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Developments in the Financial Sector

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Developments in the Financial Sector[2]

You have asked me to speak today about how developments in the world at large are likely to affect the development of the Swedish financial sector. I was at first a little hesitant to accept this invitation to perform as a pundit; I felt better after reading that punditry was 'judging a distant and obscure situation which, though essentially unknowable, the public media are interested in for the moment. "Descended from shamanism, this public function will always be performed, even if only by dopes and dupes, so why not by oneself? Better a little wisdom than none at all."'[3] So I am pleased to take up this challenge to gaze into the crystal ball.

When I first visited Sweden in 1984, new financial markets were being developed in a tentative way - markets for Treasury Bills and options had just been opened, the interest rate on government borrowing was beginning to be set by the market rather than in private discussions between the National Debt Office and the National Pension Fund, and the Stockholm School of Economics was beginning to emphasize doctoral studies in financial economics. At the same time, Sweden was playing a major role in the globalization of capital markets. Sweden was voted borrower of the year in the 1984 Euromoney poll[4], was an early user of sovereign bonds and Perpetual FRN's, and a pioneer in the development of the swap market. Since then of course we have seen further integration of Sweden into the world, and especially the European, financial system, and further liberalisation at home - not always with the happiest of consequences[5] - but mistakes are often the cost of progress.

Looking forward, what forces are likely to play a major role in forming the Swedish financial system? What changes are these forces likely to bring about?

In attempting to cast light on these issues I shall pursue five major themes:

First I shall discuss the forces for change in financial markets as I see them.

Secondly, I shall discuss the nature of the changes that are occurring.

Thirdly, I shall say a few words about the technology of financial services and its implications for evolution in the industry.

Fourthly, I shall dwell a little more on one aspect of financial services which is of growing importance, namely the sale of information.

Fifthly, I shall briefly discuss some implications for Sweden.

Finally, if I have time, I shall make a few prescriptive remarks, mainly about the kinds of securities that would help individuals to develop efficient lifetime savings and investment programs.

I have been charged to address a broad topic. I shall paint with a correspondingly broad brush, and apologize in advance for mistakes I shall make about the details of the Swedish financial system.

The Main Forces for Change

1. Globalization

The primary issue that I have been asked to discuss is the consequence for the financial system of a small open economy of globalization and competition within Europe. We are of course witnessing two simultaneous but logically distinct developments - one is liberalisation within Europe associated with development of the European Union, and the other is the growing international competition in commodity and financial markets - the latter is apparent in the globalization of the major US investment banks and their dominant international role in

underwriting, and in mergers and acquisitions[6], the tendency at last for the investment portfolios of pension funds in many countries to take advantage of the benefits of international diversification that have for so long been held out by economists[7], and the globalisation of bond, and particularly of equity, issues. One consequence of this is that foreigners now hold about 30% of the market capitalization of the Stockholm market[8]; while this may have long run implications for the control of Swedish industry and for what I might describe as the Canadianization of the Swedish economy, I shall not pursue this theme.

So far no agreement has been reached on global free trade in financial services, so the Swedish financial market is not yet freely open to American and Japanese firms. However, there is now strong support from the private sector in the US and the UK at least for such a deal, so Sweden along with the rest of the European Union is on the threshold of joining a truly global market in financial services .

Within Europe, Baltensberger and Dermine (1990) have identified three distinct phases in the history of the regulation of financial services: the first, from 1957 to1973 was concerned with deregulation of entry to domestic markets; in the second phase, from 1973 to 1983, efforts were directed towards the harmonisation of banking regulations; the latest phase is attempting to achieve full integration of financial markets through the single passport, the Banking Directives, the Investment Services Directives. These developments have in principle thrown European capital markets open to internal competition, which should lead to further integration. This means that the Swedish capital market will be affected strongly by savings and investment trends throughout the whole of the Union. It also means that Sweden has had to adapt a number of its regulations to harmonize with the rest of Europe. Measures taken so far by Sweden to

accommodate the new European regime have primarily been of a democratizing nature - I refer to the rules on publication of large holdings, insider trading, and the abolition of restricted shares. Clearly, these developments expose the Swedish financial sector to foreign competition in a way that it has not previously experienced.

2. The changing role of the state and the citizen

Throughout most of history up to the end of the 19th century the citizen expected very little of the state, and the state offered very little in return[9]. Wealth was highly concentrated, and for the non-wealthy, the church, the family, and early mortality were the main protections against unemployment and a poverty-stricken old age.

The last quarter of the 19th century and the first half of this century saw a tremendous expansion in the powers and ambitions of the state, ranging from the provision of education and healthcare, to old age and unemployment security, and the collective ownership of large segments of the economy from housing to communications, steel and coal, and power generation.

The last fifteen years have seen this tide recede almost everywere[10], for reasons that I do not want to pursue today. This has had two major consequences. First it has thrown the financing of a large part of the economy into the private sector[11] which, as we know, has had drastic consequences for incentives and efficiency[12]. Secondly, and more importantly, it has left the individual citizen with more responsibility for his own security and welfare[13]. Western societies have been experiencing a pronounced trend towards longevity which, combined with the effects of declining fertility, is imposing severe strains on social security systems[14]. The response to these strains in many countries is for the state to limit or reduce its commitment to providing pensions.

In the US, there has been talk of privatizing Social Security, and scepticism about future benefits is so high that more Americans believe that Elvis Presley is still alive than believe that they will receive Social Security. In the UK, the outgoing Conservative Government has offered concrete proposals for replacing the current system with a largely private one, along the lines of the Chilean system. Even if this proposal is not enacted in its current form, the existing pension scheme, which is tied to the Consumer Price Index, is expected to provide a sharply declining pension relative to real wages[15]. Thus in large parts of the western world the individual is, for the first time in nearly 100 years, facing the problem of financing an extended period of retirement, and in a society which is no longer mainly agrarian. However, individuals are much wealthier than they were, so a task that would once have been impossible is no longer so - it is merely daunting. How to shift consumption from the earning years to the post retirement years? Not surprisingly, in most OECD countries households have responded by increasing their financial wealth much faster than their income as shown in Figure 1[16].

At the same time that national governments have been withdrawing, or threatening to withdraw, from the provision of any but the most modest provision for old age, corporations have also been withdrawing, at least in the Anglo-Saxon world. Rather than promising a retirement pension related by formula to the final salary, the so-called defined benefit plan (DB), corporations have increasingly been shifting to defined contribution (DC) plans in which the employee is given a sum of money each year and told to invest it for retirement. It is reported that while there were 45m Americans in DB plans and only 25m in DC plans in 1995, the DC plan assets were $1,300 bn versus $1,500 bn for the DB plans. Currently about 1/3 of US mutual fund assets represent DC plan assets, and a recent survey reports that 43% of Americans now own stocks or mutual funds:

41% expected retirement funds to come from investment, while only 29% expected to rely on company sponsored plans or social security. In the UK, the process of change is less advanced, but companies are closing existing DB plans to new members and instead leaving them to fend for themselves in DB plans.

Thus the nanny state has not been replaced by the nanny corporation. Indeed, in all countries, previous security of employment has been replaced by what is euphemistically referred to as a 'flexible labour market'. This privatisation of retirement savings, which has advanced less far in Sweden than in other, particularly the Anglo-Saxon, countries, poses a major task for financial markets for reasons that I shall elaborate on below. Progress in Sweden has been retarded by the generosity of the funded state retirement system. However, returns earned on this system have been low, and the present level of benefits appears to be unsustainable - I shall elaborate on this below.

3. Technology

Technology, particularly communications and computer technology, has created the conditions for massive change in the financial sector. Most obvious to the naked eye, the introduction of the ATM has been associated with a reduction in the number of bank branches[17]; less immediately obvious is the dependence of such developments as the credit card, asset-backed financing, derivatives trading and distant banking on modern computing and communications technology. We should also include among the improvements in technology, the design of new financial contracts and the associated legal developments that make it easy to trade futures and swaps, more complex derivatives, and asset backed financing. And finally, but not least, we should consider developments in techniques for valuing and hedging these instruments

By reducing accounting costs, the advance of technology has also allowed the fragmentation and specialization of the financial services industry. This in turn has facilitated innovation.

As I shall argue below, financial services are increasingly information services, and improvements in information technology such as satellite communications and the internet make the remote delivery of these services orders of magnitude easier.

4. Deregulation

Until the 1970's or even later, financial systems in the western world lived comfortably under the shadow of the Depression. Memories of bank failures were still a potent force allowing the banking system to receive special treatment and protection in the form of interest ceilings, limits on lending, restrictions on lines of business, balance sheet controls, foreign exchange restrictions etc. However, this regulation contained within itself the seeds of its own destruction, for, by stimulating the search for unregulated alternatives to banking, it undermined the position of the regulated sector, whose survival could finally be assured only by the lifting of the regulations[18].

I have mentioned four factors as being critical to understanding the process of change in financial markets: globalization, the changing role of the state, technology, and deregulation. Globalisation, by which I mean the abandonment of barriers to expansion across national frontiers, and deregulation, which permits competition, are the main factors *facilitating* change in the financial system. However, the primary *motive* factors of change are changing demographics,

social attitudes, and technology.

It is of course one thing to identify the major forces bringing about change. It is another to predict the course that change will take. As evolutionary biologists have found, it is usually easier to give an explanation for what has happened, than it is to give a prediction of what will happen. One reason for this is that evolution is path dependent, and so reflects particular historical events which in themselves may not be predictable, as well as timeless factors arising from the nature of man or the physical world. For example, the rapid development of the Eurodollar market in London rested in large part on the imposition of the US Interest Equalization Tax, and the swaps market grew out of the market for parallel loans, which was itself the product of exchange controls. In a similar fashion, the future development of financial markets may be influenced by the fact that the major banks have extensive branch networks, even though it is unlikely that if we were asked to construct a banking system from scratch today we would start by building a network of physical branches. Therefore, rather than trying to predict the future, I will concentrate mainly on analyzing the change that is currently in progress.

The Nature of Change

An important effect of international competition is that is severely constrains the hands of national regulators and tax authorities, as Swedish experience with the securities transaction tax reveals. In general, such competition is likely to benefit the individual at the expense of the common weal. Of course, harmonization is intended to ameliorate this tendency, but since it is difficult to proceed without consensus, the net effect of competition between nations is a trend towards less regulation. Thus securities regulators in New York complain of the tendency of equity

trading to migrate to the less heavily regulated London market, trading rules in London are set with an eye to their effect on competition from Paris, and US banks complain that they cannot compete in the global market place while burdened with the shackles of the Glass-Steagall Act.

A second consequence of international competition is that it reduces the power of vested interests and thereby facilitates change. This has been apparent in developments at the London Stock Exchange and, I suspect also, in Stockholm. The abolition of restricted shares in Sweden is another example.

A third consequence of globalization is that developments in the local capital markets become subject to forces and trends that are global in nature. It is no longer enough to consider the local economy to understand the forces determining the direction of change. Therefore I will turn my attention to what I see as the global trends in financial markets, and for the most part leave you to infer the consequences for Sweden.

1. Fragmentation in the Supply of Financial Services

At the risk of some oversimplification, it is possible to discern two apparently conflicting trends in financial markets - increasing specialization, or fragmentation, in the production of financial services on the one hand, and an apparent trend towards increased scale and scope in the provision of financial services on the other hand. Associated with the fragmentation of the production process is a shift in asset holdings from banks to other financial intermediaries, and an increasing reliance on markets.

The first aspect of these changes that I want to discuss is the fragmentation or specialisation in the production of financial services.

In the world of Adam Smith, specialization was determined by the size of the market. In today's world, specialization in the provision of financial services is determined by the *number* of different markets, so that fragmentation in the production process is associated with the development of markets. This fragmentation tends to facilitate innovation. To employ a stylized analogy, in the beginning, only IBM made computers: the pace of innovation was relatively restrained. In the 1980's, with the development of the PC, the number of component manufacturers exploded. Now there were separate markets for hard disks, for RAM, for CPU's, screens, software, and so on. The effect of this was to reduce the cost of entering the market. If you had a good idea for improving a computer, you no longer needed to take it to IBM or to develop the whole computer yourself. You could simply make the component you were good at and buy in the rest.

Similar forces have been at work in the financial sector. Originally, if you wanted to sell financial services you had to be either a bank that raised deposits and made loans, or an insurance company. Now much narrower niches are available to new firms.

A clear illustration of the process I am describing is available in the history of the US Savings and Loan (S&L) industry. The first S&L crisis, caused by rising interest rates in the 1960's, led Congress to authorize the quasi-governmental organisations, FNMA and FHLMC, to purchase pools of mortgages and to issue securities collateralized by them. By 1993 this securitisation had proceeded so far that 63% of mortgage originations were securitised and sold to pension funds, insurance companies and so on. Instead of being locked up in the portfolios of S&L's, pools of mortgages were traded in active and efficient secondary markets in competition with Treasury securities - as a result, it became impossible for an S&L to earn profits simply by

holding a mortgage portfolio. The profits then had to come from originating mortgage loans. But then specialized mortgage originators sprung up who made the mortgage loans, securitised them, and sold them on. This tended to compete away the profits in mortgage origination. Mortgages are a back-office intensive security - the monthly payments must be collected, taxes paid and so on. Profits could still be made by an S&L that was efficient at the operational business of servicing the mortgages - but then markets sprung for trading servicing rights, so that only the most efficient could compete in this activity. Thus it was not possible for an S&L to make money by making traditional mortgage loans unless it had some absolute advantage in some aspect of the process - origination, investment, management of the portfolio, servicing. Without some such advantage, S&L's could then make money only on the deposit side by exploiting their local monopoly. But here also, the development of Money Market Funds, which had been stimulated by ceilings on interest rates, tended to compete away their local franchises. Thus over a period of 20 years, the process of mortgage origination, funding by gathering deposits, and servicing was split into its components parts which are now often carried out by different financial firms.

2. Fragmentation in the Traditional Banking Industry

What I have described in S&L's is the fragmentation or specialisation of the different financial functions - accompanied by the development of markets in which these different outputs can be traded. A similar process is at work in insurance[19], and in the banking sector as a whole.

Banking has traditionally been concerned with servicing deposits, and intermediating the maturity and credit risk of loans to business. On the asset side, banks have experienced increasing competition from other lenders, and from credit markets such as those for commercial paper and

junk bonds. In the US in 1994, loans made to businesses by specialized finance companies amounted to 40% of the value of the Commercial and Industrial loans made by banks; over the past 25 years the share of bank loans in the short term debt of corporations has fallen from 80% to around 50%. Specialized lenders have also sprung up to service such niches as the sub-par car loans market, equipment leasing and so on[20]. Thus, the lending business has been largely separated from the deposit business[21]. In Sweden this process was slowed, and even reversed, by the banking crisis of the early 1990's, but there can be little doubt but that under more normal conditions it will be renewed[22].

The huge market for interest rate swaps that has developed over the past decade provides an alternative to maturity intermediation by the banks; similarly, the developing market in credit derivatives will permit the separation of the bearing of credit risk from the funding of loans. Thus, while banks once made loans that were financed by a combination of their own equity and short term deposits, increasingly, the various functions of origination, credit evaluation, funding, servicing, bearing credit risk, and bearing interest rate risk can be separated. Obviously, the securitisation of loans is a process similar to that which occurred with mortgages[23]; it separates the loan origination and servicing business from the funding. It is not surprising to find that the investment banks such as Solomon are beginning to enter the market for corporate loans.

The process of disintermediation in the market for corporate loans through the securitisation of loan portfolios and the replacement of bank lending by junk bonds, as well as the syndication of whole loans, both stimulates, and is stimulated by, the growth in credit rating agencies[24]. Credit ratings affect the capital that banks and insurance companies must hold against the different tranches of an issue. The inter-relationship of the credit rating agencies and bank

credit analysis is illustrated by the Natwest ROSE corporate loan securitisation in wich the task of the credit agencies was to validate the bank's internal rating system[25]. Thus banks can now employ their ability to originate and evaluate loans either to make loans, or to sell credit enhancements or bank guarantees, or to securitize loans. Not surprisingly, in most major countries the fee income of banks has risen relative to their gross income[26].

To the extent that the assets in which a bank invests are traded in free competitive markets, whether those are the markets for government bonds or securitised assets, these are zero net present value investments. There is no value added unless the bank has some informational advantage on which it can rely for trading profits. Thus, to the extent that a financial institution invests in secondary market assets rather than originating the loans itself, it must look for its profits either on the trading side or on the fund raising side.

At the same time that profits on asset holding are being eroded, banks are increasingly likely to find the profits from the deposit side of their business also competed away by specialized deposit takers - in the US the MMF's are the obvious example: their non-interest costs are around 50 basis points as compared with 280 basis points for a bank branch[27]. The banks have to respond to this threat or face extinction. In the US already, 7% of bank branches are to be found next to an ATM machine in the supermarket, and efforts are underway to develop electronic banking; notwithstanding this, traditional, chequing deposits now account for only 18% of bank funding[28]. In the UK, First Direct provides banking services by telephone without the cost of a branch network, and the major grocery chains as well as insurance companies are moving into the provision of banking services either alone or in partnership with one of the banks. In Sweden a similar process is at work.

A particularly vivid example of the effects of fragmentation on competition in the supply of financial services by an oligopolistic banking sector is seen in Australia where new non-bank mortgage originators have used the securitization technology to drive down the margin on mortgage lending by around 150 basis points over the past two years[29].

These competitive pressures on banks have led to widespread mergers aimed at reducing costs; however, there have been no major cross-border takeovers and none seems imminent at this time.

3. The Changing Demand for Liquidity, Shifts in Asset Holdings and the Declining Role of Traditional Banking

While the *immediate* cause of the relative decline in banking is to be found in deregulation and technological change which allows the development of low cost deposit competitors, and makes it relatively cheap to provide the information and infrastructure required for liquid asset markets to develop and complex securities to be created and valued, the more *fundamental* cause, I believe, lies in increasing wealth, longer lifespans and the declining role of the state in the provision of old age security.

The traditional role of banking is intermediation - the conversion of long term risky loans into short term riskless deposits for transactions or precautionary purposes. Banking is the oldest way of making illiquid assets liquid[30]. It accomplishes this by dividing the cash flows from an asset into a riskless stream that goes to the depositors and a risky stream that accrues to the bank equity. But bank deposits are more liquid than is necessary for many purposes, and providing this liquidity is expensive. So long as individual financial asset holdings are modest, say a month or two's

income, the bank deposit is an appropriate mode in which to hold them. But as incomes rise, and long term life cycle saving becomes more important, individuals become reluctant to pay the high price for the liquidity associated with a bank deposit. They are willing to settle for a lower level of liquidity, and therefore the bank deposit tends to be displaced by other types of liquidity provision[31]. We have seen that in most countries financial asset holdings have risen substantially in relation to income over the last 15 years, though there still remain significant inter-country differences. Figure 2 shows, for the US, the declining share of bank and thrift deposits in household financial wealth - this has fallen from 38% in 1974 to 17% at the end of 1995. A major reason for the decline in the share of bank deposits is the growing importance of occupational pension schemes. Assets held by these schemes have risen from 20.7% of GNP in the UK and 29.3% in the US in 1970 to 73% in the UK and 66% in the US by 1991[32]. Figure 3 shows, on a longer time scale, the declining share of the assets of all financial institutions in the US held by depositary institutions (commercial banks and thrift institutions): it is apparent that this declining share is in large part matched by the increasing shares of investment companies and pension funds, institutions whose liabilities are notably less liquid than the bank deposit. A further factor in changing household asset holdings is probably education. Despite their high cost, bank deposits are probably the easiest to understand financial product or store of value. As investors become more sophisticated we should expect them to shift to more efficient modes of holding financial wealth.

In addition to these demographic factors that are tending to reduce the relative demand for the liquidity associated with bank deposits, there are also technological factors. The liquidity of a security is, first, a function of its risk; this affects how easy it is to evaluate and how close a substitute it is to other securities, and therefore how large a discount a passive player will require

to induce him transact. Liquidity is also a function of the size of a security issue, since size will tend to be associated with the number of holders, which will affect the volume of trading and the number of people who are informed about the issue and stand ready to trade[33]; finally, the liquidity will depend on the possibility that a trader has private information about the security, for this will raise the expected adverse selection costs of a passive transactor who is providing liquidity. Insofar as a bank deposit is riskless, it is perfectly liquid. But the cost of providing that liquidity is high.

Liquidity can also be provided by constructing pools of securities - this both lessens the probability that anyone has private information about the value of the pool, and increases the size of the issue. This is the principle that underlies mutual funds, asset-backed securities, commercial loan pools, and stock index futures[34]. The liquidity of a pool can be further improved by providing a credit enhancement which reduces its risk, by reducing the costs of information acquisition by having an external agency rate the credit of the issue if it is a debt issue, and by dividing the pool up into tranches of varying priority and therefore risk - the low risk tranches can then be sold to individuals and institutions while the higher risk tranches will be more atttractive to those institutions that specialize in evaluating that type of security[35].

Thus securitization, like banking, enhances liquidity by dividing the cash flow from a given asset into high and low risk components. One important difference is that the bank does this is a very rigid way since there are only two components, deposits and bank equity, while securitisation is almost infinitely flexible. Another is that securitisation defines and freezes the assets behind a security, thereby avoiding the problems of agency that are inherent in banking.

We have argued that traditional banking has declined in relative importance because individuals have reduced their need for the high level of liquidity associated with a bank deposit.

Why, it might be asked, if individuals do not require such liquidity is there such a trend towards tradable junk bonds instead of illiquid bank loans[36], securitised assets in place of whole loans and liquidity enhancement in general. One argument arises from the need for the diversification of bank portfolios that has become more apparent as banks throughout the world have experienced massive loan losses[37]. A related consideration is that securitized assets make it easier for an institution to manage its liquidity. There are at least three other advantages related to the liquidity provided by the securitised asset. First, secondary market prices provide important information about the performance and management of a portfolio, which is not available if the portfolio is not marked to market on a regular basis[38]; related to this, is the possibility of hedging the value of assets whose prices are available on a regular basis[39]. Finally, regulatory considerations may favor rated securities relative to unsecuritised loans[40].

If my understanding of the implications of the new market developments are correct, we are observing a trend toward increased specialisation between asset holding on the one hand and the provision of deposit and other services on the other, along the lines that we have seen in the US mortgage market. Specialists will grow up in each niche and buy in the rest of the services they require to complete their financial products.

One result of the development of new markets for more specialized functions is that the prices quoted in these markets make it easier to assess the profitability of the different activities within an organisation. For example, one reason that banks may have been slow to react to the threat posed by the growth of MMF's was that it was difficult for them to determine the true cost of deposits.

4. The Future of the Market for Asset Holding

If the developments that I have described continue, then I think that in the future we shall tend to see large, relatively low risk, corporate loans being funded by bond issues which will be held by the natural holders, pension funds, insurance companies, and bond mutual funds. Smaller, and more risky, corporate loans will be originated and serviced by banks, but then rated by credit rating agencies, securitised, and sold to the same group of long term financial institutions. Only the smallest, highest risk loans that will require extensive monitoring will be funded by banks[41]. At the same time, the banks will face increasing competition from specialised financial institutions, lending in niches where they have particular expertise. Banks will tend to specialise in risk management, in loan origination, management and administration, and in exploiting their special expertise in credit analysis to provide credit enhancement. They will also exploit their branch networks to offer mutual funds, insurance, credit cards and other financial services to consumers.

This development of a clear distinction in roles between asset holding, and origination, administration and credit evaluation, together with the increased monitoring of asset management made possible by the development of relatively liquid secondary markets for assets that were formerly not traded, is likely to lead to an increase in the market for investment management services and trading. This includes not only the market for investment managers at the wholesale level and for mutual funds at the retail level. It includes the services of those who advise about the choice of investment managers and mutual funds - pension consultants at the wholesale level and brokerage houses such as Schwab, as well as specialised financial advisory services, at the retail level.

Having talked at length about fragmentation and specialisation in the financial services

industry, let me turn now to discuss the implications of the technology in this industry for concentration and specialisation.

Concentration, Specialisation, and the Technology of Financial Services

The tendency that I have described towards the fragmentation of financial production runs counter to much of what we read in the newspapers, which often concerns mergers, and tends to emphasize the efforts of financial institutions to provide the whole range of financial services to companies and investors. How are we to relate these apparently contradictory phenomena?

It is helpful for this purpose to think of financial services as consisting of four essential elements, overlaid by a fifth. The four essential elements are:

a) Information

b) Systems

c) Expertise and knowledge

d) Risk bearing

and the fifth is marketing, or the selling of the service. Any given financial service will typically consist of one or more of the essential elements, and in addition it will have to be sold. These four elements have different characteristics as regards economies of scale, and their balance in a given financial service will determine the extent to which we should expect the service to be provided by a few large firms or by many small ones. Let us consider them in turn:

a) Information

Information about prices, exchange rates, interest rates, account balances, demands and

supplies, forecasts, credit ratings, current events *etc.* is the food of the financial services industry. There are clear economies of scale in the collection, processing and dissemination of information, so that, for any piece of information, we should expect to see one, or at most a few, purveyors. And in fact we do see markets dominated by companies such as Reuters and Bloomberg's. However, there are many different kinds of information and different firms may specialize in the production of each kind - for example there are specialized firms that produce performance statistics for investment managers and mutual funds, that summarize analysts' earnings forecasts, that rate bonds, that collate accounting information in machine readable form, and so on. There are often benefits in combining these kinds of information and being able to present and analyze them in an integrated format. This creates a tendency towards concentration, which is offset by the devising of new kinds of information that can usefully be collected, analyzed and disseminated.

b) Systems

If information is the food of the financial industry, then systems for receiving, processing and disseminating that information are the digestive system that converts the food into energy or profit. It is these systems that have been transformed by the computer and communications revolution, and since the costs of these systems are in large part fixed, there are enormous economies of scale in this area[42]. Such systems are the primary component of transactions services, of the order matching and reporting services provided by exchanges and brokerage services, of credit card operations, of custodianship, of the pool accounting systems that underlie mutual funds, asset backed securities, of loan servicing, and insurance accounting, of risk monitoring and management, and so on. To the degree that these systems are a unique, critical and integral part of

the service provided, they make for concentration. Against this, to the extent that the systems input is standardized and 'commoditized' this function may be outsourced - and it is no longer important that the outsourcing firm itself be large[43]. Thus systems create a tendency towards concentration only insofar as they embody expertise that is proprietary.

c) Expertise and knowledge

Expertise and knowledge lie largely with the individual or small group. They have become relatively more important as the sophistication of the financial services industry has grown over the past 20 years. They are not readily appropriated by the large corporation, and it is the importance and non-transferability of expertise that accounts for the huge earnings of selected traders and investment bankers and that leads to occasional mass migrations between institutions. Expertise seems to be particularly important in valuing and trading securities and in underwriting, but it also includes such talents as how to allocate assets in a fund, how to pick stocks, how to hedge risks, and so on.

Interesting contrasts arise in the sale of expertise at the wholesale and retail level. At the wholesale level, the customer, an investment bank or a pension fund, will himself have some expertise in evaluating the specialised expertise of an investment manager, or will have access to a specialised consultant who will provide those services. At the retail level on the other hand, the purchaser of expertise will generally have no way of evaluating the quality of the product he is purchasing. I shall have more to say of this below.

d) In risk taking it appears that there are clear economies of scale, arising from the basic principle of diversification. Whilst in principle many small enterprises can co-operate in sharing risks, in practice

there are problems of adverse selection and agency which will often make co-operation and the use of markets a costly solution relative to the internalisation if risk bearing within a single organisation. Thus large investment banks appear to be at a significant advantage in underwriting relative to their smaller brethren, an advantage that has increased with shelf-registration that reduces the time available for underwriters to form syndicates.

And in marketing finally, particularly at the retail level, it is generally accepted that there are economies of scale.

Thus there are significant economies of scale in important elements of the production process for financial services, and this, together with the excess capacity that has developed as a result of the technological advances in banking, is consistent with the mergers and consolidations that we have witnessed in recent years. However, this does not necessarily mean that there are significant economies of scope in combining different financial products within a single firm. Such economies are likely to arise only if there are identifiable synergies in information, systems, marketing, or expertise, and it is a matter of some debate as to whether or not such synergies exist between investment banking and commercial banking or retail brokerage for example. There are some foreboding precedents - the British insurance companies' dash into real estate brokerage, and Sears Roebuck's unsuccessful move into real estate and financial services, for example. Deutsche Bank's experience with its investment in Morgan Grenfell has not been too happy, nor has Barclays realized high returns from its investment banking subsidiary, BZW. Despite these examples, Morgan Stanley has high hopes for its acquisition of Dean Witter and the Discover credit card, although others are more sceptical, and new combinations are constantly bruited in the press.

Finally, it is important to recognize that growth in the size of the market brought about by

globalization expands the scope for specialized niche firms to prosper, since the resultant increase in the size of each niche allows even specialized firms to reap many of the economies of scale. For example, certain small underwriters in California specialize in offerings of health-care and technology stocks.

The Sale of Information

While the eventual shape of the financial services industry is difficult to discern, it seems likely, given the withdrawal of the state and the corporation from the provision of defined benefit pension plans, that a major part of this industry will be concerned with the sale of investment products to retail investors. Such investment products fall into three broad categories. First, what we might call defined payment products - by this I mean products such as life insurance contracts, guaranteed insurance contracts, certificates of deposit and other securities that provide a well-defined and easily described payoff. Secondly, what I would call contingent payment products - here I am thinking of such products as index funds and certificates of deposit whose payments may depend partially on the performance of a stock index[44]. These tend to be relatively easy to describe, but are not easy for the unsophisticated to evaluate. Thirdly, what we might call information products - here I am thinking of products that involve the sale of information. These includes full service brokerage services, "wrap accounts', and mutual fund management services, as well as other investment advisory services[45]. There are considerable difficulties in selling investment information or expertise to uninformed purchasers - how are they to be convinced that the information is valuable? It is at least possible that the reputation acquired by large scale marketing may not be successful in the long run[46]. After all, the efficient markets hypothesis predicts that too prominent a

position in the investment management industry almost guarantees a mediocre performance; and for a large firm that performance is likely to be subject to detailed media scrutiny which may offset the benefits of advertising[47]. Thus firms, initially as diverse as Fidelity (mutual funds), Merrill Lynch (full service broker) and Schwab (discount broker), are all now offering a variety of ways to purchase information through rather than from them[48]. While they typically offer financial advice directly through their own brokers or financial consultants, they also all market mutual funds, both their own and those offered by other sponsors, and, in the case of Schwab, allow third party investment advisors to advertise through their networks[49]. It seems that to some degree they are beginning to position themselves as consultants on investment and tax strategy and conduits for investment information rather than providers themselves. They are purveyors of services which are not necessarily their own, and are providing a marketing service in the same way that Sears Roebuck offers roofing services, the actual roofing services being subcontracted to local firms. Thus the economies of scale in marketing are realized without the product (information) being produced by a single firm. This of course is a sensible strategy in an efficient market where it will be difficult to demonstrate the value of the information sold[50]. Competition to information purveyors comes of course from the index funds. While the theoretical arguments for index funds are not readily accessible to the layperson who tends to regard them as a recipe for mediocre performance, the continuing relative performance of these funds is attracting increasing interest at the retail level. Finally, and not to be under-rated, is the sale of investment advice through the printed media and, increasingly through the WEB. Firms such as *Morningstar*, that publish mutual fund rankings and ratings, function at the retail level much like the pension fund consultants at the wholesale level - they sell information about the quality of information offered by others, their evaluation made

credible by their reputation and independence from the primary information purveyors.

Implications for Sweden

There can be little doubt that increasing competition for the supply of financial services will be good for the consumers of these services in Sweden. Competition is likely to be felt first in those areas which foreigners can enter with relatively little investment. These would include corporate lending, underwriting, and mergers and acquisitions, and investment management services for high net worth individuals. And, since borrowers are not usually concerned with anything more than price, mortgage and other forms of consumer lending are possibly another area in which competition can be anticipated. On the other hand, banks that have tried to capture retail customers in developed foreign markets have generally been unsuccessful[51].

I have described a picture in which individual saving for retirement is transforming the financial landscape. It might seem that this has little to do with Sweden where the state continues to loom large in the provision of old age security. The future development of the Swedish financial sector will depend heavily on how arrangements for the provision of old age security change.Public pension benefits are relatively generous in Sweden[52] (see Figure 4); as a result, the present value of future pension payments is a much higher proportion of GNP in Sweden than it is in most other countries (see Figure 5); a further consequence of this generosity is that household savings rates have been low compared with other countries (and even negative). This suggests that Sweden must reduce its reliance on collective pension arrangements and place more of a burden on individual or corporate plans[53]; to the extent that this occurs, the market for investment management services or information will grow significantly. Some progress in this direction is

suggested by the 1994 inter-party agreement on pension fund reform which provides for a 2% contribution rate to individual retirement accounts "to be managed upon guidelines from the contributor"[54]. It is to be expected that domestic firms will face major competition in the provision of investment management services from foreign firms with more experience, particularly of investing in foreign markets. Already, Schroders has plans to market mutual funds in Sweden through "independent financial advisors"; Fidelity is already direct selling elsewhere in Europe, and Merrill Lynch is preparing to do so[55]. While mutual funds in Sweden are still small relative to Britain or the US[56], their growth in recent years has been striking[57]. However, the legacy of generous state provision for retirement is that Stockholm still lags behind, not only London, Tokyo and New York, but also such cities as Edinburgh, Philadelphia and Hartford Connecticut in the amount of investment funds under management[58]. Thus, if I am correct in my assessment that there will be a major shift in the management of retirement funds to the private sector, domestic institutions will face severe competition in this sector from abroad.

Technology and freedom of access mean that distinctions between different national stock markets are disappearing. There are clearly too many stock markets in Europe and consolidation will undoubtedly occur[59]. The Stockholm market has been a leader in changing its organizational structure, combining stock and options trading, and introducing remote membership. It will have to remain nimble if it is to survive the next decade. The trick may be to find new products to trade, or to devise trading rules that attract particular clienteles of investors[60].

The modern world of finance is one of knowledge and expertise; advances in communications make physical location much less important[61], and, as we have seen, the fragmentation of financial services made possible by advances in technology makes it easier for

niche players to set up in particular areas of asset management, of information production, of monitoring, and of trading. Sweden, with its highly educated workforce, linguistic skills, and excellent universities, is in a strong position to compete in meeting the growing demand for financial services.

Concluding Remarks

A major theme of my essay has been the shift to individual asset holding for life cycle reasons as the state and the corporation withdraw from the provision of a socialized retirement system. This, I have argued, is associated with the declining relative importance of traditional banking activities, and the growth in the importance of asset management services at both the institutional level and the retail level.

The growing responsibility of the individual for asset management raises concerns about the ability of the individual to assess and monitor the cost and quality of the asset management services he receives[62]. Individuals are often poorly placed to influence the costs of asset management they bear on account both of ignorance and free-rider problems[63]. In the US, the median management fee on equity mutual funds is of the order of 1.5% per year. This may not seem very much, but on an investment on which no withdrawals are made for 30 years, a 1.5% annual fee is equivalent to an *initial* fee of 37.5% of the amount invested[64]. In other words, it is as if the investor faced a front end load of 37.5% of his investment. This is symptomatic of the more general problem of governance of mutual organizations in the US. While directors of mutual funds in the US nominally represent the shareholders, in practice they are appointed by the advisory complexes that create the mutual funds and are employed by the funds. Thus there are significant

conflicts of interest in the management of these funds[65].

Secondly, in a system in which individuals must take a large share of responsibility for providing their own retirement income, consideration must be given as to how they are to acquire the information necessary to do this. Surveys of US investors reveal a disturbing lack of knowledge about investments and the allocation of retirement funds in self-administered pension plans seems far from optimal[66]. And, as I have mentioned, there have been scandals associated with insurance companies selling unsuitable products to individuals in both the US and the UK, so that even large and apparently reputable companies are an unreliable source of information. Thus, there are important issues about how "independent" financial advisors are to be regulated, and regulation of the flow of (mis)information to uninformed individual investors, and mitigation of the agency conflicts from which they are likely to suffer is of the utmost importance. This is a task, not only for the official regulators, but for the business and popular press who have a major educational role to play. In the US over 88% of large employers offer some form of financial education to their employees and this has been found to have a significant positive effect on savings decisions[67].

In thinking about the kinds of financial products that one would like to see to enhance the efficiency of life cycle asset accumulation and decumulation, a prime consideration is efficiency in risk sharing. There are several ways in which efficiency can be enhanced. First, a major risk that is borne by the individual investor, and particularly by the less sophisticated investor who is drawn disproportionately to defined payment products, is the risk that his promised payment will be eroded by inflation. Note that inflation is a private risk, not a social risk - to a first approximation, the net social gain from inflation is zero. Therefore, several countries have developed markets for indexed bonds, and in the US there are plans to produce stripped index bonds. These promises of a

fixed real payment, which can be repackaged by insurance companies to provide annuities, would considerably improve the efficiency of the market for retirement products.

Secondly, Sweden is a small country, and relatively undiversified. Therefore in the interest of efficiency one would like to see the development of an inexpensive vehicle to permit Swedish savers to diversify internationally - an international index fund.

Thirdly, economic theory suggests that uninformed investors will prefer equity investment products that provide a minimum guaranteed level of payoff[68] - casual empiricism suggests that such products are indeed popular in the UK market - pioneered by insurance companies, they have more recently been offered by different types of institution.

Fourthly, a risk borne by the individual is that associated with home ownership[69]; for long disguised by a secular price inflation, the risks of real estate became apparent to many in the late 1980's as the phrase 'negative equity' acquired currency. There is scope for devising instruments that would shift part of this risk from the individual. Insurance companies have offered mortgage insurance but this has been directed at lenders rather than homeowners. Most recently, SBC Warburg and the Bank of Scotland have devised a securitised shared appreciation mortgage which offers borrowers reduced borrowing costs in return for a share of the price appreciation[70]. Such a security offers the possibility of devising real estate derivative contracts that would allow insurance companies for example to hedge the risk incurred by offering housing price insurance to individual investors.

Technological advances that have reduced the costs of computation and communication enormously increase the scope for financial markets to shift and allocate efficiently the non-diversifiable risks that are associated with the macro-economy. Such risks include not only real

estate and conventional stock market risk, but the risks associated with human capital as well[71]. A major obstacle to further exploitation of the welfare gains that this technology makes possible is knowledge. It is a challenge to educators, the press, and corporate marketers, as well as financial regulators, to ensure that the opportunities for welfare improvement offered by these markets are developed as fully as possible, while protecting the weaker members of society from exploitation by unscrupulous or incompetent purveyors of financial services.

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Legends

Figure 1: Gross Financial Asset Holdings of Households as per cent of Disposable Income for Selected Countries. Source: OECD.

Figure 2: US Household Financial Wealth. Shares of different classes of financial assets in household financial wealth. Source: Edwards (1996).

Figure 3: Asset Shares of Different Financial Institutions in the US 1948-1993. Depositary Institutions include Commercial Banks and Thrift Institutions. Other includes Finance Companies, Securities Brokers and Dealers, Mortgage Companies and Real Estate Investment Trusts. Source: Kaufman and Mote (1994).

Figure 4: Social Security Replacement Rates for Selected Countries. Social Security Replacement Rate for Single Worker 1980 Source: Aldrich (1982), quoted in E.P.Davis, 1993.

Figure 5: Present Value of Social Security Payments as Proportion of GNP (1994) for Selected Countries. The figures calculated by Roseveare et al. (1996) assume a discount rate of 5% for the period 1994-2070 and productivity growth of 1.5%. Source: OECD, 1996.

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2. I am grateful to Gary Gorton, George Kaufman, and Stefan Viotti for helpful comments on an earlier draft of this talk.

3. John Fairbank quoted in the *Economist.*

4. Adrian Hamilton (1986), *The Financial Revolution*, Free Press, New York, 1986.

5. The rescission of interest controls and quantitative restrictions saw the ratio of bank loans to GNP rise from 43% of GNP in 1986 to 68% by 1990. This led to losses on bank loans in the period 1991-2 have been estimated at 6.7% of GNP (Goldstein and Folkerts-Landau, 1993).

6. Seven of the top 10 merger advisors worldwide are American financial institutions, and the top four global underwriters in recent years have been American. (Hoenig, 1996).

7. But not Sweden; while the UK held 18% of its pension fund assets in foreign securities in 1990, the US 4%, Canada 6%, Japan 7%, and the Netherlands 15%, the corresponding figure for Sweden was zero (Davis, 1993).

8. *Sweden*, Economist Intelligence Unit, 3rd Quarter 1996. A contributing factor to the high proportion of foreign ownership is the tendency of the Swedish pension system to avoid equity

investments (Davis, 1993).

9. A case in point is the Irish potato famine of 1846-8. British government policy was guided by 'that principle of political economy which maintained that you should interfere to the absolute minimum with the market forces of supply and demand..' (Kee, 1982).

10. Faith in the ability of the state to transcend the limitations of the individual appeared to reach its zenith in the late 1960's when even so distinguished an economist as Paul Samuelson was moved to write: "The beauty of a social insurance scheme is that it is actuarially unsound. Everyone who reaches retirement age is given benefit privileges that far exceed anything he has paid in...A growing nation is the greatest Ponzi game ever contrived". Quoted in World Bank (1994).

11. It is interesting to note that the privatisation initiative of Margaret Thatcher arose not from arguments of economic efficiency but from the problems of financing the growth of British Telecom while meeting government budgetary targets. (Young, 1986)

12. The lack of concern with efficiency in the early days of the nationalised industries in the UK is striking to the modern reader. The Coal Nationalisation Bill of 1945 had little to say on price setting: "The only relevant clause is I(1b), which says they shall make coal available...at such prices as may seem to them best calculated to further the public interest. There is nothing that I have found that requires them to aim to cover their costs." Austin Robinson quoted in Barnett (1995).

13. Jan Herrin, Chief Economist of the Swedish Employers' Federation writes: "Individuals should be made aware that the government cannot take responsibility for all the risks of life - they must take responsibility for their own security and well-being" (*Financial Times*, February 7, 1997).

14. The proportion of the population in Sweden over the age of 60 is scheduled to rise from about 22% in the year 2000 to around 30% by the year 2020. Public pensions currently absorb about 11.6% of GNP or 28.1% of Government spending. The payroll tax which covers only about 68% of pension payments amounts to almost 19% of payroll costs. (World Bank, 1994).

15. Only 8% of average male earnings by 2030 (*Economist*, March 8th, 1997).

16. It has been estimated that more favorable tax treatment for private pensions in Germany could lead in 10 years to the growth of pension funds more than double the size of the present equity market. *Financial Times*, February 17, 1997. 'In the Anglo-American countries where social security is less comprehensive, the ratio of personal financial wealth to GDP is around 2, whereas in France and Germany it is below 1.5'. (Davis, 1993).

17. The number of ATM transactions in Sweden increased from 70 million in 1983 to 281 million in 1995, while the number of bank branches dropped correspondingly. The number of EFT-POS terminals increased sixfold between 1991 and 1995. (Vesala (1995), Sveriges Riksbank (1995).

18. Goldstein *et al.*(1993) claim explicitly that tight regulatory policies in Sweden encouraged the growth of unregulated intermediaries which created pressure to undertake financial liberalization. Similarly, exchange controls were abolished in many countries because they were no longer sustainable.

19. It is interesting to see that some of the functions of the insurance industry are now being carried out by securities markets - this process of 'securitisation of insurance risks' parallels the securitisation that is taking place in the banking industry.

20. General Electric, nominally a manufacturing company, now makes 1/3 of its profits from financial services.

21. One consequence of this increased competition is that traditional banks have been forced into other, riskier, activities, with the result that all non-government guaranteed banks have lost their AAA ratings in the last decade.

22. In Sweden the bank share of total lending by financial institutions has fallen from 37.3% in 1980 to 27.7% in 1994. (*OECD*, 1997).

23. The $5bn ROSE funding issue of Natwest securitised 200 loans, equal to 1/3 of this bank's corporate loan portfolio in a single transaction. In the US, two-thirds of all home loans are securitized; and one seventh of outstanding auto loans and one fourth of outstanding credit card receivables have been securitized. (Kendall, 1996). The total volume of non-mortgage asset-backed Eurobonds issued has grown from $2.6 billion in 1994 to $20 billion in 1996. (*Euromoney*, November 1996).

24. These agencies that rely on careful analysis of historical accounting data are likely to face increasing competition from firms such as KMV Corp. of San Francisco that provides credit ratings which are based on stock price data mediated by the Black-Scholes option pricing model. Such modern techniques have an advantage of timeliness, and in addition lend themselves readily to automation.

25. *Euromoney*, October 1996.

26. Edwards (1996). Curiously, Sweden appears to have been an exception to this trend, at least prior to 1992.

27. Radecki *et al.* (1996).

28. The Swedish banks in contrast rely on deposits for around 50% of their funding. (Sveriges Riksbank, 1995).

29. *Financial Times*, March 4, 1997.

30. Gorton and Pennacchi (1990).

31. Gorton and Pennacchi (1990), and Diamond (1997) discuss the role of markets as alternatives to banks in the provision of liquidity.

32. In Germany and Japan where book reserves are important, the corresponding figures for 1991 were only 4% and 8% respectively. (World Bank ,1994).

33. Brennan and Subrahmanyam (1995) provide empirical evidence that the liquidity of common stocks is strongly influenced by the volume of trading.

34. See Subrahmanyam (1991), and Gorton and Pennacchi (1993). By the end of 1993 asset backed securities outstanding in the US had grown to 20% of total non-federal, non-financial debt outstanding (Phillips, 1996). International asset backed securities issues tripled between 1995 and 1996 and were up by a factor of ten since 1992. European issue increased from $4.4 billion in 1995 to $22.7 billion in 1996 (*Financial Times*, January 31, 1997).

35. See Boot and Thakor (1993); the 1996 ROSE securitization of commercial loans of Natwest included 11 different tranches. (*Euroweek*, November 1, 1996).

36. High yield bond issues by non-US companies reached $10.4 billion in 1996; about half these issues were purchased by US mutual funds (*Business Week*, March 17, 1997). This is consistent with the replacement of intermediation by banks with intermediation by non-bank institutions which do not intermediate the maturity or credit risk of corporate liabilities. There are signs that a high yield bond market is developing in Europe - about $1 billion of issues is expected in 1997, and double that in 1998 (*Financial Times*, April 18, 1997).62

37. "There is need for broad scale C&I loan securitisation. It can reasonably be argued that every sizable bank failure of the past decade has been a failure due to underdiversification. The big Texas banks failed because they were n't properly diversified. So did Continental Illinois and the Bank of New England. And Bank of America very nearly failed because its managers, by their own confession, did not realize that most California borrowers shared a common vulnerability to disinflation", Sanford Rose, "Comment' in Klausner and White (1993).

38. "More participants (in the asset-backed market) are total return investors whose performance is judged on a daily basis. As such they worry about more than just bankruptcies. Any event that causes a fall in prices hurts these investors.." *Wall Street Journal, February 18, 1997.* Fink (1996) notes that lack of consistent price data on mortgage securities is a major problem for institutional investors and recommends that the Securities and Exchange Commission take responsibility for collecting and disseminating pricing information for these securities.

39. At least one US bank with which I am familiar now marks its assets and liabilities to market for financial reporting purposes - to this extent it behaves like a closed end investment company.

40. Baum (1996). Phillips (1996) points out that at the end of 1993 banks held about 22% of all mortgage-backed securities outstanding.

41. Feldman (1995) reports that in the US small business loans have been resistant to securitisation; only about $900 million of such loans have ever been securitised while the amount of such loans outstanding is of the order of $155 billion.

42. For example, some US banks find it advantageous to ship (by satellite) their European back office operations home for processing.

43. "It is not always easy to draw the line between what makes a bank's information technology unique and what is standard. The facilities management successes of the United States network supplier EDS have been showing banks that it is certainly not in data processing...Banks get a competitive edge not from systems but from management and marketing". *The Banker*, June 1991, quoted in United Nations (1994).

44. Brennan and Cao (1996) argue that contracts with convex payoff functions like these equity-linked CD products are appropriate for uninformed investors.

45. Admati and Pfleiderer (1990) and Brennan and Chordia (1993) discuss the use of brokerage commissions and mutual fund management fees as alternative modes for selling information.

46. While there may be economies of scale in marketing, it may be that it is more difficult for a large organisation to maintain a reputation for providing objective financial advice: insurance companies in both the US and the UK have come under heavy criticism for selling unsuitable financial products to unsophisticated customers and it is interesting to note that in the UK competition from outside the financial sector has come from the likes of Richard Branson, and Marks and Spencer - brand names that are primarily associated with value for money in different spheres.

47. Fidelity seems to be suffering this at present as its initial enormous success with the Magellan Fund has faded.

48. Discount brokers are beginning to feel the competition from Internet brokers who might charge as little as $30 for a transaction for which a discount broker would charge $220.

49. These advisors charge annual fees based on assets under management rather than receiving compensation based on brokerage commissions, thus accelerating the unbundling of trading and advice thereby making the advice more disinterested.

50. One disadvantage of selling information through mutual fund management services rather than by direct advice is that in the former case the results become part of the public record.

51. United Nations (1994, p 81).

52. This section relies heavily on Davis (1993).

53. Increased labour mobility within the European Union is also likely to exert downward pressure on individual country social security systems.

54. OECD, 1996.

55. *Economist*, March 29, 1997.

56.*Economist*, March 29, 1997.

57. From SEK 105 million in 1992 to SEK 245 million in 1996. *The Swedish Financial Market*, 1996

58. *Economist*, Jan 25, 1997.

59. Trading tends to flow to those markets that are most liquid, creating a strong trend towards concentration.

60. In the same way that the Arizona Stock Exchange has attracted trade to its auction, Cincinnati has attracted small order flow, and various crossing networks have developed.

61. For example, in the US a significant proportion of investment managers and dealers are located outside the main financial centres of New York and Chicago. Increasingly, high labour content unskilled clerical operations are being shifted to low cost countries.

62. The importance of this is underlined by the civil war in Albania which was precipitated by investor ignorance of the dangers of Ponzi schemes.

63. Only 12% of respondents to a poll of Americans by the National Association of Security Dealers were able to distinguish between a load and a no-load mutual fund, although the former imposes a sales charge of as much as 8% while the latter does not. (*New York Times*, March 2, 1997) A recent survey of 750 mutual fund investors revealed that they expected to earn an average annual return over the next 10 years of no less than 22.2%! (*New York Times*, April 6, 1997)

64. See Brennan (1995).

65. Baumol *et al.*(1990) argue that these are mitigated by the ability of investors to withdraw their funds. However, while they show that investors are sensitive to the level of fees in money market funds, it is unlikely that they are as sensitive in stock funds where the fees appear small in relation to a single year's return.

66. The most popular investment in defined contribution plans is the employer's own equity, which accounts for around 30% of investment portfolios, and the second most popular is the guaranteed investment certificate (around 23%); this is an insurance company liability with a fixed annual return.

67. Bernheim and Garrett (1996).

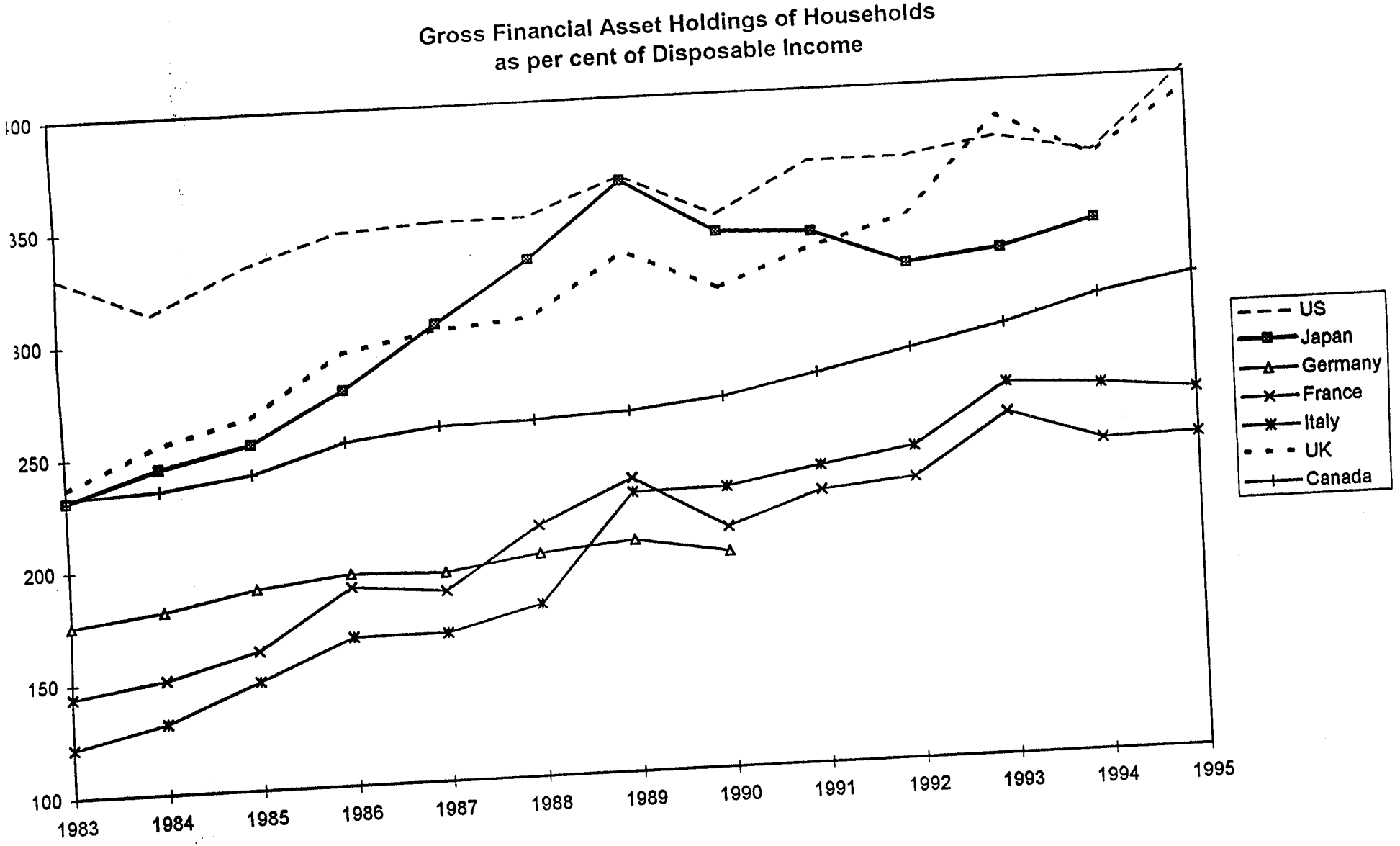
68. See Brennan and Schwartz (1976), Brennan and Solanki (1981), Leland (1980), and Brennan and Cao (1996).

69. Housing constitutes 40% of personal wealth in the U.K.

70. *Euroweek*, November 15, 1996.

71. See Shiller (1993).

Chart12


Gross Financial Asset Holdings of Households
as per cent of Disposable Income
400
350
300
250
200
150
100
1983
1984
1985
1986
1987
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1989
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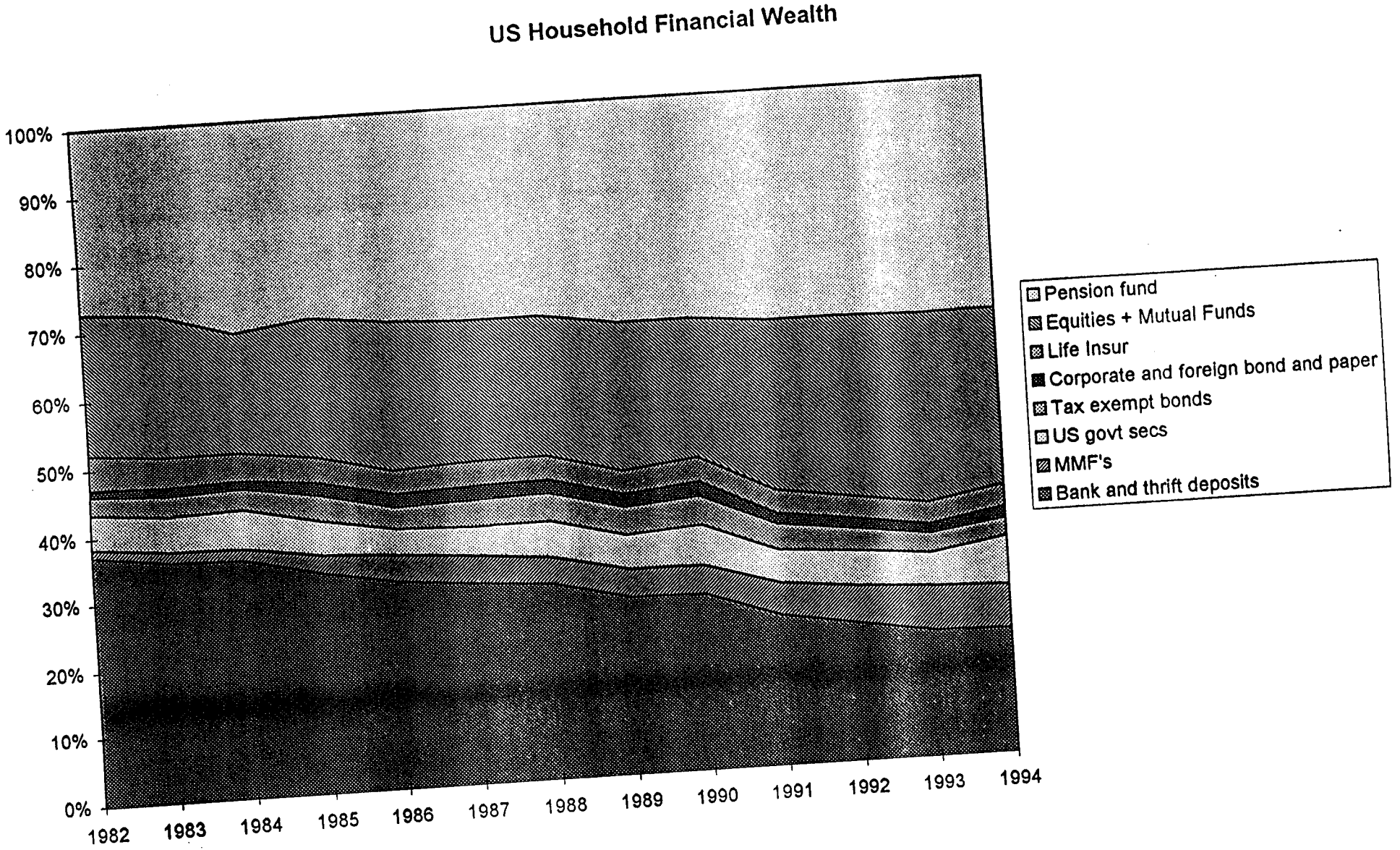
1991
1992
1993
1994
1995
US
Japan
Germany
France
Italy
UK
Canada


US Household Financial Wealth
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
1982
1983
1984
1985
1986
1987
1988
1989
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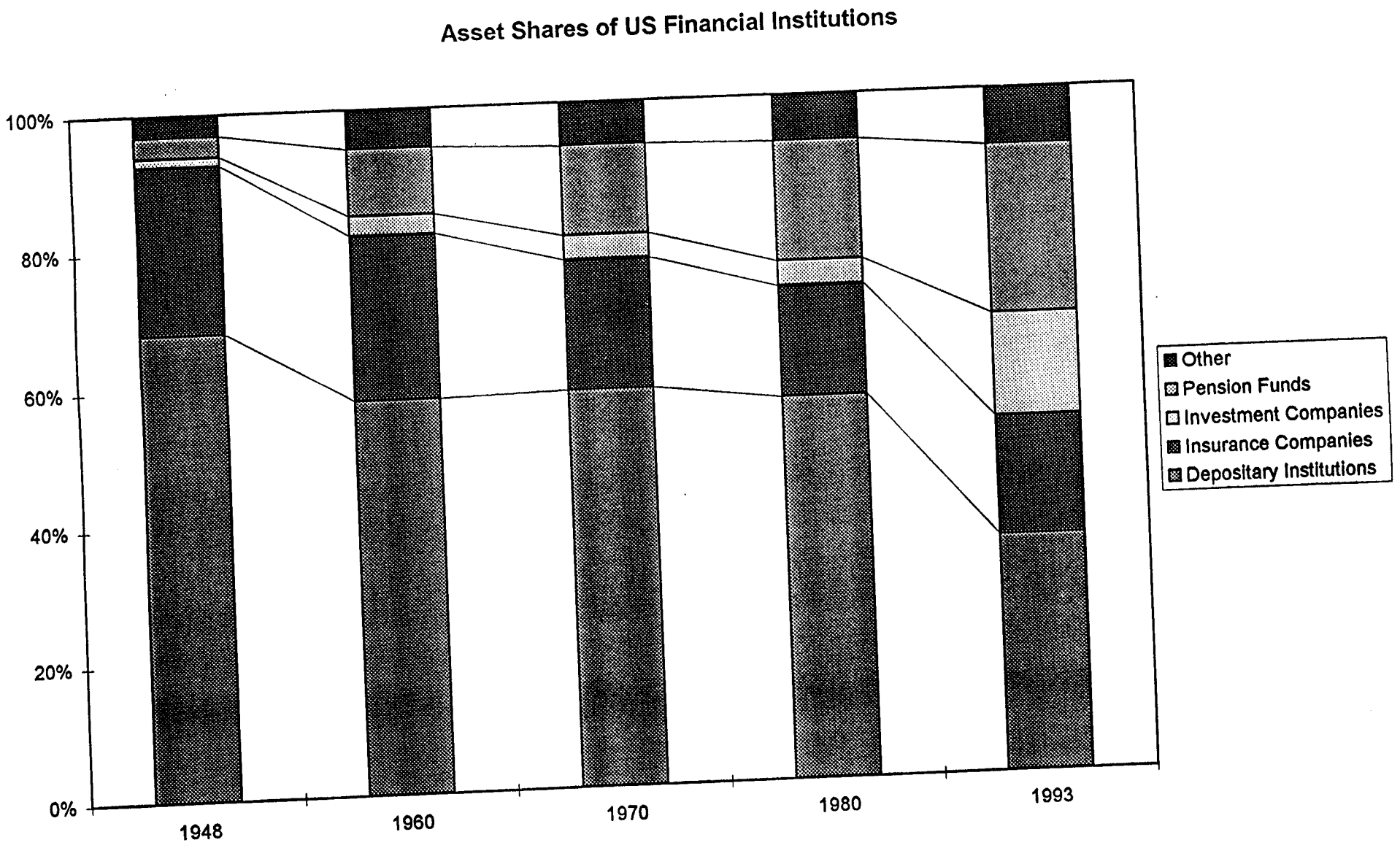
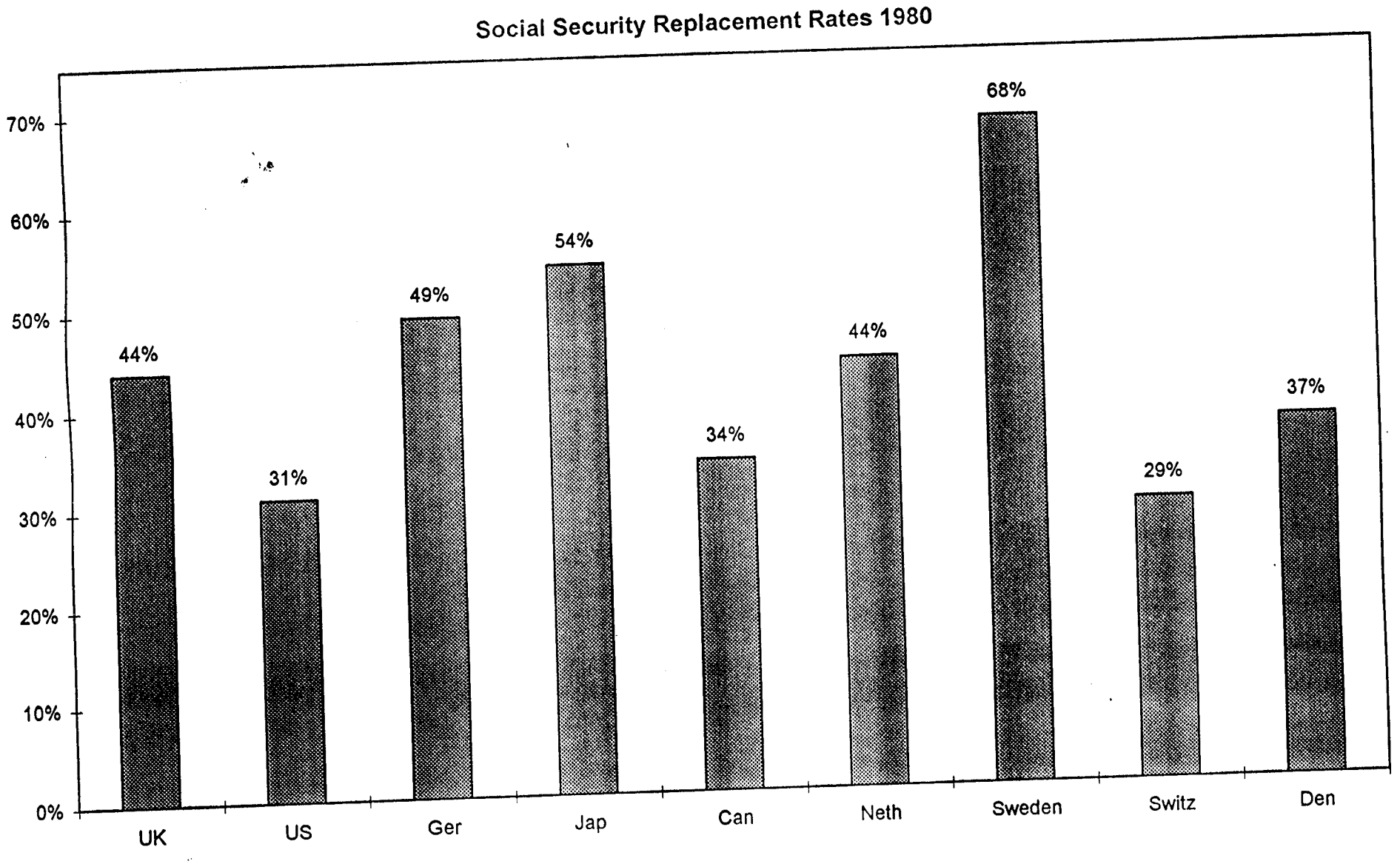
1991
1992
1993
1994
Pension fund
Equities + Mutual Funds
Life Insur
Corporate and foreign bond and paper
Tax exempt bonds
US govt secs
MMF's
Bank and thrift deposits


Asset Shares of US Financial Institutions
100%
80%
60%
40%
20%
0%
1948
1960
1970
1980
1993
Other
Pension Funds
Investment Companies
Insurance Companies
Depositary Institutions


Social Security Replacement Rates 1980
70%
60%
50%
40%
30%
20%
10%
0%
44%
31%
49%
54%
34%
44%
68%
29%
37%
UK
US
Ger
Jap
Can
Neth
Sweden
Switz
Den

Present Value of Social Security Payments
Per cent of 1994 GNP