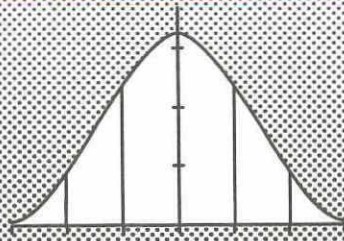


Approaches



Methods



Developments

Information of the German Federal Statistical Office

Number 1/99

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The catchword

Availability of micro-level data in official tax statistics

The system of official tax statistics has the function to document and publish tax revenue, the tax burden impact and distributive effects of taxes. These figures enable the various interest groups of society to develop a wide range of concepts and analyses. Drawing upon official figures, the legislator can quantify the effects of legal changes, the political opponent can substantiate his counter-proposal statistically, and the scientific community can gain new societal and economic insights.

With some DM 853 bn, cash tax revenue amounted to about 23 % of the nominal gross domestic product (DM 3 641.80 bn) in 1997. These figures show the great extent to which taxes influence the actions of market participants. The bodies of official statistics use two types of tax statistics to document this phenomenon.

Cash statistics show the cash tax receipts of a specific year by types of taxes. These figures cannot be broken down by the points in time when a tax liability arose. In contrast, the individual and very detailed tax statistics document when the tax burden arose in the period under review.

In terms of volume, the most important tax statistics published by the Federal Statistical Office are

- the triennial wage and income tax statistics, and
- the annual turnover tax statistics.

To obtain these secondary statistics, taxpayers' declaration documents are evaluated. In the preparatory phase, the characteristics and variables to be used for evaluation purposes are determined. The statistically relevant information provided by the taxpayers is transformed into data records in the computing centres of the tax offices and revenue authorities. Each taxpayer is covered by a data record. After completion of the tax assessment, the data records are submitted to the statistical offices of the Länder at specific dates.

Then the individual data records are aggregated in processing tables at the statistical offices of the Länder. At the Federal Statistical Office, the Länder results are aggregated to federal results on the basis of aggregated data material and then published.

Until 1996, the "raw product micro-level data material" remained at the statistical offices of the Länder. Until that time, all sixteen statistical offices of the Länder had to cooperate in follow-up or special processing, which required considerable resources in terms of time and personnel.

The 1996 Annual Tax Act modified the Law on Tax Statistics so that individual data records of the various tax statistics can now be maintained centrally for follow-up processing. For the very extensive wage and income tax statistics (about 30 mn data records, some of them containing more than 400 variables and characteristics), two additional sample surveys were envisaged.

Presently, the individual data records of wage and income tax statistics and of corporation tax statistics for the 1992 year of assessment, and turnover tax statistics data for 1994 and 1996, are centrally available to the bodies of official statistics for processing purposes. In the spring of 1999, the 1995 micro-level data of wage and income tax statistics will be included.

This data pool established by the bodies of official statistics makes it possible to meet also short-term demand for analyses. Especially with new laws in the planning stage, the immediate effects of envisaged legislative changes, too, can now be quantified on the basis of the micro-level data material. Apart from the usual preparation of tables, simulation calculations are now also possible.

The quantitative effects of legislative changes have in fact been checked by means of simulation calculations in the past. However, these models were based on synthetic assessment data produced with the help of the aggregated data material published. Much preciser simulation calculations can be carried out with the micro-level data material now centrally available. For wage and income tax statistics, sample surveys have been developed specifically for the purpose of simulation calculation on account of the wealth of data available.

In addition to advice in matters of tax policy, the data pool has a considerable information potential also for other groups of society. Apart from calculations supporting national accounting, so far special evaluations have been carried out for universities and economic research institutes. The analyses dealt for instance with the effects of special tax concessions and, in another case, with special processing for a research project entitled "Real Property of Households in Germany". Presently, a comprehensive analysis of the structure of church tax payers is in preparation.

The mere fact that individual data records are available creates numerous evaluation demands and opportunities. It has to be kept in mind, however, that such micro-level data are specially protected by the legislator. Also, the data are subject to tax secrecy. All this restricts the access of third parties to these data. In order to make the diverse information contained in the micro-level data available to any interested user, the bodies of official statistics will prepare individual concepts in cooperation with the users of statistics. Initial work shows that with a regular dialogue

scientific issues can in fact be treated from outside in the protected sphere of official statistics in a manner which satisfies the users. Evaluations are made in several steps. Calculations using micro-level data material are performed at the statistical offices and by authorised staff only. Repeatedly, intermediate results are discussed with the consumers. This is a way to take the requirements of data protection into account, and also to fulfil the justified request of the scientific community for availability of the information contained in the micro-level data material.

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Methods of federal statistics - Further development

Automated processing in intra-Community trade statistics

The introduction of the new data collection system of intra-Community trade statistics in 1993 was used at the Federal Statistical Office to simplify and automate reporting channels and to improve the internal handling of data by modern technology. Much has changed for the respondents since the Intrastat system was introduced. While all imports and exports had until then been reported to the Federal Statistical Office via the customs offices, the enterprises now have to submit their declarations concerning trade in goods with EU countries direct to the Federal Statistical Office.

In particular, the changeover to the new system afforded the opportunity to increase the use of electronic data media for survey purposes, which the Federal Statistical Office promoted. Today more than 7 000 of such data media are already being submitted every month, with figures on the rise. The respondents may use their own programs or commercial ones, or they may draw upon the CBS-IRIS program provided by the Federal Statistical Office. Additionally, a machine readable form was prepared for the declarations.

At the Federal Statistical Office, processing the data reported to obtain statistical results was geared towards the aim of handling all intra-Community trade declarations without paper. While data on incoming documents were acquired manually until 1993, a document reader has been used since then. Its software has a high degree of recognition and for further processing produces digital representations of the documents containing the statistical data submitted. An automated input system was purchased to handle incoming diskettes. The software comprises integrated checks of the data submitted with month-on-month comparison and access to the German intra-Community trade register.

Instead of printing lists of data and correcting them, the staff now processes the data further at the screen. A total of 125 workstations with powerful screens and hard disks has been purchased. Via a network, all stations have been connected to servers whose magnetic disk memory is capable of providing the data of several months for processing purposes at the same time.

The hardware *and* software requirements of such a system are considerable. The functions required for automated processing were defined very broadly to include both existing functions and newly defined applications.

The data base software used is of special importance. In addition to the data base containing declarations and the digital representations of the documents, a data base of all "corrections" made has to be maintained as a "historical database". Experience has shown so far that the automation effects are basically positive. Work is generally more efficient. The productivity of labour has increased; errors are traced and corrected more quickly; interim and preliminary figures are available much earlier.

There are plans to extend the system to extra-Community trade when it has fully been implemented in intra-Community trade. The software and hardware concepts can basically remain unchanged where processing is similar. However, reading the Single Administrative Documents and producing digital reproductions thereof require a much higher technical standard.

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Collecting statistical data on homelessness in Germany

On behalf of the Federal Ministry for Regional Planning, Building and Urban Development and in cooperation with the statistical offices of the Länder Bavaria, Hamburg, Mecklenburg-Western Pomerania and North Rhine-Westphalia, the Federal Statistical Office conducted a feasibility study on the statistical coverage of homelessness. The study was submitted to the Ministry early in 1998. In June 1995, the Bundestag Committee for Regional Planning, Building and Urban Development had requested the Federal Government to create in cooperation with the Länder the bases for nationwide statistics on homelessness in the Federal Republic of Germany and to examine whether the definitions used by the German Association of Cities and Towns could be appropriately applied.

The feasibility study consists of seven parts. The first chapter discusses the study's objectives. The feasibility study takes into consideration a study which was made by the Society for Innovative Social Research and Social Planning (Bremen), the documentation and information system developed by the Federal Association for Assistance to Homeless Persons and makes allowance for the data material available. Against this background, it examines whether and if so, which sub-populations of housing emergency cases can be covered as part of official statistics. The study's approach and structure are briefly outlined in the second chapter. The third chapter presents a

comprehensive definition of the term housing emergency cases. The sub-populations of these cases are sharply delimited from each other - which is an absolute necessity for their statistical coverage. *Housing emergency cases* are defined as all persons currently affected by *homelessness*, including people who are imminently threatened with homelessness and persons who live under unacceptable/intolerable housing conditions. In this respect, the study follows the considerations discussed in the pertinent literature.

Since the informative value of the number of homeless people as such is rather low, the fourth chapter deals with the data that should additionally be available for reasons of expediency. This refers mainly to a number of socio-demographic characteristics of the people concerned, information on the reasons for, and the length of, homelessness as well as on the kind of shelter used. As this catalogue of desirable information cannot be put into practice mainly because of legal and financial, but also due to organisational restrictions, it is cut to the proportions required for carrying out differentiated social studies.

The fifth chapter analyses the stock of data available. The 1993 Sample Survey of Buildings and Housing provides some information on persons living under unacceptable/intolerable housing conditions. As of 1998, relevant data can also be obtained from the so-called satellite programme on housing conditions which will be attached to the microcensus every four years. Information on the number of homeless people living in the streets can be derived from the statistics on public assistance, which were reorganised in 1994. The data available in the Länder and communities are also taken into account, in special appreciation of the statistics on homeless persons compiled in North Rhine-Westphalia: these are the only statistics in a non-city Land to provide relevant data on a regular basis. The housing data published, and the collection methods used, by Caritas Germany, the Federal Association for Assistance to Homeless Persons (BAG), the Institute for Housing and Environment (IWU) and the Society for Innovative Social Research and Social Planning (GISS) are examined critically.

The sixth chapter analyses the chances of compiling relevant data as part of official statistics. Reliable figures can only be supplied for individual sub-populations. It is not possible to give a complete statistical account of persons without proper housing who are not accommodated in institutions. At the most, minor complements to the statistics on public assistance may provide a rough indicator of the number of people living in the streets. A conceptual design (including draft questionnaires) is presented for an independent survey to cover homeless persons accommodated in institutions (on account of legal provisions on public order or public assistance). Preference is given to a continuous data collection because it will offer far better possibilities of analysis than a survey carried out at a specific key date, and the required additional work will not impose excessive burdens on the communities. However, quite considerable work will be involved with the first processing of the data on hand. The collection of data from welfare offices on homeless persons who receive support according to public assistance provisions could be combined with an inquiry into cases where legal proceedings for eviction have been taken due to arrears of rent. All other persons who are imminently threatened with homelessness (for instance, because of escalating social conflicts) cannot be covered reliably. It is, however, quite possible to compile data on individual sub-populations of the persons living under unacceptable housing conditions. The satellite system on housing conditions attached to the microcensus as of 1998 can supply - in combination with other microcensus data - information on persons living in extraordinarily cramped quarters or in dwellings with absolutely inadequate equipment as well as on persons with low income and excessive rental expenses. The number of repatriates accommodated in housing facilities for repatriates and the number of asylum seekers can easily be recorded as memorandum items.

The feasibility study concludes with recommendations to the Ministry in the seventh chapter.

The study comprises 241 pages (Christian König: *Machbarkeitsstudie zur statistischen Erfassung von Wohnungslosigkeit*; Wiesbaden 1998) and has been published as part of the Federal Statistical Office's publication series "Erhebungen nach §7 BStatG - Projektberichte". It is available from the Federal Statistical Office for a nominal fee of DM 20 plus forwarding charges.

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New data supplied by federal statistics

Electronic media news

In the last few years, the Federal Statistical Office has developed an electronic information supply consisting of numerous products to provide rapid and user-friendly access to the data available from the bodies of official statistics. Scientists and researchers will presumably be interested especially in the "STATIS-CDs" (Statistical Time Series on CD-ROM) and the Internet Time Series Service. The two products are based on the Statistical Information System STATIS-BUND, i.e. the time series data base of the Federal Statistical Office.

The STATIS CD-ROM series was produced in cooperation with the *Bundesdruckerei* (The German Government Printer) responsible for the software development. It is a series of five different CD-ROMs containing data on the population and social affairs, economy and finance, trade and commerce, and economic trends. The five CDs presently on offer comprise a total of 300 000 time series with figures from the statistics most frequently requested. Depending on the periodicity, they are updated monthly, quarterly, half-yearly or yearly as soon as calculations are finished. The time series document long-term economic and social trends and changes with a very detailed technical breakdown.

This product series is intended for professional users in enterprises, associations and chambers and in particular for teachers and researchers; i.e. users who appreciate large data archives with short access times and can put them to manifold uses.

The retrieval software included provides a comfortable research system helping to tap the huge amount of information rapidly and easily. The data selected can be exported and processed further with any common spreadsheet program.

The STATIS CD-ROMs run under Windows 3.1x, Windows 95 and Windows NT 4.x. There is no extra charge for using them in internal networks.

For prices/to order please contact

Statistisches Bundesamt, Gruppe ZB/PVM, Gustav-Stresemann-Ring 11, D-65180 Wiesbaden, fax + 49 – 611 / 75 - 25 55, or

Bundesdruckerei GmbH, Sparte Elektronische Publikationen, Oranienstraße 91, D-10958 Berlin, tel. + 49 – 30 / 25 98 - 13 10, fax + 49 – 30 / 25 98 - 13 60.

Access to all the data stored in the Statistical Information System of the Federation (STATIS-BUND) is provided via the Internet (address: <http://www.statistik-bund.de/zeitreih/home.htm>). Information on the contents of this data base can be obtained free of charge by means of a documentation and research system. For security reasons, there is no direct on-line connection with the data base. In response to an order on the Internet server of the Federal Statistical Office, the data are supplied by the computer centre and can then be downloaded on the user's own PC. The data order and collect service is available against payment and accessible only with a personal authorisation.

The data can then be processed further with the format conversion program FORUM, which can be called free of charge and converts the data base specific format of delivery into more common formats (DIF, SYLK, ASCII, ASCII D). The Time Series Service is inexpensive especially for users ordering smaller amounts of data.

For further information on the Internet Time Series Service please call

+ 49 – 611 / 75 - 27 16 / 22 56 (contents), or

+ 49 – 611 / 75 - 32 84 / 31 32 (technical aspects).

Book review

Publication entitled "Interviewer assignments and qualifications"

Another volume of the publication series "Spectrum of Federal Statistics" has been published on the 1997 scientific conference on "Interviewer assignments and qualifications". The conference was jointly organised by the Working Group of German Market and Social Research Institutes (*Arbeitskreis Deutscher Markt- und Sozialforschungsinstitute e.V. - ADM*), the Working Party of Social Science Institutes (*Arbeitsgemeinschaft Sozialwissenschaftlicher Institute e.V. - ASI*) and the Federal Statistical Office, its moderator was Mr. Erich Wiegand, chief executive of the ADM.

The volume contains the following contributions:

- Assignments and qualifications of interviewers as a quality criterion in survey research, Prof. Dr. Dr. h.c. Elisabeth Noelle-Neumann, *Institut für Demoskopie Allensbach*;
- Request for and selection of interviewers, Renate Niehoff, *Gesellschaft für Konsum-, Markt- und Absatzforschung - GfK*, Nuremberg;
- Interviewer training and supervision, Uwe Bliesch, *Infratest Burke*, Munich;
- Interviewer assignments in the microcensus, Alfred Hullmann and Rolf Schmidt, Land Office for Data Processing and Statistics of North-Rhine Westphalia, Düsseldorf;
- Regularities of interviewer behaviour, outside lecturer Dr. Jost Reinecke, *Westfälische Wilhelms-Universität Münster*;
- How the interviewer interacts with the interviewee - Reactions of interviewees and job requirements, Prof. Dr. Karl-Heinz Reuband, Düsseldorf University;
- Visits and reports - The behaviour of interviewers, Prof. Dr. Rainer Schnell, Konstanz University.

Events

Scientific colloquium: "Official statistics - A constitutive element of the democratic state"

The colloquium held in Wiesbaden on 19 and 20 November 1998 was organised by the Federal Statistical Office in cooperation with the German Statistical Society (*Deutsche Statistische Gesellschaft*), more precisely the Committee on the methodology of statistical surveys. It was the seventh colloquium of a joint series started in 1992 to provide an annual forum for an academic interchange between the bodies of official statistics and major groups of users, in particular from the fields of science, business, politics, administration and from associations.

In 1999, the Federal Republic of Germany turns fifty. The scientific colloquium of November 1998 was dedicated to that anniversary. A democratic state governed by the Rule of Law with a free-market system has to provide all parties operating in that structure with a generally accessible source of information in the form of official statistics. The extremely rapid development towards an information and scientific society, on the other hand, has considerable effects on the way tasks are fulfilled. The colloquium held in Wiesbaden on 19 and 20 November 1998 dealt with those two topics. It was entitled "Official statistics - A constitutive element of the democratic state" and chaired by the President of the Federal Statistical Office, Johann Hahlen.

The first paper treating the subject of "Official statistics and its importance for the democratic development of the Federal Republic of Germany" was presented by the Hessian Minister of Science and the Arts, Dr. Christine Hohmann-Dennhardt. Prof. Dr. Peter von der Lippe from Essen University shed some light on the misuse of statistics in politics using official statistics of the former GDR as an example. Then Dr. Willem F. M. de Vries from the Netherlands Central Bureau of Statistics spoke about the role of official statistics in the process of European unification.

Under the heading "50th anniversary of the Deutsche Mark", Prof. Dr. Hermann Remsperger analysed the statistical bases of monetary policy. The first day of the colloquium ended with a panel discussion moderated by Dr. Hans D. Barbier from the daily newspaper *Frankfurter Allgemeine Zeitung* on the question "Will official statistics remain indispensable in the future?" Participants of the panel discussion were Dr. Renate Köcher from the *Institut für Demoskopie Allensbach*, Prof. Dr. Richard Hauser from Frankfurt/Main University, the President of the Land Statistical Office of Baden-Württemberg, Dr. Eberhard Leibing, and Prof. Dr. Rüdiger Pohl from the Halle Institute for Economic Research (*Institut für Wirtschaftsforschung Halle*).

The second day of the colloquium began with a speech of Prof. Dr. Dennis Tschritzis from the German National Research Center for Information Technology (*Gesellschaft für Mathematik und Datenverarbeitung*) in St. Augustin on the subject of "Germany's transformation into an information society". Three other papers dealt with necessary changes in paradigms of statistics as a consequence of that development. The Vice-President of the Federal Statistical Office, Heinrich Lützel, spoke about "Register-assisted data collection - How to implement EU business statistics", Prof. Dr. Peter Ph. Mohler from the Center for Survey Research and Methodology (*Zentrum für Umfragen, Methoden und Analysen - ZUMA*) in Mannheim about "New survey instruments - Multimedia", and Prof. Dr. Ullrich Heilemann from the Rhine-Westphalia Institute for Economic Research (*Rheinisch-Westfälisches Institut für Wirtschaftsforschung - RWI*) in Essen about "Official statistics - A service provider in the information society".

A commemorative publication entitled "Amtliche Statistik - Ein konstitutives Element des demokratischen Staates" containing the papers given at the colloquium, a documentation of the panel discussion and an illustrated outline of fifty years of official statistics in the Federal Republic of Germany was issued in May 1999 by the statistical offices of the Länder and the Federal Statistical Office. It has been published on the occasion of the 50th anniversary of the Federal Republic of Germany and is dedicated to the late Vice-President of the Federal Statistical Office, Dr. Gerhard Bürgin, who died in 1997.

Real property of households in Germany in 1995

Results of a survey conducted within the framework of Article 7 of the Federal Statistics Law

This contribution is an abridged version of a project report on a study of the real property of households, which was conducted by staff members of the Deutsches Institut für Wirtschaftsforschung (German Institute for Economic Research, Berlin) on behalf of, and in cooperation with, the Federal Statistical Office. Responsibility for the assumptions and statements made in this contribution lies solely with the authors.

Introduction

The German Institute for Economic Research (DIW) has conducted a study of the real property of households on behalf of the Federal Statistical Office.¹⁾ Primary statistics on the private property of German households are not available. Based on various statistical sources, the study for the first time presents a comprehensive account of the real property and ownership structures in the whole of Germany. Information on residential and landed property was collected according to relevant characteristics (age classes of buildings, regional location, earnings) and has been assessed according to different concepts (asset value, earning capacity value and current market value). On this basis, the study shows the distribution of real property according to major socio-economic household characteristics (social groups, age, income), and the property concentration.

In terms of asset values, defined as construction costs at current prices in addition to the land value, the study records a sum total of DM 7,300 billion of private real property in Germany in 1995. The earning capacity values (valuation based on current earnings) have been put at the far lower level of DM 6,170 bn. At DM 6,990 bn, the current market values (estimated sales proceeds) come closer to the asset values.

Most of the real property is owned by households in the former territory of the Federal Republic (DM 6,500 bn or 93 percent of the total current market value). The loans raised on the real property run up to DM 1,290 bn. The net value of the real property owned by households thus amounts to DM 5,700 bn (current market value less residual debts). Consequently, the value of the households' real property by far surpasses that of their financial assets. According to data of the Deutsche Bundesbank, the latter totalled DM 3,930 bn at the end of 1995, that is DM 3,560 bn after deducting consumer credits.²⁾

49 percent of all households in Germany own residential and landed property. In the former territory of the Federal Republic, the number of such households has risen sharply since 1988 (by more than 3 million to 15.35 million in 1995). Comparing these figures to former surveys, it becomes evident that real property has been purchased to an increasing degree by households of younger ages.

1 Calculating the value of real property

In 1996, the DIW published its first calculations of real property³⁾; the data referred, however, to the stock of buildings in the former territory of the Federal Republic and were based on the 1987 Census of Buildings and Housing. The present study refers to the year 1995 and includes the new federal Länder. The study systematically evaluates all the statistical data currently available from official and non-official sources and merges them into a consistent calculation approach. The basic data were obtained from the

- 1%-Sample Survey of Buildings and Housing (GWS) in 1993,
- 1993 Sample Survey of Income and Expenditure (EVS), and the
- Census of Buildings and Housing (GWZ) of 30 September 1995 taken in the new federal Länder and Berlin-East.

Use was also made of the 1992 income tax statistics, statistics on building activity, statistics of building land prices, statistics compiled by the Deutsche Bundesbank (concerning loans on residential real estate), of various surveys conducted by associations, as well as of other non-official sources providing information on current real estate values and earnings. Last but not least, the fixed asset accounts by sectors of economic activity (for housing in this case) which are part of national accounts were applied as a reference basis for property values.

Table 1 illustrates the relationship of private real property to the national wealth as shown in national accounts. At the end of 1995, the total value of the national economy's net fixed assets, comprising all "reproducible" assets (machinery, equipment, buildings and structures, excl. real estate) was DM 10,113 bn at 1995 prices. With DM 8,425 bn, buildings accounted for the largest part of this sum total. DM 919 bn of this amount were attributable to general government (excluding public underground engineering) and DM 2,666 bn to the corporate sector in the narrow sense. The letting of dwellings, defined as the total stock of dwellings (rented as well as owner-occupied), accounted for the far larger proportion of DM 4,840 bn.

The real property of households and the value of the stock of dwellings or residential buildings overlap to a large extent, but the national accounts' figures do not include the related land value. On the other hand, private real property does not include the stock of dwellings owned by enterprises. At the same time, those shares of commercial real property have to be taken into account which belong to private owners.

1) See Bartholmai, B./Bach, S.: "Immobilienvermögen privater Haushalte in Deutschland 1995", Erhebungen nach § 7 BStatG, Project Report published by the Federal Statistical Office, Wiesbaden, 1998.

2) Excluding cash holdings and sight deposits as well as money market papers and "other claims" (such as claims against pension funds).

3) See Bach, S./Bartholmai, B. (ed.): "Immobilienvermögen der privaten Haushalte" in Wochenbericht des DIW, No. 4/1996, and Bartholmai, B./Bach, S.: "Immobilienvermögen privater Haushalte", Erhebungen nach § 7 BStatG, Project Report published by the Federal Statistical Office, Wiesbaden, 1995.

The model used for calculating the national net fixed assets is largely based on the criteria of the asset value concept, as it is applied to the commercial valuation of individual buildings⁴⁾.

Table 1: National net fixed assets and real property of households at the end of 1995
Germany
DM bn

Specification	Net property value at	
	purchaser's prices	prices at the end of 1995
National fixed assets (excl. related land value)		
Data according to national accounts		
Sectors of economic activity, total ¹⁾	6 552	10 113
Machinery and equipment	1 597	1 688
Buildings and structures	4 955	8 425
Enterprises not possessing any dwellings .....	.	2 666
Letting of dwellings (dwellings) ²⁾	2 646	4 840
General government, non-profit institutions serving households .....	.	919
Real property (incl. land value) ³⁾		
Authors' calculations		
Residential buildings ⁴⁾	2 784	5 093
Related land (land value) .....	.	2 759
Residential property, total .....	.	7 852
In the property of households ^{5) 6)} .....	.	7 300
Residential property .....	.	6 600
Other buildings .....	.	410
Vacant land .....	.	290
Memo item: real property abroad ⁶⁾	130

Sources: Federal Statistical Office – national accounts -, DIW calculations on real property of households in 1995.

¹⁾ Excl. public underground engineering; - ²⁾ This sector of economic activity is defined in functional terms and includes any dwellings, also owner-occupied dwellings of households. - ³⁾ Property in the domestic territory, calculated according to the asset value concept. - ⁴⁾ This calculation refers to investments in and to the stock of residential buildings; included is space used for commercial purposes in residential buildings. In contrast, dwellings in non-residential buildings are not covered. - ⁵⁾ Incl. communities of persons and stakes in partnerships. - ⁶⁾ Of households resident within the domestic territory.

1.1 Asset value concept

In the case of the asset value concept, the original construction costs of a building are converted to current costs on the basis of construction price index trends. The resulting figure is then decreased by depreciation for wear and tear, which for residential buildings is usually estimated at 1 to 1.25 percent of the construction costs.

The national fixed asset accounts record the investments made in each construction year group, from which deductions are made continuously - though rather small ones for buildings - to make allowance for retirements of fixed assets (gross concept). For the net concept, the (remaining) assets are written off according to the straight-line method over their expected useful life (which is set by law at about 80 years for residential buildings⁵⁾). The overall property value can thus be disaggregated into the current residual values of all former construction year groups. This "age structure" presentation permits to allocate the values to the stock of buildings by age classes. The calculation is based on the investments made at purchaser's prices or at constant prices of a base year⁶⁾. The property value at purchaser's prices does not make allowance for value increases or higher reproduction costs, whereas the value at 1995 prices largely corresponds to the asset value of the stock of buildings in the same year.

The national wealth accounts thus provided a basis for valuating the stock of real property. Apart from that, the ownership structures concerning land and buildings had to be considered. These structures are covered in detail-only by cross-sectional surveys. Up-to-date information is available from the 1995 Census of Buildings and

4) The criteria for valuating land and buildings in the course of business are laid down in the Value Assessment Ordinance (WertV, last amended in 1988) and the Value Assessment Regulations (WertR, latest version of 1991).

5) As regards the useful life, successive reductions over time (making allowance for the decreasing proportion of new construction investment) and differences between the old and new federal Länder have been taken into consideration.

6) The Federal Statistical Office's calculations are currently based on 1991 prices. Additionally, the figures are converted to replacement costs in the respective reference year. The values listed in Table 1 "at end-of-1995 prices" correspond to the values at replacement costs at the turn of 1995/96.

Housing (GWZ), taken in the new federal Länder, and from the previous 1%-Sample Survey of Buildings and Housing (GWS), which was conducted throughout Germany in 1993. They supplied data on buildings by types and age classes, as well as by categories of owners, i.e. enterprises and bodies corporate on the one hand, private individuals as sole owners or as joint owners on the other. Two steps were required to combine the national wealth accounts with the cross-sectional surveys.

- Similar to calculating the net value of the letting of dwellings, the first step was to carry out a computation for residential buildings. What had to be taken into account was that residential buildings are often used for commercial purposes, too. The available time series on investment in residential buildings was categorised on the basis of additional information into investments in the construction of new one- and two-family houses and of multi-family units. The remaining time series data then presented investments which were aimed at increasing the value of buildings.
- Modernisation and repair work (including alterations and extensions) is mainly performed in older buildings. Consequently, the age structure of the net property by investment years would show false values if it was related indiscriminately to the age classes of buildings. By means of additional information and estimates, the separately recorded property value of improvements carried out until 1995 was attributed to the buildings according to construction year groups and added to their original construction costs (to the costs not written down as yet) (see Table 2).

If these property values by age classes of buildings are related to the numbers of buildings and dwellings in 1995 (as recorded by the GWZ, or the extrapolated GWS), a plausible stratification of the average values can be set up according to age and type of building. For the former territory of the Federal Republic, an average value of DM 258,000 has thus been calculated for one- and two-family houses across all age classes up to 1995; while the value for the youngest age class of buildings (1988 to 1995) is DM 501,000. The average value of multi-family units runs up to DM 771,000, or DM 119,000 per dwelling, with the youngest age class standing out at DM 1.75 mn per building, or DM 249,000 per dwelling. By and large, the values do not at all decrease linearly as the age of buildings rises - they reflect differences in the cost of construction over various epochs as well as differences in the standard sizes of buildings in terms of the number of dwellings. The same applies to the new federal Länder and Berlin-East, with the exception that markedly lower values are recorded for each housing unit (just under 50 percent of the average value in the old federal Länder). This holds good for older one- and two-family houses to which few improvements have been made as yet as well as for large blocks of flats built in the German Democratic Republic in its later years.

The calculation was made separately for the old and new federal Länder. In the case of the new Länder, the problem arose of how to convert the investments made during GDR times to DM replacement costs; the issue was settled in consultation with the Federal Statistical Office. The approach did not permit to further differentiate the data by regions. Making allowance for this aspect was, however, possible by considering the sizes of plots and the marked differences in prices according to Länder and types of areas. If the asset values (of the buildings) classified by types of buildings and age classes are aggregated with the land values defined in terms of current market values, the resulting property value of the stock of one- and two-family houses totals DM 4,830 bn. Households account for 97 percent of this total value. The corresponding overall value of the stock of multi-family units is DM 1,928 bn, 64 percent of which can be attributed to households and associations of owners (see Table 3). Compared with their share in the total population (around 20 percent), the new Länder account for a relatively small proportion (10 percent) of the DM 795 bn of total property value (including residential buildings owned by enterprises and bodies corporate). Moreover, the values per building or per dwelling attain just 50 percent of the average value in the former territory of the Federal Republic.

Table 2: Net fixed assets, stock of buildings and average property value of residential buildings in 1995 by age classes of buildings

Age classes of buildings from ... to ...	Net fixed assets				Stock of buildings		Average property value			
	new buildings of the period ¹⁾	Plus increase in the value ²⁾	total	memo item: value increase in the investment period ³⁾	residential buildings ²⁾	housing units	original construction costs		plus increase in the value	
							per residential building ⁴⁾	per housing unit	per residential building ⁴⁾	per housing unit
	DM bn at 1995 prices				1 000		DM 1 000 at 1995 prices			
Former territory of the Federal Republic										
before 1900	37.7	175.5	213.2	-	1 361	2 367	27.7	15.9	156.6	90.1
1900 - 1918	36.8	141.0	177.7	-	822	2 047	44.7	18.0	216.2	86.8
1919 - 1948	103.3	230.3	333.7	-	1 834	3 501	56.3	29.5	181.9	95.3
1949 - 1968	976.3	234.4	1 210.7	116.0	4 133	9 761	236.2	100.0	293.0	124.0
1969 - 1978	879.9	116.7	996.6	107.9	2 340	5 216	376.0	168.7	425.9	191.1
1979 - 1987	776.7	50.9	827.6	283.9	1 617	3 006	480.4	258.4	511.9	275.3
1988 - 1995	824.8	9.0	833.8	450.0	1 194	2 518	690.8	327.5	698.4	331.1
Total	3 635.5	957.7	4 593.3	957.7	13 301	28 417	273.3	127.9	345.3	161.6
New Länder and Berlin-East										
before 1900	29.8	30.8	60.6	-	715	1 483	41.7	20.1	84.9	40.9
1900 - 1918	21.4	16.2	37.7	-	242	718	88.6	29.9	155.4	52.4
1919 - 1948	44.6	35.5	80.1	-	682	1 329	65.5	33.6	117.5	60.3
1949 - 1968	37.9	26.7	64.6	2.0	295	1 061	128.7	35.7	219.1	60.9
1969 - 1978	51.4	12.5	63.9	3.5	171	823	299.8	62.4	372.7	77.6
1979 - 1987	72.9	15.2	88.1	10.1	208	979	349.5	74.5	422.4	90.0
1988 - 1995	105.3	0.0	105.3	121.3	220	606	477.9	173.7	477.9	173.7
Total	363.4	136.8	500.2	136.8	2 533	7 000	143.4	51.9	197.4	71.5

Source: DIW.

¹⁾ Calculation based on investment time series for newly erected buildings. - ²⁾ Calculation based on investment time series for the value increase of buildings. Property values regrouped from the investment period (shown as memo item) to the respective stock of buildings by age classes of buildings (see table stub). - ³⁾ In this case, the periods given in the table stub are the investment periods. - ⁴⁾ No differentiation by types of buildings yet.

1.2 Sizes of plots and land values

The GWS 1993 also covered the size of built-up plots. In general, a gradation exists with regard to types of buildings and the age of buildings - younger age classes of buildings have to an increasing extent been built on smaller plots. Efforts to make better use of plots are also evident from the different conditions prevailing in cities and the surrounding countryside. Far more important than these trends, however, are the marked differences in average plot sizes between the individual Länder and between the northern and the southern parts of Germany. Apart from differences due to geographical and landscape conditions, historical factors play a role (especially inheritance provisions) which influence the patterns of plots and parcels still today. Apart from the GWS information on plots, the survey of areas (based on land registers) supplied data by types of plots, but not for all the Länder⁷⁾. A comparison shows that the total floor areas used for residential purposes that were indicated in the latter survey were substantially smaller than those recorded by the GWS. These differences are apparently due to the fact that, in the survey of areas, buildings or plots which are partly used for commercial purposes are mainly classified under commercial areas.

Land prices are strongly affected by the degree of agglomeration of a settlement area. Even though only a grid of "Kreise" (administrative districts; not of individual locations) could be taken into account, it was very important to include this gradation of land prices. The data base was provided by official statistics on building land prices and by supplementary surveys (of the German Association of Cities and Towns and real-estate boards). It is remarkable that these data, too, revealed large area differences. As far as the land value per plot is concerned, this has a certain balancing effect: land prices are lower in those regions where individual plots tend to be rather spacious.

On the whole, residential property accounts for DM 2,759 bn in land value, and due to the large proportion of plots used for one- and two-family houses, the major share of this total value (86 percent) can be attributed to households (see Table 3).

7) See Statistisches Bundesamt (ed.), Fachserie 3 "Land- und Forstwirtschaft, Fischerei", Reihe 5.1 "Bodenfläche nach Art der tatsächlichen Nutzung 1993".

Table 3: Real property (residential buildings) in 1995, according to the asset value concept and the earning capacity value concept
DM bn

Valuation concept ----- territory	One- and two-family houses		Multi-family units		Residential buildings, total	
	total	incl.: owned by households	total	incl.: owned by households	total	incl.: owned by households
Land value						
Former territory of the Federal Republic....	1 599	1 548	865	628	2 464	2 176
New Länder and Berlin-East.....	174	163	121	39	295	202
Germany	1 773	1 711	985	667	2 759	2 378
Asset value of buildings						
Former territory of the Federal Republic....	2 847	2 769	1 746	1 192	4 593	3 961
New Länder and Berlin-East.....	210	199	291	69	500	268
Germany	3 056	2 968	2 037	1 261	5 093	4 229
Earning capacity value of buildings						
Former territory of the Federal Republic....	1 912	1 861	1 536	1 079	3 448	2 940
New Länder and Berlin-East.....	95	91	233	51	329	142
Germany	2 008	1 952	1 769	1 130	3 777	3 082
Asset value, total						
Former territory of the Federal Republic....	4 446	4 317	2 611	1 820	7 057	6 137
New Länder and Berlin-East.....	384	362	411	108	795	470
Germany	4 830	4 679	3 023	1 928	7 852	6 607
Earning capacity value, total						
Former territory of the Federal Republic....	3 511	3 409	2 401	1 706	5 912	5 115
New Länder and Berlin-East.....	270	254	354	90	624	344
Germany	3 781	3 663	2 755	1 796	6 535	5 459

Source: DIW.

1.3 Earning capacity value concept

While the asset value concept is based on the present value of past investments, the earning capacity value concept focuses on the present value of future earnings from real property. In the housing business, the "sustainable annual net earnings that can be realised from a plot of land" are taken as the basis⁸⁾. The management costs of a property item⁹⁾ have to be subtracted from the net rent excluding heating expenses; for owner-occupied property comparative rents have to be imputed.

Normally, the values of land and buildings are determined separately to ascertain the earning capacity value¹⁰⁾. When calculating the earning capacity value of a building, a fictitious amount of interest on the land value has to be deducted from the net earnings. This net earnings proportion of a building must then be capitalised by a multiplier. The multiplier is determined according to the present-value formula on the basis of the remaining useful life of the building and of a specific calculatory interest rate ("real property interest"). If the ensuing net earnings proportion of a building turns out to be in the negative (i.e. overall earnings are lower than the fictitious interest on the land value), the value of the land has to be considered as the earning capacity value of the real property item concerned. The objective of the separate calculation is to apply the current market value of a plot of land ultimately as the lower limit of valuation.

This concept was tested on the national stock of residential buildings (including owner-occupied dwellings) in a classification by types of buildings, age classes of buildings and regional location. Corresponding data on rents and floor areas used for commercial purposes were recorded by the GWS 1993¹¹⁾, while information on the new Länder and Berlin-East were additionally available from the GWZ 1995. Apart from information on operating costs supplied by the GWS 1993, the management costs were estimated on the basis of the customary costing data in the housing business¹²⁾. The rents of dwellings were extrapolated to 1995 (see Tables 4 and 5 below), whereas commercial rents were estimated for Länder and regions on the basis of tables of average rents published by real estate boards.

8) See Articles 16 to 20 of the Value Assessment Ordinance (WertV).

9) Maintenance and administrative costs, compensation for the risk of rent losses.

10) In doing so, the land values are calculated on the basis of the current market values (comparative value method). Current market values of comparable plots have to be applied, as monitored at the local property markets or in comparable regions.

11) The Federal Statistical Office carried out a special processing to provide the relevant characteristics in a breakdown by federal Länder and six types of settlement areas. The latter were based on "Kreistypen" (types of administrative districts) as defined by the Federal Research Institute for Regional Geography and Regional Planning (now: Federal Office of Building and Regional Planning).

12) Flat rates laid down in Articles 26, 28, 29, II. of the Calculation Ordinance (Berechnungsverordnung).

Table 4: Average rents of dwellings in 1995¹⁾ by Länder and regions²⁾
DM per m² of useful floor area

Land	Regions with large conurbations			Regions with developing conurbations		Rural regions, all Kreise	Regions or Länder, total
	cities	agglomerated surroundings	other Kreise	cities	other Kreise		
Rent of dwellings (gross, excluding heating expenses)							
Schleswig-Holstein	-	12.15	11.14	11.24	10.62	9.51	10.96
Lower Saxony	11.31	10.61	9.80	10.33	9.14	8.98	9.89
North Rhine-Westphalia	10.52	10.08	9.39	10.96	9.19	8.98	10.25
Hesse	12.23	11.75	10.07	10.23	9.45	9.10	11.26
Rhineland-Palatinate	10.17	9.95	-	11.05	10.37	9.63	10.35
Saarland	10.26	9.44	-	-	-	-	9.83
Baden-Württemberg	11.07	10.76	8.69	10.46	9.71	9.12	10.29
Bavaria	13.32	13.55	11.00	10.14	9.06	9.01	10.96
Hamburg	12.94	-	-	-	-	-	12.94
Bremen	11.68	-	-	10.30	-	-	11.37
Berlin-West	10.34	-	-	-	-	-	10.34
Berlin-East	8.42	-	-	-	-	-	8.42
Mecklenburg-Western Pomerania	-	-	-	8.96	8.41	7.79	8.07
Brandenburg	8.35	8.35	8.04	8.33	8.31	-	8.20
Saxony-Anhalt	-	-	-	8.83	7.74	7.60	8.12
Thuringia	-	-	-	8.40	7.85	7.39	7.96
Saxony	7.77	7.29	7.24	-	7.72	-	7.54
Former territory of the Federal Republic New Länder and Berlin-East	11.25	10.79	10.01	10.56	9.56	9.09	10.57
	8.09	7.40	7.78	8.68	7.90	7.70	7.96
Rent of dwellings (net, excluding heating expenses)							
Schleswig-Holstein	-	9.92	9.10	9.21	8.74	7.82	8.98
Lower Saxony	9.26	8.76	8.15	8.56	7.59	7.42	8.18
North Rhine-Westphalia	8.71	8.37	7.81	8.98	7.65	7.47	8.50
Hesse	10.08	9.81	8.64	8.56	7.97	7.80	9.38
Rhineland-Palatinate	8.46	8.15	-	9.01	8.75	8.11	8.64
Saarland	8.32	7.69	-	-	-	-	7.99
Baden-Württemberg	9.46	9.21	7.43	8.89	8.29	7.79	8.79
Bavaria	11.07	11.34	9.30	8.43	7.65	7.58	9.17
Hamburg	10.39	-	-	-	-	-	10.39
Bremen	9.30	-	-	8.07	-	-	9.02
Berlin-West	7.52	-	-	-	-	-	7.52
Berlin-East	6.31	-	-	-	-	-	6.31
Mecklenburg-Western Pomerania	-	-	-	6.94	6.53	5.91	6.17
Brandenburg	6.32	6.37	6.17	6.27	6.36	-	6.27
Saxony-Anhalt	-	-	-	6.80	5.94	5.69	6.23
Thuringia	-	-	-	6.35	5.99	5.57	6.05
Saxony	5.83	5.48	5.48	-	5.84	-	5.67
Former territory of the Federal Republic New Länder and Berlin-East	9.13	9.01	8.35	8.73	8.04	7.63	8.72
	6.07	5.58	5.94	6.64	6.04	5.83	6.04

¹⁾ Results of the 1%- Sample Survey of Buildings and Housing in 1993, updated to end of 1995 by means of survey results from the DIW Socioeconomic Panel (SOEP) and other information. - ²⁾ Types of regions according to the definitions of the Federal Research Institute for Regional Geography and Regional Planning (now Federal Office of Building and Regional Planning), the detailed breakdown being aggregated to six types here.

A uniform interest rate of 3.5 percent, which is applicable to both the interest on land values and the multiplier, was used to capitalise the earnings. This rate represents the long-term real interest as it has been monitored over the past. In this context, it did not seem helpful to apply varying regional "real property interest" rates as laid down in the Value Assessment Regulation for earning capacity valuations. The remaining spans of useful life were pre-set for the individual age classes of buildings on the basis of an average useful life of 100 years for residential buildings. Where even older age classes of buildings were concerned, the remaining life expectancy was prolonged because substantial maintenance and modernisation expenditure had to be taken into account regarding the stock of old buildings. The respective adjustment item for the new Länder and Berlin-East was smaller.

Table 5: Average rents of dwellings in 1995 by types of buildings and age

Buildings erected from ... to ...	One-family houses			Two-family houses			Multi-family units		
	floor area ¹⁾	Rent ²⁾		floor area ¹⁾	Rent ²⁾		floor area ¹⁾	Rent ²⁾	
		gross	net		gross	net		gross	net
	m ²	DM per m ²		m ²	DM per m ²		m ²	DM per m ²	
Former territory of the Federal Republic									
before 1901	100	8.03	6.84	76	8.40	7.18	68	9.81	8.10
1901 – 1918	97	8.63	7.44	77	8.81	7.62	69	10.24	8.42
1919 – 1948	98	9.47	7.99	74	9.23	7.79	64	9.95	8.20
1949 – 1968	102	10.41	8.84	74	9.37	7.85	61	10.31	8.30
1969 – 1978	117	11.05	9.57	81	9.67	8.24	68	11.52	9.42
1979 – 1987	120	11.66	10.18	75	10.18	8.71	69	12.44	10.37
1988 – 1995	118	13.28	11.70	81	11.48	9.93	68	13.39	11.35
Total	106	10.31	8.86	76	9.45	8.02	65	10.79	8.83
New Länder and Berlin-East									
before 1901	82	6.00	4.55	68	5.85	4.44	65	6.75	5.12
1901 – 1918	74	6.57	5.07	70	6.57	5.05	65	7.20	5.52
1919 – 1948	80	7.18	5.60	67	6.93	5.29	59	7.67	5.89
1949 – 1968	77	7.35	5.88	67	7.33	5.80	56	8.26	6.30
1969 – 1978	97	7.36	6.11	70	6.86	5.60	57	8.63	6.44
1979 – 1987	101	8.81	7.35	69	7.38	6.30	57	8.48	6.28
1988 – 1995	115	10.50	8.70	57	8.53	6.76	59	10.01	7.87
Total	81	7.10	5.59	68	6.51	4.99	59	8.08	6.12

¹⁾ Average useful floor area according to the 1993 Sample Survey of Buildings and Housing. - ²⁾ After deduction of operating costs.

The earning capacity value of all residential buildings in the old federal Länder totals DM 3,448 bn; including the land value (DM 2,464 bn), this adds up to a total property value of DM 5,912 bn (see Table 3). Households account for DM 5,115 bn (87 percent) of this sum total. It mainly comprises one- and two-family houses (DM 3,409 bn), while multi-family units (including condominiums) account for DM 1,706 bn, or 33 percent, of private residential property¹³⁾.

In the new federal Länder, the earning capacity value of all residential buildings is DM 329 bn. Combined with a land value of DM 295 bn, the property value totals DM 624 bn (see Table 3). At the end of 1995, the average value per dwelling was - similar to the asset values - less than half as high as in western Germany. Only 55 percent of the real property in the new Länder is held by private owners. If presumable restitution claims by former private owners against enterprises (currently having the right of disposal) are included, the latter share rises to around 60 percent.

1.4 The relationship between earning capacity values and asset values

For Germany as a whole, the total earning capacity value of the stock of residential buildings, including the land value, is DM 6,535 bn (compared with DM 7,852 bn according to the asset value concept). Households account for DM 5,459 bn, while the corresponding asset value is put at DM 6,607 bn. The considerable difference of more than DM 1,000 bn mainly originates from the stock of one- and two-family houses - the valuation difference is less substantial for multi-family units (see Table 6). This is mainly due to the fact that the rental income per square metre of living space in one- and two-family houses is lower, whereas the construction costs and land prices are far higher than those of multi-family units.

At first, it comes as a surprise that the rents paid in one- and two-family houses are lower than those paid in comparable multi-family units (see Table 5). The natural assumption that this is a result of differing structures concerning regional location or the age of buildings could not be confirmed. But the following aspects may play a role:

- Although only "regular rented dwellings" were considered (i.e. not dwellings let out for lower rents), the rents paid in one- and two-family houses often do not reflect current market prices, e.g. because relatives or acquaintances are granted cheaper rents, or where cooperative flats are concerned.
- The rents paid in two-family houses (especially those dating from the 1970s and 1980s) are often kept at a low level for tax reasons¹⁴⁾.

This shows that the usability of the valuation according to the earning capacity value concept is limited especially where one- and two-family houses are involved because it is difficult to obtain information on market-determined rents, both for overall economic studies and for valuations of individual buildings. Moreover, tables of average rents

13) It should be taken into account that the given definition does not encompass non-residential buildings (or other buildings comprising space used for dwelling purposes), nor vacant land.

14) The taxes levied on the imputed rental value of the owner-occupied part of buildings from these decades depend on the amount of rent received for the let-out part.

are usually compiled only for the stock of multi-family units. As regards one- and two-family houses, the Value Assessment Regulation refers to the asset value method anyway.

Table 6: Earning capacity value in relation to asset value of residential buildings in 1995
Percent

Specification	One- and two-family houses		Multi-family units		Residential buildings, total	
	total	incl.: households	total	incl.: households	total	incl.: households
Value of buildings						
Former territory of the Federal Republic	67.2	67.2	87.9	90.5	75.1	74.2
New Länder and Berlin-East	45.5	45.6	80.3	74.3	65.7	53.0
Germany	65.7	65.8	86.8	89.6	74.1	72.9
Value of land and buildings						
Former territory of the Federal Republic	79.0	79.0	91.9	93.8	83.8	83.4
New Länder and Berlin-East	70.2	70.1	86.1	83.6	78.4	73.2
Germany	78.3	78.3	91.1	93.2	83.2	82.6

1.5 Yields from property in 1995

By relating the "net earnings" from real property (rental income after deduction of operating and management costs, but prior to deduction of fictitious interest on the land value) to the asset values (at replacement costs of the same year), current yields can be determined (see Table 7). Considering an average of all types and age classes of buildings, the yield is around 3 percent. Taking into account that the estimation of analogous rents for one- and two-family houses is problematical (as discussed above), the results for multi-family units should be highlighted. The average yield calculated for these units is 3.7 percent in the old federal Länder, and 3.4 percent in the new Länder.

Older buildings tend to produce better yields. Accordingly, the percentages recorded for blocks of flats dating from the time before 1918 are around 4.5 percent in the old Länder. For newer buildings (construction year groups as of 1988), the real rent is below average. The yields generated by let-out condominiums (condominium owners' associations according to the Law on Cooperative Apartments and Proprietary Leases) are comparatively small, too. The stock of buildings owned by households appears to produce slightly higher yields than buildings owned by enterprises, which may be due, partly, to the age structure and, partly, to the larger proportion of publicly subsidised flats let out by enterprises.

It is remarkable that the yields currently achieved in the new Länder are already reflecting similar conditions. The asset values, in fact, are far lower than in the old Länder. Since, however, the rents (especially net rents), too, are distinctly below western levels, a comparison between the old and new Länder reveals a large degree of approximation.

Table 7: Yields of real property in 1995
Rental income¹⁾ in % of asset value²⁾

Specification	One-family houses	Two-family houses	Multi-family units	Residential buildings, total
Former territory of the Federal Republic				
Buildings erected from ... to ...				
before 1901	2.9	3.2	4.5	3.4
1901 - 1918	3.1	3.3	4.8	3.9
1919 - 1948	3.0	3.1	3.6	3.2
1949 - 1968	3.1	2.6	3.1	3.0
1969 - 1978	3.1	2.7	3.6	3.2
1979 - 1987	2.8	2.4	3.7	3.0
1988 - 1995	2.7	2.5	2.9	2.8
Total	3.0	2.7	3.5	3.1
owned by				
single persons, married couples	3.0	2.7	4.0	3.1
communities of heirs/of persons	2.9	2.8	4.0	3.4
condominium owners' associations according to the Law on Cooperative Apartments and Proprietary Leases	3.1	2.6	2.8	2.7
households, total	3.0	2.7	3.7	3.1
New Länder and Berlin-East				
Buildings erected from ... to ...				
before 1901	2.1	2.6	3.8	2.8
1901 - 1918	2.8	2.3	4.3	3.5
1919 - 1948	2.5	2.8	3.3	2.8
1949 - 1968	2.2	2.4	3.2	2.9
1969 - 1978	2.4	2.3	3.0	2.8
1979 - 1987	3.1	1.9	3.8	3.5
1988 - 1995	1.7	0.8	2.7	2.1
Total	2.3	2.4	3.4	2.9
owned by				
single persons, married couples	2.3	2.4	3.6	2.5
communities of heirs/of persons	2.3	2.5	3.6	3.1
condominium owners' associations according to the Law on Cooperative Apartments and Proprietary Leases	2.2	2.0	3.0	3.0
households, total	2.3	2.4	3.6	2.6
incl.: presently at their disposal	2.3	2.5	3.5	2.8

¹⁾ Rents of dwellings (net, excluding heating expenses) less management costs ("net earnings"). - ²⁾ Land value and asset value of the building at 1995 replacement prices.

1.6 Current market values

It is particularly interesting to compare the current market values (actual sales proceeds of built-up plots) with the asset values and earning capacity values determined by means of model calculations. However, there are hardly any large area surveys available to supply relevant data. The real estate boards and the German Association of Cities and Towns only provide information on selected large cities. For the first quarter of 1992, the tax and revenue authorities compiled a fairly comprehensive collection of purchase prices (for western Germany) from 100,000 cases of tax levied on the acquisition of real estate. This data collection was aimed at examining the relationship to the assessed values of property. The above purchase prices have been used in the present study. The price increases until 1995, however, had to be estimated. Furthermore, the 1993 Sample Survey of Income and Expenditure for the first time collected information on current market values from home and landowners. Yet, these data refer to the real property of specific households and are not classified by types of property. Consequently, only those owners could be compared who possess one or more property items of the same kind (one or two-family houses, multi-family units, condominiums).

As far as one- and two-family houses were concerned, their average current market values exceeded the 1992 purchase prices by 10 to 15 percent. This cannot be attributed to the short interval of time, but is rather due to the fact that the estimates made in the EVS were too optimistic. The values, however, come very close to the asset values calculated for 1995 (including land values), which applies to both the old and the new Länder. In fact, there is evidence that the EVS bias is nearly identical with the increase in the value of one- and two-family houses from 1993 to 1995. As regards multi-family units, the households covered by the EVS mainly possessed smaller and older buildings. Furthermore, it has to be taken into account that condominiums (mostly in newer buildings) were recorded separately. Even when linking the data, multi-family units as a whole show a margin to the model calculations of asset and earning capacity values. What may be important in this context is the delimitation against one- and two-family houses: while in the GWZ and the GWS only the number of dwellings is considered, there is quite a number of borderline cases which have to be treated as one- or two-family houses for real estate register provisions and proprietary reasons but, in fact, comprise several dwellings (for example: villas dating from the period of promoterism, 1871-1873). Thus, respondent households may have had difficulties in allocating their answers correctly.

Based on the EVS information on values, and making allowance for necessary adjustments to the quantity structure (see below), the current market value of the overall residential real property is DM 6,290 bn. This amount is closer to the asset value than to the earning capacity value calculated above.

1.7 Residual debts

Apart from data on property items and values, the EVS collects information on the pertaining residual debts. Additional data on the overall amount of loans granted on residential real estate are annually available from the Deutsche Bundesbank. These national economic data prove that the extrapolated EVS figures record a somewhat too low level of debts for 1993. This is presumably due to the fact that older households owning mostly unencumbered property were overrepresented and, moreover, that too few households with residential and landed property were included in the new Länder.

Thus, adjustments had to be made when extrapolating the data to 1995, while at the same time the loans granted on land had to be classified by the location of plots in the East or West, as well as by the place of residence of the households owning these plots. This differentiation turned out to be quite complicated because the Bundesbank data were presented only for 1990/1991 for the former territory of the Federal Republic and for Germany as a whole (see Table 8).

At the end of 1990, housing loans on property in the new Länder totalled roughly DM 54 bn, DM 45 bn of which consisted of so-called pre-reunification housing loans¹⁵⁾. The remaining amount of loans on property held by private owners ran up to about DM 9 bn in 1990, the major part of which presumably comprised "forced mortgages" taken out for maintenance work by direction of communal authorities. Included were also promotion loans granted as part of the GDR's family homes' programme.

The sum total of loans on residential real estate in the new Länder has been put at DM 223.5 bn for 1995. Loans on residential real estate in the West amounted to around DM 1,371 bn. The proportion that has to be attributed to housing companies and bodies corporate can be estimated in relation to their share in tangible assets and landed property. In doing so, however, it has to be considered that companies will accept higher borrowing ratios for new construction and redevelopment. In 1995, loans on residential real estate owned by households presumably totalled DM 1,010 bn in the West and DM 105 bn in the East. If these figures are disaggregated according to the households' place of residence, another DM 25 bn out of the DM 105 bn will probably have to be attributed to western households, encompassing both former owners and new construction investors.

¹⁵⁾ Recorded in the 1990 banking statistics as portfolio of the Deutsche Kreditbank AG.

Table 8: Development of loans on residential real estate
Loans granted to domestic enterprises and individuals (end of year)
DM bn

Lender / Type of loan	1990	1990	1991	1992	1993	1994	1995
	Former territory of the Federal Republic	Germany					
Credit institutions	806.8	860.4	911.8	970.2	1 084.4	1 201.4	1 303.8
Mortgage loans	531.3	534.2	549.9	568.3	639.7	727.1	807.8
Other loans.....	275.4	326.2	361.9	402.0	444.7	474.3	496.0
Building and loan associations	134.9	135.1	140.6	150.7	160.8	163.9	171.8
Loans under savings and loan contracts	94.8	94.8	95.5	98.3	100.3	98.1	98.7
Interim and bridging loans	40.1	40.3	45.1	52.5	60.7	65.7	73.1
Insurance companies (mortgage loans)	84.7	84.7	91.1	97.7	102.1	113.2	119.2
Loans, total ¹⁾	1 026.4	1 080.2	1 143.5	1 218.6	1 347.3	1 478.5	1 594.8
Mortgage loans, loans under savings and loan contracts ²⁾	710.8	713.7	736.5	764.3	842.1	938.4	1 025.7
Other loans, intermediate financing ³⁾	315.5	366.5	407.0	454.5	505.4	540.0	569.1
Loans on property in the former territory of the Federal Republic	x	1 026.4 ⁴⁾	x	x	1 216.5 ⁴⁾	x	1 371.3 ⁴⁾
incl.: on property of households	x	720.0 ⁴⁾	x	x	880.0 ⁴⁾	x	1 010.0 ⁴⁾
Loans on property in the new Länder and Berlin-East	x	53.8 ⁴⁾	x	x	130.8 ⁴⁾	x	223.5 ⁴⁾
incl.: on property of households	x	8.9 ⁴⁾	x	x	34.0 ⁴⁾	x	105.0 ⁴⁾

Sources: Banking statistics of the Deutsche Bundesbank (Statistical Supplements of the Monthly Report, Series 1) and supplementary figures for building and loan associations and insurance companies from the Monthly Report.

¹⁾ Credit institutions, building and loan associations and insurance companies. – ²⁾ Loans with longer-term maturity. – ³⁾ Short and medium-term loans. – ⁴⁾ Distribution estimated.

2 Distribution of real property

2.1 Bases

Apart from the coverage and timely valuation of the stock of real property, the study was aimed at illustrating the distribution of household property by socio-economic characteristics and the property concentration. This meant linking item-based data on residential and landed property with household-related microdata¹⁶⁾. The statistical basis for the second part of the study was mainly provided by the EVS 1993. Comparing the EVS information to the above-mentioned data from the surveys of buildings and housing, it should be noted that the latter surveys distinguish between old and new federal Länder according to the location of real property, while the EVS is geared to the residence of households. Due to long-term out-migration from the GDR and the considerable investments made in the new Länder since 1990, this difference bears substantial weight.

From the viewpoint of official statistics, the EVS is a rather small sample survey (covering around 0.25 percent of all households) which is conducted on the basis of voluntary response. Households with particularly high incomes are not included at all or only insufficiently¹⁷⁾. In general, a "middle-stratum bias" can be noted with this sample survey, i.e. relatively well-off households (especially of salaried employees and pensioners) show greater readiness to participate. To offset this effect, the extrapolation factors were adjusted on the basis of the 1992 income tax statistics. Nevertheless, even the modified extrapolation of EVS 1993 reduced the sample's bias only marginally with respect to the presentation of residential and landed property. In comparison with the surveys of buildings, the EVS distinctly overrepresents property in the form of one- and two-family houses and condominiums in the old federal Länder, whereas multi-family units are undercovered in the West and East; in the East, this is also true of one- and two-family houses.

On the whole, too few households owning residential and landed property were included in the sample in the new federal Länder. This is evident from a comparison with the GWZ 1995 relating to data on owner-occupied private

16) For details of the methodological approach see Chapter 3 of the publication mentioned in Footnote 1.

17) Furthermore, the expansion pattern is based only on the characteristics household size, social status of the reference person and net household income, with relevant microcensus data providing the frame. This does not ensure a reliable representation of further characteristics, especially of those which are not evenly distributed across the covered households, such as property. As regards survey and expansion problems involved with the EVS, see Statistisches Bundesamt (ed.), Fachserie 15 "Wirtschaftsrechnungen", Einkommens- und Verbrauchsstichprobe 1993, Heft 7 "Aufgabe, Methode und Durchführung".

residential buildings. Apart from data on residential real property, information provided by households on their ownership of other buildings, vacant land and property abroad were taken into consideration.

The above-mentioned over- and undercoverages were largely balanced by coordinating the data with the surveys of buildings and housing. Furthermore, new additions of households and of residential and landed property in the period from 1993 to 1995 were incorporated in the calculation.

2.2 Households owning residential and landed property and relevant property values

The number of private households totalled 36.22 million in 1995. Just under half of these households (49 percent) owned land, buildings or condominiums (see Tables 9 to 11). It has to be taken into account, however, that there were many cases of proportionate ownership only, for instance where individual household members belonged to a community of heirs. According to the EVS 1993, about two thirds of the home and landowners were sole owners of one- or two-family houses or multi-family units. In the former territory of the Federal Republic, the proportion of households owning real property is distinctly higher than in the new Länder (52.1 percent against 35.5 percent). The average property values, too, differ substantially: based on the current market value concept, the average value in the West is DM 423,000, in the East it is DM 205,000. Only 56 percent of the western households had residual debts, the average level of which was DM 137,000. The corresponding percentage of eastern households was significantly higher at 83 percent. However, the latter percentage encompasses mostly small loans for modernisation projects in recent years. Yet, due to a very lively construction boom, there are also numerous cases of extensive borrowing; the households' average amount of residual debt is DM 53,000.

Table 9: Households with residential and landed property compared with the total number of households in 1995, by social structure Germany

Social structure	Households, total		Incl.: Households with residential and landed property						
			Total			Real property at current market value		Residual debt (loans)	
	1 000	% of column 1	1 000	% of column 3	relation of column 3 to column 1 in %	DM bn	% of column 6	DM bn	% of column 3
	1	2	3	4	5	6	7	8	9
by social groups ¹⁾									
Households of									
self-employed persons ..	2 396	6.6	1 764	9.9	73.6	1 207	17.3	289	69.1
public officials	1 653	4.6	1 092	6.2	66.1	451	6.4	106	77.8
salaried employees	8 652	23.9	4 388	24.7	50.7	1 790	25.6	469	76.0
wage earners	7 712	21.3	3 787	21.3	49.1	1 222	17.5	223	68.7
unemployed persons ...	1 997	5.5	552	3.1	27.6	168	2.4	23	56.9
inactive persons	13 810	38.1	6 157	34.7	44.6	2 152	30.8	180	37.3
Total	36 220	100	17 740	100	49.0	6 990	100	1 290	59.8
by age classes ¹⁾									
Households of persons									
from ... to under ... years									
under 35	8 150	22.5	2 018	11.4	24.8	640	9.2	205	78.7
35 - 45	6 519	18.0	3 930	22.2	60.3	1 573	22.5	444	78.8
45 - 55	6 212	17.2	3 812	21.5	61.4	1 732	24.8	361	70.5
55 - 65	6 357	17.6	3 740	21.1	58.8	1 500	21.5	191	53.2
65 - 70	2 861	7.9	1 574	8.9	55.0	643	9.2	48	35.6
70 and over	6 121	16.9	2 666	15.0	43.6	903	12.9	41	25.8
Total	36 220	100	17 740	100	49.0	6 990	100	1 290	59.8
by income strata ²⁾									
Households with a net									
income from DM ... to									
under ...									
under 36 000	12 702	35.1	3 749	21.1	29.5	996	14.3	79	38.8
36 000 - 48 000	6 244	17.2	2 947	16.6	47.2	863	12.4	89	49.4
48 000 - 60 000	5 147	14.2	2 806	15.8	54.5	928	13.3	147	61.8
60 000 - 72 000	3 825	10.6	2 389	13.5	62.5	875	12.5	168	67.3
72 000 - 90 000	3 560	9.8	2 355	13.3	66.2	990	14.2	194	70.1
90 000 and over	4 741	13.1	3 495	19.7	73.7	2 338	33.4	614	77.5
Total	36 220	100	17 740	100	49.0	6 990	100	1 290	59.8

¹⁾ According to the household's reference person. - ²⁾ Net household income according to the annual accounts of the 1993 Sample Survey of Income and Expenditure (1993 income level).

Table 10: Households with residential and landed property compared with the total number of households in 1995, by social structure
Former territory of the Federal Republic of Germany

Social structure	Households, total		Incl.: Households with residential and landed property						
			Total			Real property at current market value		Residual debt (loans)	
	1 000	% of column 1	1 000	% of column 3	relation of column 3 to column 1 in %	DM bn	% of column 6	DM bn	% of column 3
	1	2	3	4	5	6	7	8	9
by social groups ¹⁾									
Households of									
self-employed persons .	2 066	7.0	1 570	10.2	76.0	1 150	17.7	278	66.8
public officials	1 555	5.3	1 075	7.0	69.1	446	6.9	105	77.8
salaried employees	7 194	24.4	3 834	25.0	53.3	1 674	25.8	444	75.0
wage earners	6 055	20.5	3 131	20.4	51.7	1 079	16.6	190	64.3
unemployed persons	1 399	4.7	386	2.5	27.6	135	2.1	16	45.6
inactive persons	11 221	38.1	5 354	34.9	47.7	2 017	31.0	153	31.3
Total	29 490	100	15 350	100	52.1	6 500	100	1 185	56.2
by age classes ¹⁾									
Households of persons									
from ... to under ... years									
under 35	6 591	22.4	1 642	10.7	24.9	559	8.6	184	76.0
35 - 45	5 225	17.7	3 289	21.4	62.9	1 417	21.8	403	77.1
45 - 55	5 072	17.2	3 313	21.6	65.3	1 629	25.1	344	68.2
55 - 65	5 131	17.4	3 254	21.2	63.4	1 414	21.7	173	49.9
65 - 70	2 448	8.3	1 433	9.3	58.5	610	9.4	43	31.2
70 and over	5 022	17.0	2 419	15.8	48.2	872	13.4	38	21.0
Total	29 490	100	15 350	100	52.1	6 500	100	1 185	56.2
by income strata ²⁾									
Households with a net									
income from DM ... to									
under ...									
under 36 000	9 363	31.8	2 923	19.0	31.2	854	13.1	52	27.4
36 000 - 48 000	4 839	16.4	2 366	15.4	48.9	754	11.6	67	41.7
48 000 - 60 000	4 152	14.1	2 346	15.3	56.5	836	12.9	126	57.0
60 000 - 72 000	3 300	11.2	2 130	13.9	64.5	808	12.4	151	64.7
72 000 - 90 000	3 273	11.1	2 210	14.4	67.5	956	14.7	187	68.9
90 000 and over	4 562	15.5	3 376	22.0	74.0	2 292	35.2	603	77.0
Total	29 490	100	15 350	100	52.1	6 500	100	1 185	56.2

¹⁾ According to the household's reference person. - ²⁾ Net household income according to the annual accounts of the 1993 Sample Survey of Income and Expenditure (1993 income level).

**Table 11: Households with residential and landed property compared with the total number of households in 1995, by social structure
New Länder and Berlin-East**

Social structure	Households, total		Incl.: Households with residential and/or landed property						
			Total			Real property at current market value		Residual debt (loans)	
	1 000	% of column 1	1 000	% of column 3	relation of column 3 to column 1 in %	DM bn	% of column 6	DM bn	% of column 3
	1	2	3	4	5	6	7	8	9
by social groups ¹⁾									
Households of self-employed persons .	330	4.9	194	8.1	58.8	58	11.8	11	88.1
public officials	98	1.5	17	0.7	17.3	5	0.9	1	82.4
salaried employees	1 458	21.7	554	23.2	38.0	115	23.6	26	82.7
wage earners	1 657	24.6	656	27.4	39.6	143	29.2	33	89.6
unemployed persons	598	8.9	166	6.9	27.8	33	6.8	7	83.1
inactive persons	2 589	38.5	803	33.6	31.0	136	27.7	27	77.0
Total	6 730	100	2 390	100	35.5	490	100	105	83.1
by age classes ¹⁾									
Households of persons from ... to under ... years									
under 35	1 559	23.2	376	15.7	24.1	80	16.4	21	90.4
35 - 45	1 294	19.2	641	26.8	49.5	156	31.7	41	87.5
45 - 55	1 140	16.9	499	20.9	43.8	103	21.1	17	85.4
55 - 65	1 226	18.2	486	20.3	39.6	86	17.6	18	75.3
65 - 70	413	6.1	141	5.9	34.1	33	6.7	5	80.1
70 and over	1 099	16.3	247	10.3	22.5	31	6.4	3	72.9
Total	6 730	100	2 390	100	35.5	490	100	105	83.1
by income strata ²⁾									
Households with a net income from DM ... to under ...									
under 36 000	3 339	49.6	826	34.6	24.7	142	29.1	27	79.3
36 000 - 48 000	1 405	20.9	581	24.3	41.4	110	22.4	22	81.1
48 000 - 60 000	995	14.8	460	19.2	46.2	91	18.7	22	85.9
60 000 - 72 000	525	7.8	259	10.8	49.3	67	13.6	17	88.0
72 000 - 90 000	287	4.3	145	6.1	50.5	34	6.9	7	89.0
90 000 and over	179	2.7	119	5.0	66.5	46	9.3	10	90.8
Total	6 730	100	2 390	100	35.5	490	100	105	83.1

¹⁾ According to the household's reference person. - ²⁾ Net household income according to the annual accounts of the 1993 Sample Survey of Income and Expenditure (1993 income level).

2.3 Social groups

Considerable differences appear when comparing social groups: 74 percent of the households of self-employed own real property, followed by 66 percent of the households of public officials. Households of salaried employees and wage earners are just above average at 51 percent and 49 percent, respectively, while economically inactive persons and unemployed record lower percentages. The households of self-employed hold 17 percent of the total real property but represent only 10 percent of the private owners of residential and landed property. Economically inactive persons as the largest group (35 percent of landowners), however, own a below-average proportion of real property (just under 31 percent). As regards households of public officials and salaried employees, their numbers nearly correspond to their shares in property values.

The highest property values per household are recorded for households of self-employed (because of a concentration of the ownership of multi-family units and other buildings). However, these households also bear a heavier burden of loans. It is surprising at first that economically inactive persons account for a rather low percentage of landowners and that the value of their property is below average: this is due to the inclusion of the new Länder. A look at the old Länder confirms the picture drawn by earlier studies where high ratios of residential property and considerable property values with little residual debt characterised the group of economically inactive persons.

2.4 Age classes

The frequency of residential and landed property varies with the age of the households' reference persons. The results confirm that the formation of residential property - and its abandonment later on - are linked up with the life cycle. Households with young reference persons account for a rather small percentage of owners (25 percent). The proportion soars up from 35 years onwards. As regards reference persons in middle age classes, some 60 percent of households possess landed property. The percentage decreases markedly among the over 65 year-olds (to under 50 percent). This may be taken as an indication that some households give up their property in older age - either through sale or by transferring it to their children - and move into smaller flats. Another explanation offers itself: The older generations, in part, had fewer chances of acquiring residential property in the fifties and sixties because it was more difficult for them to accumulate the required starting capital. Subsequent generations have been able to rely more strongly on family support (gifts or inheritances).

When considering the property distribution by age classes it is remarkable that the numbers of those aged under 35 years and also over 70 years do not correspond to the shares of property they hold, i.e. these age classes record relatively small property values. With the younger people this may be due to proportionate property from inheritances, whereas smaller flats or older buildings may be responsible in the case of elderly people. It is conspicuous that in the new Länder younger households (up to 45 years) account for a relatively high proportion of landowners - this reflects the intense building activity for residential purposes in which the latter age group has obviously had a large part.

2.5 Income strata

The percentage of households owning real property in the total number of households is closely correlated with the income¹⁸⁾. Thus, just under 30 percent of the households in the lowest income stratum defined in this study own residential and landed property, while the respective proportion of the highest income bracket is about 74 percent. The influence exerted by income is similarly evident when looking at the corresponding property values: the lowest stratum, which represents 21 percent of all landowners, holds just over 14 percent of the total property, while the upper bracket, which accounts for almost the same number of landowners at just under 20 percent, owns more than a third of the total property. An analysis by property items reveals that this property concentration relates especially to multi-family units, condominiums and other buildings. This proves that high-income earners give preference to real property items which are suitable as investment property.

The proportion of households with residual debts and the average amount of borrowing rise considerably as the income increases, especially in the old Länder. Presumably, the main reason for this is that in the lower income strata inherited or older property prevails, while new construction or acquisitions going along with new borrowing are more frequent in the higher income brackets. The average net property values calculated for the given income strata (current market values net of residual debt) do not increase as steeply as the gross property.

2.6 Property concentration

An analysis of all the data material on the individual groups of households with residential and landed property thus reveals marked differences in the stocks of property when disaggregated by typifying social characteristics. The connections, however, are less clear at microdata level. The individual cases show substantial variations concerning property in relation to age, income, social status or the number of household members so that the factors of influence often overlap.

Consequently, even though the grouped data show that smaller stocks of property are owned by people of older age, there is nevertheless a considerable number of older households which own large properties. Nevertheless, the latter households frequently receive comparatively low incomes. The fact that such property has often been inherited and was not acquired on own income is another reason why the connection with income is less close in this case.

In the following paragraphs, households are grouped by property classes distinguishing between gross and net property (in consideration of loans). The individual datasets have revealed that many households hold only small but often unencumbered properties. In the old Länder, this relates mainly to properties of under DM 150,000 (inheritance shares, vacant land). Similar conditions apply to the new Länder for which an astonishing number of properties of under DM 50,000 have been recorded, consisting mainly of land with minor buildings¹⁹⁾. Across many property classes, borrowing ratios are nearly proportionate to the property values, with considerable numbers of unencumbered properties being recorded especially for the top classes.

18) It must be stressed that the present analysis is based on the detailed income data of the annual EVS accounts. In comparison to the self-assessments made in the basic interviews, markedly higher incomes are recorded in the annual accounts. EVS publications, however, refer to the income data from the self-assessments. The same applies to the Microcensus and the GWS which are also based on this concept of income.

19) Presumably, the respective plots are either located in the outskirts of settlement areas and used for leisure time purposes, or serve commercial purposes to a minor extent.

Tables 12 and 13, and Charts 1 and 2, present results on gross and net current market values for Germany. In order to measure concentration, the Lorenz curves are shown in the two charts²⁰⁾ and the pertaining Gini coefficients²¹⁾ have been calculated.

**Table 12: Gross real property of households¹⁾ in 1995
by size classes
Germany**

Size class from DM ... to under ...	Households with residential and landed property			Property at current market value		
	1 000	%	cumulated in %	DM bn	%	cumulated in %
under 100 000	1 149	6.5	6.5	54	0.8	0.8
100 000 – 200 000	2 481	14.0	20.5	354	5.1	5.8
200 000 – 300 000	3 547	20.0	40.5	798	11.4	17.2
300 000 – 400 000	4 662	26.3	66.7	1 468	21.0	38.2
400 000 – 500 000	2 241	12.6	79.4	962	13.8	52.0
500 000 – 600 000	615	3.5	82.8	321	4.6	56.6
600 000 – 700 000	957	5.4	88.2	589	8.4	65.0
700 000 – 800 000	257	1.4	89.7	186	2.7	67.7
800 000 – 900 000	751	4.2	93.9	610	8.7	76.4
900 000 – 1 million	140	0.8	94.7	130	1.9	78.3
1 million and over	940	5.3	100	1 519	21.7	100
Total	17 740	100	x	6 990	100	x

Gini coefficient: 39.4 %.

¹⁾ In gross terms (prior to deduction of residual debts), valuation according to the current market value concept.

**Table 13: Net real property of households¹⁾ in 1995
by size classes
Germany**

Size class from DM ... to under ...	Households with residential and landed property			Property at current market value		
	1 000	%	cumulated in %	DM bn	%	cumulated in %
under 100 000	2 044	11.5	11.5	89	1.6	1.6
100 000 – 200 000	3 731	21.0	32.6	491	8.6	10.2
200 000 – 300 000	3 929	22.1	54.7	863	15.1	25.3
300 000 – 400 000	3 501	19.7	74.4	1 093	19.2	44.5
400 000 – 500 000	1 668	9.4	83.8	695	12.2	56.7
500 000 – 600 000	628	3.5	87.4	324	5.7	62.4
600 000 – 700 000	628	3.5	90.9	383	6.7	69.1
700 000 – 800 000	291	1.6	92.6	210	3.7	72.7
800 000 – 900 000	458	2.6	95.1	371	6.5	79.3
900 000 – 1 million	110	0.6	95.8	102	1.8	81.0
1 million and over	752	4.2	100	1 080	19.0	100
Total	17 740	100	x	5 700	100	x

Gini coefficient: 42.4 %.

¹⁾ In net terms (after deduction of residual debts), valuation according to the current market value concept.

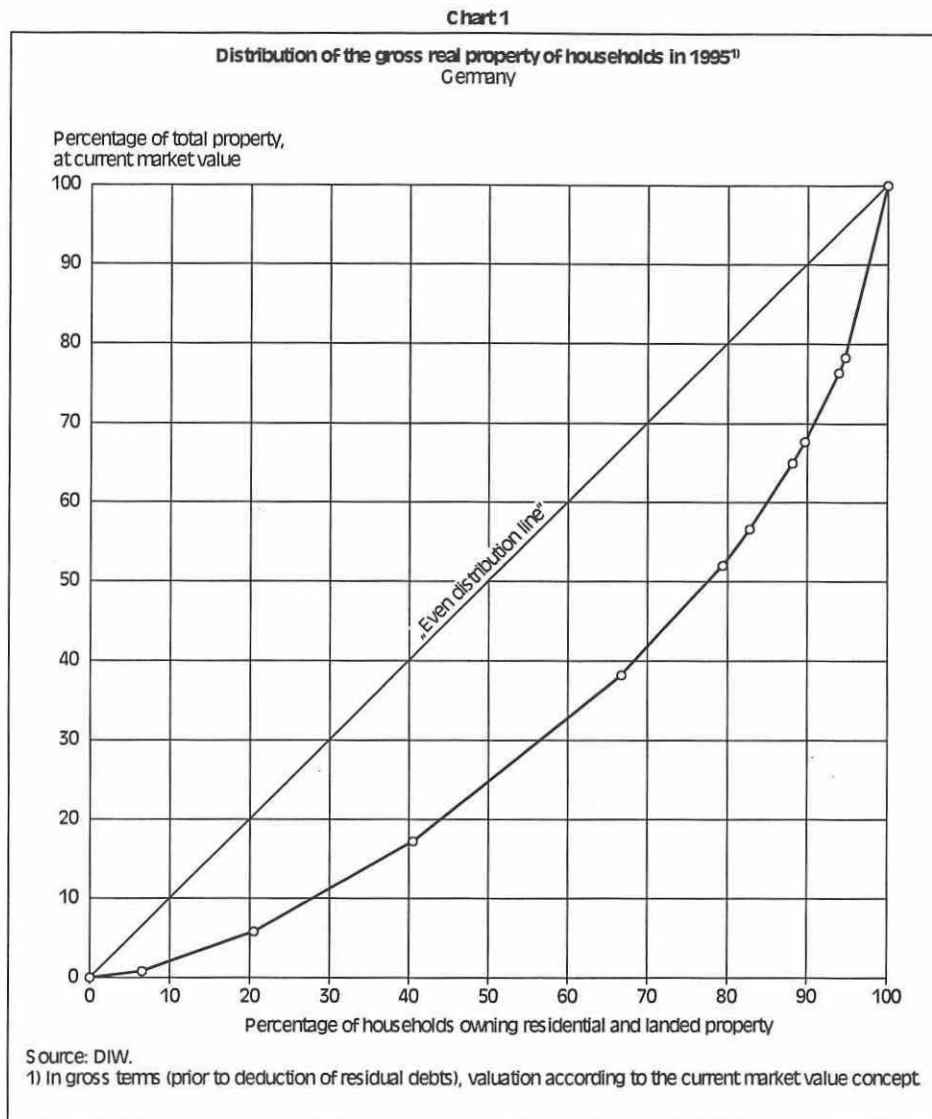
The two property classes of up to DM 200,000 account for 20.5 percent of the households with residential and landed property; they own 5.8 percent of the total real property. This presumably encompasses mainly proportionate properties (inheritance shares or other kinds of participations) or, at the most, sole properties in the form of condominiums or older one- and two-family houses. The 10.3 percent of households with properties of DM 800,000 and over account for just over 32 percent of the total real property.

The Gini coefficient for Germany is 39.4 percent. The distribution, however, is essentially influenced by the conditions in western Germany. This is due to the far larger number of households in the old federal Länder (15.3 mn landowners in the old Länder compared with 2.4 mn in the new Länder) and even more so to their accumulation

20) The Lorenz curve can be derived directly from the stratification tables by relating the cumulated shares of households grouped by the stocks of residential and landed property they own (abscissa) to the cumulated shares these households hold in the total real property (ordinate). With a completely even distribution, the Lorenz curve moves along the 45°-line; it becomes more and more convex as the property concentration increases.

21) This means that the area between the Lorenz curve and the 45°-line is related to the whole triangle below this line. Values range between 0 and 1 (both inclusive); high values denote a strong concentration.

of property values (DM 6,500 bn against DM 490 bn). The new Länder show a stronger property concentration²²: a third of the households there own properties of just up to DM 100,000. Owing to the building boom since 1990, however, a substantial number of "richer" households has been added. Their stocks of property mostly amount to under DM 500,000, while only 5.8 percent of all households own larger properties. In the West, only 11.7 percent of households, that is 4.1 percent of the property, can be attributed to the classes of up to DM 200,000. The property classes above DM 500,000 encompass 23 percent of the households which, in turn, own just under half of the total real property.

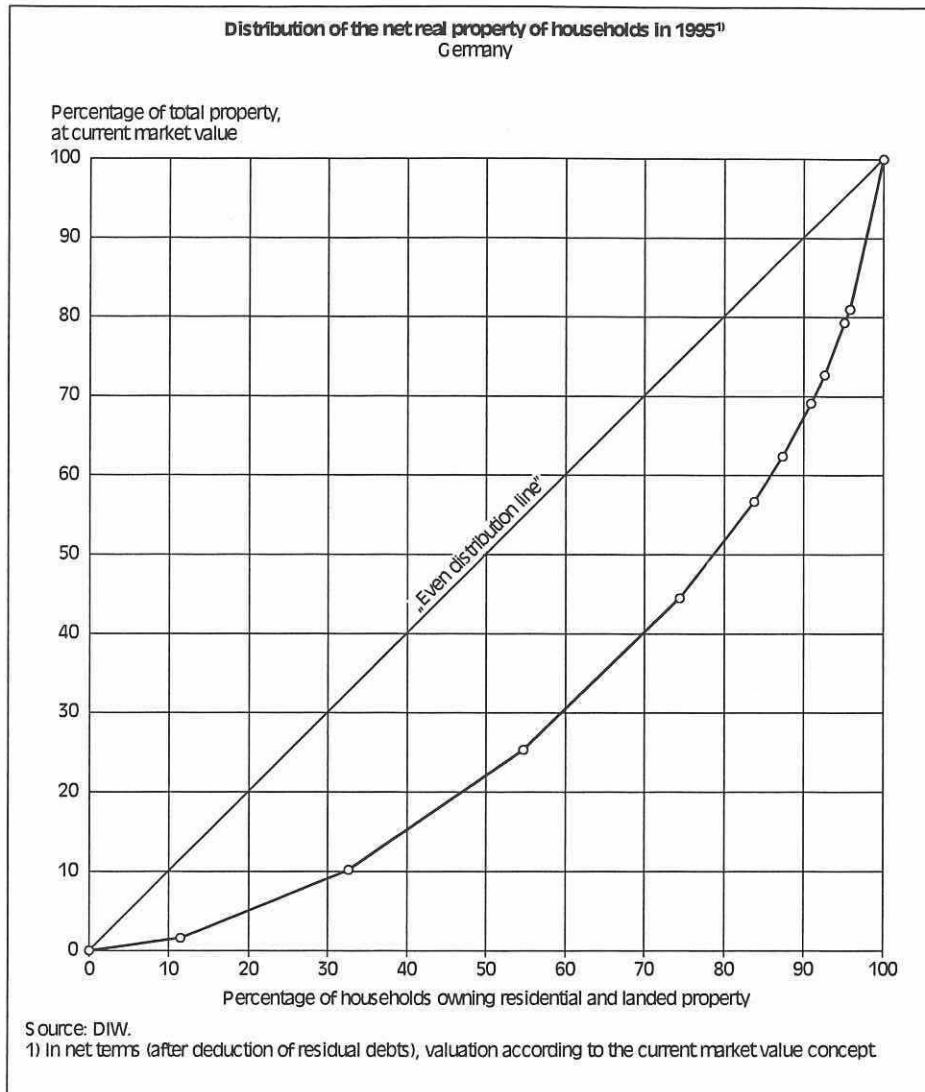


A high frequency of commercial investment property and of blocks of rented flats is recorded in the old Länder for households with properties of DM 800,000 and more (11.5 percent of property owners holding 33.5 percent of the total real property). In the East, only 2.6 percent of households or 16.4 percent of the total real property can be allocated to these property classes. Only about 5 percent of German households can be considered as property millionaires in terms of residential and landed property, with these households owning, however, just under 22 percent of the total real property.

Considering the fact that quite a number of one- and two-family houses in urban agglomerations are worth a million Deutsche Mark, it is surprising that only a rather small number of households own properties above this level. What has to be taken into account in this context is the broad dispersion of real property: most of the 17.74 mn land-owning households (i.e. just over 14 million households) own properties of under DM 500,000. Another important factor is that the more valuable items of real property are often shared by several households (communities of heirs or of persons).

22) The Gini coefficient has been put at 37 percent for the former federal territory and at 46.6 percent for the new Länder and Berlin-East.

Chart 2



The distribution by size classes of property shifts downwards when residual debts are taken into account (see Table 13). With a Gini coefficient of 42.4 percent, the concentration of net property is stronger than that of gross property. In this case, 32.6 percent of the households with properties of under DM 200,000 account for approximately 10 percent of the total real property. All the classes from DM 300,000 upwards show lower frequencies. The number of real property millionaires also declines: They comprise just over 4 percent of the landowners and hold 19 percent of the total net property.

The Gini coefficients calculated according to the current market value concept run up to around 40 percent both in net and gross terms. The property stratifications that have additionally been compiled according to the asset value and earning capacity value concepts (but which are not presented here) do not differ substantially from this percentage. This means that the concentration of real property cannot be considered as particularly strong. There is rather some evidence that it has declined over time: Calculations using EVS data for previous years - which, however, could be based only on information on the taxable standard values of landed property - show that the Lorenz curves are levelling off somewhat²³⁾. This trend, however, does not mean that the stocks of property held by richer households have decreased but rather that the number of land-owning households has steadily increased (in the former federal territory by 1.3 mn from 1973 to 1978, by 2 mn from 1978 to 1988, and even by 3 mn from 1988 to 1995)²⁴⁾. This enlargement of the basis - which is tantamount to deconcentration - is a result, inter alia, of the

23) See Bartholmai, B. (ed.): "Wohnigentum und Verteilung des privaten Grundvermögens" in Wochenbericht des DIW, No. 50/1981; the same: "Elemente regionaler Wohnungsmarktmodelle und offene Fragen der Wohnungsmarktanalyse", Sonderheft des DIW, No. 95, Berlin 1982, p. 30; Schlohmann, H.: "Vermögensverteilung und Altersvorsorge", Frankfurt on the Main 1992, pp. 153 ff.

24) These figures take into account that the EVS 1993 (and the present calculations for 1995) include households of foreigners. Thus, the comparison to earlier EVS results refers only to the former territory of the Federal Republic and to households with German reference persons.

government initiative for the promotion of housing construction and residential property. To a similar degree, it appears to have been promoted by inheritances.

Table 14 shows how changes in the number of land-owning households by age classes from 1988 to 1993 (in the old Länder) should be assessed. To this aim, the 1988 EVS results were extrapolated to fictitious age classes in 1993, taking into account that all the households covered would have aged by five years. Consequently, the frequencies in the individual classes would have shifted, thereby presenting what could be described as expected values for 1993, provided no further variations had occurred. If the EVS 1993 results are applied to these values, the differences denote the numbers of newly added land-owning households in each of the age classes. Particularly high increases can be observed in the age classes between 25 and 45 years; they account for 65 percent of all additions. Previous studies showed that real property was mainly acquired in the life span between 40 and 60 years. Often, income and savings were not sufficient earlier on to ensure sound financing, and inheritances usually do not occur till this age. The distinct shift of real property acquisition towards younger households confirms the assumption that these households receive support for their property formation while their parents are alive. The same line of thought is strengthened by the observation that households of higher ages partly dissolve their property, for a marked decrease is recorded for the age class of over 70-year olds.

Table 14: Households with residential and landed property by age classes
Former territory of the Federal Republic
1988 and 1993 Sample Surveys of Income and Expenditure - Comparison of results

Age of reference person from ... to under ... years	Result of the 1988 Sample Survey of Income and Expenditure			... extra- polated ¹⁾ to 1993	Result of the 1993 Sample Survey of Income and Expenditure ²⁾			Change of 1993 on 1988 ³⁾
	Households, total	Incl.: Households with residential and landed property			Households, total	Incl.: Households with residential and landed property		
	1 000	%			1 000	%		
under 25	808	44	5	22	645	44	7	+ 22
25 - 35	3 935	1 111	28	578	5 388	1 469	27	+ 892
35 - 45	4 122	2 258	55	1 685	5 619	3 106	55	+ 1 422
45 - 55	4 717	2 840	60	2 549	4 936	3 166	64	+ 617
55 - 65	4 224	2 435	58	2 638	4 917	3 114	63	+ 477
65 - 70	2 108	1 108	53	1 218	2 369	1 366	58	+ 149
70 and over	4 770	1 733	36	2 841	5 054	2 330	46	- 511
Total	24 684	11 529	47	11 529	28 928	14 595	50	+ 3 066

Sources: Federal Statistical Office; calculations of the DIW.

- ¹⁾ Extrapolated to 1993 (by then, all households should be five years older), 50% of the households in an age class (covering 10 years) have been classified to the next higher age class - this is the expected result for 1993 (deaths being disregarded).
²⁾ Households of foreigners were included for the first time. - A total of 2.3 mn households, about 750 000 of them landowners.
³⁾ Related to the expected value (extrapolation of the population covered in 1988).

3 Relevance for wealth policy

The values calculated in the study for the total real property of households in 1995 amount - depending on what valuation approach is used - to between DM 7,300 bn (asset values) and DM 6,170 bn (earning capacity values), both in gross terms. This includes other buildings and vacant land, but excludes other assets in the form of real property abroad (around DM 130 bn). The loans granted on the total real property come up to DM 1,290 bn.

Compared to that, the income originating from residential real property - including income in the form of imputed rents for owner-occupied housing - result in a fairly low yield of less than 4 percent (see Table 7). Yet, besides the profit motive, a number of other factors may play a role or even be decisive for the formation of real property. As regards one- and two-family houses and condominiums, this refers to the expected rent savings in old age or, alternatively, to the possibility of re-converting fixed assets into financial assets, which appears to gain growing importance. Furthermore, tax benefits on investments in residential construction have to be taken into account. Thus, real property initially yielding rather small or even negative pre-tax profits may become attractive investments for private investors²⁵⁾. The markedly higher property concentration (in the form of multi-family units, condominiums or other buildings) in the upper income strata presumably has to be attributed to exactly those reasons.

Real property is just one, albeit major asset of households. With a view to future discussions on wealth and distribution politics, it would be particularly interesting to compare real property, financial assets and business

25) For more details see Bach, S./Bartholmai, B. (ed.): "Geplante Einkommensteuerreform: Erhebliche Folgen für den Wohnungsbau" in Wochenbericht des DIW, No. 10/1997; as well as the calculations by the Expert Commission on Housing Policy in the Bundestag publication 13/159, Tz. 8114 ff.

property²⁶). This applies, for example, to suggestions aimed at a reintroduction of property tax or of special levies on large properties. Questions as to how "rich" or "poor" specific population groups are also bear relevance to issues of social policy.

The financial assets are reliably covered at the national level (financial asset accounts of the Deutsche Bundesbank²⁷). A comparison to EVS results, however, reveals considerable gaps at the microdata level²⁸. Representing the distribution of financial assets will thus raise even greater problems than that of real property. And it will be even more difficult to cover the business property held by private owners²⁹). Nevertheless, it should at least be attempted to make consistent estimations of the distribution of these three important types of property.

This refers not only to the stocks of property, but also to the income originating from them and to the use of income for the formation of property. This, however, would require continuous monitoring and updating. This is exactly what the German Council of Economic Experts pointed out in its latest annual report: The Council has been calling for improvements in the relevant statistical basis since the 1960s³⁰).

Dr. Stefan Bach/Dr. Bernd Bartholmai

26) Some time ago, the DIW provided a summary property stratification of households in 1993, which, however, was not based on uniform microdata; see Bach, S./ Bartholmai, B. (ed.): Zur Neuregelung von Vermögen- und Erbschaftsteuer" in Wochenbericht des DIW, No. 30/96.

27) See Deutsche Bundesbank: "Ergebnisse der gesamtwirtschaftlichen Finanzierungsrechnung für Deutschland 1990 bis 1997". Statistische Sonderveröffentlichung 4, Frankfurt on the Main, June 1998.

28) According to a definition comparable to the one used in the EVS, the Deutsche Bundesbank put the gross financial assets at DM 3.51 trillion at the end of 1993 or, respectively, at DM 3.16 trillion after deducting consumer credits. The corresponding EVS 1993 values, however, were significantly lower at DM 1.96 trillion in gross terms (around DM 1.9 trillion in net terms).

29) Statistical information on business property by legal form is available from the assessed valuation of business enterprises (latest main recording in 1993). Information on the relation of business property to the remaining types of household property may also be derived from the 1993 property tax statistics.

30) German Council of Economic Experts: Annual Report 1997/98: "Growth, Employment, Monetary Union - Guidelines for the Future", tz. 291.

