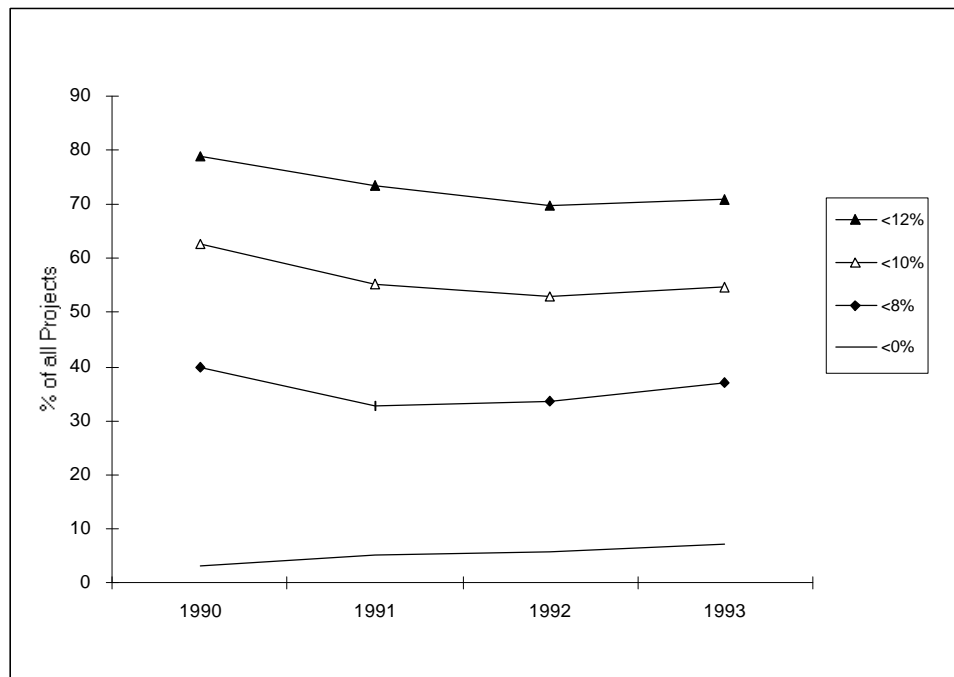
Table 4
Project Cash Flows

	Year 1	Year 2	Year 3	Year 4	Year 5
Gross Rent	\$600,000	\$642,000	\$686,940	\$735,026	\$786,478
Vacancy	\$ 30,000	\$ 32,100	\$ 34,347	\$ 36,751	\$ 39,324
Net Rent	\$570,000	\$609,900	\$652,593	\$698,275	\$747,154
Operating Expenses	\$150,000	\$160,500	\$171,735	\$183,756	\$196,619
Net Operating Income	\$420,000	\$449,400	\$480,858	\$514,518	\$550,534
Mortgage Payment	\$299,888	\$299,888	\$299,888	\$299,888	\$299,888
Before Tax Cash Flow	\$120,112	\$149,512	\$180,970	\$214,630	\$250,646
Debt Coverage	1.40	1.50	1.60	1.72	1.84
Break-Even Occupancy	0.75	0.72	0.69	0.66	0.63
Operating Expense	0.25	0.25	0.25	0.25	0.25

Where valuation techniques are not sufficiently developed, or price cycles are extremely strong, a debt coverage requirement can be implemented in combination with or substitution for the loan-to-value ratio restriction. An adequate debt service coverage ratio is technically easy to manage, as lenders will typically collect information about rent contracts. This information could also be used by bank supervisors.

For standing investment finance, the stability of a debt service indicator depends much on contractual provisions of the rental agreements, or equivalently pre-leases, as well as the financial conditions of the loan, which must be sufficiently predictable over the loan time period.

Figure 8: 1989 London Market Analysis: Percentage of Office Properties Acquired in 1989 Yielding Below X percent in the Subsequent Years



Source: *empirica*

To show the power of the debt-service coverage ratio as a risk cushion the *empirica* study analyzed the London office market. For simulation purposes, a disaggregate bank property loan books was constructed with data generated by IPD's¹² London Office Market survey. The study concentrated on the worst case: office buildings built or bought at the top of the price cycle in 1989. For this vintage, even a 60 percent loan-to-value restriction would not have been sufficient to protect the average lender from a loss in the event of being forced to liquidate the property at the bottom of the cycle, in 1993¹³.

Figure 8 shows the simulation results. It indicates the percentage of office projects in the database which generated net rents (yields) at a specific return in the years following 1989, the peak of the cycle. A small but growing percentage generated

¹² IPD: Investment Property Databank, is an information service that provides for a comprehensive database of financially relevant characteristics of British commercial properties. It has been founded and supported by key investors in the property market (mainly pension funds), performing thereby a public good information function for all investors in the market.

¹³ The argument has, however, to be seen against the background of the open market valuation technique that is typically also applied to lending operations in Britain (see below).

nearly zero revenues – that is, vacant buildings. Thirty to forty percent had insufficient returns for their investors (below 8 percent, the level likely to cover the debt service on an assumed mortgage), clearly an indication that the market was significantly overpriced during 1989. The key finding is that as property prices dropped precipitously in 1990, 1991 and 1992, the proportion of 1989 properties yielding a return greater than or equal to their assumed debt service remained nearly constant.

This result shows how powerful the debt service coverage ratio might be under conditions of long-term commercial leases: if property values drop, rental values remain basically constant, as long as the mobility of the tenant is blocked through a long-term contract without the option to move. In most legal systems, with some notable European exceptions, as noted above, such contracts are possible (and typical for the market).

The simulation analysis also showed the powerful effect of diversification. A lender having a portfolio diversified across a number of vintages (years of origination) fared substantially better than one holding only one vintage (e.g., 1989). This suggests the value of having banks in the sector permanently (that is through the cycle) rather than forcing them out as conditions deteriorate and letting them back in near the top of the cycle.

Valuation Techniques

The key to underwriting using the LTV ratio is valuation. Diverse traditions and/or regulations govern valuation in different countries. There are no general techniques for valuation which are adequate for all purposes. Box 1 gives an overview over the main methods.

Box 1: Main Property Valuation Methods

- **Open Market Value:** The Open Market Value is defined as the price at which an asset is traded between sellers and buyers on an open market. In practice, determining the open market value of an asset means drawing inferences from the values obtained in transactions (sales) on properties of a quality and location similar to the property which is to be valued. The open market value has, therefore, comparatively limited information requirements.

The rationale for applying the open market value is information efficiency. It is assumed that market participants are rational, and process all available information in forming future revenue and cost expectations while determining the current market price. As a result, today's market prices are deemed to be unrivaled in their accuracy in assessing the value of an asset. The drawback is that only a low proportion of commercial real estate is actually turned over at a particular point in time (typically below 2 percent), making the observations of market prices of questionable statistical significance.

- **Income Value:** Income Value is a method in which discounted cash flows are used to determine the present value of the income streams derived from a real estate investment. In practice the method requires explicit analysis of all factors determining present and future costs and revenues of the investment. Information requirements include, over the entire holding period, an estimate of: the rent stream, the future operating and capital cost stream, and the appropriate discount factor.

Theoretically, discounting all cash flows that the investment yields over the holding period is the most accurate approach to property valuation. Assuming rationality and full information on the part of all market participants, the open market method would become identical with the income value method. The income value method makes the assumptions explicit, however, and considers a much broader set of information (for example, rental agreements and expense conditions).

- **Reproduction Value.** The Reproduction Value determines the cost of reconstructing the building in the same location with the same characteristics. In practice, the reproduction value requires an assessment of the construction costs necessary to replicate the building. Information requirements are therefore rather low. Valuing real estate according to a reproduction value starts from an unrealistic assumption, namely, the theoretical possibility of exactly copying the project. By contrast, both open market value and income value include demand aspects, such as expected rental income.

The position taken by the reproduction value method is not as weak as it seems. A closer look at property cycles shows that it is typically errors in the assessment of demand factors that make property valuations unreliable and cyclical. In particular, excessive rental growth expectations and the application of inappropriate discount factors may render valuations inaccurate. Although valuing a property based only on the reproduction value would clearly be inappropriate, valuing a property *without* considering reproduction costs is hazardous.

Whichever approach is applied, common valuation methods for properties do not take into account the different credit risk positions of the lender vis-à-vis the equity investor. Lenders have limited potential for capital gains, but high potential for capital losses, while investors typically can take advantage of the full distribution of property prices. Equity investors have a "put option," that is, they can sell the property to the market at any point in time during their holding period, realizing capital gains. Lenders do not have this option; in analogy they typically cannot "call" the loan before maturity,

which might be in their interest if property prices decline and the likelihood of a default of the investor rises. Because of these serious disadvantages, lenders receive a return: a credit risk premium on the loan and, typically, a preference in the bankruptcy procedure. Nevertheless, when valuing the collateral, the option characteristics of their financial contract with the investor should be kept in mind.

It is regulatory practice in countries with strong traditions of special regulations in mortgage banking (Austria, Germany, Greece, Denmark) to (i) give preference for an income value method, and (ii) impose a modification of the cost and revenue factors in order to arrive at a lender-oriented "mortgageable value." These regulations typically focus on only the permanent characteristics of the property, i.e., those relevant for a long-term investment horizon, which a lender without short-term options needs to take. The following restrictions are applied in the case of Germany:

- A whichever-is-lower principle for rent assumptions, using the lower of, current contract or market rents, combined with the requirement to use permanently achievable values.
- Assumption of minimum operating costs to arrive at net rents (25 percent of gross rents for residential, 30 percent for commercial property).
- Minimum discount factors (currently 5-5.5 percent for residential, 6-7 percent for commercial property, adjusted periodically as market interest rates change).
- A general safety margin (10 percent) deducted after the income value has been determined.

The major differences between the mortgageable value and open market value are shown in Table 5. As noted above, the purpose of the two valuations is different. Investors are, quite properly, primarily concerned with likely market value over the investment (holding period) time horizon while lenders are concerned with sustainable value over the remaining loan maturity. Market comparables are appropriate from the investor perspective as he is concerned about near term sale. The mortgageable value method with conservative assumptions about rents and expenses is more suited for the long-term lender.

Table 5
Property Valuation Techniques: Open Market Value vs. Mortgageable Value

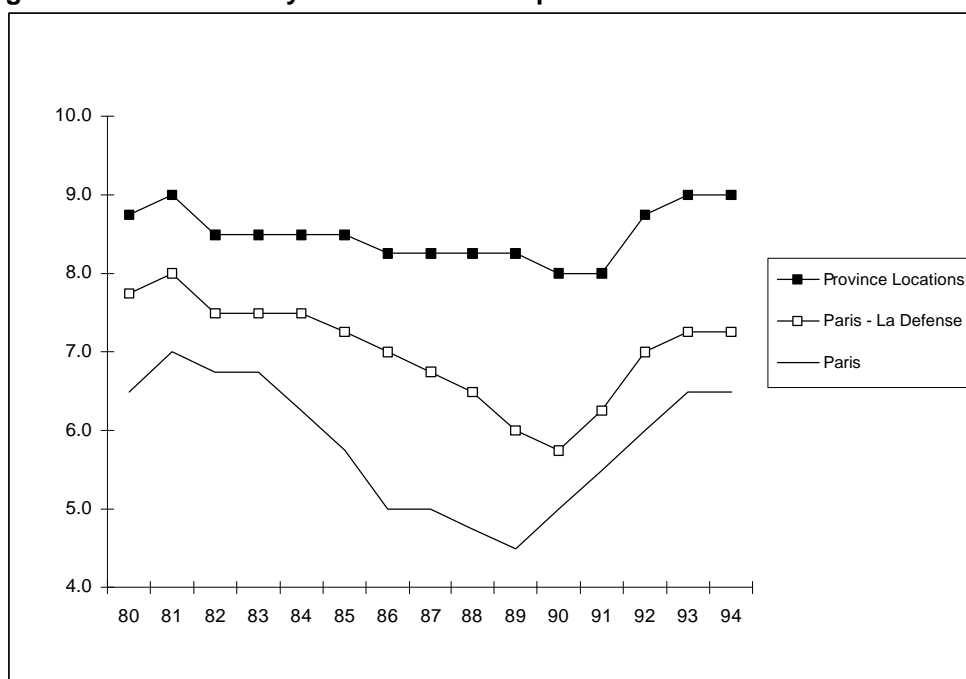
	Mortgageable Value	Open Market Value
Main Function	Protection of creditors	“True” economic value for investors
<i>Technique</i>		
– Approach	Discounted cash flow	Market comparables
– Discount Factor	Refinancing costs of creditor	Market yields reflecting alternative investments
– Gross Rent Estimation	Project or market rents	Project rents with market rent growth forecast
– Operating Cost Estimate	Minimum percent of rent assumption	Project specific with market expenses growth forecast
– Forecast Period	Loan period	Investment period
<i>Practice</i>		
– Determination	Bank supervisors	Professional organizations
– Enforcement	Higher capital risk weights Higher finance costs	Courts

A major factor in the mortgageable value approach is the requirement to use minimum discount factors. Rather than use current market yields for investors (referred to as capitalization rates) the requirement is to use a discount rate related to the refinancing costs of the lender (in this case the mortgage bank). In the German example this means a discount rate based on long-term rates in the economy (based on the loan term). Open market valuations often use short-term discount rates. Short-term rates are, however, much more volatile than long-term rates, introducing extra volatility into property valuations. The argumentation transfers to property yield levels:¹⁴ lenders should not accept yield levels (high valuations) below their long-term risk-adjusted opportunity (financing) costs. An empirical example for France in Figure 9 shows the point.

¹⁴ Net rent revenues divided by the capital value.

Box 2: Paris Market

In the "hot" Paris city property market, unlike the French provinces, office yields dropped by early 1989 as low as 4.5 percent, reflecting the strong capital value (property price) appreciation as actual rent appreciation was relatively unchanged. Investors accepted this low yield as a consequence of high capital growth expectations, spurred by the dynamics of short-term interest rates that hit their bottom by the end of 1988. At that time, however, 3 month interest rates stood around 7.5 percent p.a. and long-term bonds at 8.5 percent p.a.. In fact, provincial locations' yields matched more or less exactly a long-term bond return, implying lower capital gains expectations. Under conditions of sustainable mortgageable valuation, a minimum discount factor of 6 percent would have yielded much lower property values for lending purposes in the Paris and vicinity markets than those recorded, starting from the same level of net rents. It would have capped the amount of capital gains expectations that the lenders would have been allowed to finance.

Figure 9: Yields on Fully Rented Office Properties in Different French Locations

Source: *empirica*

The mortgageable value concept has to coexist with other, investor-oriented, valuation methods. In cases of strong deviations, for instance between open market value and mortgageable value, a conservative approach for lenders is to adopt the mortgageable value approach in determining the loan amount. Imposing a mortgageable value is primarily a regulatory instrument that limits lenders' risk exposure, and makes it visible for supervisors. In Germany it has been shown to stabilize the property price cycles. Its significance will depend on the role of banks as long-term standing investment financiers. In countries where properties are typically

financed with more than debt, such lender-oriented valuation techniques are less likely to become a common standard.

COMBINING THE UNDERWRITING FACTORS: RECENT U.S. EXPERIENCE¹⁵

Regulatory Background

Historically, commercial banks and savings and loan institutions in the U.S. together provided funding for approximately two-thirds of the commercial mortgage market. Today about one-half is still granted by commercial banks but the other half of commercial mortgages are packaged into asset-backed securities and sold to institutional investors in the form of bonds. This shift reflects both Congressionally mandated restrictions on the provision of commercial real estate credit from federally-insured depositories and development of the securitization funding techniques.

The major recent restrictions on commercial real estate lending passed in recent years include:

- **FIRREA** – the Financial Institutions Reform, Recovery and Enforcement Act of 1989 restricted the commercial real estate lending authority of a savings and loan from 40 percent of assets to four times the institution's capital. Regulatory supervisors responsible for resolving savings institution problems invariably cited over-investment in commercial real estate, unsafe and unsound commercial real estate loans, and speculative land loans as leading causes of failure. FIRREA reduced the ability of savings and loans to originate and retain commercial mortgages for permanent portfolio investment.
- **FDIC Improvement Act** – Credit rating agencies, such as Moody's Investors Service and Standard & Poors, downgraded significantly more commercial bank debt in 1990 and 1991 than was upgraded. Invariably, credit analysts identified real estate problems in banks as the leading cause of the credit deterioration. The Congress passed the FDIC Improvement Act of 1991 which required Federal regulators to adopt guidelines for banks and savings institutions making real estate loans. The guidelines, which became effective in March 1993, established LTV guidelines that differed by types of real estate collateral. The maximum LTV ratios permitted for management approved loans included: 65 percent for raw land, 75 percent for land development, 80 percent for commercial construction and 85 percent for residential construction, improved commercial property and farm land

¹⁵ From Handorf, 1997

loans. Exceptions to these guidelines have to be reported to, and approved by, the Board of Directors of the institutions.

The restrictive legislation and regulatory guidelines are partly responsible for changing the mix of lenders involved in commercial real estate finance and tightening underwriting standards in the 1990s. Savings and loans are no longer major commercial real estate lenders. Maximum LTV ratios are much smaller than common during the last real estate cycle. The emergence of commercial mortgage-backed securities (CMBS) represents the other key change affecting commercial real estate finance.

Box 3: Commercial Mortgage-Backed Securities

Commercial Mortgage-Backed Securities

A commercial mortgage-backed security (CMBS) allows institutional investors to purchase a bond backed by a pool of commercial mortgages. Depending on the size of the loans and the pool there may be a few or many loans in the pool. While each CMBS is structured differently, most issues share certain similarities and promote standardization and risk diversification. A lender originates commercial mortgage loans and uses the assigned mortgage liens and leases as collateral to issue a security. The lender assigns the collateral to a trustee for a special purpose vehicle (trust). The trustee receives cash flows from the properties and/or mortgagors to be distributed to investors according to a priority established in the bond indenture. Some CMBS classes are very high quality and carry a "AAA" rating (as assigned by a national rating agency). Bond classes structured to provide less protection against default are assigned lower credit grades. A rating between AAA and BBB qualifies as investment grade and is generally eligible for purchase by institutional investors. High grade CMBS classes are often protected by junior or subordinated classes, cash reserves or over-collateralization. Speculative CMBS classes are assigned a higher risk rating of BB, B or CCC. Rating agencies play a major role in commercial real estate finance by setting ratings standards. The ratings are based on LTV and debt-service coverage ratios, prepayment risk and a number of other factors (see Table 7 below). A major difference between CMBS and European mortgage bonds is the use of only commercial real estate collateral (most Danish and German mortgage bonds are backed by mixed pools of commercial and residential real estate loans) and by the use of credit enhancement (senior-subordination, significant over-collateralization). The high credit quality of the European mortgage bonds is based on strict and conservative regulations on the collateral (e.g., 60 percent maximum LTV using mortgageable value definition) and the strength of the issuer (the bonds are obligations of the issuing bank and thus backed by its capital as well as the collateral).

One result of the regulatory initiatives established by Congress and bank supervisors is a shift from crude qualitative rules to prescribed quantitative standards. Future ratings may evolve according to mathematical option pricing models already

used to measure and quantify prepayment risk embedded in mortgage loans and MBS.¹⁶

Regulatory Approaches

Qualitative Rules: In the U.S. commercial banks and savings institutions historically considered a variety of qualitative rules prior to originating and pricing commercial real estate loans. Table 6 illustrates various criteria often included in loan policies developed by depository institutions. Seasoned commercial loans structured with low LTV ratios, minor balloon risk, and no recent payment delinquencies were considered to expose lenders to low credit risk.¹⁷ Newer, larger, and fully rented properties capable of generating high debt-service ratios, constructed with excellent materials, well maintained and located in stable or improving geographical areas were also recognized to provide lenders less exposure to default.

Table 6
Historical Qualitative Underwriting Factors

Factor	Low risk	Average risk	High risk
Loan-to-Value	<65%	<75%	>85%
Debt-Service	>1.35	>1.15	<1.05
Delinquency	0 last 36 months	1 last 24 months	1 last 6 months
Occupancy	>95%	>90%	<85%
Age (years)	<10	<20	>25
Balloon risk	Minor	Average	Substantial
Construction Quality	Excellent	Average	Poor
Deferred Maintenance	None	Average	Substantial
Neighborhood	Excellent	Average	Poor

Source: Handorf 1997

¹⁶ The option pricing approach is described in more detail in Handorf 1997.

¹⁷ Balloon loans are loans that amortize over a long time period, for example 20 years, with a requirement that the outstanding balance be paid off in a lump sum at an earlier time, for example 5 years. Balloon risk refers to the risk that the borrower may not be able to refinance the loan (from the proceeds of another loan or sale).

The historical rules provided little explanation of terms such as “substantial” or “poor.” Even though qualitative underwriting rules often included numerical thresholds applicable to both the LTV and debt-service ratio, the categorization of risk was unrefined. More precise quantitative standards developed to evaluate the relative credit-worthiness of CMBS classes differentiate risk much more precisely than the historical qualitative rules. The rating agencies conduct computer-based simulations that test the stability and consistency of cash flow under different economic and prepayment scenarios. In addition, the thresholds used to quantify risk have become more stringent.

Quantitative Standards: The credit rating agencies consider many elements of risk prior to assigning a letter grade to an asset-backed security. Credit ratings assigned by the national agencies range from “AAA or Aaa” to CCC or Caa”. Each letter grade, except for the highest triple-A rating, is also assigned a number between one and three or a sign of plus or minus to further distinguish relative credit risk. Table 7 illustrates the quantitative ratios for different property types and ratings. The associated probability of default is for corporate bonds of different ratings classes and is shown to demonstrate the association between the probability of default and rating.¹⁸

Table 7
Quantitative Standards for CMBS

	Credit Rating						
	AAA	AA	A	BBB	BB	B	CCC
Ratio Standards by Property Type							
				<i>Office</i>			
Debt Service	1.85	1.55	1.45	1.35	1.30	1.25	1.2
LTV (%)	45	55	60	65	75	80	85
				<i>Retail</i>			
Debt Service	1.8	1.5	1.45	1.35	1.25	1.2	1.15
LTV (%)	50	60	65	70	75	80	85

¹⁸ Note that construction and development loans are not rated. They are typically shorter term and riskier loans and not included as CMBS collateral.

	Credit Rating						
	AAA	AA	A	BBB	BB	B	CCC
	<i>Apartment</i>						
Debt Service	1.75	1.5	1.4	1.3	1.2	1.15	1.1
LTV (%)	50	60	65	70	80	80	85
<i>Probability of default</i>							
Annual (%)	0.02	0.19	0.15	0.49	1.76	4.64	6.79
5 year (%)	0.1	0.9	0.8	2.4	8.5	21.1	29.6

Source: Duff & Phelps Credit Rating Co. and "Revisiting the High Yield Market", Edward Altman, *Financial Management*, Summer 1992

More risky CMBS classes are priced to offer investors higher yields than less risky classes. Typically, the yield for each bond is compared to a government Treasury security of comparable duration. As of the mid-1990s, CMBS classes rated "AAA" yielded approximately 85 basis points above comparable maturity Treasury securities, while "BBB" classes yield around 160 basis points above the comparable Treasury. The yield spreads change over the business cycle; spreads increase in an economic recession when investors become more concerned about default. CMBS pricing also shifts in response to the real estate cycle.

The credit rating agencies consider numerous types of additional information prior to rating and selling a CMBS. The precise amount of over-collateralization or external support required to service a security depends on factors additional to the ratios listed in Table 7 including:

- **Local Market Characteristics:** The rating agencies will examine the stability and vacancy/absorption trends within the regional and local markets and compare the building's physical condition, appraised value, rent rolls, and expenses with other buildings within the market area.
- **Location and Diversification:** Regional economies exert considerable influence on the value of real estate. Geographic regions in the U.S., such as the Midwest, that are able to steadily attract a diversified mix of industries are perceived to be less risky. Other areas, such as the Northeast or West, that are subject to "boom-to-bust" cycles, dependent on one industry or subject to more "political" risk are believed to be more risky. Bonds secured by many properties diversified throughout the country tend to achieve higher credit ratings than securities backed by few properties.
- **Property Type:** All other things being equal, a CMBS backed by hotel or office loans will require more collateral, supplemental credit enhancement or better

financial ratio than a security collateralized by multi-family property. Apartments have many short-term tenants and the vacancy or bad debt related to one unit has little adverse financial effect on the sources of repayment. Hotels, by contrast, incur significant fixed operating costs and small differences in occupancy rates can produce large changes in operating cash flow.

- **Property Age and Condition:** Modest seasoning of a well-maintained office building allows rating agencies to better assess operating history than either an old or brand new structure. Older buildings may suffer from deferred maintenance or functional obsolescence. New buildings may be poorly designed, include untested, defective operating systems.
- **Tenant Mix:** The number of tenants, space occupied by each tenant, and the credit record of important anchor tenants are key factors that affect the likely stability of cash flow required to service mortgage loans and bond classes. In addition, lease terms, such as rent escalation clauses, expense stops, renewal and cancellation options, and expiration schedules, also affect the stability of cash flow.
- **Property Management:** Credit risk is affected by the experience and depth of property managers. Successful managers are able to adapt to local economic and competitive conditions and minimize tenant turnover and vacancy rates. Insurance must be sufficient to protect bond investors from loss in the case of property damming or interruption of business from natural disaster.
- **Agency Relationships:** The servicers and trustee appointed to administer a CMBS must be responsible, experienced, financially capable. The servicer is responsible for collecting funds from the mortgagors and distributing the funds to the trustee. The servicer must ensure that taxes, insurance premiums, and assessments are current. The servicer initiates foreclosure proceedings upon the event of default. The trustee holds the mortgage documents on behalf of the investors and periodically describes the status of the collateral to investors.
- **Legal and structural risks:** These are risks applicable to the proposed security. For example, does the bond retain sufficient cash reserves? Are there potential environmental liabilities? Are the junior or subordinated bond classes able to support the senior classes in the event of a recession?

The preceding factors individually and collectively illustrate the structure, risk and underwriting procedures common to a CMBS. Because approximately one-half of commercial mortgages in the U.S. are now financed through the CMBS structure, lenders and investors must be familiar with the standards imposed by the credit ratings agencies. The quantitative standards expand the number of factors applied, and differentiate financial ratios more precisely than the factors previously used by depository institutions to rank relative credit risk. The regulators also monitor ratings

(both initial and up-grades and down-grades) as evidence of underwriting and servicing performance of lenders. There has been discussion of using rating agency assessments to supplement examinations and perhaps to even become the basis for capital risk weighting.

COMMERCIAL REAL ESTATE LENDING IN POLAND

Overview of Real Estate Markets

After seven years of transformation the commercial real estate market in Poland is still emerging. The largest and most rapidly developing real estate market in Poland is Warsaw. More investment is located in Warsaw than all other Polish cities combined. There is, however, an opinion that during the next few years, the geographic concentration of development will significantly change. Offices of domestic and international companies are beginning to open in larger Polish cities, Poznan in particular, where the proximity of the border has led many Germany companies to open offices.

According to brokers, the Warsaw market has experienced excess demand over the past few years and such agencies estimate that this situation will continue for another 2 years. This is particularly true for class A offices with both international companies and, more recently, larger domestic companies seeking to develop their headquarters. Newly constructed buildings have been at least 80 percent pre-leased during the construction phase and the renting of the remaining 20 percent of the space has taken less than two months, although there are some signs of reduced levels of pre-leasing (down to 50 percent), perhaps reflecting a maturing market. Re-leased offices have been also rented within 2 months but more frequently over 2 to 3 weeks. Vacancy rates are currently less than 5 percent in the Warsaw market and are even lower for higher class offices.

Market studies (typically by less than objective leasing agents) suggest strong growth in demand, in excess of 125,000 square meters per year for the next 3 years.¹⁹ In part this is due to the lack of high quality (A and B) space (less than 20 percent of the market) and the sharp fall-off in quality from A to B and B to C class space.

¹⁹ It is estimated that there is between 2.5 and 3 million square meters of total office space in Warsaw, 400-500 thousand in classes A and B. Brokers estimate that there is a significant backlog in demand arising from the increase in employment in excess of 100,000 over the past few years and the lack of higher quality space. As of the summer of 1997 there were at least 15 projects in preparation totalling approximately 500 thousand square meters. Retail stock was at least 1.25 million square meters with highly variable rents (\$20-80 per square meter per month).

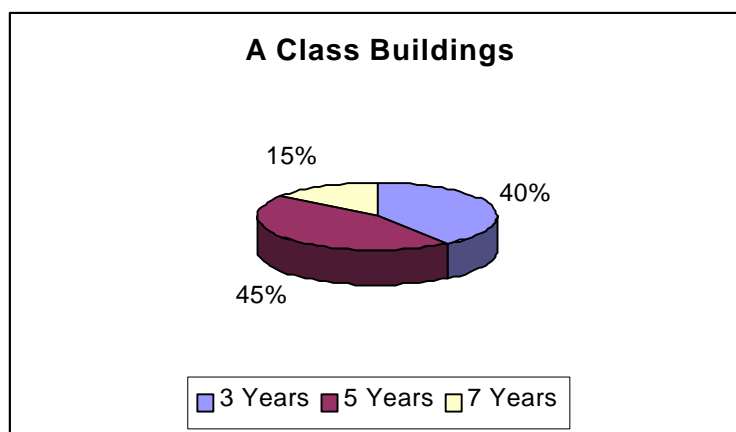
Despite perceptions of excess demand, rents appear to have been stable in Warsaw (typically in USD or DM terms). Rental rates in Downtown or related areas are currently:²⁰

- Class A: \$36-55 per square meter
- Class B: \$26-35 per square meter
- Class C: \$15-25 per square meter

Rents are often contractually readjusted on an annual basis by U.S. \$ or DM inflation or by a pre-determined increase (often 3 percent). There is evidence of institutions delaying their decisions to rent or purchase an office at these levels as they have begun to approach or exceed those in the rest of Europe.

Leases are typically short term with 85 percent of Class A leases having terms of 5 years or less (Figure 10). Less is known about Class B lease arrangements. Tenants have the option to leave earlier than their expected leasing term, usually with a minimum early notice of 3-6 months. The mobility of tenants is quite high, creating a risk for banks with longer term loans (extended vacancy periods, marketing, re-furbishing for new tenants etc.).

Figure 10: Typical Lease Terms



Source: Łaszek

²⁰ Net rents before 22 percent VAT and utilities charges left to tenants (typically \$3-6 per square meter). Cost of common space could add 15-30 percent to rents as well.

A potential risk for long-term lending comes from a leveling or decline in rents once the initial leasing terms expire, which could occur if development begins to diversify out of Warsaw. This has been the experience of Prague and Budapest, both of which experienced booms due to a massive entrance of firms seeking high quality space, leading to a period of accelerated construction but with supply eventually outstripping demand. However, land supply in Warsaw is subject to significant constraints, reflecting uncertainties in land titling and a lengthy regulatory process which may slow down the ability of the market to meet demand and thereby tend to keep rents high.

Property development is still uncertain and difficult in Poland for the following reasons:

- Lack of equity of developers (usually a minimum of 30 percent required by banks) which cannot be funded solely through the donation of land but requires additional cash (often necessitating a foreign partner).
- Scarce, expensive land, usually under control of local governments with varying degrees of sophistication in property development.
- Complex and time consuming permit process for infrastructure and construction approval by local authorities.
- Difficulties in meeting bank requirements of minimum pre-leasing before building completion.
- Inexperienced developers.
- Inexperienced banks (lack of standardized application, review, approval and disbursement procedures).

Commercial Real Estate Lending

Commercial property lending is quite new in Poland, having developed only in the past 3 years primarily in the Warsaw market. Currently there are only a few players in the market, including developers, leasing agents, large city governments, and banks. There are no standardized underwriting procedures, documentation or information sources and banking regulations are only now being developed.

Only a few banks are active in commercial real estate lending: PBR (historically the first and most experienced), PBI, Handlowy and PKO SA. A number of other banks are known to have made some commercial real estate loans, including PBG, PKO BP, PBK, Śląski and BPH.

It is generally not possible to identify commercial property loans on bank balance sheets. Such loans may be classified as non-housing real estate, corporate debt, or in some cases equity investments.²¹ There is no distinction between development or permanent finance (almost all lending to date has been for development), development for sale or rental, or among property types. Large banks are often asked to provide project equity as well as debt, as local developers have a shortage of equity capital. A limited equity position may improve the bank's control of the project but such investments are considerably more risky and less liquid than loans.

Until recently, most project development and finance was provided by foreign developers with foreign funding. This situation has changed, since large Polish banks with hard-currency deposits and access to foreign lines of credit have entered the market along with Polish developers (often subsidiaries of construction companies) often acting in partnership with Polish municipalities (key actors as land owners and permit providers).

There are no available figures on bank or sector exposure. The NBP obtains case-by-case information only when asked for special authorization to exceed loan limit ratios (10 percent of bank equity for a loan, 15 percent of equity for a consolidated borrower).²² It is noteworthy that current NBP capital regulations accord a 50 percent risk weight to commercial property loans (as opposed to 100 percent for residential property loans (this issue will be discussed in more detail below). Bank exposure is still quite concentrated in the Warsaw market, primarily in hotel and office buildings. One major player, PBR, declared in 1995 its intention to limit its financing of high price office projects in Warsaw and to look for projects in other cities in order to diversify its portfolio.

The average term of a loan is between 5 and 10 years (the range of 2 to 15 years) starting typically after a grace period on repayment of capital during the construction phase which lasts 18 to 24 months. Interest rates are variable (typically in hard currency terms although there is a growing use of Zloty loans), with USD interest rates of 12 to 20 percent.

²¹ In the U.S. commercial banks cannot take equity positions in real estate (except for real estate owned as a result of foreclosure and own office real estate). Thrift institutions can invest in real estate through service corporations but must hold 100 percent own funds (equity) against the investment. This is also the treatment for German mortgage banks.

²² These limits effectively preclude entry by small and medium banks into the sector. Only a few banks (i.e., those listed above) have the equity to finance class A or B projects and a syndication market has not yet appeared.

The loan-to-value ratio is the key underwriting parameter for banks. The typical maximum LTV is 70 percent. Valuation is usually done by outside appraisers who are expected to use the three usual methods (comparable market price, discounted cash flow and historical cost). However, there is no well identified definition of value in Poland and the information systems necessary to support high quality appraisals using any of these models do not exist. Valuation is exceedingly difficult in a transforming market like Poland. Comparable sale prices are often difficult to find as many transactions are not truly “arms length” and subject to various motives (e.g., tax) which may bias published information. Rent and expense information is typically readily available, but the forecasting of these variables and the selection of a discount rate are highly problematic in a volatile economy, which also makes cost-based (reproduction) valuations are suspect.

More experienced banks conduct a cash flow analysis and compute a debt-service coverage ratio (DSCR) but there are no standard limits on this variable. Banks attempt to manage credit risk in the commercial market by offering LTV ratios a little lower, say 65 percent to 70 percent, than in developed markets. The DSCR is a bit higher, around 1.2, than that typically required by U.S. banks. Overall, there is little difference in underwriting standards for commercial real estate in Poland as compared with the U.S. market. Depending on the borrower and the perceived risk of the project, the bank may ask for assignments of rent contracts or payment of rents into an escrow bank account, at least during a limited period.

In summary, the commercial real estate lending market in Poland is in a nascent stage of development. At this point in time it is not likely that any banks have a major concentration of this risk (relative to the size of their portfolios and capital). However, the size of many commercial real estate loans is such that a concentration could rapidly develop. Thus it is important for regulators to develop adequate monitoring capabilities as well as appropriate guidelines for bank involvement in this sector before substantial portfolio accumulation occurs.

LESSONS FOR REGULATION

As the commercial real estate market develops in Poland, it will be important to create a strong and stable environment for lenders. This starts with a positive and stable macroeconomic environment. In addition, the market will be well served with an improved information base, a strong legal system supporting creditors and a strong and stable regulatory environment. Development lending has been a key part of nearly all past commercial property market crises. Oversight and control of development activities as well as promulgation of policies promoting stable property markets can reduce the likelihood that Poland will experience similar problems to those of other countries in recent years.

Promote Stable Property Markets

A special feature of property markets is that because they represent largely non-tradeable goods, their market prices may be strongly subject to both domestic economic conditions and government policies. Political intervention into property markets has been carried out in a number of countries with the intention of stimulating regional growth, providing jobs and encouraging investment in particular types of properties or local markets. The primary tools for intervention in both residential and commercial markets have been tax incentives and subsidies.²³ As the experiences in the U.S. during the 1980s and Germany in the 1990s have shown, abrupt changes in incentives can lead to sharp price effects. The resultant volatility can be destructive for lenders, particularly those engaged in speculative development finance.

Application of fiscal incentives for property development in major markets such as Warsaw at the current time should be avoided. Both demand and supply in the market are subject to major uncertainties that are typical in an emerging market. Demand is based on expectations of future revenues and expenses that are very difficult to forecast and susceptible to large fluctuation. Land supply is still largely controlled by local governments and subject to disparity in the timing and quantity of its availability. As the Polish market develops, it will be important to develop land use policies that allow supply conditions in major markets to develop steadily. This can include regularizing the land development process (including title registration and transfer) and planning ahead the amount and location of land offered for development, typically a local government responsibility in market economies. Taxation of idle property can also discourage speculation. On the demand side, both national and local government should avoid large changes in the fiscal treatment of property development that can lead to unsustainable investment decisions and generate excessive real demand cycles.

Improve the Information Base

A core lesson about public management of property markets from the diverse lending crises is the need to generate financially relevant information for all market participants. In Poland there is a general lack of reliable data on property transactions, prices, characteristics and lease conditions. Market players should be encouraged to invest in information for both the property and the property finance markets. Information should be generated for internal use by regulators and supervisors and for

²³ Classic examples are the British business expansion schemes, which give tax preferences to commercial property investments in designated areas, the German reunification policy which for some time was dominated by tax-stimulated construction-led growth and accelerated tax depreciation of income property in the US in the 1980s.

public dissemination to appraisers, investors and lenders. Public dissemination of a broad set of real estate related characteristics will enhance transparency in the market and guide market players to make better informed decisions. Databases should have the following characteristics:

- **Diversified information base:** This requires including a variety of indicators, such as property prices, capital appreciation rates, yields, rent data (for both new and existing contracts), and returns on property investment instruments (such as property trusts) simultaneously.
- **Diversified information sources:** Databases should not rely exclusively on information whose generation may be linked to particular economic interests (e.g., real estate agents' data). There should be consideration of incentives or initiatives for data generation and public dissemination by neutral parties.
- **Diversified statistical coverage:** Record statistical values that reflect the entire distribution, not just parts (e.g., "top rents"). The public use of price/rent data that concentrate on small parts of these distributions should be discouraged as they can present a non-representative view of the market.
- **Increased sample survey bases:** Publicly-managed surveys (for example, in connection with a property taxation system) can be a valuable source of information for the market.

Given the public good aspects of this information and the need to be comprehensive and unbiased, it is recommended that a government body be established to manage such a database. Donor seed funding for such a body would be a good use of resources, given the interest in this sector.

Strengthen the Legal System

Insufficiencies in legal systems have exacerbated many commercial lending crises, reducing even further the value of already questionable collateral to the lender in repossession of the property. When lender rights to collateral are constrained or non-existent, the commercial mortgage credit market will either develop discontinuously (increasing the damaging potential of big bang effects once the rules are changed), or in forms that create even more lending risks (e.g., uncollateralized loans). Furthermore, the value of the commercial mortgage collateral may suffer if key legal asymmetries are present between landlord and the tenant.

In Poland, it is important to strengthen the legal system's protection of lender rights in order to discourage commercial mortgage default. In particular, statutory liens that discourage mortgage lending should be eliminated. Mortgage lenders should have a priority over other creditors in bankruptcy procedures opened on commercial

borrowers. Care should be taken to avoid onerous consumer protection elements in legislation governing commercial mortgage lending (e.g., rent ceilings, options for tenants to break lease contracts).

Improve Bank Regulation and Supervision

Capital Treatment. An important instrument of regulatory policy is risk-based capital requirements. The traditional view expressed in banking regulation has been a uniform (“brush”) approach to capital adequacy, with few deviations from broad classes of assets.²⁴ Uniform capital holding requirements (the principle of the Basle guidelines) do not observe any risk-premia relationships.²⁵ As a result the uniform approach is subject to adverse selection problems that occur when different risk classes are pooled into one. For instance pooling development lending (“property lending”) and long-term standing investment finance of commercial real estate into one class of capital requirements means creating incentives for the lender to do more development lending, the higher risk class.

An alternative and emerging approach is to develop simple rules matching credit risk content and capital requirements. By virtue of its numerous derogations, Basle has de-facto already moved from a uniform (brush) capital holding approach to a simple-rules approach. The European Commission has proposed to convert the derogations of Article 11 (4) Solvency Directive allowing a 50 percent weight for low risk commercial real estate loans into a permanent rule (subject to additional requirements).²⁶ The Reserve Bank of Australia applies a 100 percent risk-weighting to residential mortgage loans with valuation ratio of 80 percent and above. The U.S. has differentiated rules for multi-family mortgage lending by loan-to-value and debt service coverage ratio. In the practice of determining such rules, however, there is generally an absence of statistical testing and periodic revision of the risk-capital holding relationships. However, it is clear that the market is moving in this direction as the discussion of the ratings approach for CMBS above suggests.

In Poland, the current risk based capital requirement for commercial real estate loans is 50 percent whereas the requirement for residential mortgage loans is 100 percent. This treatment is based in part on the perceived weaker position of the lender in residential foreclosure proceedings. There is no differentiation between loans for

²⁴ Examples are the treatment of residential mortgage loans (unconditional 50 percent risk-weighting) and government loans (unconditional 0 percent risk-weighting).

²⁵ The Basle guidelines are recommendations for minimum risk-based capital requirements for banks.

²⁶ For loans on leased buildings with LTV less than or equal to 60 percent and debt-service coverage ratio in excess of 1.2.

development or standing investment. Although regulatory standards are moving towards differentiation of capital requirements by perceived risk, given the lack of experience with this type of lending, the potential for volatile property price movements and the lack of information on commercial property characteristics and data in Poland, it is recommended that the NBP increase the commercial mortgage risk based capital requirement to 100 percent, on par with residential loans. As experience with and information on commercial mortgage lending is gained, the NBP could consider adopting lower risk-based capital requirements for certain conservatively underwritten standing investment loans.

The regulatory treatment could be strengthened to encourage conservative loan underwriting along the following lines:

- **Discriminate regulatory treatment between long-term standing investment loans and development loans (property lending)**, for example through restrictions on or higher capital requirements for development lending.
- **Provide incentives for higher investor equity, both on the balance sheet and in the project** (that is, the total loan-to-value of the project). Finance theory and empirical evidence both suggest that high investor equity is the strongest deterrent against default, depending on the strength of bankruptcy legislation. Lenders should be required to obtain and assess project and borrower equity.
- **Provide incentives for loans given under a favorable risk position for the lender** in the case bankruptcy (for example, start with lower capital requirements for first as opposed to second mortgages, or senior as opposed to subordinate loans).
- **Provide incentives for loans based on sufficiently documented income generation characteristics that support debt service.** Assessment should be based on documented (pre-) lease contracts over a minimum number (for example 5) of years. Consider defining a debt service coverage ratio for regulatory treatment (for example 120 percent of debt service covered by net rent revenues).

Valuation: The discussion above emphasized the importance of valuation techniques. It is important to establish property valuation techniques that take into account the asymmetric risk position of the lender as opposed to the equity investor in the project. The open market value provides an estimate as to what the project could sell for today and the mortgageable value provides estimate of the long term sustainable value. For commercial real estate lending, it is recommended that:

- **For bank underwriting purposes, the use of cash-flow oriented valuation methods** that utilize information about expected rental income and costs in describing the income-generating capacities of the project should be required (along with open market valuation methods).

- **Standards for cash flow valuations of projects be developed.** Such valuations should be based on a long-term time horizon (at least the term of the loan) for forecasting income and expense and use of a discount factor (e.g., based on government bond yields)²⁷ that reflects the term. In addition, cash-flow oriented valuations should concentrate on reasonably expected permanent characteristics of the project, in particular rental income.

Regulation: Mortgage lending in general and commercial real estate lending in particular is a complex business. There is an advantage to specialization in mortgage lending issues for bank supervisors. The U.S. Office for Housing Enterprises Oversight, or the German Treuhänder acting for mortgage banks in the Federal Banking Oversight Office, are examples. Even without special agencies, a minimum competency in the oversight of mortgage and commercial real estate lending should be established within general (e.g., banking) regulatory agencies.

Although it is essential for regulators to monitor lenders' real estate exposure, and issue warnings regarding unsafe or unsound practices, it is important not to create regulatory stop-and-go policy, for example through unsustainable portfolio regulation or systematic policy bias against commercial real estate. This should be the means of last resort in the face of crisis and may, if practiced continually, become part of the problem rather than the solution. Excessive regulation, if permanent, may discourage the specialization of lenders in real estate and the development of better risk management policies that can result.²⁸

As an important complement to regulation, industry should have incentives to self-supervise: e.g., by developing common securitization standards (mortgage bond or MBS) that involve credit risk protection measures.

²⁷ Given the short-term nature of the Polish bond market, the use of long-term discount rates would have to be phased in as benchmarks become available.

²⁸ The *empirica* study showed with the London example that vintage diversification of commercial property holdings may be a stronger hedge against commercial property risk than asset diversification. Also, human capital accumulation is necessary in order to create internal monitoring capacities of borrowers, external appraisers, etc.

A related regulatory area is regulation and supervision of securities issuance. Information requirements are the key to giving small-scale investors in Real Estate Investment Trusts or similar mutual funds sufficient control over their investment.²⁹

In conclusion, commercial real estate lending is an important source of capital for the property market. Much has been learned about the role of property lending in real estate cycles and macroeconomic instability. There has also been considerable experience as to appropriate underwriting techniques, information disclosure and regulation to manage the risk of this lending. Poland has the opportunity to learn from this experience in shaping the industry in the years to come.

²⁹ Experience with real estate investment trusts in East Germany have shown that many small-scale investors were lured into commercial real estate investment schemes by the withholding of key information regarding concrete projects and overselling the tax advantage argument. The tax savings motive has in the East German case helped to create pools of hot money that might have been avoided with better information requirements.

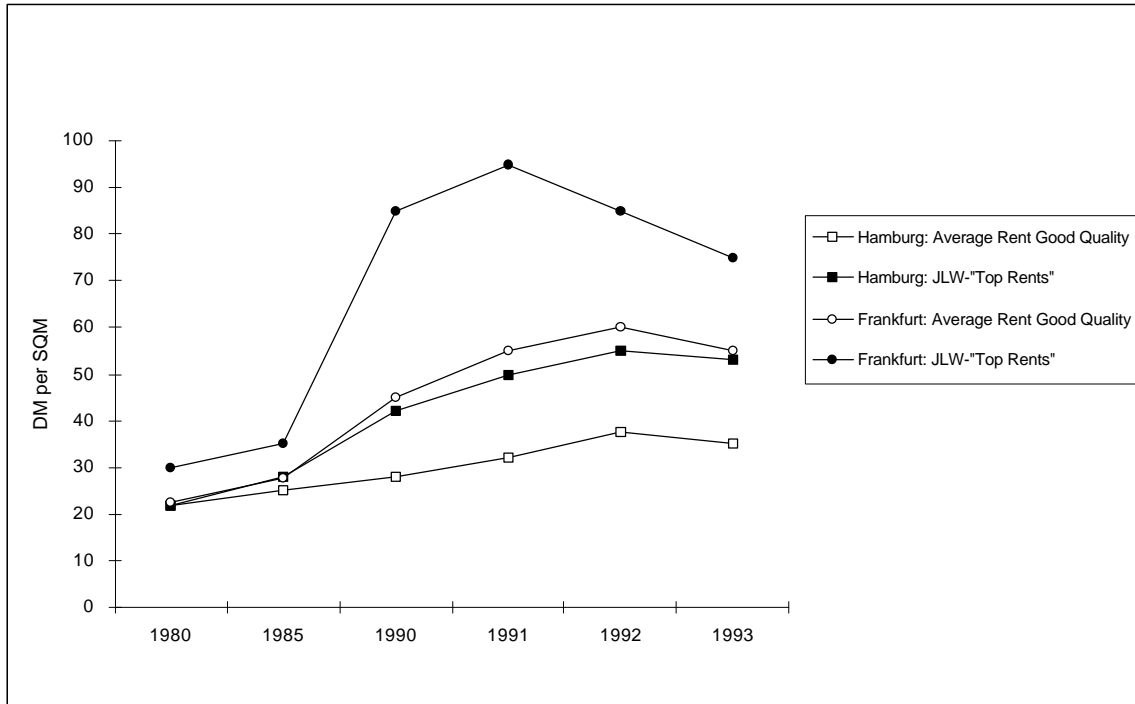
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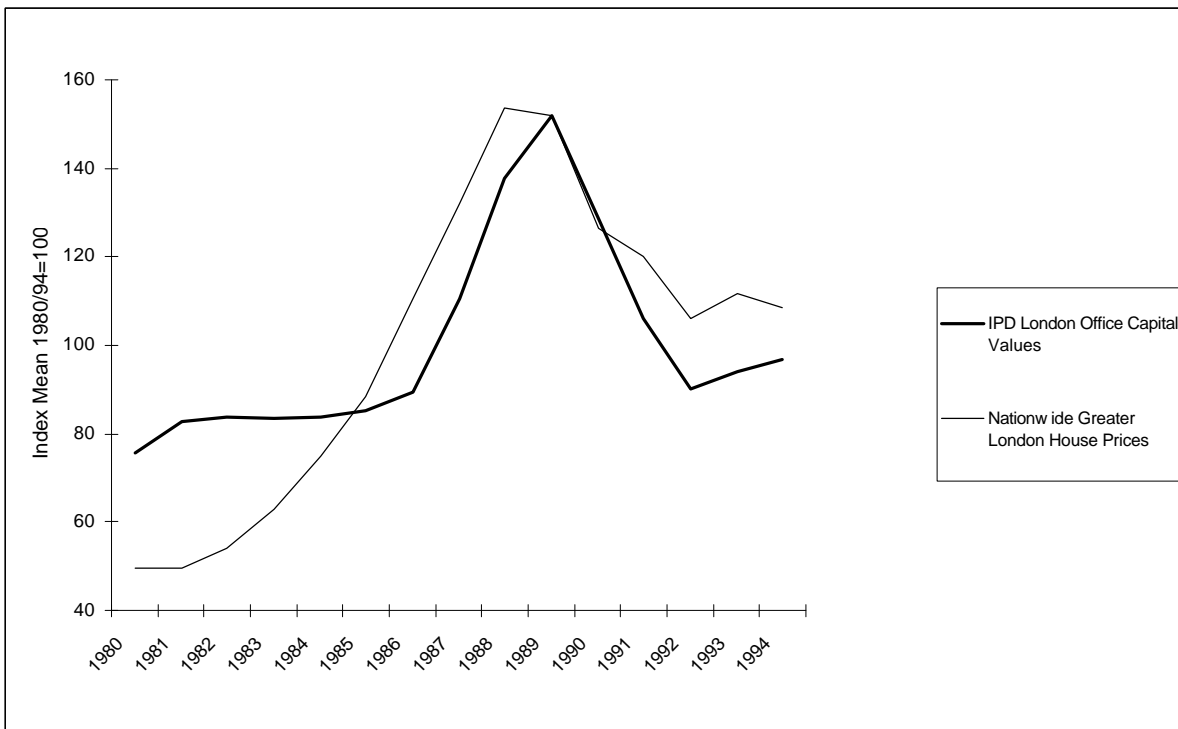
DATA ANNEX

Figure 11: Germany: "Top Rents" and Broader Sample Measures in Two German Cities

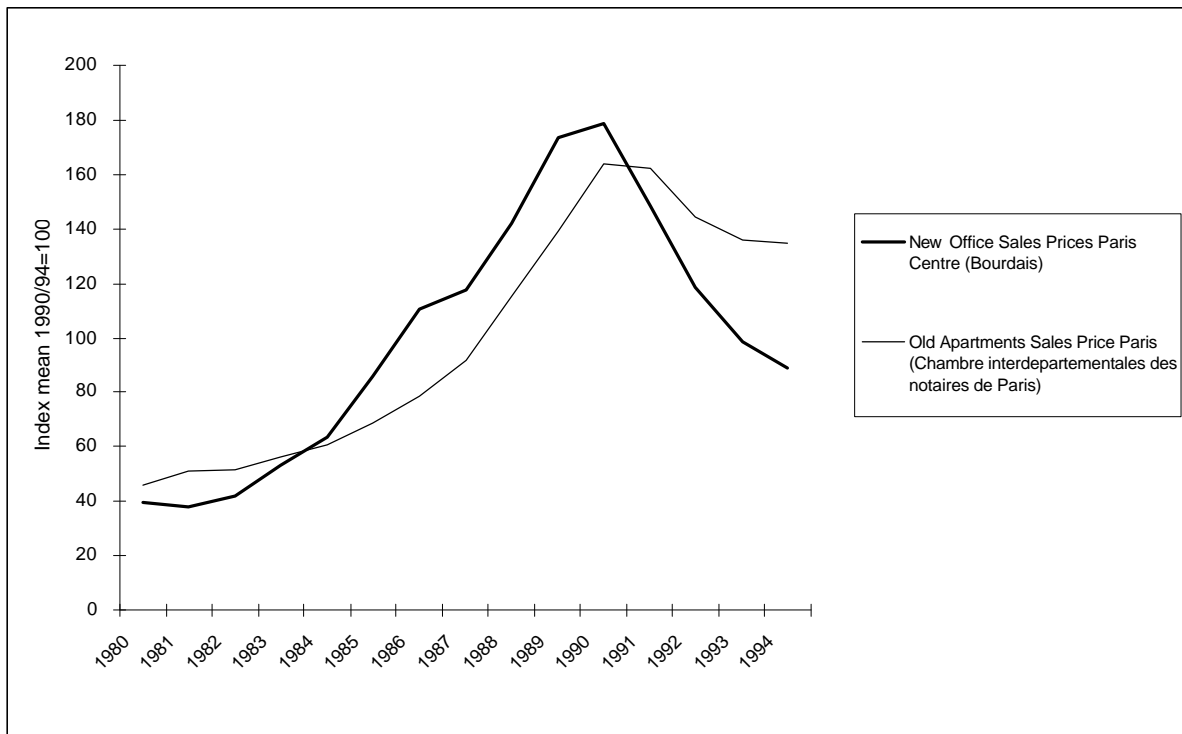


Source: *empirica*

Figure 12: United Kingdom: House Prices and Office Capital Values in London, 1980-1994



Source: *empirica*

Figure 13: France: Apartment and New Office Sales Prices in Paris, 1980-1994

Source: *empirica*