Retail Gold Investment and Private Investor Stocks - A Review

November 2001

Prepared for the World Gold Council
by Gold Fields Mineral Services Limited

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Published by World Gold Council,
45 Pall Mall, London SW1Y 5JG, UK.
Tel: +44(0)20.7930.5171 Fax: +44(0)20.7839.6561
E-mail: retail_invest@gold.org Website: www.gold.org

CONTENTS

Introduction 5

1. Executive Summary 6

2. Definition of Retail Investment 17

3. Methodology 19

4. Country Analysis 21

5. Private Investor Stocks 75

Appendix 1: Elasticities of Investment Demand 91

Appendix 2: Annual Retail Investment Demand 100

Appendix 3: Quarterly Retail Investment Demand........ 101

Appendix 4: GFMS Identified Bar Hoarding outside Europe and North America 102

Appendix 5: GFMS World Coin Fabrication 103

INTRODUCTION

- This report, Retail Gold Investment and Private Investor Stocks - A Review, is, to our knowledge, the first comprehensive study to measure this sector's importance to the global gold market. Looking ahead, it may be that the information contained in this report will prove to be very timely. It is conceivable that a more positive view of gold's price prospects could lead to greater buoyancy in investor demand over the next few years. Both internal gold market developments and external factors may turn out to be more favourable for investment and the price than they were in the 1990s. The more uncertain world since the terrorist attacks on the United States on 11th September could herald further buy-side interest in the years ahead. A better understanding of the retail investment market should help those seeking to exploit this potential for growth.

- As intimated above, the main objective of this report is to provide the market with a review of historical statistics on private sector retail investment in gold bar and coin in 27 key countries throughout the world. The data contained in this report on consumption patterns of retail investment products will be of benefit to the World Gold Council and the trade in planning their future marketing activities.

- From a statistical standpoint, the central period covered in this report is 1993-2000. Compiling historical, disaggregated data becomes very difficult the further back in time one goes. Due to this, a realistic beginning point was necessary. The start date of 1993 was chosen because it marks a watershed for the market, as it was from this year that tax-free bullion became available in Germany, which throughout the 1990s was Europe's most important arena for retail investment. The report does, however, also include some commentary and selected data series on trends in retail investment throughout the 1960s, 1970s and 1980s.

- Annual data on retail investment demand has been compiled for 1993-2000, with quarterly data for the 1999-2000 period. This data has been prepared on a country-by-country basis.

- The report also reviews existing above-ground bullion stocks held by private investors. Estimates for the largest private investor stocks as of the end of 2000 are provided on a country-by-country and regional basis. There is also extensive commentary throughout the report on the longer-term trends in bullion bar and coin stocks.

- This report was commisioned by the World Gold Council and has been independently researched and compiled by Gold Fields Mineral Services Limited (GFMS).

Albert Cheng
Head - Retail Investment
World Gold Council

Philip Klapwijk
Managing Director
Gold Fields Mineral Services Limited

November 2001

1. EXECUTIVE SUMMARY

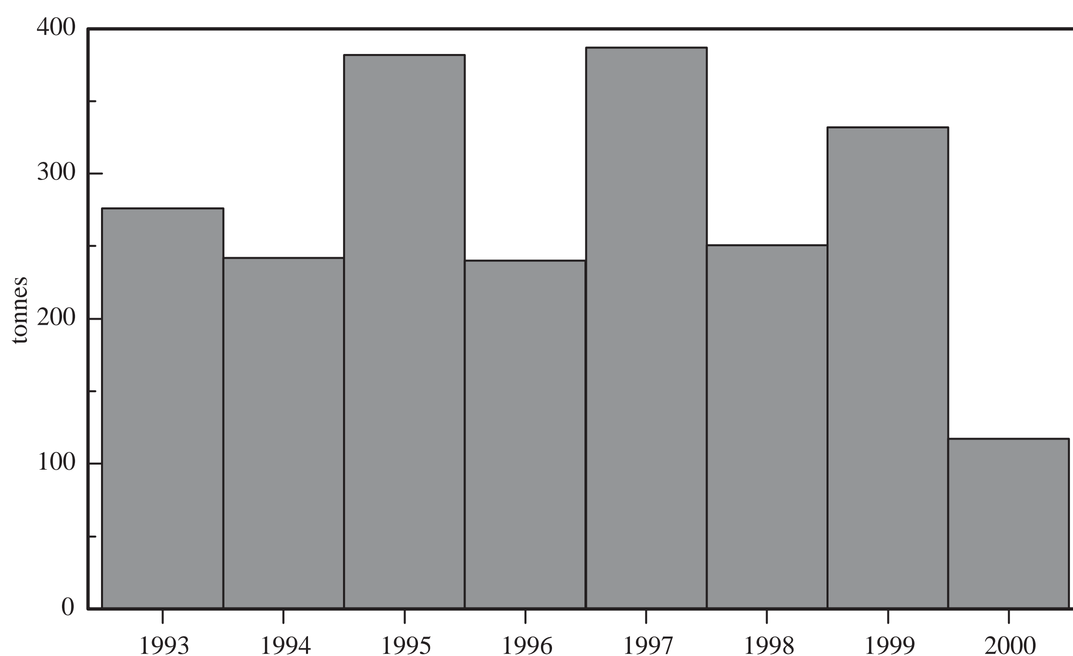
Key Conclusions

There are four key conclusions to draw from this comprehensive report on retail gold investment and private investor stocks.

- The first is that there has not been much of an underlying decline in net retail investment during the past eight years. The annual data in this report indicates that, except in 2000, demand has been within a 240-380 tonne range. This has occured in spite of special factors such as the Asian financial crisis in 1998 and the influence of Year 2000 ("Y2K") related purchases and sales in 1998-2000. Significantly, however, there has been a fall in expenditure on gold by retail investors over the 1993-2000 period (as measured in dollar terms, using annual average gold prices), particularly if "Y2K" buying in 1998-99 is discounted.

- The second conclusion is that retail investment remains a relatively small component of overall gold demand. Aggregating the group of countries for which we have comprehensive data, from 1993-2000, retail investment accounted on average each year for 278 tonnes or just 7% of total gold demand. These numbers would not be dramatically higher if the analysis were extended to all countries.

- The third conclusion is that investment in gold in Europe and North America is the habit of only a small minority of private investors. Elsewhere, investing in gold remains at least an aspiration for millions of people in a large number of developing countries. Worldwide, however, net aggregate retail demand has reached at its peak in the last few years only about $4.6 billion annually. This figure is tiny compared to the flow of funds into other assets. On a more positive note, what this does show is that even an extremely modest shift in investment portfolios towards bullion would have a dramatic impact on the gold market.



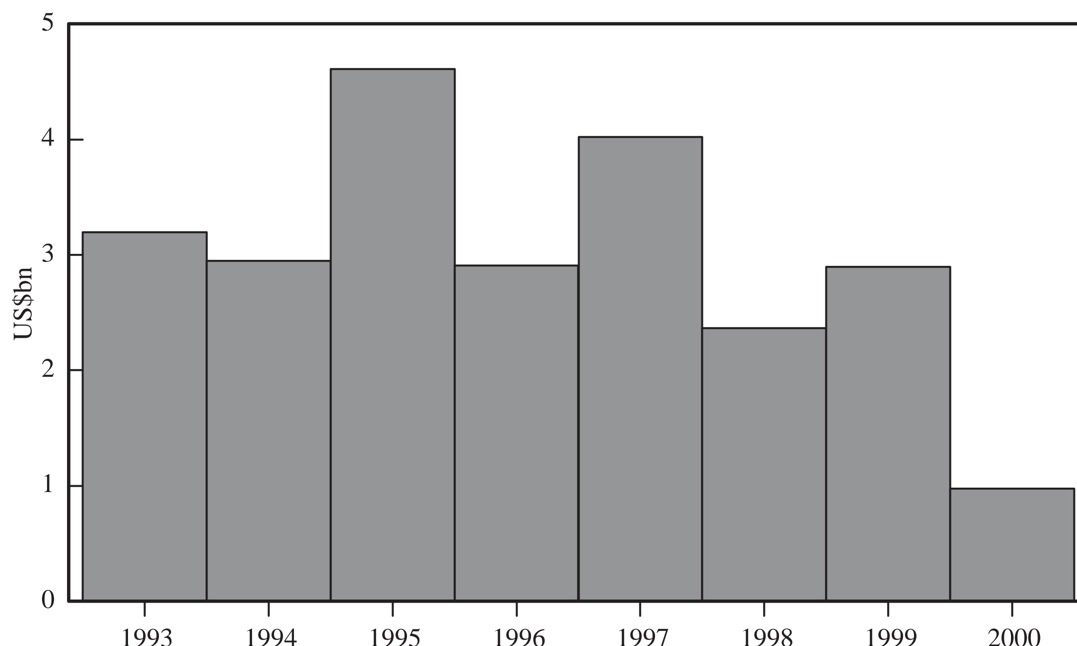
Retail Investment Demand (annual, in tonnes)							
1993	1994	1995	1996	1997	1998	1999	2000
276	242	382	240	387	251	332	117

Source: GFMS

- A fourth point is that the stock of gold held by private investors (and here we would necessarily include institutional as well as retail investors) is miniscule compared to holdings of financial assets. For example, at end-2000 the value of the above-ground stock of 22,000 tonnes of bullion (bars and coins) came to under $200 billion compared to the nearly $12,000 billion for the value of the equities making up the S&P 500 alone. It is worth noting though that, by the end of September 2001, the value of the latter had fallen by over 20% while the value of private sector gold holdings had risen by around 8%. Another interesting point that emerges from our analysis is that approximately 40% of all private sector bullion stocks are located in Europe with a further 16% in North America and the remaining 44% held by the rest of the world.

Retail Investment Demand (annual, in US$ billions)							
1993	1994	1995	1996	1997	1998	1999	2000
3.2	3.0	4.7	3.0	4.1	2.4	3.0	1.1

Source: GFMS



Definition of Retail Gold Investment

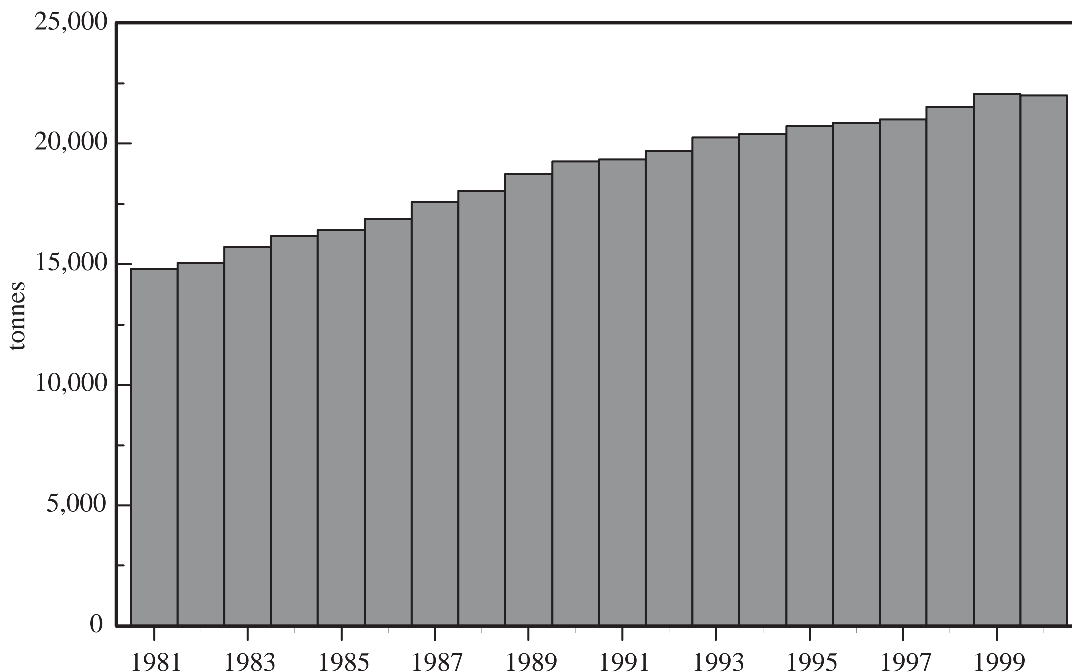
One of the first tasks in compiling this study was to come up with a workable definition of retail investment demand. Chapter 2 of this report provides a detailed explanation of the reasons behind our choice of definition. It is worth though summarising what this excludes and includes.

The definition excludes so-called "investment jewellery". We have decided to only count physical bullion coins and bars, with these in turn defined by the standard adopted by the European Union (see page 17). In counting such bullion, however, we have included private investor metal account holdings. Theoretically in the latter case, there could be a problem with unallocated as opposed to allocated gold holdings, as the part of the former would be lent out. Making an allowance for this is, however, impractical. Finally, the definition of retail investment demand excludes all institutional investment.

Methodology

A few words are also necessary regarding the methodology employed for this report. (A fuller discussion takes place in Chapter 3.)

- Firstly, we have to some extent used information obtained from a dedicated survey of the main sellers of bullion products in the retail investment market.
- Secondly, we have used existing data on coin and bar production and sales that has been obtained from the principal refiners, mints and dealers in these bullion products. (Where necessary, GFMS has taken care to safeguard the confidentiality of information it has received.)
- Thirdly, we have used the annual and half-yearly GFMS statistics on bar hoarding demand by country.



- Finally, we have made use of GFMS' extensive in-house database. Data from this source has only been used in the compilation of aggregate statistics in this report, thereby ensuring that information received on a confidential basis was not compromised.

In this report, our data on retail investment covers 24 countries plus an "other Europe" category. The main criterion for selection was the importance in each country of investment or bar hoarding demand (or supply) in tonnage terms. We estimate that the above group accounts for close to 90% of the turnover in the retail investment market. Aggregate annual data for these countries is listed above. Individual country data is discussed in the relevant country sections in Chapter 4 of this report.

Net Retail Investment by Region

The level of retail investment in the 1993-2000 period is often regarded as "poor" compared to what is widely considered the heyday for demand in the 1970s and 1980s. Yet even though investor interest in gold was undoubtedly greater in Europe and North America from the middle part of the 1970s through to the early 1980s, it is by no means certain that demand worldwide was much stronger than in the 1990s. For instance, the decline in offtake in tonnage terms since then may be rather less than is generally thought. Certainly if the analysis is restricted to Europe and North America then the negative trend is abundantly clear. Demand for metal account, small bars and coins has undoubtedly fallen sharply. Indeed, in Europe, the 1993-2000 period saw cumulative net disinvestment by retail investors exceed 200 tonnes. And, although there was, at least, net demand in North America of 294 tonnes, this was hardly a spectacular outcome at a time of growing prosperity and dramatic increases in personal wealth. In stark contrast to Europe and North America, however, our data shows that retail gold investment in the rest of the world has held up rather better, net purchases in 1993-2000 amounting to a healthy 2,140 tonnes. Furthermore, GFMS proprietary data on bar hoarding (see page 18 for definition) reveals that offtake in the 1990s performed well compared to the 1980s and considerably outperformed 1970s levels (see graph on World Bar Hoarding on page 10).

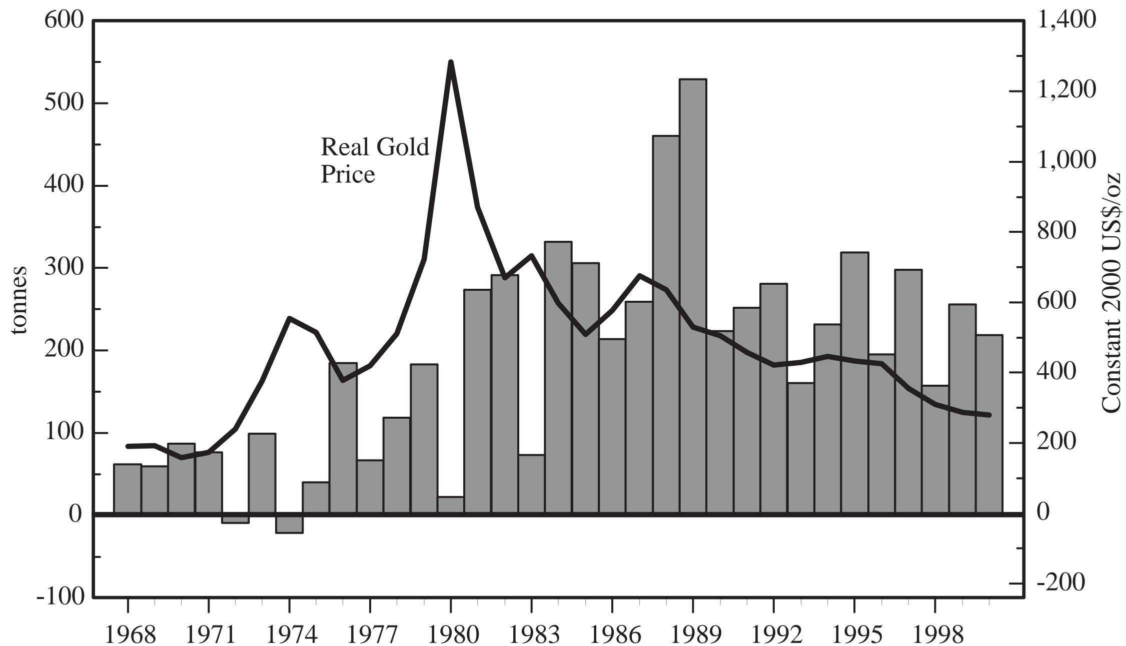
Net Retail Investment Demand 1993-2000 (cumulative in tonnes)

Region	Tonnes
Europe	-207
North America	294
Rest of World	2,140
TOTAL	2,227

Source: GFMS

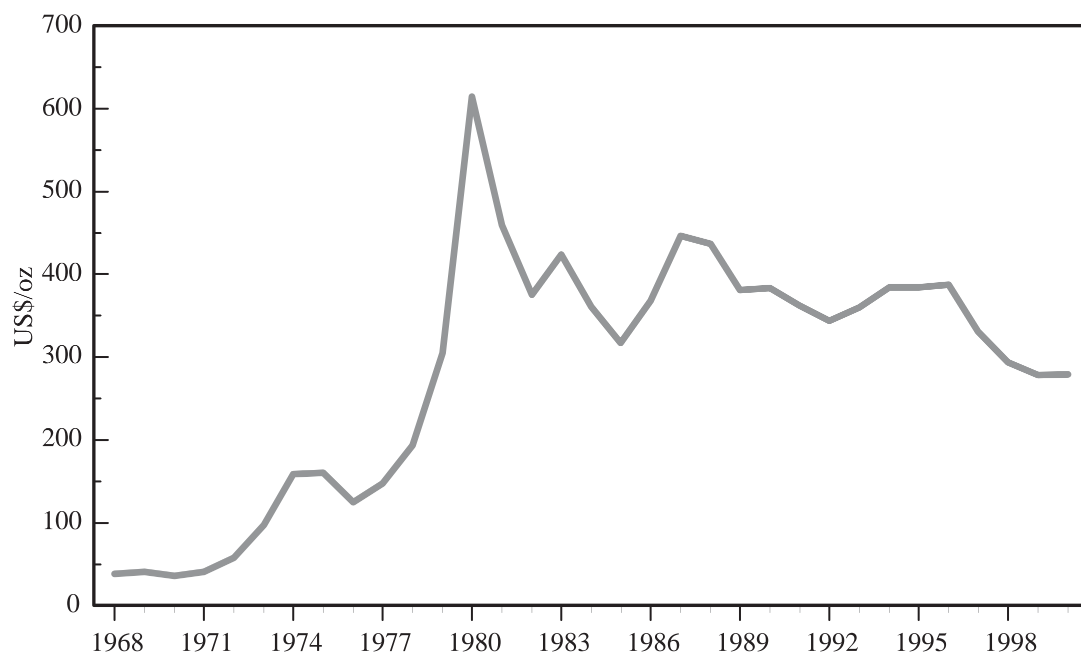
Trends in Asian and Middle Eastern Retail Investment

It is certainly the case that increasing incomes and an affinity for gold investment saw steady growth in demand in the Asian and Middle Eastern markets through much of the 1970s and 1980s (peaking in 1989 at over 400 tonnes in these two regions combined). In the 1970s, a handful of countries accounted for the bulk of this offtake. Indonesia, Taiwan and Hong Kong accounted for most of the Asian hoarding, whilst Saudi Arabia accounted for the majority of demand out of the Middle East (especially in the latter stages of the decade on the back of the oil price boom). Although economic growth underpinned the steady increase in hoarding, country-specific events contributed to spikes in offtake. This was especially evident in 1976, for example, when hoarding surged in Taiwan on the back of political tension after Mao Tse-tung's death (rising from 14 tonnes in 1975 to 55 tonnes).



Political tension between the mainland and Taiwan continues to influence hoarding offtake, although the preferred safety net in recent years has been cash US dollars. In the 1980s, Japan dominated bar hoarding, accounting for as much as 80% of the world total in 1986. Towards the end of the decade, political uncertainties in Taiwan again saw a surge in offtake (pushing the world bar hoarding total to over 500 tonnes in 1989).

Interestingly, average offtake in the 1990s in the Asian markets (including the Indian sub-continent) did not actually decline very much in absolute terms (falling only marginally, from 251 tonnes in the 1980s to 248 tonnes in the 1990s). Nevertheless, it would be wrong to interpret the growth and, more



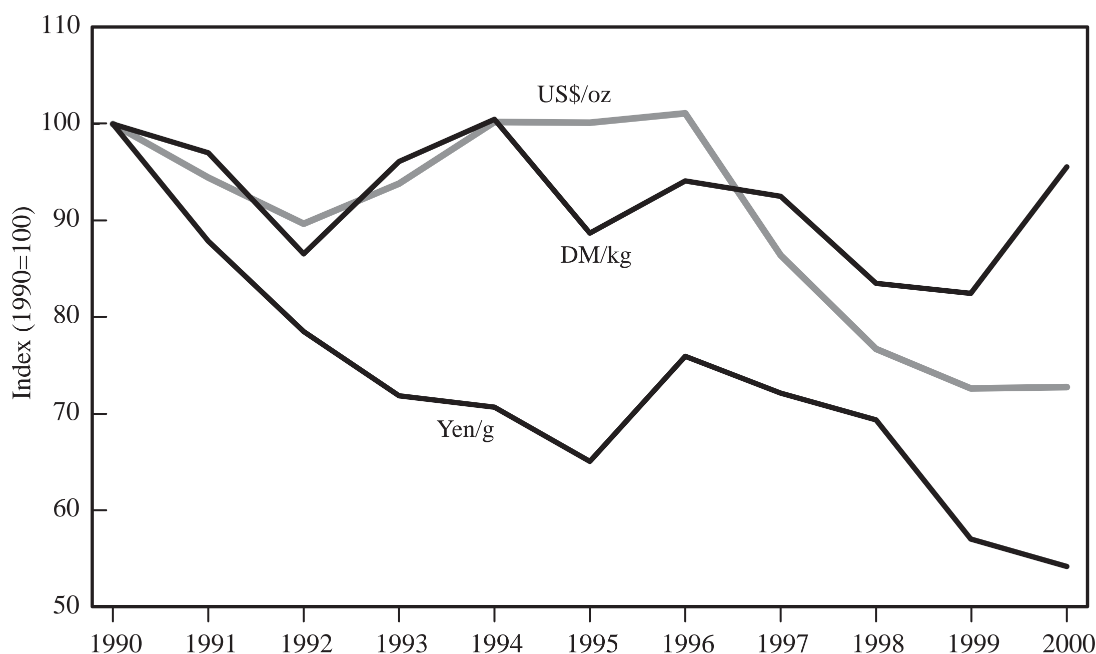
recently, stability in Asian countries' demand as a triumph. If the value of gold purchases in the bar hoarding countries were compared to the inflow of cash into other investment assets over the 1990s, the conclusion would have to be that gold has suffered a dramatic loss of market share. The worry too is that Asian countries, which have been the bedrock of bar hoarding demand, could eventually go the way of Europe and North America unless active measures are taken to ensure that gold remains an attractive option to local investors.

Notwithstanding these observations, it is important to recognise that the "hoarding mentality" still pervades these markets and is unlikely to suddenly disappear. Gold is still widely seen as a safe investment, especially in times of severe political, social and economic uncertainty.

But this does not mean that the market can be complacent about future demand. There is plenty of evidence that gold is losing ground to other investment items and, unless it is actively promoted as a viable savings vehicle, it will continue to do so. In India, for example, there has recently been a plethora of press articles highlighting the diminished role of gold in the traditional wedding dowry.

Retail Investment in Europe and North America

As stated above, the picture in Europe and North America has been far less positive. Europe, in particular, underwent a major shift from net investment up until approximately the mid-1980s towards net disinvestment thereafter. Much of this gold has come into the market from inheritances. As explained in this report, a new generation of investors and savers has turned its back on gold. And, rather worryingly, even though the net disinvestment in North America in 2000 was something of an aberration, there is no doubt that, stripping out the "Y2K"-effect, investor interest in bullion has been on the wane. Arguably, it is only because private investor stocks of gold are much lower in North America than Europe (an estimated 3,400 tonnes versus 8,900 tonnes at end-2000) and newer (privately-held bullion in the United States only being legalised in 1975) that we have not seen any trend to net disinvestment.



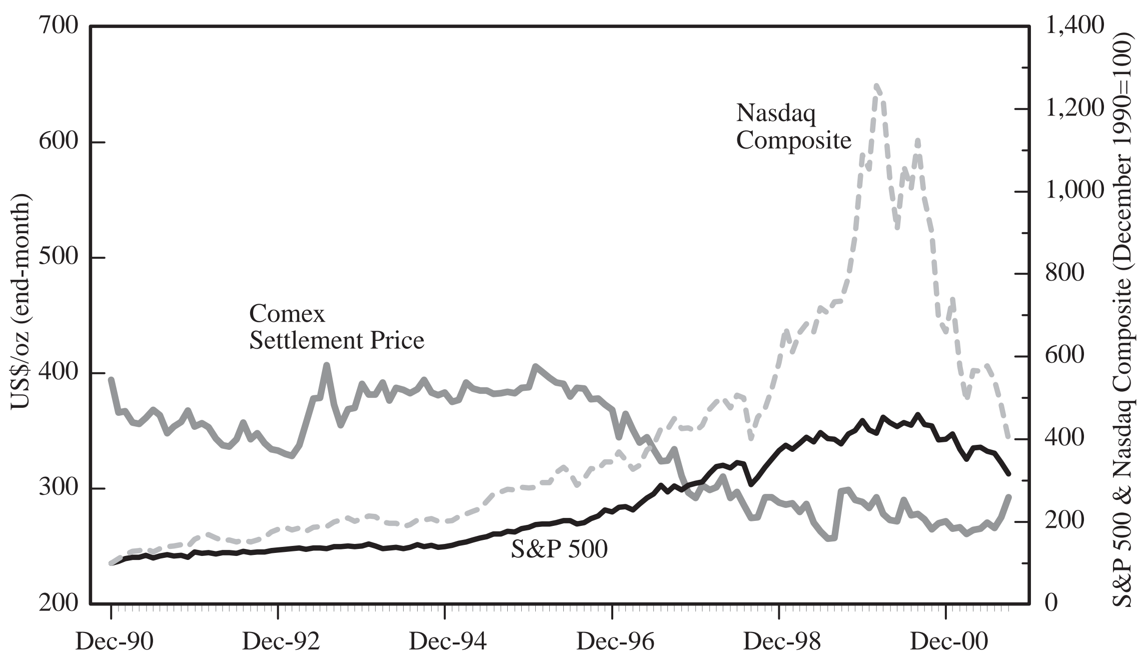
Why have retail investors not been more interested in gold?

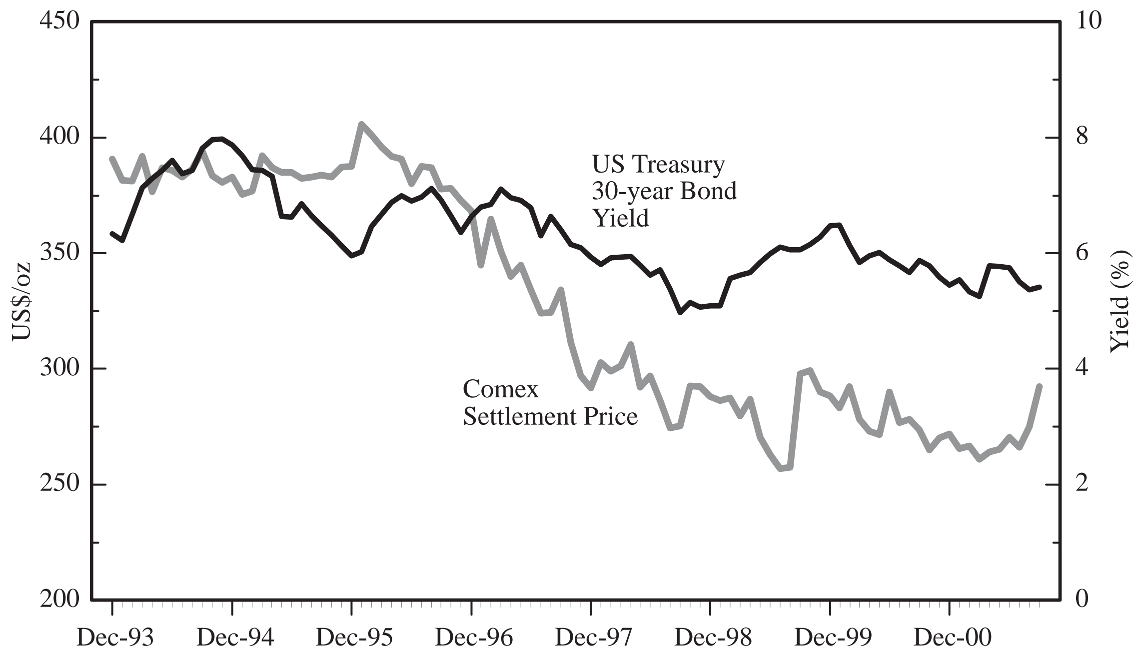
It is worth asking why, at least in Europe and North America, gold has so far not featured on the new generation of investors' radar screen. There are two broad sets of reasons, the one gold market-specific and the other related to wider economic and financial developments.

Probably the single most important gold market specific reason has been the secular decline in the price during the 1990s. This has been an immense turnoff to investors who have become ever more short-term oriented. It is very difficult to sell investment products when their price is always falling (or at least if that is the popular perception). Associated with this handicap of poor past performance is the equally serious one of negative expectations for the future. A widely held view is that the gold price is unlikely to recover, above all due to the weight of central bank reserves overhanging the market. Thus, in order to improve the prospects for investment demand, an essential first step is for the industry to convince sceptical investors that the gold price can also rise in future.

Investor disinterest in gold may have something to do with a lack of promotion. Whereas brokers aggressively push shares at retail investors, few people receive a phone call, marketing literature or an email from those seeking to encourage gold investment. The lack of promotion, dearth of news stories about gold and the ignorance of the mainstream investor have particularly affected demand in Europe and North America where, by contrast, investors have been subject to a growing promotional onslaught for all types of financial assets. This, in no small measure, is also related to the lack of money to be made by those still peripherally in the business of hawking gold to retail investors. The simple explanation is that, with turnover so depressed and margins on bullion products so low, there is very little return to be had from expenditure on promotion (and nor is the cash available to fund it). The downturn in business has also led to a damaging erosion of the retail infrastructure for the selling of gold bullion products. An associated problem has been the lack of new, retail investor-friendly gold products. It is likely that, especially in Europe and North America, a new generation of potential investors needs a new, and probably securitised, route into the gold market. Such a development would probably also benefit financial institutions whose profits should be greater on sales and trading of such (in the first instance) paper products compared to physical bars and coin, the retailing of which often entails a high cost-base and low gross margins.

Gold and Equity Prices





In short, we are sure that these various product supply-related factors played a part in the stagnant retail investor market in North America and, especially, Europe during the 1990s. More recently, the difficulty investors encountered in buying gold undoubtedly limited the scale of retail purchases in the wake of 11th September.

Part of the problem gold investment in Europe and North America has faced therefore stems from supply-side weaknesses. In addition, investors have been put off by the secular decline in the gold price.

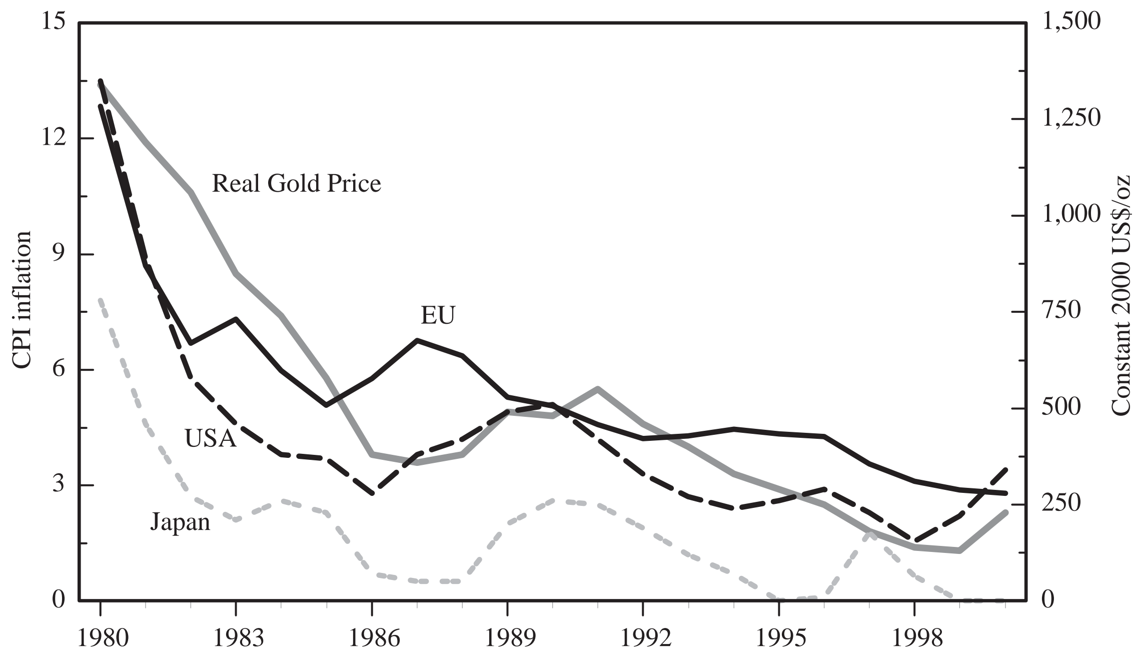
Turning to wider economic and financial developments, as we stated at the beginning of this section, these were part of the negative cocktail for gold in the 1990s. Above all, this issue relates to the improved access to, and the superior performance of, other investment assets.

The best performing financial assets during the 1990s were stocks. During the past decade, investors saw the value of equities soar whereas the price of gold slumped (see graph on Gold and Equity Prices). Nevertheless, with the prospects for stocks looking worse than they have for a long time, this obstacle to gold investment may become less serious over the next few years.

The inflation in financial asset prices, however, did not extend to goods and services. In the last two decades, inflation, as measured by consumer price indices, has fallen sharply nearly everywhere (see graph on Inflation and Real Gold Price overleaf). Meanwhile, reflecting the generally positive (i.e. lower) inflation outlook, bond yields have also tended to fall and prices rise over recent years (see graph on Gold and Bond Yields). While this development has undoubtedly hit gold, as bond yields are now at low levels in most countries, a further powerful rally in bond prices looks most unlikely. Moving forward, this may make it easier to sell the concept of gold investment to investors.

When it comes to developing countries, the uninspiring trend in bar hoarding owes something to economic liberalisation and the improved access to competing financial assets that this process has brought into being. In addition, the greater availability of the US dollar and its uptrend against local

Inflation and Real Gold Price



Source: GFMS, IMF

currencies has meant that gold's role as a hedge has been challenged. In many of the countries reviewed in this report, holdings of cash US dollars increased markedly during the 1990s.

The extra-market developments commented on above were almost the mirror image of what occurred in the 1970s and early 1980s, a period that could perhaps best be summed up by the phrase then in vogue, "stagflation". It is worth repeating that this was of course the heyday of gold investment in Europe and North America. By contrast, it would be difficult to come up with a worse external environment for gold than the one seen over the past ten years. As such, we should perhaps not be too surprised that retail investment demand in the 1990s was so disappointing. A case can be made that external circumstances for gold investment will improve over the next few years, if only because we are very unlikely to see renewed, strong growth in prices of competing financial assets such as stocks and bonds.

In summary, the backdrop for gold investment during 1993-2000 could hardly have been worse. Gold market developments were mainly very negative, chiefly the growth in central bank sales and lending. In addition, mine production continued to climb over the period. The additional supply from these sources could only be accommodated at lower prices. Meanwhile, much of the world experienced an unprecedented boom in financial markets, especially stock prices. This owed a great deal to the combination of strong economic growth and declining inflation in most key countries, above all the United States. Last but not least, this provided a tremendous boost to the US dollar which, from end-1992 to end-2000, appreciated by no less than 19% on a trade-weighted basis. The potentially better news for gold is that on each of the above-mentioned fronts the outlook is starting to look a good deal more positive.

To start with, a further rise in the US dollar looks unlikely and, indeed, it is more probable that its existing level is unsustainable. Furthermore, over the next few years we would not expect financial asset prices to rise as quickly as they did in the 1993-2000 period. And, just as importantly when it

comes to the gold market itself, the outlook is a little more positive as the central bank question has to some extent been defused by the Central Bank Gold Agreement of September 1999 (known also as The Washington Agreement on Gold) and as mine production is eventually set to fall. It is up to the industry to decide whether this more benign environment warrants a renewed push to promote retail investment in gold.

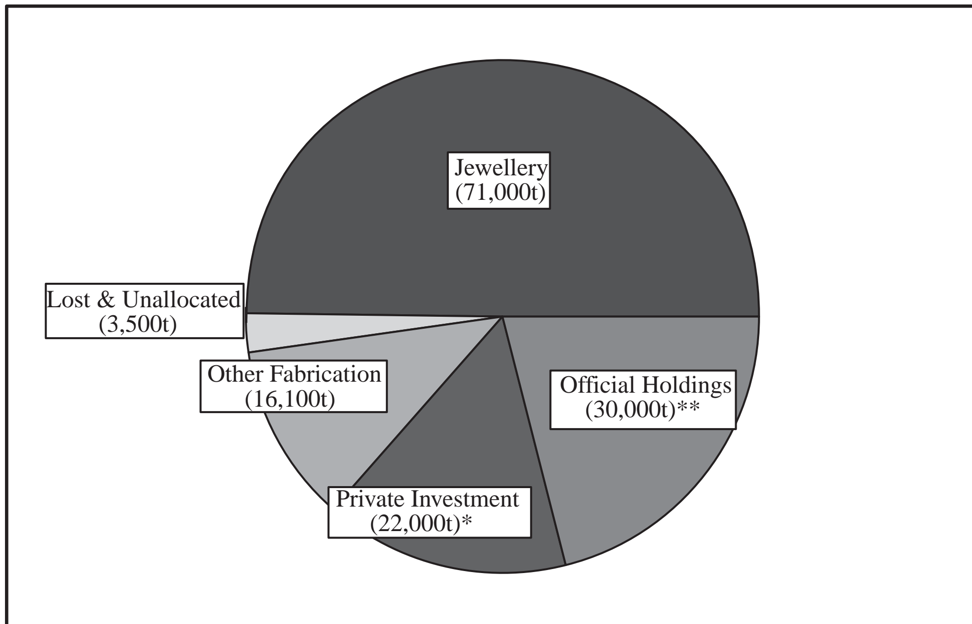
Private Investor Stocks

The other area on which this report focuses is the level and distribution of private investor stocks. Clearly, much of the detailed information that we gathered on retail investment trends was incorporated into the stocks analysis, which is described at length in Chapter 5. In addition, we drew on other existing published data sources and GFMS' own extensive in-house work on above-ground stocks.

GFMS estimate that at the end of 2000 private investors held around 15% or 22,000 tonnes of the above-ground stock of gold, itself estimated at 142,600 tonnes. As this report makes clear, private investor stocks have grown fairly steadily throughout the past 30 plus years. Their rate of growth has, however, significantly lagged behind that of the worldwide stock of fabricated products, chiefly jewellery. Nevertheless, both jewellery and private bullion stocks have increased whereas official gold holdings, excluding metal lent to the market, have declined. In practice, gold has been transferred from public to private hands, particularly during the 1990s.

As the Figure overleaf shows, a large share of the private investor stocks are still held in Europe (about 8,900 tonnes). The largest holdings are in France (about 3,600 tonnes) and Switzerland (2,300 tonnes), two countries where net disinvestment was the norm virtually throughout the 1990s. Bullion holdings in North America meanwhile increased, albeit at a modest rate to reach around 3,400 tonnes at the end of 2000. Private stocks in the rest of the world, however, have risen at a far more rapid rate

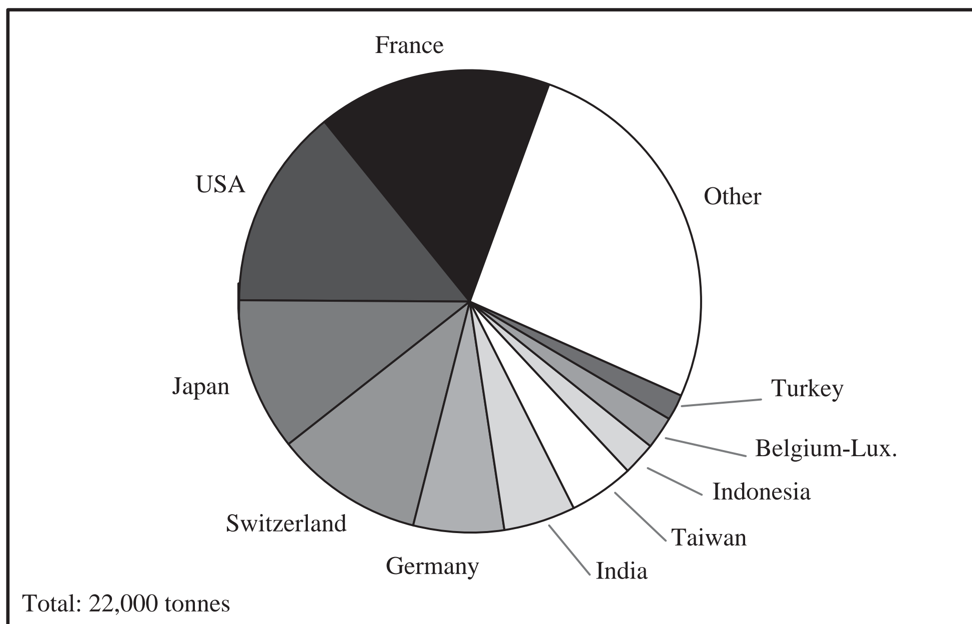
Global Above-ground Stocks, 2000



* Includes bar hoarding, European and North American investment and coins.
** Official Holdings excludes lent metal.

and totalled approximately 9,700 tonnes by the end of 2000. This brings us to another important observation about private sector bullion stocks, that most of their growth has occurred in developing countries and Japan (traditionally covered by GFMS in its series on bar hoarding). Essentially a shift from "West" to "East" has taken place over the last couple of decades. This is a trend that is set to continue unless there is a marked improvement in investor demand in Europe and North America over the next few years.

Global Private Investor Stocks, 2000



2. DEFINITION OF RETAIL INVESTMENT

Before embarking on this study, it was important to reach agreement on what definition of retail investment ought to be used.

The broadest definition of retail investment would incorporate any private sector demand for gold that was not related purely to adornment or industrial purposes. This would include so-called "investment jewellery" (generally high carat, low mark-up jewellery purchased with an investment motive). The problem with such a definition is that it is highly subjective as well as excessively elastic. It is subjective because purchase-motive is extremely difficult to measure on a scientific basis. For example, wedding-related demand for high-carat jewellery in India has an important investment motive but it is also purchased for adornment. Similar problems of measurement occur in nearly all countries where there is demand for high-carat gold jewellery. In addition, to complicate matters still further, one is dealing with a dynamic situation. For example, changing tastes in jewellery and the shift to lower-carat articles in some parts of the world, where high-carat was formerly predominant, makes it impossible on a systematic and regular basis to measure "investment jewellery" demand worldwide. For the record, however, GFMS tentatively estimates that probably over 60% of global jewellery demand in 2000 had a distinct investment motive behind it.

Ruling out "investment jewellery" does a lot to narrow the field. However, two other important considerations remain when seeking a workable definition. Firstly, what kind of agents should be put into the retail investor category and, secondly, precisely what form of demand should be counted?

In terms of the kind of agents to be put in the retail investor category, the distinction can be made between private individuals interfacing directly with the market, purchasing bullion or making transactions via a broker and investment via a fund where the private investor is explicitly part of a collective. The latter certainly also falls within the scope of retail investment but this study seeks to analyse the behaviour of the individual rather than that of funds or, for that matter, proprietary traders - who are one more step removed from the true private investor. We have therefore, for the purposes of this study, chosen to focus exclusively on those retail investors that can be regarded as acting in an individual capacity. No minimum or maximum purchase quantity has been applied in defining what qualifies for retail investment. The data therefore covers both a mass of small buyers (and sellers) and the few investors who have bought (or sold) significant amounts of gold bullion.

Having defined who are retail investors for the purposes of this study, the next step is to determine what form of gold qualifies for investment. As already explained above, early on we decided not to include "investment jewellery" in our definition, even though a case could be made for its inclusion. We decided instead to focus on gold in bullion form. (Although not part of our statistics, "investment jewellery" is, nevertheless, discussed where appropriate in some of the individual country sections.) Regarding the form of gold bullion to be included, we were fortunate that a well thought-out and neutral definition was arrived at by the European Union when it established the ground rules for determining in what form investment gold had to be for Value Added Tax-free status. This formula is the one we have decided to adopt and is as follows:

- Coins minted after 1800, which are not less than 900 fineness, are (or have been) legal tender in the country of origin and are not sold for more than 180% of the value of their gold content.
- Bars include all bars of 1 kilogramme or less that are purchased by investors.

The principal remaining difficulty in terms of defining retail investment is where to draw the line in terms of "paper" gold transactions. To take a somewhat extreme example, how should we treat a private individual's purchase of a 100 ounce futures contract on Comex? The compromise we have

chosen is to count paper transactions only when they firstly, are carried out by retail investors in their individual capacity (as opposed to via a fund or broker) and, secondly, to only count these when there is a direct physical counterpart to the transaction. Thus, for instance, we would count Japanese Gold Accumulation Plan investment because there should be a one-for-one purchase (or sale) by the financial institution against its customers' orders. The area of paper gold transactions is, however, a bit of a grey one. It might, for instance, be preferable to count only allocated gold holdings, as part of unallocated holdings are lent out into the market (and often are sold to fund hedging and other forward and derivative market transactions by the banks and their customers). We have therefore been cautious when incorporating into the analysis changes in e.g. metal account holdings in Europe and North America. This is even more true when it comes to other private investor activities in the Over-The-Counter (OTC) market, such as the purchase of forwards and options. (By default we have tended to treat these as "institutional" for the purposes of this report.) Apart from the definitional problem with such holdings, there is also the practical one of measurement. Bullion banks are extremely reluctant to divulge how much bullion they hold on account for private clients. Obtaining regular, comparable data from a representative group of financial institutions that offer such services is not feasible. Nevertheless, in spite of these caveats, where possible, we have tried to incorporate information on changes in metal account holdings and, where feasible, other OTC market activity where measurable and clearly targeted at the retail investor.

A large element of the investment and disinvestment that we comment on in the following pages consists of the direct purchase and sale of physical bars and coins by retail investors on the open market. Here we have attempted to apply the European Union's standard definition that was described above. It is not always easy, however, to distinguish purchase-motive even where the end-product is unequivocally meeting the right definition. This is because in many markets jewellery manufacturers purchase bars and coins as raw material for their own production. The institution making the sale may not be in a position to distinguish a fabricator from an investor. This is even more true if one takes the analysis a step backwards and investigates the sales by producers of small bars and coins. The refiner selling a kilobar or the mint that fabricates a coin is rarely in a position to be certain about the end consumer. However, without the data kindly provided by these manufacturers, it would be very difficult to attempt an analysis of worldwide investment demand.

A further point to make about the definitions used in this report concerns the physical location of investor demand/supply and private stocks of bullion and coin. As a rule we have tended to count by country of location rather than country of ownership. Thus, for example, transactions on metal account in Switzerland and the stocks underlying them are regarded as "Swiss" even if the customer or ownership might be domiciled elsewhere. Discovering on a systematic basis the nationality of buyers and sellers in major international gold markets like London and Zurich and measuring their activities is practically impossible.

Finally, readers of this report will frequently come across the term "bar hoarding". In some cases this is simply a form of words to describe investors' absorption of gold in physical bar as opposed to coin. Specifically, however, "bar hoarding" is a category of demand that is used to denote the hoarding of gold in bar form outside Europe and North America. GFMS' data series on this category of demand (and occasionally supply when there has been net dishoarding) stretches back to the 1960s for almost all countries outside Europe and North America. As a result, the GFMS bar hoarding data is the starting point for our numbers on retail investment for much of the world.

In conclusion, it should be recognised that the very nature of investment demand means that it is impossible to be too categorical about the numbers, even though the trends in individual countries and the market as a whole can be accurately described and indicatively measured as we have done in the following sections of this report.

3. METHODOLOGY

Retail investment as its name implies is the sum of thousands if not tens of thousands of individual transactions. Clearly, measuring each sale or purchase of gold by investors over any given period is an impossible task. Retail investment also does not lend itself to consumer surveys - even less so in gold than in other, what could be termed mainstream, investment assets. Investors in gold generally do not to want to publicise the fact, with the majority of purchases and sales by private individuals made anonymously.

As a result, we chose to measure demand at what could be termed the wholesale rather than truly at the retail level. The advantage of this is that one is dealing with far fewer information sources. These information sources could also be expected to be more cooperative as they would largely already be known to GFMS and/or the WGC. In addition, they themselves would benefit from improved data and information on the market they served.

The next step was to identify those institutions that actually did the business and who could be approached to take part in a benchmarking study. This was achieved and a number of these institutions, mostly in North America, have provided us with historical data. However, not surprisingly, much of the data provided was incomplete. For instance, data prior to 1999 was generally not available, the majority of institutions either not keeping much in the way of historical records or, understandably, not wanting to devote the resources necessary to trawl through, e.g. non-computerised records. Another complication was getting companies to report two-way business in a systematic and standard fashion. It is much easier for most of them simply to report the volume of bars and coins sold over a given period to the public. We have attempted, however, to monitor selling back and, at the least, to obtain regular anecdotal information on the subject that can be used to generate meaningful estimates.

In addition to surveying what could be termed as the dealer community, we have also used as a cross-check quarterly data on the production of bullion coins and bars. To this end, the report has drawn upon detailed quarterly coin sales data provided by the major mints. Furthermore, we have used information obtained during the course of GFMS' discussions with all the main producers of small investment bars. Any data obtained from these sources has only been used in the generation of aggregate statistics.

Another essential part of the analysis was to make use of the overall supply/demand framework established by GFMS for the measurement of demand in individual countries. This had the benefit of providing a "reality check" on the level of demand. If it could be ascertained how much gold was available in a given country during the period in question, then this at least would provide us with a global cap on the level of physical demand from all sources. (For a number of reasons, this methodology is less easy to apply to Europe and North America.) The challenge was then to determine where and in what form the overall demand for gold occurred - was it in jewellery or bar hoarding, for example?

For the 1993-1999 period, we have largely relied upon GFMS research into European and North American investment and bar hoarding demand in the rest of the world. The GFMS data, especially on bar hoarding, has the advantage that it is very comprehensive for the world outside North America and Europe. These numbers were put together using the supply/demand methodology described above, backed by information from trade sources both within and outside the countries concerned. The series is also a very long-running one (stretching back in fact to the 1960s). For the purposes of this study it was also necessary to put together quarterly estimates for bar hoarding demand in 1999-2000 using the GFMS half-yearly data as a starting point.

When it comes to North America and Europe, GFMS has compiled annual and biannual estimates for investment/disinvestment in the important countries in each region (i.e. the United States, Canada, Mexico, Germany, France, Switzerland, Austria and Belgium-Luxembourg). These estimates were arrived at using data gathered on coin and bar production, bullion and coin trade data and, importantly, on the basis of a huge number of interviews over the years with trade sources including dealers, mints, refiners and bullion banks. In the past, a small part of this information has been included in GFMS' *Gold Survey* and *Update* publications. This report, however, incorporates much data and information that GFMS has never published before. As stated above, confidential information was only used to generate aggregate statistics when this could be done without compromising the source.

It is worth briefly making a few additional comments on the methodology used for the estimation of Private Investor Stocks in Chapter 5.

For many years prior to embarking on this study, GFMS has done a great deal of research on above-ground stocks using its own proprietary data and a range of other, mainly published sources. One thing on which nearly all researchers into the subject agree is that the starting point for any assessment of global above-ground stocks has to be historical mine production. The amount of metal dug up out of the ground will necessarily set the upper limit for the size of global above-ground stocks in all their forms. GFMS has developed a series for global mine production dating back as far as 4000 B.C., with data on production since World War 2 mostly from GFMS' own research activities while the numbers prior to this were obtained from various external sources.

Our starting point for the detailed above-ground stocks analysis was 1950. This date was chosen partly because around 55% of mine production has occurred since then and also because data on supply and demand is a lot more comprehensive from this date onwards. Having established the level of cumulative mine production up to 1950 (a little over 64,500 tonnes) it was then necessary, after making an assumption for "lost" metal, to distribute the remaining quantity among the various categories of above-ground stocks. This provided us with a data series for the distribution of above-ground stocks in 1950 for the following categories: official sector, jewellery, other fabricated products, private investors. We were then in a position to adjust these series by annual changes in global supply and demand each year through to 2000 taken from GFMS' database on mine production, scrap, central bank sales/purchases, fabrication and investment/disinvestment.

We then set out to corroborate the global totals for private investor stocks thus derived through the aggregation of independently assessed country-by-country stock numbers. This was an essential check as the size of the residual (i.e. investor stocks) that the earlier type of model generated is quite sensitive to changes in assumptions on the larger independent variables such as mine production.

The assessment of individual country stocks was no easy task, largely due to a lack of hard data (e.g. other published studies rarely provide country-specific information). Nevertheless, it was possible to build a fair picture of individual country numbers by piecing together what fragments of hard data there were with information contained in GFMS archives and by backing this up through consultations with key industry players. Nevertheless because of these complexities, we felt it most appropriate to provide a range of estimates for many of the country series.

Despite this, it is of some comfort that the total derived from the sum of individual country numbers was not that dissimilar to the derived global residual for private investor stocks, turning out a little smaller than the latter. This discrepancy is, we believe, most likely to have arisen through a possible underestimation of above-ground stocks of fabricated products and, in addition, some undercounting of the amount of "lost" gold, both prior to and after 1950. GFMS' above-ground stock numbers have been marginally adjusted to reflect these conclusions.

4. COUNTRY ANALYSIS

This chapter contains a detailed analysis of retail investment in 27 countries and a section on "Other Europe". (It also includes a brief analysis of demand in several other countries.) Annual data has been compiled on a country-by-country basis for the 1993-2000 period, with in addition, a quarterly breakdown provided for 1999 and 2000. The relevant data on net retail investment demand is provided at the beginning of each individual country section. These country sections also incorporate a detailed commentary on trends in retail investment for 1993-2000 and the preceding years.

United States

Retail Investment Demand (tonnes)

Annual

1993	1994	1995	1996	1997	1998	1999	2000
32.1	21.0	15.3	6.0	54.6	82.0	87.2	-18.8

Quarterly

99Q1	99Q2	99Q3	99Q4	00Q1	00Q2	00Q3	00Q4
31.8	24.7	24.6	6.1	-14.1	-5.8	-2.9	4.0

Source: GFMS

Investment in gold bullion was prohibited in the United States from 1933 to 1974. (Incidentally, this partly explains the continuing popularity of silver for those Americans who seek the security of a hard asset). The repealing of the Roosevelt era legislation in December 1974 did not, however, lead to the much hoped for surge in retail investment. For example, some of the bullion products shipped over from Europe during early 1975 in anticipation of massive consumer demand were later re-exported again. That said, the evidence is that there was a fairly high level of demand, mainly for coins, throughout the second half of the 1970s and into the 1980s.

United States - Economic and Social Indicators (Source: EIU)

Population:	273.1m (1999)
Population Growth:	0.9% (average, 1995-99)
GDP Growth:	3.8% (average, 1995-99); 4.2% (1999)
GDP per head:	US$34,046 (1999)
Inflation:	2.4% (average, 1995-99); 2.2% (1999)

Indeed, the strength of local market demand was one of the factors in persuading the US Mint to get into the coin business, which it did in the shape of the Eagle bullion coin launched in 1986. There is little doubt that the much-fanfared launch of this product at a time when investors still had a more positive outlook on gold's price prospects, gave an important stimulus to demand. In retrospect, it was a first class example of a supply-led growth in demand.

Eagle sales in the coin's first year totalled nearly 56 tonnes, in spite of it only being released in the fourth quarter. In 1987, sales at 39 tonnes remained at a healthy level. The upward trend in the gold price during much of the 1986-88 period undoubtedly helped push sales. Thereafter demand tapered off, as the table overleaf shows, until the end of the 1990s.

The majority of Eagle sales have been to Americans, as the coin has never established much of a following overseas. Thus, discounting a little the initial surge in demand related to the coin's launch, the decline in sales of the Eagle coin since then charts very succinctly the reduced investor interest in gold over the period in the United States. The exception to this declining trend was the recovery in demand during 1998-99, which was, however, mostly based on Year 2000 ("Y2K") fears, a phenomenon that is discussed in greater detail below.

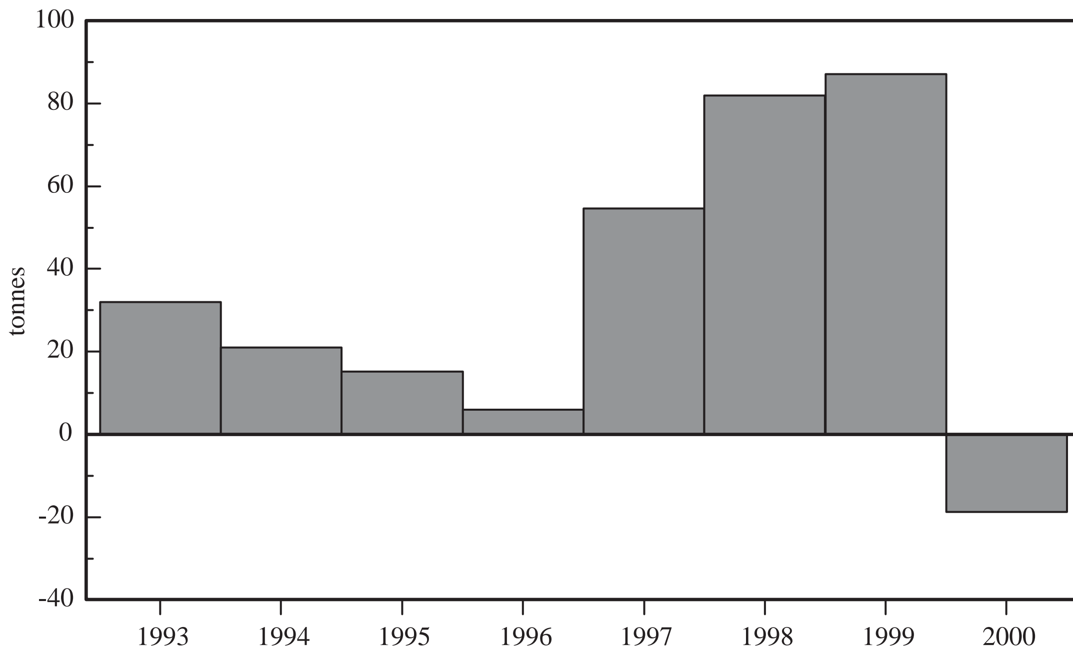
US Eagle Coin Sales 1986-2000 (tonnes)

1986	55.6	1994	9.6
1987	39.0	1995	9.3
1988	17.4	1996	8.6
1989	15.7	1997	24.0
1990	14.2	1998	57.2
1991	7.9	1999	60.3
1992	12.0	2000	5.1
1993	16.0		

Source: United States Mint

The declining trend in US retail investment demand was compounded by the secular decline in the gold price in the early 1990s and again after a three year interruption, in 1997-98. Poor price performance was probably the most important factor behind the tail-off in physical demand that was evidenced not only in the numbers for Eagle sales mentioned above but also by other indicators such as the production and import of small wafers and sales of other bullion coins, such as the Maple Leaf.

American retail investors traditionally buy on a rising market, unlike the majority of Asian hoarders. Thus, with the partial, but important exception of overseas Chinese, Vietnamese and Indians resident in the United States, there was little buying in recent years on price dips among mainstream American investors. Furthermore, investors' belief that prices would recover had also been challenged by gold not only falling further away from the $400 level but even reaching below $300 at the end of 1997 (this did on the other hand encourage purchases by some Asians in the United States). The increasing



concern that central bank sales and lending were capping the price only served to reinforce the negative mood. To the extent that gold-friendly investors were in the market, it was for mining shares not the metal. This was after all a period when junior mining stocks were still riding high (the Bre-X bubble did not burst until March 1997).

But in addition to the gold market-specific factors that undermined retail investment in the 1990s, it is worth noting how unfavourable the economic backdrop in the United States was for gold. By the 1990s it was clear that a resurgence in inflation was unlikely. The effective resolution of the Savings & Loans problem removed the threat of a spreading financial crisis and American banks' ratings recovered strongly during the 1990s. Following the 1991 recession the United States began a period of unprecedented economic prosperity. This in turn led to the greatest ever boom in stock prices. Given this backdrop it was hardly surprising that fewer and fewer investors looked at gold.

It is important to note that the renewed buying of bullion in 1998 and 1999 did not represent a fundamental change in the average investor's mindset. And, there was no reason why it should have done so. During this period the US economy continued to expand with low inflation and rising stock prices. Gold meanwhile plunged to below $300/ounce, recording in the process successive 20-year lows. The increase in demand was instead related to a relatively small group of people looking to gold as a safe-haven ahead of what they feared would be a "Y2K"-driven crisis. The bulk of the growth in demand was accounted for by such buyers, whether they really bought the crisis or simply the argument that "Y2K" would be good for the gold price. Apart from overwhelming anecdotal evidence from dealers and other sources, the rationale for much of the buying was clear from the type of product purchased. A very high percentage of sales was of fractionals (e.g. 1/10th ounce), including the smaller, pre-War European coins. (In the latter case a huge volume of dishoarded coins from France, Belgium, Switzerland and Germany was exported to the United States in 1998 and 1999.) American buyers were interested in obtaining coins that could easily be used for everyday transactional purposes, such as to replenish foodstocks. Normally, genuine investors would shy away from fractional coins because they carry much higher premia than do 1 ounce coins. Another sign of the times was that there was no corresponding interest in metal accounts or similar "non-physical" gold. Ordinarily, any broad surge of investor interest in the metal would have been reflected in these areas too.

Nevertheless, as the estimates at the beginning of this section and the Eagle bullion coin data show, the "Y2K"-related demand did have a measurable impact on physical offtake. In 1997, there was already some pick-up in sales, which may have been related to bargain-hunters coming into the market, as much of this buying occurred when the price was plumbing new depths. It is probable that Asian buyers were well represented at the time. For instance, there were reports from the west coast of expatriate Vietnamese acquiring kilo gold grain for hoarding purposes. Also, to a limited extent perhaps in 1997, the numbers may have begun to reflect the "Y2K"-related buying that was such a feature of the market in 1998 and 1999.

"Y2K"-related buying was confined to a relatively small group of individuals. In some cases, however, large amounts of money were spent on bullion by those seeking security from the chaos they expected to be unleashed from 1st January 2000 onwards. In the course of our research we have come across a number of extraordinary tales of panic buying of smaller-size coins. For example, one dealer relayed a story of a customer who insisted on buying 10,000 1/10th ounce Eagles at a premium of well over 20% above spot. This was not an untypical case, even if the scale of the purchase was higher than average. It is unclear how much of this buying was from existing holders of bullion products. What is certainly true is that the average "Y2K" buyer was more likely to be a holder of gold than the average man or woman in the street. "Y2K"-related demand resulted in the Eagle having its best year ever in 1999 (60 tonnes of sales), in spite of the lacklustre gold price.

That the buying was "Y2K"-related was evident too from the scale of the disinvestment seen in 2000. Much of this came from "Y2K" buyers selling their gold insurance policies. The other factor was price. Indeed, already in 1999 the price spike in September and October encouraged a lot of "stale longs" to get out of gold positions, mostly physical ones but also metal account. This price-related selling back was, if anything, even more intense during February 2000 when gold once more rose briefly above the $300 level. It is probable that some of those who were sitting on long-held positions in 1999 when the price increased held back from selling either due to "Y2K" fears or because they thought this event could prompt a major rally in the price. Such considerations did not apply in 2000. Furthermore, with the passing of the millennium danger, yet another reason for expecting a recovery in the price had turned out to be hollow. Thus conditions were ripe in 2000 for investors to make use of selling opportunities.

The net disinvestment in 2000 of an estimated 19 tonnes was, as the data shows, concentrated in the first quarter, though selling back continued through into the third quarter. The largest share of this disinvestment was in the form of coins. The main coins that were sold back and recycled were in probable order of importance, the US Eagle, Maple Leaf, Krugerrand and assorted older European coins. Primary market demand for coins totally collapsed as dealers were able to service those few buyers in the market out of dishoarded coins. Indeed, a common practice was for dealers to retain a chunk of the coins sold back to them that were in good condition and to sell, e.g. futures contracts against this metal, to cover themselves against the price risk. In this way they sought to avoid having to pay a premium on new product by having sufficient stock in-hand for any subsequent recovery in demand. We estimate that this resulted in dealers' inventories increasing by between 6 to 12 tonnes in 2000. Put otherwise, the public sold back to dealers more like 25 to 31 tonnes, rather than the net disinvestment (i.e. what actually came into the market) of 19 tonnes mentioned above. (This resulted in a corresponding decline in dealers' stocks in the wake of 11th September 2001, as they were able to satisfy much of the renewed demand from inventory.)

In the first two quarters of 2001 the scale of disinvestment was very much reduced (it had already slowed a lot in the fourth quarter of 2000). The year-on-year decline in disinvestment was greatest in the first quarter because the selling in 2000 was at its peak in February that year. On the other hand, new buying interest in 2001 up until 11th September was minimal. Rather disappointingly, the slowdown and possible recession in the US economy and the volatility of stock prices had brought very little new money into gold.

The aftermath of the terrorist attacks against the United States brought renewed investor interest in gold. From an admittedly low level, retail investment surged. In September 2001, for instance, the US Mint had its best month for Eagle sales (52,500 ounces) since December 2000. And, even though buying slowed in the weeks following the outrage, dealers were optimistic that a higher level of retail investor interest might be sustained in the months ahead. As intimated above, even though the growth in demand for new product after 11th September was strong, the absolute numbers were surprisingly modest. There were two main reasons for this. Firstly, and most importantly, there was no broad-based move into gold by retail investors. Certainly, gold's profile was raised among the investor community but this led to a relatively small inflow of new money into bullion. In part, this reflected the lack of an adequate infrastructure (sales outlets, promotion, information etc) in the United States for converting new investor interest into actual sales. Secondly, as mentioned above, dealers' inventories increased during 2000. This meant that they could satisfy much of the demand for physical gold out of their own stocks without having to order new bullion bars and coins from the makers of these products. Thus actual purchases by the public in the wake of the attacks were several times greater than implied by sales to dealers of e.g. Eagle bullion coins in the primary market over the same period.

Canada

Retail Investment Demand (tonnes)							
Annual							
1993	1994	1995	1996	1997	1998	1999	2000
3.0	2.0	2.2	0.2	4.0	5.1	5.0	-7.0
Quarterly							
99Q1	99Q2	99Q3	99Q4	00Q1	00Q2	00Q3	00Q4
2.0	1.4	1.1	0.5	-3.6	-1.9	-1.3	-0.2

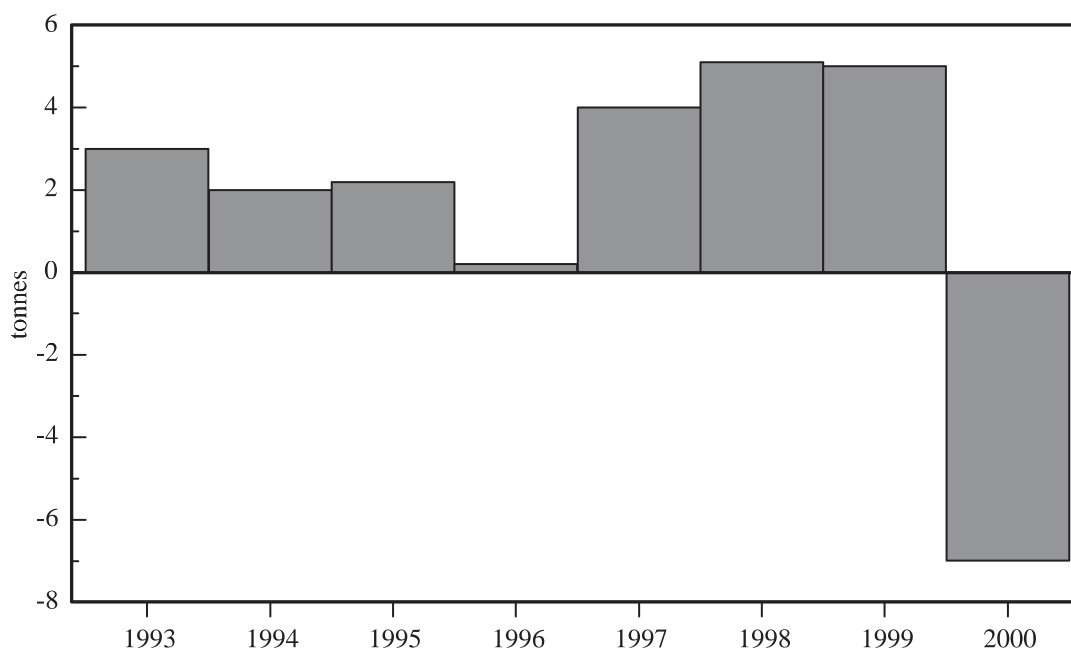
Source: GFMS

Since its introduction in 1979 the Maple Leaf coin has been the mainstay of the retail investment market in Canada. Production of the Maple Leaf and a smaller number of commemorative coins by the Royal Canadian Mint (RCM) totalled 603 tonnes between 1979 and 2000. However, it should be borne in mind that local demand has typically accounted for no more than, at best, 20% of coin sales by the RCM, the majority of its products being exported. In addition to the Maple Leaf and other bullion coins, there is some small bar demand, much of this concentrated in recent years among the Asian community in the Vancouver area. Finally, the large Canadian banks operate metal accounts for retail clients.

Canada - Economic and Social Indicators (Source: EIU)

Population:	30.5m (1999)
Population Growth:	1% (average, 1995-99)
GDP Growth:	3.3% (average, 1995-99); 4.5% (1999)
GDP per head:	US$21,146 (1999, at market exchange rate); US$26,921 (1999, at PPP)
Inflation:	1.7% (average, 1996-2000); 2.7% (2000)

Retail Investment - Canada



Canada did experience some growth in investment demand in 1998 and 1999 in the run-up to the millennium. However, "Y2K"-related buying never took off in the way it did in the United States. Also, there is some evidence that demand was given some boost in this period from Asian buying on lower gold prices.

In 2000, by contrast there was a significant wave of net disinvestment in the Canadian market. This was seen by dealers, who mostly bought back Maple Leaf coins and, to a lesser extent, bars from retail customers. One of the banks spoken to claimed that in 2000 it had purchased three times as much gold from investors as it had sold to them.

The first half of 2001 saw such disinvestment largely come to an end, although buy-side interest remained minimal. Latterly interest has picked up somewhat, resulting in higher demand for the Maple Leaf, although most of this has been from US customers.

Brazil

Retail Investment Demand (tonnes)

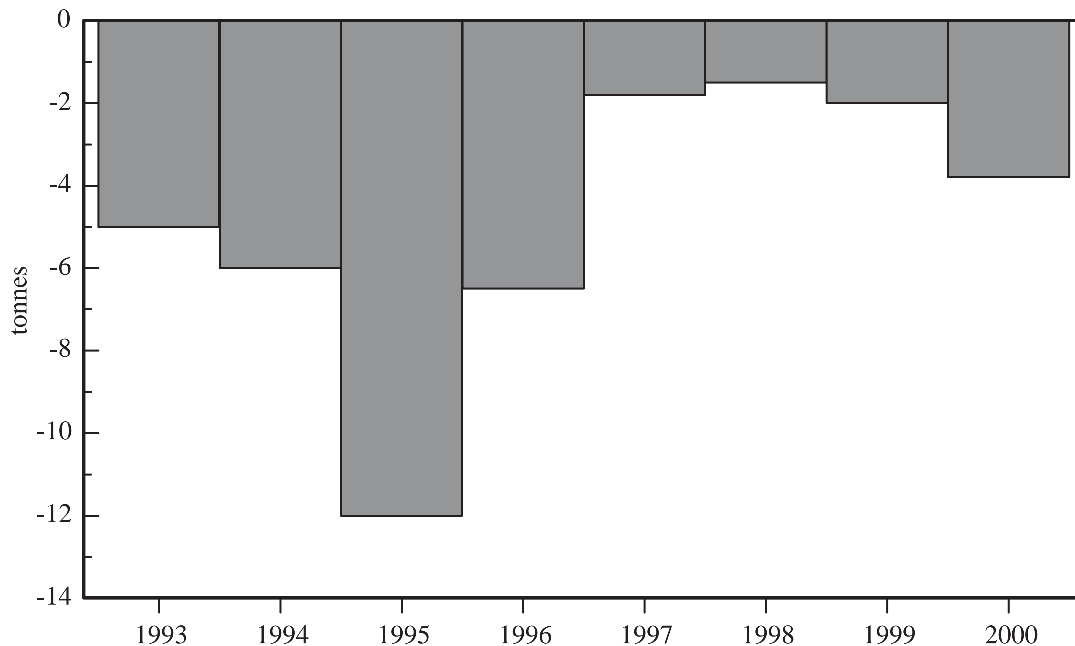
Annual

1993	1994	1995	1996	1997	1998	1999	2000
-5.0	-6.0	-12.0	-6.5	-1.8	-1.5	-2.0	-3.8

Quarterly

99Q1	99Q2	99Q3	99Q4	00Q1	00Q2	00Q3	00Q4
-0.4	-0.4	-0.4	-0.8	-2.3	-0.7	-0.4	-0.4

Source: GFMS



Looking back it might seem incredible that from 1987-89 Brazil was the world's third best performing gold investment market. However, this phenomenon is understandable given the stringent exchange controls and high inflation that plagued the country at this time. Cumulative bar hoarding demand in Brazil over these three years amounted to some 175 tonnes. In 1989 alone Brazilians purchased a net 92 tonnes. However, the victory of Collor and the defeat of the Workers' Party candidate Lula in the December 1989 presidential election set Brazil along a new path. The most important development was the gradual opening up of the foreign exchange market. This was key because the larger part of the demand in the late 1980s had come from institutions, including foreign manufacturing concerns in the country who had no alternative hedge against inflation and the depreciating local currency available to them other than gold. Once the US dollar was available this demand not only fell away but companies liquidated their gold holdings. Furthermore, the gradual stabilisation of the economy (the successful introduction of the new currency in 1994 being a salient event) and the poor gold price performance (at least relative to dollars) persuaded many retail investors to at least look elsewhere for a savings vehicle and very often to sell what gold they already possessed. The effect of all of this was seen in the huge net dishoarding numbers from 1990 to 1996 (an exception was in 1991 when institutional buyers returned during the abortive attempt by the government to defend the cruzeiro-dollar peg).

Brazil - Economic and Social Indicators (Source: EIU)

Population:	165.9m (2000)
Population Growth:	1.3% (average, 1996-2000)
GDP Growth:	2% (average, 1996-2000); 4.3% (2000)
GDP per head:	US$3,760 (2000, at market exchange rate); US$7,285 (2000, at PPP)
Inflation:	7.5% (average, 1996-2000); 7% (2000)

In the early part of the 1990-96 period the bulk of the selling back came from institutional sources. By the middle of the decade, however, the larger share of disinvestment was coming from wealthy private individuals and the retail sector. Since then, a constant low level of net dishoarding has been the norm, which has offset new, direct sales of small bars to retail investors, in particular by a handful of the local financial institutions. Selling back of gold by both retail investors and out of custodial stocks picked-up somewhat in 2000 on higher prices and because of the local gold premium that occasionally reached 7%-8% above the international price.

Mexico

Retail Investment Demand (tonnes)

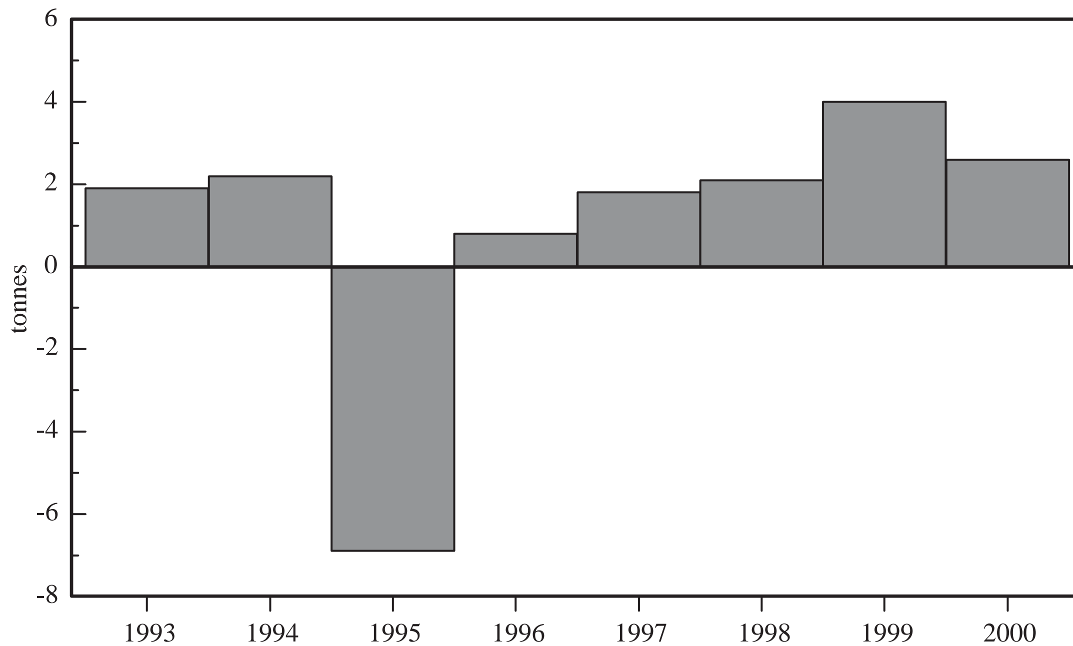
Annual

1993	1994	1995	1996	1997	1998	1999	2000
1.9	2.2	-6.9	0.8	1.8	2.1	4.0	2.6

Quarterly

99Q1	99Q2	99Q3	99Q4	00Q1	00Q2	00Q3	00Q4
0.3	0.6	1.0	2.1	0.6	0.6	0.5	0.9

Source: GFMS



Retail investment demand in Mexico has traditionally centred on the country's well-known 50 pesos coin, often known as the Centenario. Net investment demand has tended to be the norm during periods of economic growth when wealthier individuals have had surplus cash that they do not necessarily want to park in US dollars - as in the rest of Latin America, the US dollar has always been the preferred hedge.

Mexico - Economic and Social Indicators (Source: EIU)

Population:	97.4m (2000)
Population Growth:	1.3% (average, 1996-2000)
GDP Growth:	5.5% (average, 1996-2000); 6.9% (2000)
GDP per head:	US$5,764 (2000, at market exchange rate); US$10,075 (2000, at PPP)
Inflation:	16.7% (1996-2000, average); 9.5% (2000)

Conversely, during periods of crisis and especially following local currency devaluations, the Mexican market has consistently swung into net disinvestment. The most recent devaluation in late 1994 was a case in point. Its impact was very quickly seen in reduced primary market demand for the 50 pesos coin. Minting levels fell accordingly and remained low for the next two years as the economy struggled to recover from the financial shock. The effect was also seen in the secondary market where premia on the Mexican 50 pesos coin slumped, in large measure because dealers were seeing a substantial flow-back from retail investors. At the time, the central bank was forced to step in and buy Mexican 50 pesos coins in the secondary market to stop the discount from going even lower. Most of this buying occurred during a five day period when the discount at one point dropped to as low as 5% below the international price Indeed the flow of metal back into the local secondary market was so great that some surplus coins were exported to the United States, where dealers reported seeing a flood of coins from Mexico in early 1995. To a great extent these exports occurred because local jewellery fabrication had slumped and could absorb only so many "cheap" gold coins. Overall, we estimate that in 1995 the Mexican market swung into net disinvestment of around 7 tonnes.

This brings us to an important observation about the Mexican market; that much of the apparent investment demand for 50 pesos coins has in reality been for jewellery fabrication. In recent years the

easing of restrictions and removal of tariffs on bullion imports from the NAFTA area have made this source of feed less important. This change, of course, is part of the explanation for the lower mintage of coins by the Mexican Casa de Moneda in the latter part of the 1990s. In the past, however, coins were a very important source of gold for local jewellery manufacturers. And, this extended to imports as well as locally struck coins. For example, for a while Mexico was the largest market for the kilo-Nugget, although this was no more than a device to import duty-free gold into the country for manufacturers' purposes. In volume terms, more important was the inflow of low premium European coins and Krugerrand via the United States. (Ironically, there were also imports of Mexican coins that could be had for lower premia north of the border). Virtually none of these coins were destined for investors. This can be seen from the fact that this coin import business completely dried up following the start of official bullion imports in 1993. Melting of locally produced Centenario coins for jewellery still continued, however, beyond this date. For instance, it was estimated that even in 1994, one year into the liberalised market, at least 50% of primary market coin sales were still in fact for jewellery.

The market in recent years has tended to recover in line with the stabilisation of the Mexican economy. The accompanying recovery of purchasing power and the strengthening of the peso in real terms has led to some growth in local sales of bullion coins. In 1999, demand was given an additional boost by some "Y2K"-related purchases and lower domestic gold prices. And although retail investment slipped back a little in 2000 it remained at quite a high level compared to what was recorded over the past decade.

Germany

Retail Investment Demand (tonnes)

Annual

1993	1994	1995	1996	1997	1998	1999	2000
39.6	32.9	38.4	32.6	38.4	25.0	-7.0	-28.0

Quarterly

99Q1	99Q2	99Q3	99Q4	00Q1	00Q2	00Q3	00Q4
2.0	2.0	3.0	-14.0	-10.0	-6.0	-8.0	-4.0

Source: GFMS

Prior to January 1993 German investment demand was mostly effected outside the country, particularly in Luxembourg, Switzerland and latterly, Austria. The reason for this was that before this date (and since 1968) bullion sales in Germany were subject to Value Added Tax (VAT). This drove the business "offshore". Indeed, the very existence of the Luxembourg gold market was intimately associated with catering to German retail investors. One of the three major German banks went so far as to base its precious metals operations in the Grand Duchy. And, it is no coincidence that the Luxembourg gold market effectively ceased to function as an entity after 1993.

The most important reason for the lifting of VAT on bullion was the realisation that the completion of the Single European Market within the then European Community made the tax unworkable and, furthermore, would create an enormous incentive for fiscal fraud. Lobbying from the industry, especially the large Frankfurt-based banks also played a part in persuading the authorities to act.

As a result, 1993 saw a veritable surge in demand within Germany for bullion bars and coins - estimated by GFMS at around 40 tonnes. Although part of this represented a relocation of demand

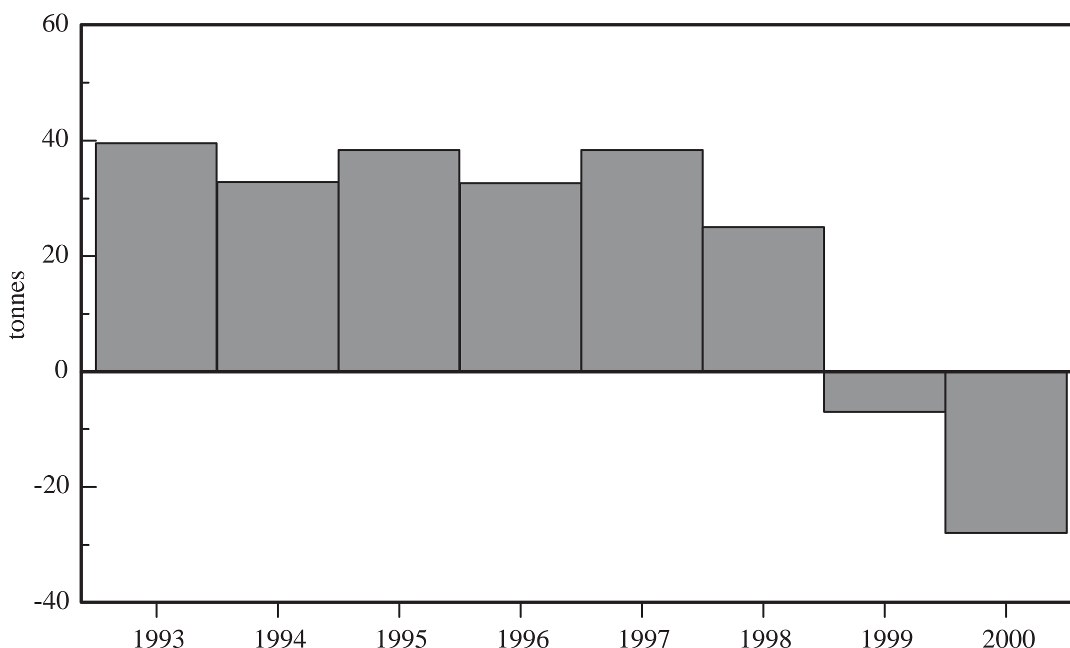
from Luxembourg and Switzerland - including in some cases individuals selling out of "offshore" positions and buying physical in Germany - there is no doubt that German buying overall rose significantly. The reasons for this would seem to be twofold. Firstly, the better availability of bullion products through branches of local banks and savings institutions and, secondly, the promotional activity that was initiated in connection with the lifting of VAT on investment products sold within Germany.

Germany - Economic and Social Indicators (Source: EIU)

Population:	82.2m (2000)
Population Growth:	0.2% (average, 1996-2000)
GDP Growth:	1.5% (average, 1995-99); 1.4% (1999)
GDP per head:	US$25,687 (1999, at market exchange rate); US$23,627 (1999, at PPP)
Inflation:	1.4% (average, 1996-2000); 2.0% (2000)

Once pent-up demand was satisfied, however, volumes dropped back from their peak levels. This was seen in the lower net offtake numbers for 1994. In 1995, however, demand surged again. The growth in investment was price driven and occurred when gold fell to, and then below, the DM17,000/kg level in March and then again in July and early August. These buying episodes were sufficient to bring net investment for the full year in 1995 close to its 1993 level. Concern about monetary union and the Barings crisis were reportedly very much secondary motivations to price.

The first few months of 1996, when the local price had recovered to the DM19,000/kg level, witnessed profit-taking by some individuals who had purchased larger bar sizes in 1995 (e.g. 1kg, 500g, 250g). However, this was not enough to wipe out new buying from others. This indicated that, although demand was price sensitive other purchase-motives were also present. (And, the price was still below the key DM20,000/kg level, a key level because full identification is required for any cash transaction exceeding this amount). Other reasons why buying continued included, hiding wealth by people who were saving for their retirement, black economy funds (e.g. cash payments to builders in order to avoid VAT) and, to a lesser extent, fears about monetary union and the euro.



In 1997, demand was steady year-on-year through to November when the deutschemark price fell sharply and to comfortably below DM17,000/kg. This triggered another wave of price-sensitive buying. In 1998, demand slowed considerably in spite of the price remaining weak, especially in the second half of the year when it broke through DM16,000/kg. It was significant that investors did not respond to this by increasing their purchases, as they had done on previous occasions when local prices were low. Part of the explanation seems that bargain hunters and indeed others, had already purchased what they were interested in. To some extent the market may have reached saturation point after over 180 tonnes of net purchases in the 1993-97 period. Also, in 1998 sentiment towards gold changed for the worse, particularly in relation to the central bank supply question. This was the year after all in which a major gold sale was announced by Belgium and the Swiss parliament decided to sever the link between the franc and gold. Finally, in spite of the low price, there was some growth in gold sales to dealers by the public, at this point, especially inherited bullion. Nevertheless even though demand was lower in 1998, a still very respectable 25 tonnes of net investment took place in Germany that year.

It was a different story in 1999, a year which may have proved to be a turning point for investment demand in Germany. Demand weakened considerably in the first half of the year before collapsing in the second half, during which period dealers experienced net selling back of bars and coins. A major rise in the local gold price was one reason for this phenomenon, as a higher dollar gold price combined with the weakness of the deutschemark against the US dollar led to local prices soaring. In late September and early October 1999, local prices were close to 30% above the lows they had touched just two to three months earlier (i.e. over DM19,000/kg compared to under DM16,000/kg). This provided a tremendous opportunity for profit-taking and also a chance for "stale longs" to get out of what had been loss-making positions.

But it would be wrong to conclude that the change in the German gold investment market in 1999 was only about price. Even prior to the major price move in late September, demand had been very lacklustre. The smooth introduction of the euro in January 1999 is believed to have played a part in reducing the attraction of gold. As commented above, another force working against gold was changing sentiment. To some extent the more negative attitude towards gold was influenced by what investors were hearing from the market, namely pressure on the price from central banks and fund short sellers. Under the weight of news about sales from the United Kingdom, Switzerland and possibly too the IMF, concerns about the level of central bank sales grew significantly, at least until the September Central Bank Agreement on Gold.

But in addition to the "push" of gold market factors was the "pull" of other investments, especially the then booming stockmarket. The seemingly inexorable rise of Germany's Nasdaq - the Neuer Markt - was sucking in funds to the detriment of a traditional asset like gold. Underlying this "push" and "pull" was (and arguably still is) what we have termed the "structural change" in the German investment market. Essentially this derives from generational change. The younger generation in Germany (as elsewhere) simply does not regard gold as a serious investment asset in the way their inflation and war-ravaged predecessors did. This has had an impact not just on new demand (the number of potential buyers is diminishing) but also on supply. A good part of the selling back to dealers is from inheritances - a pattern hitherto also observable in other markets with a longer historical tradition of local gold investment, such as France and Belgium.

As the data shows, the net disinvestment in 1999 all occurred in the fourth quarter - an estimated 14 tonnes between October and December. The larger part of this selling back was in bar form, although dealers also saw substantial amounts of coin, particularly Krugerrand. For the year as a whole, primary market (gross) demand for bars was estimated at 10 tonnes with selling back by the public of 15 tonnes concentrated in the fourth quarter. The balance of 2 tonnes of net disinvestment in the full year was in coin form (gross sales back to dealers - mainly in the fourth quarter - would of

course have been a multiple of this figure). The one caveat with these figures is that they are representative of sales back to dealers. This left the main banks sitting on large bar and coin stocks at the end of the year. Their strategy, at least initially was to hold on to these added-value bullion products and sell them back to investors at some future point. In other words, not everything purchased from the public was immediately sold on (although the bulk of it was). To a large extent these holdings were effectively liquidated in the following year as selling back did not abate and leasing rates remained at high levels.

Rather than diminishing, 2000 witnessed an increase in German disinvestment. Price was certainly a major factor, as in deutschemark terms gold was up by 15.8% on a year-on-year, and, 8.5% on an intra-year basis. This teased out metal not only from balances purchased since 1993 but also prior to this date. Disinvestment was notably heavy in February, September and October when the price was at or above the DM20,000/kg mark. Besides the influence of local prices, there was also some impact on disinvestment levels from "post-Y2K" selling. Even though this phenomenon was not anything like as important as in the United States, some fairly chunky purchases had been made by wealthy individuals in Germany ahead of the supposed dangers of the new millennium. Once the new year had got underway without incident, the higher local price gave such buyers a welcome opportunity to convert their gold back into deutschemarks. Towards the end of the year disinvestment slowed but did not cease completely.

The amount of gold disinvested in the first quarter of 2001 was substantially down on the level a year earlier. Nevertheless, dealers reported very little buying interest and that this was still exceeded by the now lower rate of disinvested gold. Turnover remained very lacklustre in the second quarter, although it seems that overall new purchases roughly equalled selling back of bullion to the trade. Through to the present, there has been very little sign of buying motivated by the introduction of euro notes and coins. It seems that those investors concerned at losing the deutschemark have chosen to purchase dollar assets instead of gold. More positively, good demand was reported for the DM1 commemorative gold coin issued by the Bundesbank, sales of which began in July. However, demand for the coin (amounting to 12 tonnes) is thought to have little to do with genuine investor interest in gold, the purchase-motive instead being nostalgia for the deutschemark.

Besides purchases of the DM1 coin referred to above, retail investment in the third quarter of 2001 in general ended on a strong note. The initial reaction to the strike against America was a surge in demand for bullion products. This quickly slowed and there were even reports of some selling back by the beginning of October. Overall though the crisis had galvanised the public into buying more bars and coins than were being sold back to the dealer community.

France

Retail Investment Demand (tonnes)

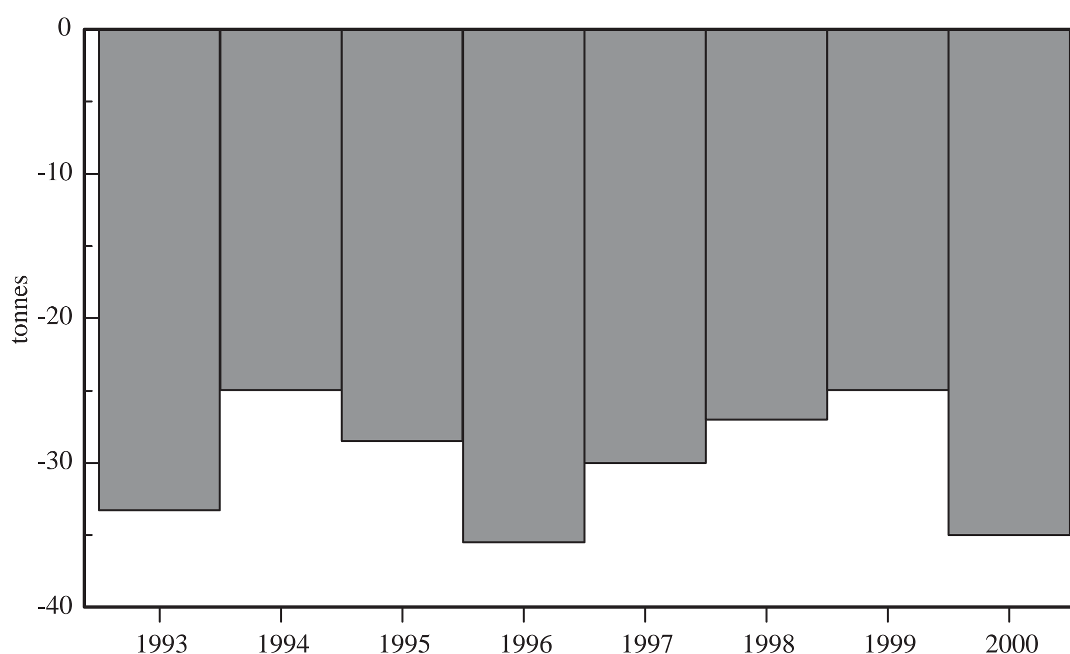
Annual

1993	1994	1995	1996	1997	1998	1999	2000
-33.3	-25.0	-28.5	-35.5	-30.0	-27.0	-25.0	-35.0

Quarterly

99Q1	99Q2	99Q3	99Q4	00Q1	00Q2	00Q3	00Q4
-5.0	-5.0	-5.0	-10.0	-13.0	-8.0	-7.0	-7.0

Source: GFMS



Historically France was the European retail investment market *par excellence*. French hoarding was an important source of gold demand throughout the 1950s, 1960s and, to a lesser extent, the 1970s. Towards the end of the latter decade, the country then entered a transitional phase during which investment faded and some disinvestment emerged. A brief renaissance of demand was seen in 1981-83, when the first Mitterand administration took power bent, initially, upon a thoroughly socialist programme. However, by the middle of the 1980s, France had become a solid net disinvestment market, a trend that seems likely to continue if our estimate of private French gold stocks of 3,600 tonnes is close to the truth (see Chapter 5).

Demand in France during the age of gold investment mostly took the form of kilobars (popularly known as "savonettes" because their shape represented bars of soap) and the historic Napoleon coin (first minted in 1803, of 900 fineness and containing 5.8 grammes of gold). To a much lesser extent there was also some interest in other old coins such as the US Double Eagle, Sovereign, 20 Mark and Mexican 50 pesos. Modern bullion coins have never sold any volume in France.

France - Economic and Social Indicators (Source: EIU)

Population:	59m (1999)
Population Growth:	0.4% (average, 1995-99)
GDP Growth:	2.4% (average, 1995-99); 3.0% (1999)
GDP per head:	US$24,289 (1999, at market exchange rate); US$22,617 (1999, at PPP)
Inflation:	1.2% (average, 1995-99); 1.7% (2000)

Since approximately 1986, the French market has been characterised by a steady, yet high level of disinvestment of both kilobars and coins. This disinvestment is mostly from inheritances. Because of this and the existence of an 8% tax on resale, at least 50% of this disinvestment is carried out on the parallel market in France or is sold directly in neighbouring countries, principally Belgium, Luxembourg and Switzerland. This makes assessment of market volumes extremely difficult. It also complicates the picture when it comes to estimating the level of disinvestment in these neighbouring countries. For example, typically half the volume of gold sold to dealers in Belgium is of French origin. Much of the gold disinvested in France makes its way through one route or another into local

fabrication. Such bullion is also exported to the Maghreb and Italy, in the latter case often against imports of unofficial jewellery.

The annual level of French net sales is estimated to have varied between 25 and 36 tonnes since 1993. Price has been the most important factor determining the volume of disinvestment in any given year. Thus, for example, a noticeable rise in sales was recorded in both 1996 and 2000, when prices in local currency terms were considerably higher year-on-year. It seems too that potential disinvestors are influenced by higher dollar prices. This is not because such people are selling against US dollars but rather that on these occasions gold is "in the news", encouraging those sitting on idle bullion to review their holdings.

An underlying factor that has underpinned sales since the mid-1980s has been changes in French economic policy. It was no coincidence that the last hurrah for gold investment occurred at a time when the first Mitterand administration was toying with the idea of "Socialism in one country". The movement towards the political centre and the adoption (by and large) of liberal economic orthodoxies by successive administrations since the early 1980s has gone a very long way towards removing the traditional rationale for gold investment. The other key development has been the passing away of the pro-gold generation in France. Younger Frenchmen (and women) have not inherited the same affection for gold that their predecessors exhibited. This to some extent may reflect the urbanisation of the country, as much as it does the more liberal and, arguably, less dangerous environment in which the French live today.

Switzerland

Retail Investment Demand (tonnes)

Annual

1993	1994	1995	1996	1997	1998	1999	2000
5.0	-25.0	-15.0	-15.0	-15.0	-20.0	-30.0	-40.0

Quarterly

99Q1	99Q2	99Q3	99Q4	00Q1	00Q2	00Q3	00Q4
-2.0	-2.0	-2.0	-24.0	-25.0	-5.0	-5.0	-5.0

Source: GFMS

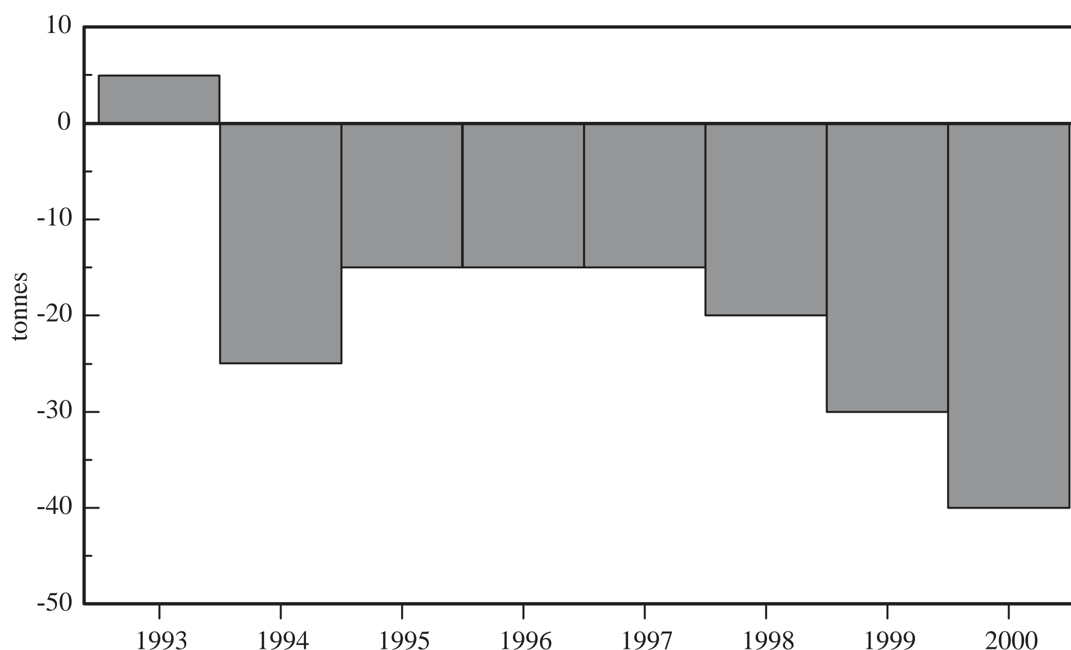
Data on Swiss investment demand is extremely hard to come by. This is not just a function of bank secrecy. It also stems from the nature of the Swiss market, which together with the United Kingdom is the arena for the largest inflows and outflows of gold in the world. This makes it very complicated, for instance, to determine how much kilo and small bar production is for local investment. Similarly when it comes to disinvestment, Switzerland is the terminal market for most of the surplus metal that is sold to the trade throughout Europe and beyond. Sorting out what is genuine local, Swiss disinvestment is therefore almost impossible. The same considerations apply to gold held on allocated and unallocated account in Switzerland. It is extremely difficult to determine whether sales out of these positions are made by Swiss residents or foreigners. In practice it is not possible to allocate movements in such positions to what could be termed the "country of origin" (we have therefore tended to treat them all as "Swiss"). Finally, discriminating between retail and fund activity is no easy task. The line between the two can often be blurred when it comes to physical sales and purchases as well as transactions on metal account.

Yet in spite of the difficulties in measuring the market, referred to in the paragraph above, our contacts within the banking and refining worlds have provided us with sufficient information to come up with some very approximate numbers for the level of investment or disinvestment over certain periods. Almost all this information could be described as anecdotal, although such commentary has been both frequent and consistent. We have also, occasionally, been given concrete examples, such as a given financial institution seeing so many tonnes of disinvestment from such-and-such a source over a stated time span. Not surprisingly therefore, the estimates generated from this process are a good deal less hard than, for example, the numbers we have obtained for France and Germany. We believe, nonetheless, that they do indicate fairly accurately what the trend has been over the period in question and also provide some indication of the volume of gold involved.

Switzerland - Economic and Social Indicators (Source: EIU)

Population:	7.2m (2000)
Population Growth:	0.4% (average, 1996-2000)
GDP Growth:	1.9% (average, 1996-2000); 3.4% (2000)
GDP per head:	US$33,472 (2000, at market exchange rate); US$30,085 (2000, at PPP)
Inflation:	0.7% (average, 1996-2000); 1.5% (2000)

Even prior to 1993 the tendency in Switzerland was one of net disinvestment. The famous portfolio recommendations of the Swiss private banks demonstrated the changing circumstances for gold; a 10% gold weighting being reduced to 5% to 3% (and later to zero), in some cases by the end of 1980s. Reports were also frequent of sales out of individuals' stocks held at the Swiss cantonal banks that at one time were significant. Nevertheless, our information is that there may have been a blip-up in demand in 1993, the year of the Soros-Goldsmith rally or, at the very least, a temporary slowing of disinvestment. The evidence for this is, however, patchy. It could be that a few large purchases compensated for a host of other sales on the higher prices seen in 1993. We cannot be sure. More importantly, whatever may have occurred, it did nothing to change the longer-term trend towards reduced investor holdings.



Much of the investment demand in Switzerland was traditionally in the form of gold held in allocated and unallocated accounts within the banking system. In addition to this, some retail investors would store precious metals in safety deposits. Finally, there would be the generally smaller quantities held by individuals at home, whether in the form of bullion bars or coins. Among the latter, a traditional investment vehicle was the Swiss Vreneli coin, of 0.1867 ounces in 900 fineness. The coin was first struck in 1897 and continued to be minted until 1949. Some 58.6 million of these coins were made. The declining premium on the Vreneli during the 1990s has neatly indicated the reduction in Swiss demand and the swing to net disinvestment over the period.

As indicated above, it is not possible to arrive at accurate figures for the level of Swiss disinvestment during the 1990s. This not surprisingly holds true for each of the forms that such disinvestment takes. Thus we cannot be sure how much gold has come out of allocated and unallocated accounts. We do know though that both have declined, particularly the former. In part this is because quite a few of those investors still in gold have sought to economise on storage charges and have switched to holding unallocated metal. The scale of the decline in these metal accounts since 1993 may comfortably have exceeded 100 tonnes. Nevertheless, the amount remaining is certainly still a multiple of this.

When it comes to individuals selling gold from safety deposits or hoards they have kept at home, it is once again impossible to be too precise as to the quantity disinvested. As a rule, however, it would seem that the amount of direct physical sales of bullion that were located in Switzerland (as opposed to imported from e.g. France) has been less than the quantity flowing into the market from metal accounts. The exception to this may to some extent have been in 2000 when there were reports of large amounts of coins and bars being sold back to the banks by Swiss citizens. Such sales probably formed a substantial part of the estimated 40 tonnes of net disinvestment last year. It may be that, besides the higher Swiss franc price, such metal was teased out in response to the Swiss National Bank effectively giving the "green light" to sales of gold. One should not underestimate in this regard the demonstration effect of Europe's formerly most pro-gold central bank changing policy and becoming a seller.

In 2001, there was continued net disinvestment in the first and, to a lesser extent, second quarter. The third quarter, however saw some renewed buying interest from retail investors, in particular after 11th September. This was to some extent for physical metal, e.g. sales of Vreneli coins increased markedly. In addition, there was reportedly growth in metal account positions for the first time in many years.

Austria

Retail Investment Demand (tonnes)

Annual

1993	1994	1995	1996	1997	1998	1999	2000
7.5	7.5	27.1	17.1	17.8	12.7	7.9	-8.5

Quarterly

99Q1	99Q2	99Q3	99Q4	00Q1	00Q2	00Q3	00Q4
3.4	2.0	2.4	0.1	-10.0	-3.4	3.9	1.0

Source: GFMS

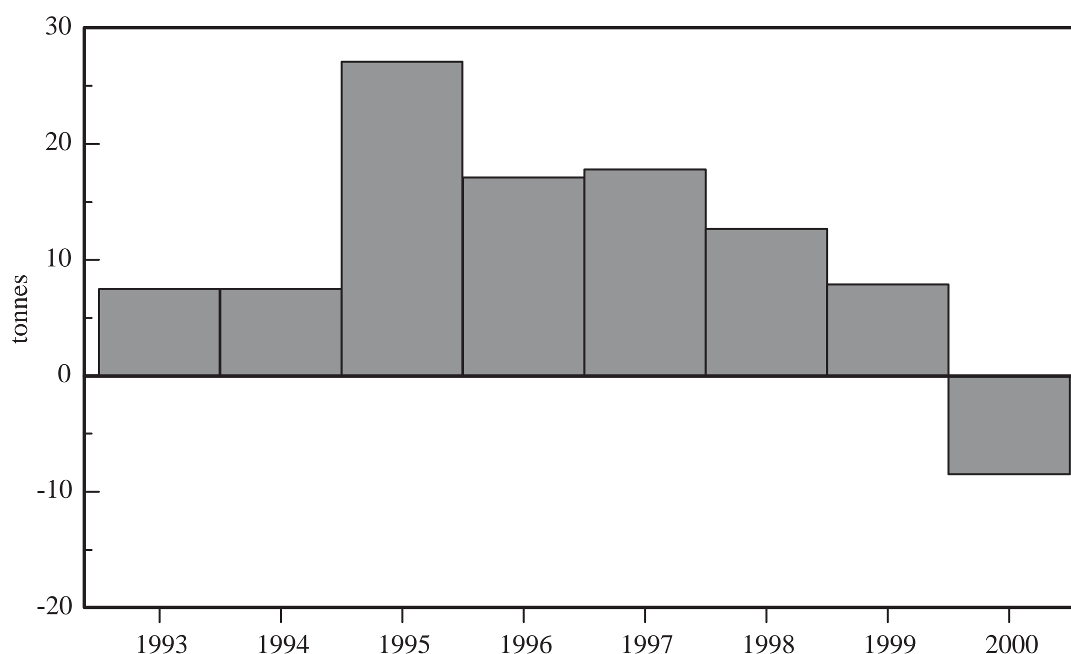
Data on coin minting and sales by the Austrian Mint and bar sales by the Mint and Ogussa (the other main local supplier) would suggest that, on a per capita basis, Austria has been by far and away Europe's star retail investment market in the past decade. While this is probably true, we are highly sceptical that the numbers can be taken at face value.

The majority of coin sales by the Austrian Mint have always been to local distributors. Although in some years exports have done well, the bulk of demand has apparently come from the local market. There has always been some dispute over the extent to which coins that enter the Austrian market stay there or are bought by e.g. German visitors to the country. Certainly the evidence for large-scale German purchases has never been very great. Dealers in Frankfurt, for example, report negligible trade in the Philharmoniker coin on either the primary or secondary market in Germany. And, although a case can be made that a good proportion of the Austrian restrikes (of former imperial coins) have been snapped up by retail investors in what used to be called Eastern Europe, the fact remains that the largest share of Austrian coin production has by default been consumed within the country. This is indeed the "base case" assumption that we have used in our calculation of the level of Austrian investment demand. As a working assumption this may be acceptable but, at this point it is worth posting a large "health warning" about the dangers of taking even our somewhat adjusted numbers at face value. This is because for some years now there have been doubts about the real level of demand for Austrian coins, in particular the Philharmoniker. For instance, there are grounds for believing that many of the coins consigned to market intermediaries were never sold on to final consumers. Additional justification for these suspicions was forthcoming last year, when reports of large-scale melting of Philharmoniker coins began to circulate.

Austria - Economic and Social Indicators (Source: EIU)

Population:	8.1m (2000)
Population Growth:	0.3% (average, 1996-2000)
GDP Growth:	2.5% (average, 1996-2000); 3.2% (2000)
GDP per head:	US$23,290 (2000, at market exchange rate); US$26,095 (2000, at PPP)
Inflation:	1.4% (average, 1996-2000); 2.4% (2000)

Much the same arguments can be made about the implied level of bullion bar demand in Austria. Prior to 1995, when the Mint and Ogussa began to sell bars, the consensus view was that investors in Austria bought only coins. Certainly before this date there was little interest in bars, even accounting for the tax handicap they faced relative to coins (i.e. they were not VAT-free, unlike Austrian coins).



Yet in 1995 the Mint and Ogussa jointly sold over 16 tonnes of bars, all of which were provided in the first instance to the local market. Adding this to local coin offtake would have resulted in no less than 39 tonnes of gross primary market investment that year in Austria. This figure is hard to believe, given that demand in Germany that year (with 10 times the population) was 39 tonnes. Consequently we have made the assumption that only 25% of bar production in the 1995-2000 period was for genuine investment purposes. The balance probably would have ended up in local or foreign jewellery fabrication.

These questions all stem from the unease we have over what seems an unreasonably high level of investment demand in Austria, calculated from the data on coin and bar sales. At the end of the day, although there are grounds for Austrian exceptionalism - reasons for why demand would be higher than elsewhere in Western Europe - the scale of Austrian investment derived from the analysis of bar and coin sales, simply does not ring true. This issue is, however, an extremely delicate one. Given the lack of hard evidence that the official numbers are misleading, we have little choice other than to accept published coin sales at face value (i.e. to treat them as genuine investment demand), although as outlined above, we have adjusted the bar numbers. Clearly, if it turns out that the real level of coin and bar sales was smaller than we show, this would have important implications for the level of Austrian investment demand between 1993 and 2000.

Belgium-Luxembourg

Retail Investment Demand (tonnes)

Annual

1993	1994	1995	1996	1997	1998	1999	2000
-5.0	-10.0	-4.0	-5.0	-4.0	-5.0	-5.0	-6.0

Quarterly

99Q1	99Q2	99Q3	99Q4	00Q1	00Q2	00Q3	00Q4
-0.8	-0.8	-0.8	-2.6	-3.2	-1.3	-0.8	-0.7

Source: GFMS

Although the links between the Belgian and Luxembourg markets have also been close, their characteristics have been fairly different. Belgium, unlike Luxembourg, has had an important domestic retail investor base whereas the market in the Grand Duchy has always existed to service other countries. This is of course largely a function of population but it has also stemmed from the less onerous regulatory environment in Luxembourg. In addition, this has meant that gold trading in the Luxembourg market was mostly conducted on an official basis, respecting local regulations, whereas the Belgian market has been less than transparent, sometimes operating at the margins of what is strictly permissible. The different nature of the two markets can be seen from the type of players who are (or rather were in the case of Luxembourg) active. In Belgium, privately-owned exchange dealers based in Antwerp and Brussels run the market while in Luxembourg the traditionally four biggest players in physical were well-known local and foreign banks.

The use of the past tense is apt when describing the market in Luxembourg. As explained in the section on Germany, the death-knell for the Luxembourg gold market was sounded when towards the end of 1992 Germany decided that it was going to remove VAT from investment gold from January 1993. Prior to this, German clients had formed the bedrock of demand for the Luxembourg banks' services. After January 1993 business shifted to Germany itself and Luxembourg no longer saw the

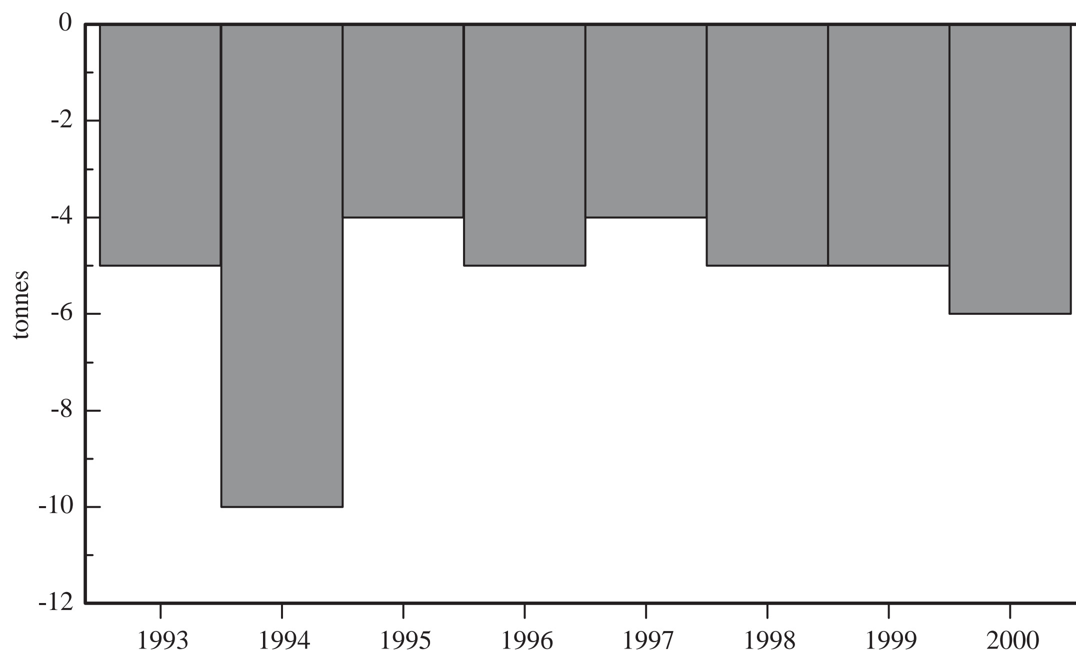
same physical turnover as formerly. Furthermore, some German investors switched the location of their gold holdings through selling loco-Luxembourg gold and buying the equivalent in Germany. According to local contacts, this was particularly the case in 1994. After this date there seems to have been further, regular declines in the amount of gold held by investors in Luxembourg. From being a source of investment demand Luxembourg began regularly to supply disinvested gold to the wider market, above all to Switzerland. (This was and is quite independent from its role as a transit point for disinvested gold from France etc.)

Belgium-Luxembourg - Economic and Social Indicators (Source: EIU)

Population:	10.2m (1999)
Population Growth:	0.2% (average, 1995-99)
GDP Growth:	2.6% (average, 1995-99); 2.7% (1999)
GDP per head:	US$24,343 (1999, at market exchange rate); US$24,630 (1999, at PPP)
Inflation:	1.6% (average, 1996-2000); 2.9% (2000)

In contrast to Luxembourg, Belgium since the latter part of the 1980s was already a net disinvestment market. Net sales back of bullion to dealers have continued throughout the 1990s and into the new millennium. To some extent the Belgian market can be viewed as a microcosm of the French market. Both Belgium and France shared a long post-war period of sustained investment in gold bullion, with this giving way in the last 15 years or so to regular disinvestment. The reasons for the shift are also similar to those explained earlier in this chapter when the French market was discussed: the passing away of investors who had experienced the war; the opening up of financial markets; the poor performance since the early 1980s of the gold price, especially relative to many of the other assets available to savers. (It is also worth noting the complications that France places on the assessment of Belgian statistics due to the large volume of the former's gold that is disinvested in Belgium as detailed in the earlier section on France.)

In addition, Belgians have, like more recently the Swiss, been affected by the demonstration effect of the Belgian National Bank selling the larger part of the country's gold reserves. And, unlike say the



Germans, the prospect of jettisoning national currency for the euro has never been a cause for concern. Belgians have therefore dishoarded on a net basis approximately 3 to 5 tonnes per annum, much of it in the form of bullion coins. In 1998 and 1999 a large share of the disinvested coin was sent by dealers to the United States, where in the run-up to "Y2K", an arbitrage could be made given the premia available in the US market. By contrast, in 2000 the lack of US demand meant that a sizeable quantity of coin ended-up being melted in either Belgium or Switzerland due to the complete absence of local or foreign buy-side interest. A variety of coins were dishoarded, including Kruggerrand, Austrian Corona, Double Eagles, Mexican 50 pesos and Sovereigns. Last year, in addition, there was a noticeable rise in the amount of kilobars sold back to dealers in the Belgian market, especially on euro price peaks.

Little changed over the first nine months of 2001. Net disinvestment continued albeit at a slightly reduced level. This was particularly so immediately after the terrorist attacks on 11th September, when there was even some buy-side interest for the first time in years. However, this did not last and before too long the higher euro gold price was teasing out metal from locally-held investor stocks.

The only bright spot in recent years in terms of retail investor demand in Belgium has been the numismatic market. Dealers report that coins with premia between 20% and 100% still find buyers. This business is relatively high margin so for the dealers it is important. However, in volume terms this, arguably "semi-numismatic", market does not add up to much.

Other Europe

Retail Investment Demand (tonnes)

Annual

1993	1994	1995	1996	1997	1998	1999	2000
-1.0	-3.0	-3.0	-5.0	-5.0	-4.0	-4.0	-5.0

Quarterly

99Q1	99Q2	99Q3	99Q4	00Q1	00Q2	00Q3	00Q4
-0.4	-0.4	-0.4	-2.8	-3.4	-0.8	-0.4	-0.4

Source: GFMS

Gold investment in the **Netherlands** was never as important as in its neighbours Belgium and Germany. In recent years this has also meant that the converse was true; relatively little net disinvestment has taken place in the country. Certainly the Netherlands has experienced the same phenomenon of a younger generation selling inherited metal (often Dutch 10 guilder coins) but the quantities being passed on and sold have been small compared to, say, France or Belgium.

In addition to privately held bullion, however, there were also at one time modest amounts of gold held on metal account with local banks. During the period under review these stocks have been run down. In 1993-94 reports were that metal account levels remained little changed overall. In 1995 the same was true, but only because sales were offset by one large purchase. However, in 1996 metal account positions declined by at least 2 tonnes with another 1 tonne of net physical sales back to dealers. Since then the local market has continued to experience sustained disinvestment of privately held and metal account gold.

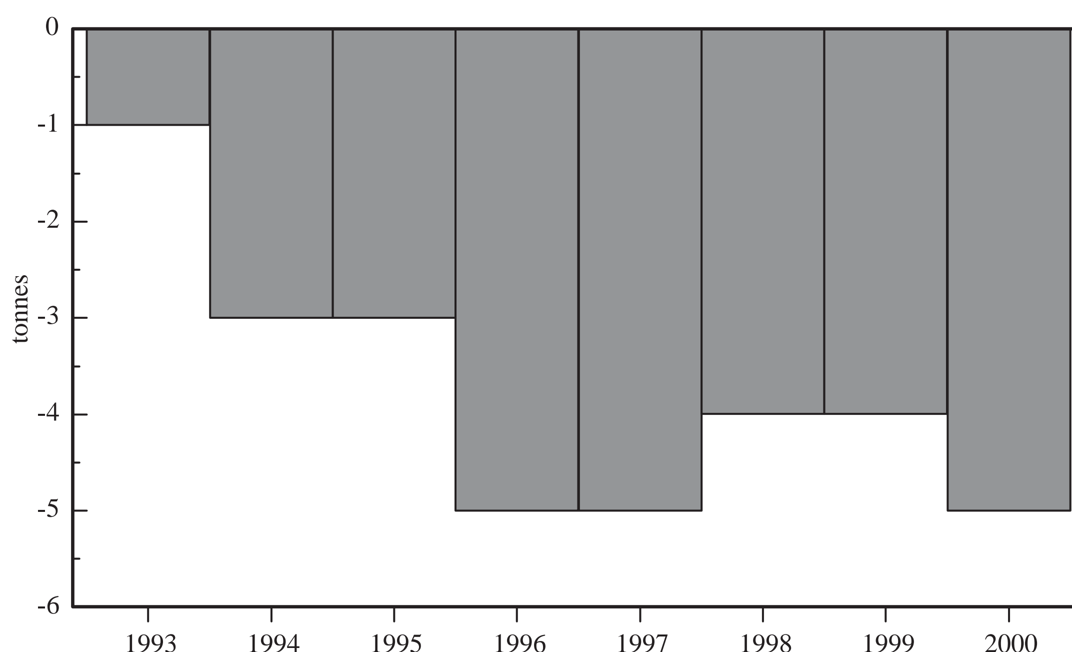
Retail investment in the **United Kingdom** was insignificant from April 1982 onwards when VAT was applied to coins. The lifting of this tax in 1999 on all bullion products has so far had little impact on

demand. Prior to 1982 the main medium for investment was gold coins, chiefly the Krugerrand and the Sovereign. As part of the United Kingdom's exchange control regime, investment in gold bars was in fact prohibited until October 1979. In the latter part of the 1970s and early 1980s there was strong primary demand for coins. For example, minting of standard Sovereigns totalled 266 tonnes between 1974 and 1982. It should be noted, however, that actual sales over the same period were lower at 121 tonnes. Furthermore, one cannot assume that all sales were to local investors. Firstly, some coins were exported to buyers overseas. Secondly, from 1979 to 1982 there was active VAT fraud in the country, which arbitraged the fact that whereas coins were VAT-free, bars were taxed at 15%.

Between 1993 and 2000 the UK retail market was very quiet. Notably, before the end of the period none of the bullion banks in London remained active in the retail investment market. It is also worth bearing in mind that the decline in coin premia and the lower sterling gold price led to much of the turnover of Sovereigns and Krugerrand in the 1990s being for the 22 carat jewellery market rather than for genuine investment demand. And, although the South Asian community has supported a large 22 carat "investment jewellery" market, there has been little spillover into straightforward bullion products.

In spite of its affinity for gold in the form of jewellery, Southern Europe - defined here as **Italy**, **Spain**, **Portugal** and **Greece** - has not been an important hoarder of gold bullion. To some extent this reflects the relative lack of surplus wealth in these countries compared to say France in the 1950s through to the 1970s. In the case of Italy, one suspects that the anonymous Treasury Bill market was a very attractive counterweight to investment in gold. Although kilobar investment in say Spain under the Franco regime was by no means unknown, cash and foreign accounts for the wealthier were far more typical. Similarly, in the past, demand for Sovereigns was occasionally important in Greece. Nevertheless, in recent years the country has not really featured on either the investment or disinvestment "radar screen".

The major exception to the above is the gold holdings of Italian jewellery manufacturers. Fiscal legislation in Italy allows for a percentage of gold used in manufacturing to be "lost". This percentage, known as the "Calo", varies according to the item of jewellery in question but averages, roughly,



a very generous 3%. In practice manufacturers' working loss is typically less than 1% and the balance can then either be sold or accumulated in Italy or abroad. Opinions differ as to how much of this gold still is held by manufacturers and as to the location of these stocks. What is clear though is that during the 1993-2000 period, 8 to 10 tonnes per annum was at least theoretically available for hoarding by Italian manufacturers.

Investment demand in Eastern Europe during 1993-2000 is difficult to fathom and putting numbers to this, impossible at this stage. We do know, however, that in the early to mid-1990s there was some investment demand in countries like the **Czech Republic** and **Hungary**. Reports from the Austrian Mint indicated that at least some of the demand for the Imperial restrike coins came from these former parts of the Austro-Hungarian Empire. The demand for the restrikes was apparently related to the old dates on the coins, which meant holders could argue that they were inherited rather than newly purchased against cash. As it happens, we are sure that the privations of World War 2 and the Communist era probably led to a much reduced stock of investor holdings in Central and Eastern Europe by the time the situation in the region was normalised in the late 1980s. And demand in recent years for gold has been minuscule if it is compared to the holdings of US dollars, deutschemarks and Austrian schillings that were built up in these countries.

Turkey

Retail Investment Demand (tonnes)

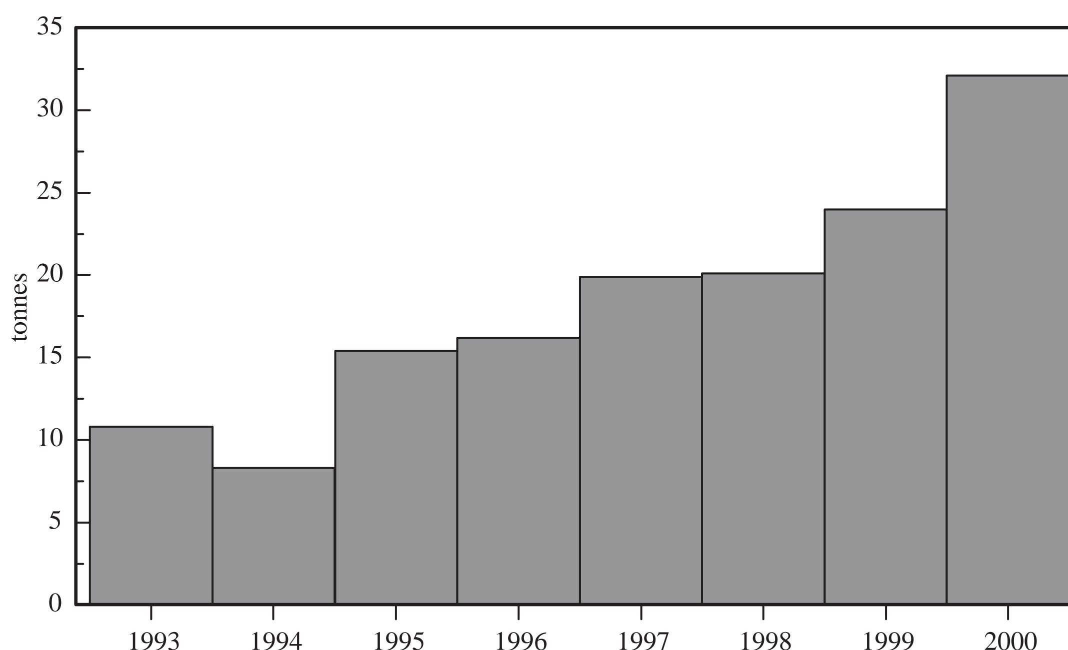
Annual

1993	1994	1995	1996	1997	1998	1999	2000
10.8	8.3	15.4	16.2	19.9	20.1	24.0	32.1

Quarterly

99Q1	99Q2	99Q3	99Q4	00Q1	00Q2	00Q3	00Q4
5.2	7.1	8.7	3.0	9.4	8.6	9.9	4.2

Source: GFMS



Turkey has a long tradition as a producer of gold coins, which carries on until the present day. Up until roughly 20 years ago, a select number of Ottoman Empire coins (in particular those of Sultan Resat and Hamit) was widely traded. Since this time those gold coins that are in circulation tend to be legal tender and are struck by the State Mint (which has been an affiliate of the Treasury since 1951). Today, a large share of the Turkish gold coin market is accounted for by the Zynet coin, which is purchased mainly for gifts, including for weddings and religious occasions (for example, for circumcisions). In addition, there is a smaller market for ATA investment coins (both products being available in five sizes). In this report both coins are categorised as investment coins because, although the Zynet is often presented as a gift, it will subsequently be retained as part of an individual's savings.

Turkey - Economic and Social Indicators (Source: EIU)

Population:	64.4 (1999)
Population growth:	1.5% (average, 1995-1999)
GDP growth :	4% (average, 1995-1999); -5.1% (1999)
GDP per head:	US$3,090 (1999, at market rate)
Inflation:	74.1% (average, 1996-2000); 54.9% (2000)

Both the Zynet and ATA coins are usually struck with gold provided by the customer, with, typically, only kilobars accepted by the Mint and a 1% making charge applied, based on the weight of the order. Although gold is supplied by the customer, gold inventory held by the Mint normally allows for a near immediate supply of the product back to the customer.

Following a dip in the early 1990s, coin demand started to recover, in particular from 1995 onwards. During this time, a variety of factors have affected the coin market. For example, in 1997 a good harvest accounted for surge in purchases, especially for the quarter Zynet, whereas the previous year competing forms of investment (as outlined elsewhere in this section) adversely affected demand in the urban areas. By 2000, gold coin fabrication had risen to over 32 tonnes (including Zynet, ATA and commemorative coins), compared with less than 15 tonnes in 1995.

Turkish Coin Fabrication (tonnes)

1968	5.5	1979	0.1	1990	2.1
1969	9.1	1980	1.6	1991	1.7
1970	12.7	1981	1.7	1992	2.1
1971	9.0	1982	0.4	1993	6.8
1972	7.4	1983	10.8	1994	6.7
1973	3.4	1984	0.0	1995	14.9
1974	6.0	1985	0.6	1996	15.8
1975	13.5	1986	12.1	1997	19.9
1976	14.3	1987	17.4	1998	20.1
1977	11.0	1988	11.7	1999	24.0
1978	5.5	1989	1.9	2000	32.1

Source: GFMS

In contrast, Turkey does not have a reputation as a bar hoarding country. Following the opening of the official market in 1989 individuals were, for the first time, legally allowed to hold gold bars. In addition, the investment market in Turkey deepened at this time, following the creation of a formal securities market in 1986 and a bond market which was added in June 1991. Having said this, after a brief flurry, in the wake of market liberalisation, retail investment demand in Turkey for gold has

broadly increased over the 1990s. This has occurred in spite of negative sentiment in other countries, and stiff competition from the stock market, foreign exchange trading and investment in banking instruments such as bonds.

In 1992, the investment motive behind gold purchases in Turkey was severely tested as the price in Turkish lira failed to keep up with inflation, while at the same time high real rates of interest were available on term bank deposits and on government bonds. For example, during the year 3-month bank deposits were at times attracting over 70% (providing an annualised return of nearly 100%), compared to an average inflation rate of 70%, while the Turkish lira gold price "only" managed to rise by 60%.

An interesting phenomenon the following year was an apparent resurgence in investment demand for gold, although this was still only modest compared to what was occurring in other parts of the world. The low price at the beginning of the year was seen as cheap, but as the price increased this encouraged some locals at least to buy - especially those who had realised significant profits on the Istanbul Stock Exchange. However, the currency instability in the later part of the year and the rapid devaluation of the lira in early 1994 saw speculators more interested in trading in the US dollar and deutschemark rather than gold.

A third form of gold investment in Turkey that has so far not been touched upon, is through 22 carat jewellery. (Such "investment jewellery" is, however, excluded from the data series on retail investment.) Over the past decade, this form of investment has started to be gradually eroded away. The main reason for this development has been the increasing use of alternative forms of investment (see above). These have included foreign exchange accounts which have gained in popularity as the Turkish lira has relentlessly weakened. In addition, up until last year, consumers were attracted by high domestic interest rates, which adversely affected the appeal of gold as investment vehicle.

Saudi Arabia

Retail Investment Demand (tonnes)

Annual

1993	1994	1995	1996	1997	1998	1999	2000
2.5	5.0	16.0	4.0	23.0	8.0	4.5	4.0

Quarterly

99Q1	99Q2	99Q3	99Q4	00Q1	00Q2	00Q3	00Q4
1.1	1.1	1.1	1.2	3.5	2.5	-1.5	-0.5

Source: GFMS

In Saudi Arabia there are a number of important reasons to purchase bar and coins. For example, gold coins can often form part of a woman's dowry, mostly 22 carat Saudi 8 gramme coins (see below). It is also common for bars or coins to be purchased by pilgrims during their visit to the Kingdom.

Within the coin market itself, there are regulations which govern the type of coin that can be produced or sold domestically. These stipulate that all coin products should be fabricated in a minimum of 22 carat gold and weigh 8 grammes. The coin should also bear the stamp of the manufacturer. Although lighter, 18 carat coins are permitted these are normally destined for the jewellery sector (for example, as an item to be incorporated into a pendant).

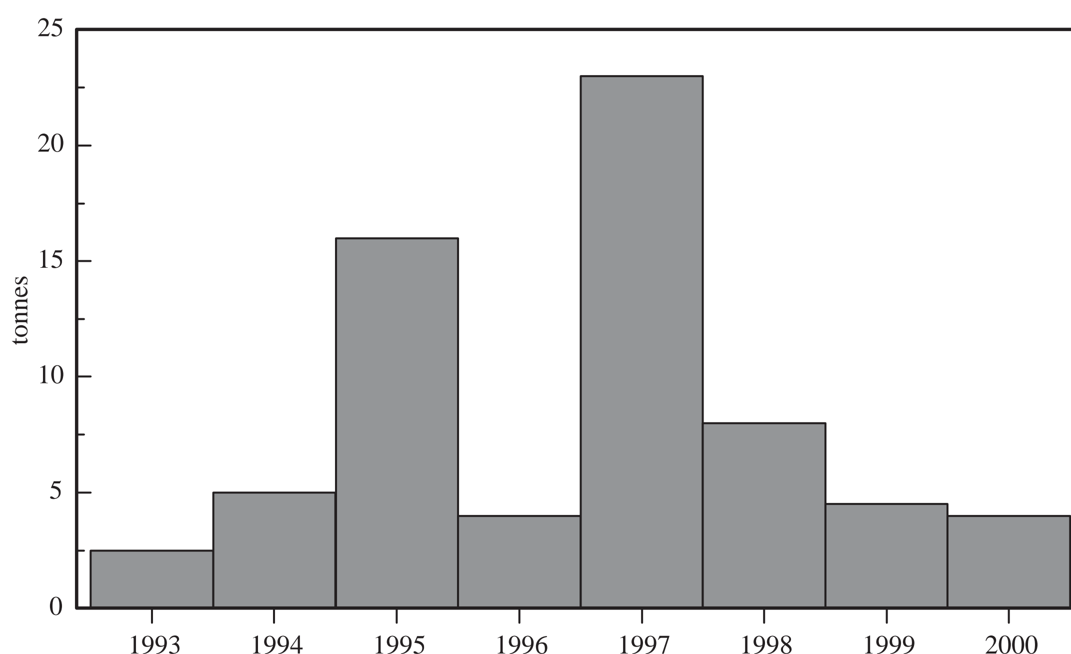
The most popular coin is the replica 8 gramme Sovereign which typically attracts a premium of 1.5% to 3%. These coins are manufactured by small workshops who are also responsible for their distribution. At the retail level, these coins can be purchased from jewellers and foreign exchange centres. Locally produced coins also account for most of the domestic market. There appears to be only limited demand for imported coins, such as the Nugget, Krugerrand or Maple Leaf due to the relatively high premia that they command. The demand that there is, tends to be concentrated around the western region, namely Jeddah, Medina and Mecca.

Saudi Arabia - Economic and Social Indicators (Source: EIU)

Population:	19.9m (1999)
Population growth:	2.4% (average, 1995-1999)
Real GDP growth :	1. 3% (average, 1995-1999); 0.4% (1999)
GDP per head:	US$7,180 (1999, at market rate)
Inflation:	-0.3% (average, 1996-2000); -0.8% (2000)

The majority of gold bar sales and purchases in Saudi Arabia are carried out by one of the foremost domestic banks. In addition, approximately one quarter of the total number of transactions are accounted for by independent gold traders, which are typically specialised in the sale of gold bars and so would normally compete with the banks. All investment bars, which are usually kilobars, are imported, normally from Europe.

Looking back at the recent past, it is worth noting that bar hoarding demand increased quite significantly in 1989, encouraged not only by low prices and some improvement in the local economy but additionally because of much stricter Islamic rules on banking which appeared to encourage physical gold buying. In terms of gold investments this meant that no interest is paid, and that there is no future, forwards or options trading. For gold this meant that trading has been limited to spot transactions and, mostly, physical delivery.



However, by the early 1990s many Saudis looked more to currencies and equities for investment. Also, on the trading front there was a switch from gold to silver for metal account trading, because silver was performing better than gold.

Over the past two decades bar hoarding has averaged a little over 13 tonnes per annum. Despite this there have been occasions of high levels of gold investment. For example, in the five year period following the 1980 gold price spike bar hoarding demand averaged 26 tonnes per annum compared to nearly 14 tonnes from 1986 to 1991.

GFMS Bar Hoarding Series (tonnes)

Year	Tonnes	Year	Tonnes
1983	22.0	1992	27.0
1984	35.0	1993	2.5
1985	25.0	1994	5.0
1986	8.0	1995	13.0
1987	3.5	1996	1.0
1988	3.0	1997	17.2
1989	23.2	1998	5.5
1990	31.0	1999	2.0
1991	23.5	2000	2.0

Source: GFMS

Looking at 1990 in more detail, bar hoarding rose by over 33% to 31 tonnes. The invasion of Kuwait resulted in a virtual cessation of jewellery manufacturing and a rush to invest in kilobars, which, at times, commanded sizeable premiums, especially in the latter part of the year. The negative psychology which led to an outflow of funds from the country or, for those not in a position to transfer their funds outside, to investment in gold and US dollars, appears to have been limited to the latter part of the year. When the war ended and jewellery demand surged, there was some selling back of hoarded bars. However, by early 1992 it was increasingly evident, given lower US dollar interest rates at the time, that sentiment towards gold as a portfolio diversifier was improving.

As a result, gold hoarding increased in 1992 to 27 tonnes. There was considerable physical investment up to the middle of the year as the US dollar price increased, although a part of this represented positions taken by large investors which were largely liquidated by year-end. In addition, given the size of the domestic jewellery industry and the levels of capital tied up in working stocks, accumulation of gold on price-lows was, and still is, commonplace. Besides kilobar investment, the hoarding figure also included buying of large quantities of small bars, wafers and some ten tola bars, many of which are sold to visitors and taken out of the country, especially around the time of Haj.

In 1993, net investment buying of gold declined sharply. There was some buying in the first months of the year due to price weakness but this was nearly compensated for by selling back on higher prices later on in the year.

Thereafter, bar demand remained relatively subdued with the exception of 1995 and 1997. In the case of the latter demand was again price motivated but this time in the face of falling prices, notably in the fourth quarter as gold fell below $300 in late November, when it appears that investors judged that there was little scope for much further decline. Towards the end of December, the level of demand was so strong that demand outstripped supply, with the premium on small bars in local markets rising to as much as $10 per ounce for a short while. Bar demand was focused on kilobars and small bars (both minted and cast) which were either imported or manufactured locally from scrap or imported large bars.

It is therefore also worth noting, and perhaps should be seen as no surprise, that in the last three years (including 2000) bar investment demand has fallen away significantly as the gold price has drifted lower.

The Gulf (excluding Kuwait)

Retail Investment Demand (tonnes)

Annual

1993	1994	1995	1996	1997	1998	1999	2000
2.0	2.0	4.5	6.0	14.5	-0.4	2.5	2.8

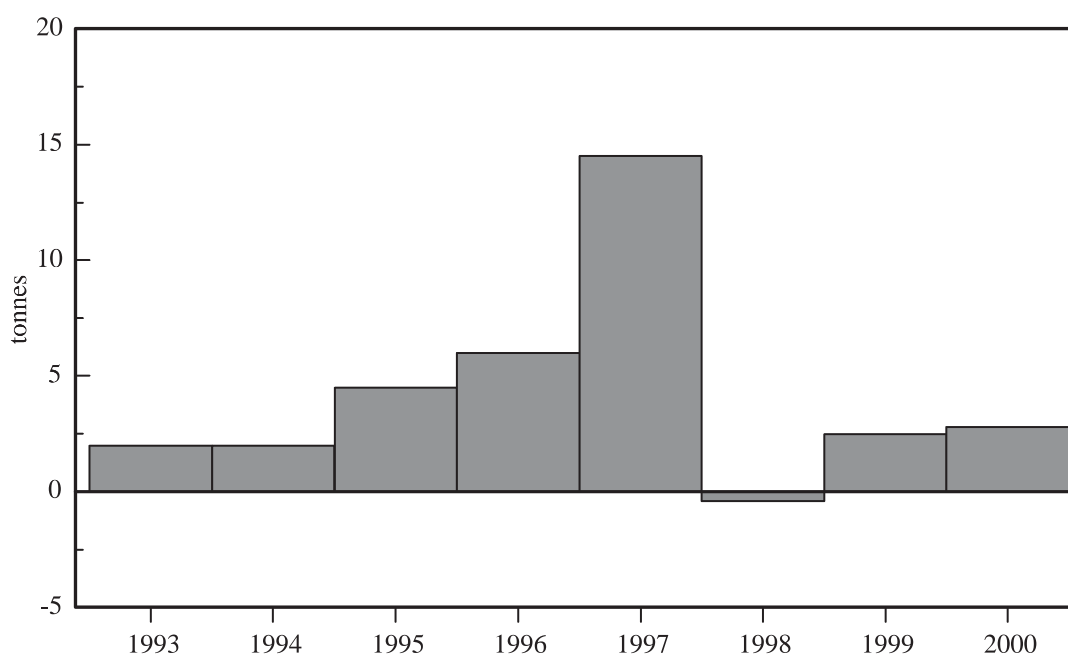
Quarterly

99Q1	99Q2	99Q3	99Q4	00Q1	00Q2	00Q3	00Q4
1.5	2.0	2.0	-3.0	-0.5	0.5	1.0	1.8

Source: GFMS, WGC

The United Arab Emirates (UAE) is one of the world's major entrepôt centres for gold bullion and jewellery. Yet, despite this pre-eminent role, there is little evidence of any significant domestic gold investment in either bar or jewellery form. For example, between 1990 and 2000 UAE bar hoarding averaged less than 2 tonnes per annum. And given the nature of Emirati society much of this demand would be concentrated around the large Indian and Pakistani population working there.

However, there were two brief periods of hoarding activity. Firstly in 1992, hoarding rose to 5 tonnes from 2 tonnes the year before, although this was largely because of political nervousness in the aftermath of the Gulf War, and also because of low international gold prices. However, this level of hoarding was not maintained, as it appears that there may have been some selling back on higher prices the following year. Secondly, in 1997 the impact of sub-$300 prices boosted demand towards the end of the fourth quarter.



Having said this, considering the large expatriate Indian and Pakistani population in the UAE, it would seem that there must be considerable potential to develop the hoarding market. In addition, amongst the local Arab population one would expect there to be some potential to exploit the Islamic rejection of usury and interest. Innovative gold products could potentially circumvent some of these strictures.

The gold coin market across the Gulf is limited in both size and volume. The most popular coins, the imitation 22 and 21 carat sovereigns (available in three sizes: 8, 4 and 2 grammes) are manufactured and distributed to both local and regional export markets, as well as the Indian sub-continent. The main exception appears to be Kuwait which prohibits the manufacture of imitation coins. A smaller market share is occupied by both imitation Mexican coins and the ARY Millennium Guinea, which is produced in Sharjah and sold throughout the UAE. Finally, although a number of major bullion coins are available across the Gulf, including the Krugerrand, Maple Leaf and Nugget, they have so far not managed to carve out a market share of any note because of the high premia they carry.

Kuwait

Retail Investment Demand (tonnes)

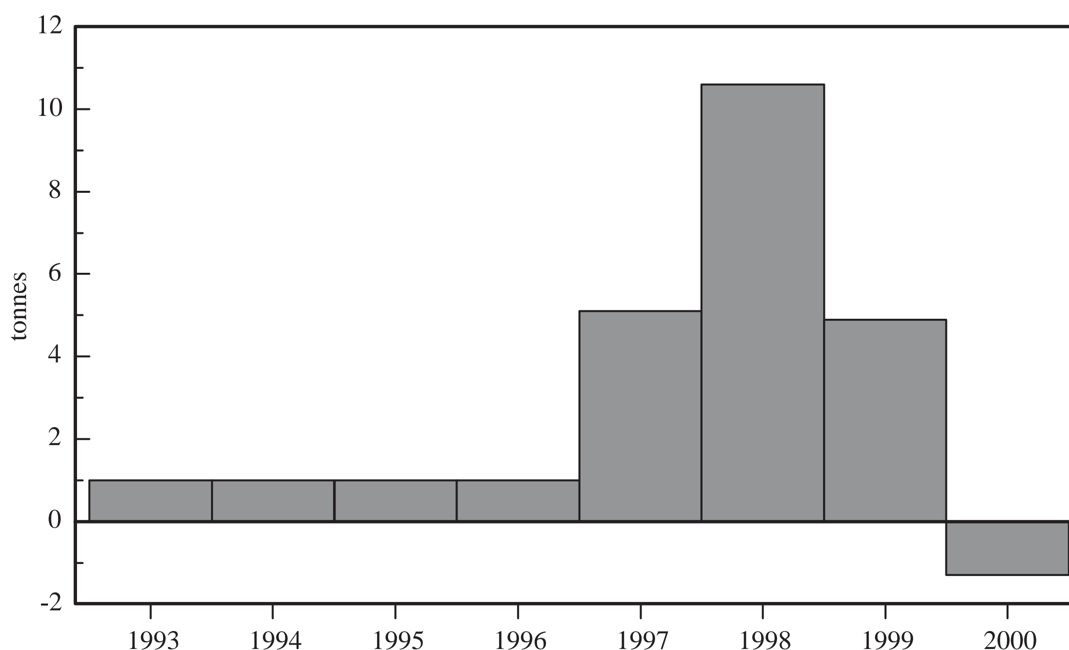
Annual

1993	1994	1995	1996	1997	1998	1999	2000
1.0	1.0	1.0	1.0	5.1	10.6	4.9	-1.3

Quarterly

99Q1	99Q2	99Q3	99Q4	00Q1	00Q2	00Q3	00Q4
2.2	1.2	0.9	0.6	1.5	1.0	-1.7	-2.1

Source: GFMS



The Kuwaiti investment market is limited to ten tola bars (essentially for expatriate Indians) and kilobars. Historically, 999 kilobars were favoured by consumers but in today's market 995 kilobars (usually of Swiss origin) are imported and then sold along with four gramme bars.

Over the past twenty five years, periods of significant levels of Kuwaiti bar hoarding demand has been limited to two occasions, namely 1992 and 1998.

The 1990 Iraqi invasion of Kuwait accounted for the surge in bar demand in 1992 to 18 tonnes (this being the first full year of “normality” after the invasion, the occupation having lasted for roughly six months). So, although business returned to a state of near normality, a lingering sense of insecurity inhibited residents from holding local currency. The experience gained during the occupation, when jewellery and gold bars effectively became an alternate currency, encouraged the population to rapidly rebuild its gold holdings, often in jewellery or in smaller sized bars, such as the ten tola bar and kilobar.

There then followed a five year period of low levels of hoarding until the next surge in demand. However, it is worth bearing in mind that, although investment bar purchases remained at a low level, investment in gold jewellery during this time has generally remained a popular form of saving, especially for non-Western expatriates who have favoured 21 and to a lesser extent 22 carat jewellery. The second period of heightened activity in the bar hoarding market occurred in 1998. Bar purchases appeared once again to be stimulated by concerns about Iraq.

It is also worth looking in more detail at last year when, for the first time, the market was faced with modest net dishoarding due to active selling which drove local prices to a discount of at least $2/ounce to the international price. There were two principal causes for this switch from the previous year's hoarding. Firstly, local bar dealers reported very little interest from investors as sentiment towards the gold price appeared, on balance, to be bearish. Secondly, gold was not helped by the price spike of late 1999 which resulted in numerous financial losses in the local trading community.

GFMS Bar Hoarding Series (tonnes)

Year	Tonnes	Year	Tonnes
1983	2.0	1992	18.0
1984	2.0	1993	1.0
1985	4.0	1994	1.0
1986	1.0	1995	0.8
1987	1.0	1996	0.5
1988	1.5	1997	3.7
1989	1.0	1998	10.2
1990	1.0	1999	4.5
1991	0.0	2000	-0.5

Source: GFMS

Looking further ahead, an important issue facing the market is the potential for any dishoarding of the 18 tonnes purchased post-liberation in 1992 for security reasons. The recent 10 year anniversary of the liberation of Kuwait could enhance a sense of national security, which in turn could lead to the sale of some of these holdings. On the other hand, post-September 11th fears could encourage Kuwaitis to hold on to and perhaps even increase their gold stocks.

Iran

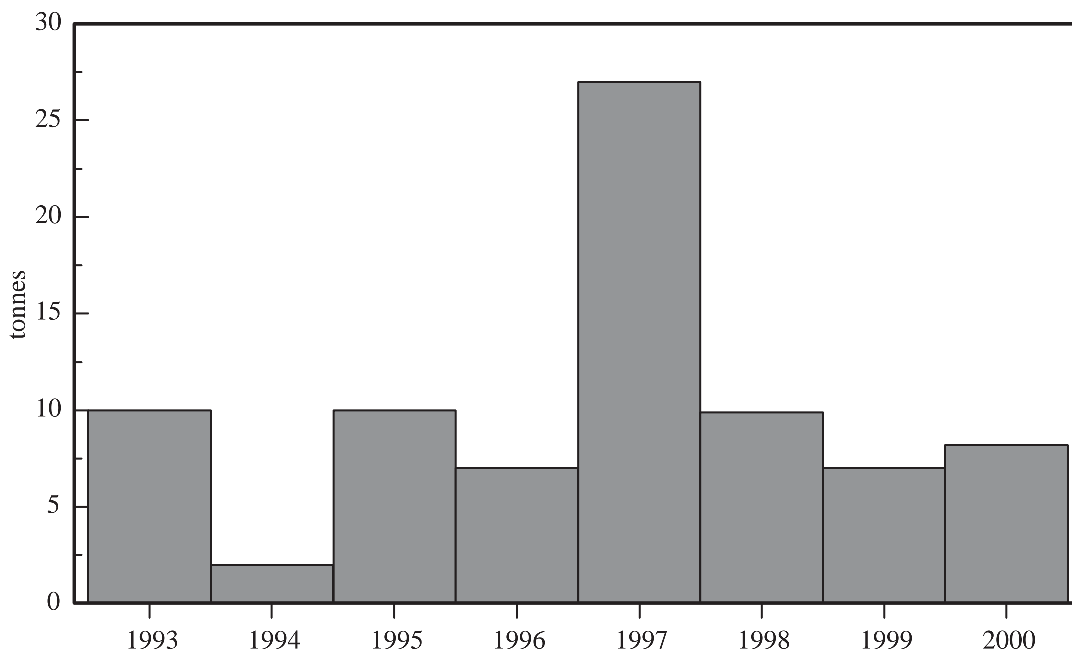
Retail Investment Demand (tonnes)							
Annual							
1993	1994	1995	1996	1997	1998	1999	2000
10.0	2.0	10.0	7.0	27.0	9.9	7.0	8.2
Quarterly							
99Q1	99Q2	99Q3	99Q4	00Q1	00Q2	00Q3	00Q4
1.8	1.8	1.7	1.7	2.1	2.1	2.0	2.0

Source: GFMS

During the early 1990s the Iranian gold market went some way towards liberalisation with two commercial banks participating in the gold industry. In addition, there is also an active gold souk and a number of exchange dealers operating in the market. Despite the participation of the private banks the difficulty lay in the change of trade onto a Letter of Credit basis and the severe liquidity shortage of foreign exchange inhibited the trade settlements that could be carried out.

In keeping with a number of other Middle Eastern countries, bar hoarding demand in Iran remained subdued during the past decade with the exception of the early 1990s (in the wake of the Gulf War) and 1997 (as the gold price weakened). Notwithstanding this, Iranians have a strong historic affinity towards gold. This fact, combined with the non-convertibility of the Iranian rial and rampant inflation, may have led many to buy gold as a "hedge".

In addition, data from traders in Dubai indicates that there is a healthy two way trade in gold between the two countries. In the recent past, a sharp depreciation in the rial or an increase the dollar gold price has seen very substantial flows of international bars out of Iran (upwards of 10 tonnes) suggesting that there is an active hoarding market in that country.



Iran - Economic and Social Indicators (Source: EIU)

Population:	62.8m (1999)
Population growth:	1.4% (average, 1995-1999)
GDP growth:	3.2% (average, 1995-1999); 2.5% (1999)
GDP per head:	US$820 (1999, at market rate)
Inflation:	28.9% (average, 1995-1999); 21% (1999)

Egypt

Retail Investment Demand (tonnes)

Annual

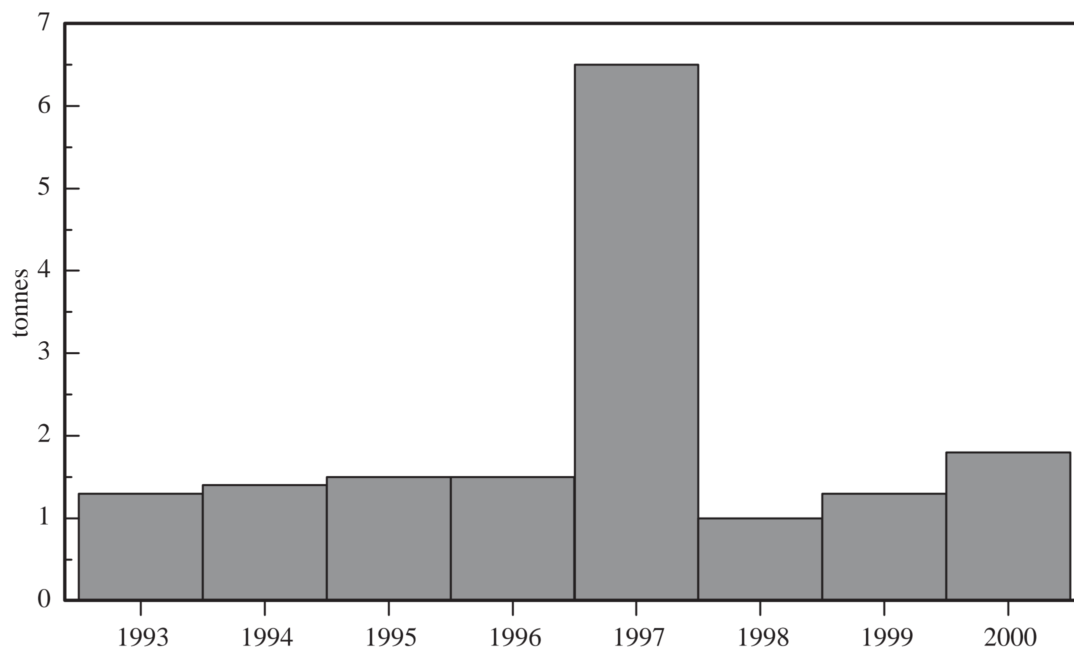
1993	1994	1995	1996	1997	1998	1999	2000
1.3	1.4	1.5	1.5	6.5	1.0	1.3	1.8

Quarterly

99Q1	99Q2	99Q3	99Q4	00Q1	00Q2	00Q3	00Q4
0.3	0.4	0.3	0.3	0.5	0.5	0.4	0.4

Source: GFMS

Historically, gold investment in Egypt has been centred around the 21 carat jewellery market. Although the share of 18 carat products in the market has gradually been increasing in recent years, higher carat jewellery is still the preferred form of gold investment. In addition, there is some small scale investment in locally produced gold coins although, compared to the 21 carat market, its share as an investment product is very modest.



The most popular coin is the 21 carat imitation sovereign which is known as "El Ginea El Dahab". Available in 8 grammes, the coin normally attracts a premium of between 2.5% to 3.0%. The coins are manufactured and distributed by two main companies, but despite the limited number of industry participants there appears to be a high degree of competition. In addition to sales in the domestic market, there is also a modest export industry, servicing Libya and the Sudan (estimates of export shipments have been netted off from the series on the previous page).

The preference for 21 carat jewellery has also contributed to the virtual absence of bar purchases in today's market. During the 1980s there was a limited amount of hoarding in the Egyptian market. In the early part of the decade there was some preference for one particular Swiss brand of 10 gramme, 20 gramme and one ounce bars, which were imported unofficially from Saudi Arabia and the Gulf. At this time a lack of confidence in the Egyptian pound led to a "flight to quality" to both US dollars and gold. However, the level of hoarding was muted, because of an attempt by the government to crack down on unofficial gold trading which would have resulted in the confiscation of any ingots. During the mid to late 1980s, the level of bar hoarding, already limited, declined further. The sharp decline in the Egyptian pound pushed up local gold prices which contributed to a marked downturn in all forms of gold investment. For these reasons, over the 1980-89 period, the total level of bar hoarding amounted to just 13 tonnes (although this does include an element of dishoarding in 1980). In retrospect, this period represented the peak of domestic hoarding demand, save for a time of heightened activity in 1997, especially during the early part of the year, which reflected both an improved economic climate and low domestic gold prices. However, in terms of its physical impact, the rise in hoarding demand that year must be seen in the context of the surge in jewellery demand (for both investment and adornment), which recorded an annual increase of over 50 tonnes.

India

Retail Investment Demand (tonnes)

Annual

1993	1994	1995	1996	1997	1998	1999	2000
25.0	45.0	80.0	95.0	105.0	98.2	83.0	80.0

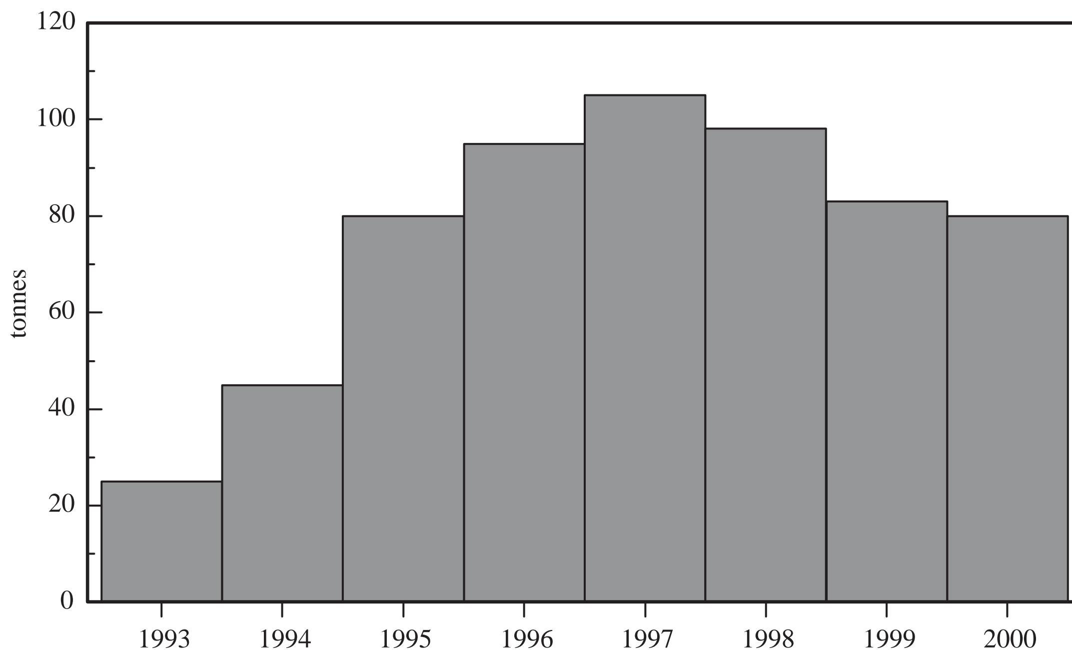
Quarterly

99Q1	99Q2	99Q3	99Q4	00Q1	00Q2	00Q3	00Q4
16.6	23.9	25.5	17.0	18.9	17.4	19.3	24.5

Source: GFMS

GFMS has been tracking Indian hoarding since 1968, although the data prior to 1983 is patchy. Indian hoarding has always constituted a significant portion of GFMS' estimates of total gold offtake in the country. In the years prior to 1983, the data suggests that hoarding averaged somewhere in the region of 14 tonnes per year (although there was of course dishoarding in the years around the price spike of 1980). In the early years this equates to around 10% of fabrication demand. In more recent years, this proportion has increased to an average of around 13%, an observation that is both consistent with recent GFMS (and WGC) research and with the fact that ownership of bars is now legal (after the abolition of the long-standing Gold Control Act in 1990, which had forbidden the holding of "primary" or bar gold).

In terms of the definitions of hoarding agreed by GFMS and the WGC, there is an incredibly wide range of forms of gold that is hoarded in India. Gold in investment form is distributed very widely, and virtually every jeweller will sell investment items of one form or another in addition to standard



jewellery. Thus, the only way practical way to gauge the overall size of this complex market is through sampling.

GFMS research has consistently pointed to the rural retail investment market as the cornerstone of Indian hoarding offtake. Rural Indians generally lack access to formal banking services, or where they do have access to such services it is often cooperative banks which do not in the main have a reputation for financial probity, and so prefer to store their wealth in gold, be it jewellery or in some other form. Non-jewellery gold saving usually occurs in the form of coin, bar and wire. It is important to recognise that when it comes to coin, there are in turn two distinct “modes” in which they are acquired. Firstly, purchasers might buy coin with a religious motif on it, and these are generally kept in perpetuity (i.e. they are highly unlikely to be ever sold back, and so in a sense are not really investment items. Temples often manufacture these). Secondly, they might buy imitation coins, the most popular being the Guinea (really any coin with a purity of 916 and weight of 1/4 ounce or 7.777 grammes is classified as a Guinea, and usually they sell at a premium of around 300 rupees). Another form of saving that is especially popular in the rural areas is the Veda, which is basically a twirl of gold wire ranging in weight from 1 gramme to around 100 grammes and is usually given to babies and young children (this piece of wire can be “built” on as the child gets older).

India - Economic and Social Indicators (Source: EIU)

Population:	1,002.8m (2000)
Population growth:	1.6% (average, 2000)
GDP growth:	6.2% (1996/97-2000/01); 5.2% (2000/01)
GDP per head:	US$470 (2000/01; at market exchange rate); US$2,030 (2000/01, at PPP)
Inflation:	7.6% (average; 1996-2000); 4.1% (2000)

Simple wire is also a popular form of saving amongst the rural community (wire is often drawn into “nails” and “hammered” into walls), and for the purposes of this study is treated as investment, not jewellery (wire is, for all intents and purposes, simply a “drawn” bar). Wealthier individuals also save in the form of tolas (including 10 or 5 tolas) and smaller bars weighing anything from 1 gramme to 1 kilogramme.

Although the urban population saves less as a proportion of their wealth in gold, investment in these areas is still a substantial source of demand. In particular areas (e.g. Punjab) the giving of gifts of coins, especially at weddings, is well established. The urban market is also an important source of final demand for various bars ranging in size from ten tola bars to small 1 gramme bars.

To put retail investment in historical perspective, it is useful to briefly revisit what happened after the inauguration of the Gold Bond Scheme on 15th March 1993, which allowed the public to make deposits during the following three-month period. The minimum deposit was 500 grammes with the interest payable amounting to R40 per gramme at the end of the five-year life of the scheme. The government had expected to attract only eight tonnes, based on the experience of the three schemes in 1964/65 which brought in a total of 35 tonnes. Following an initial flurry of interest, the number of deposits being made fell to low levels but in the final days of the three-month period, there were long queues of gold holders waiting to make deposits. Overall, more than 35,000 deposits, averaging just over one kilogramme, were made. While a small proportion of these were in a form which suggested that they derived from scrapped and melted jewellery, by far the most common deposit consisted of primary gold. In total, the scheme attracted 41.1 tonnes of gold, in line with the bar hoarding of 50 tonnes seen in 1992. Following the closure of the scheme, the issue of certificates commenced but as the gold had first to be refined to standard fineness form by the Bombay Mint, there were delays, giving rise to criticisms from depositors who had been attracted to the scheme by the possibility of using the certificates to raise loans.

Interestingly enough, when the scheme closed, depositors were quick to replace the deposited gold with new purchases, contributing to a net increase of hoarded gold of some 25 tonnes in 1993. Around half of this represented increases in the working stocks necessitated by the decentralisation and expansion of the gold trade over the previous two years. According to GFMS research at the time, most of the gold hoarded by investors was held in the form of imported 10-tola bars, although domestic refiners introduced various sizes of small cast and minted bars in weights of up to one kilogramme. During the rest of the 1990s, retail demand rose markedly on the back of market liberalisation, rising economic prosperity and fears of the rupee devaluing.

Retail Investment Demand (tonnes)

Year	Tonnes	Year	Tonnes
1983	2.0	1992	50.0
1984	9.0	1993	25.0
1985	10.0	1994	45.0
1986	3.0	1995	80.0
1987	5.0	1996	95.0
1988	5.0	1997	105.0
1989	4.5	1998	98.2
1990	9.0	1999	83.0
1991	19.0	2000	80.0

Source: GFMS

For the purpose of analysing the market, it is important to distinguish between the retail investment market and the corporate gifting market. These are two distinct market segments, both of which account for a substantial amount of total gold offtake. Whilst the bulk of investment in India is retail, the corporate gifting market is also an important source of demand for gold. Companies like TBZ, Gitanjali, Tanisqh, VMN and a host of others have devoted considerable resources to developing this market, and for many this segment accounts for the bulk of the investment items they sell (usually coin). For instance, of one large player's coin turnover in 2000, around 80% was for the corporate market. Others have been active pushing the use of coin in promotional campaigns (for example,

gold coin in soap bars). The overall size of this market is difficult to gauge, but must be in the order of around 10 tonnes per annum (approximately 10% of total investment).

Looking forward, it is important to discern what the primary drivers of hoarding demand are likely to be. The regressions discussed elsewhere in this report hint at some of the more important variables that have played a part in the past, but it remains to be seen if they necessarily indicate what is likely to happen in the future. Both inflation and GDP appear to be statistically significant (although one does have to make allowance for the small sample size). In the case of inflation, there is a particularly high value, suggesting that hoarding is very sensitive to inflation, and that it is of the "right" sign (the results suggest that a 1% increase in inflation leads to a 9.54% increase in hoarding, all other things remaining equal). Hoarding is also highly elastic to GDP. However, the results suggest that a 1% increase in GDP leads to a 9% fall in hoarding, all other things remaining equal, a somewhat counter-intuitive outcome (it is revealing to note that running a simple two variable regression of hoarding against GDP gives a result of the "right" sign). What is particularly interesting is that the monsoon does not appear as a major explanatory variable over the period 1983 to 2000, which is consistent with the strength of the other variables already identified, but seems to fly in the face of the anecdotal evidence, especially in the 1990s.

Pakistan

GFMS research visits to Pakistan have indicated that retail hoarding is probably not as popular as in India, and that as a proportion of overall gold demand it accounts for 7%-10% of the total. For comparative purposes, it is worth noting that Pakistan's per capita GDP is slightly lower than India's.

Pakistan - Economic and Social Indicators (Source: EIU)

Population:	137.5m (2000)
Population growth:	2.4% (average, 1996-2000)
GDP growth (at factor cost):	3.6% (average, 1995/96-1999/2000); 2.6% (2000/01)
GDP per head:	US$458 (1999/2000, at market rate); US$1,845 (1999/2000, at PPP)
Inflation:	7.3% (average, 1996-2000); 5.0% (2000)

As in India, the agricultural sector provides the bedrock for hoarding demand, although the urban areas are an important source of offtake too. Gold is very much part of Pakistani families' tradition. Many families "own" their jeweller, having used them for generations - and the term family extends to parents, children, grandchildren - as many as a hundred or more people.

Retail Investment Demand (tonnes)

1988	6.0	1995	2.0
1989	3.0	1996	1.3
1990	3.0	1997	5.0
1991	2.5	1998	2.0
1992	2.0	1999	3.0
1993	2.0	2000	4.0
1994	2.0		

Source: GFMS

The importance of agriculture for gold offtake cannot be overstated. It accounts for the largest share of GDP, contributing 26% in 1999/2000, according to government estimates. The size of the annual cotton crop, the bulk of it grown in Punjab province, is a crucial barometer of the health of the overall economy, as it determines the availability and cost of the main raw material for the yarn-spinning industry, much of which is concentrated around the southern port city of Karachi, and has a large bearing on the level of exports. It is also of importance when it comes to gold buying, be it of jewellery and/or bar and coin.

Vietnam

Retail Investment Demand (tonnes)

Annual

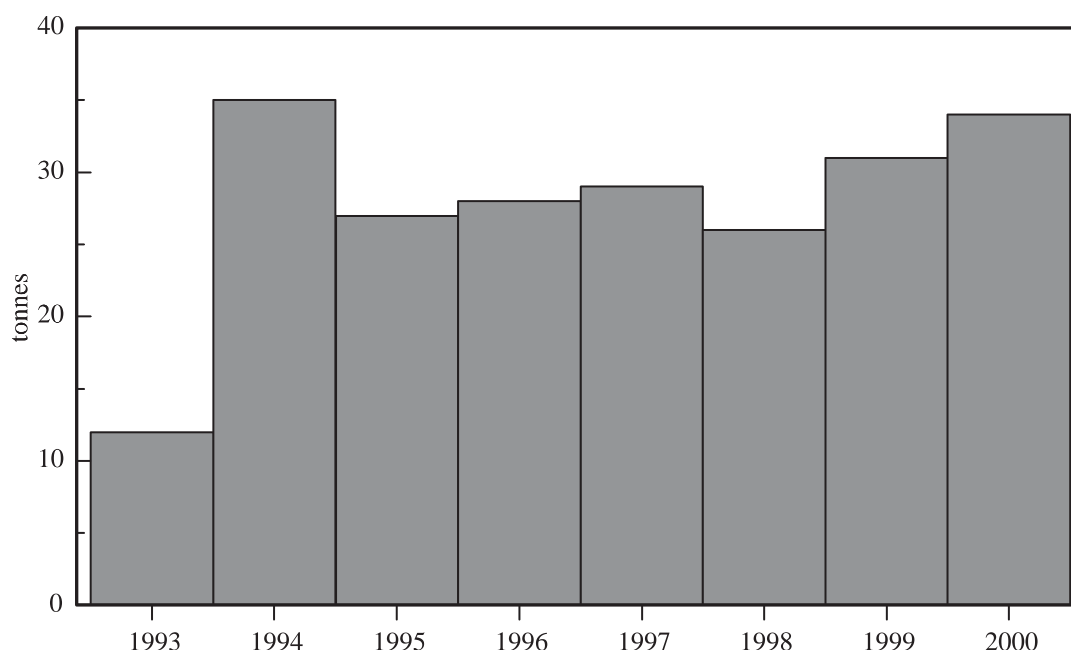
1993	1994	1995	1996	1997	1998	1999	2000
12.0	35.0	27.0	28.0	29.0	26.0	31.0	34.0

Quarterly

99Q1	99Q2	99Q3	99Q4	00Q1	00Q2	00Q3	00Q4
18.0	9.0	3.0	1.0	16.0	5.0	6.0	7.0

Source: GFMS

For a country of its size and GDP per head, Vietnam hoards a very substantial amount of gold per capita (0.4 versus India's 0.1 grammes per capita for example, with both countries sharing a similar level of GDP per head). The whole of the Indo-China region has a long history of hoarding activity. For instance, the Kim Thanh (the name of the refiner and bullion dealer at the time in Saigon, Hanoi, Hong Kong and Phnom Penh) bar which was manufactured before 1975 was 999.9 purity and weighed



exactly 37.5 grams. Although called a "bar", it was a compilation of three gold leaves: two leaves of 15 grams each and one leaf of 7.5 grams (15+15+7.5). The three gold leaves were then wrapped together in thin oil paper with the manufacturer's brand. The Kim Thanh bar was widely known throughout South East Asia before and during the Vietnam war and was used by many refugees and "boat people" from Vietnam and Cambodia as the sole means of taking some of their savings with them. (The domestic gold market was officially closed from 1975 to 1989).

Vietnam - Economic and Social Indicators (Source: EIU)

Population:	77.5m (2000)
Population growth:	1.6% (average, 1996-2000)
GDP growth:	6.9% (average, 1996-2000); 6.8% (2000)
GDP per head:	US$400 (2000, at market exchange rates); US$2,090 (1999, at PPP)
Inflation:	3.8% (average, 1996-2000); -1.6% (2000)

Most Vietnamese demand for investment gold originates from the rural areas, although the urban centres are also important (it is difficult to be more precise about the split because many rural dwellers buy their gold in the towns and cities). Economically speaking, Vietnam is an agrarian society, with around 70% of the labour force working in agriculture and forestry. Agriculture accounted for about 25% of current-price GDP in 1999 (compared with over 40% in 1991). Despite the falling share, growth has been robust, and value added rose by 4.4% annually between 1995 and 1999. The most rapid growth has been in industrial crops, particularly coffee, rubber and sugar cane. The yield of rice, which accounts for almost half of agricultural output, has steadily increased, enabling Vietnam to become the world's second largest rice exporter after Thailand. Often gold is the only viable means of saving in these areas, and consequently hoarding tends to follow the agricultural cycle quite closely.

Retail Investment Demand (tonnes)

1988	3.0	1995	27.0
1989	17.0	1996	28.0
1990	24.0	1997	29.0
1991	23.5	1998	26.0
1992	31.0	1999	31.0
1993	12.0	2000	34.0
1994	35.0		

Source: GFMS

Hoarded gold is typically held in the form of taels or chi's (10 chi's to a tael). Although most gold entering Vietnam (unofficially) is in kilobar form, the vast bulk of this is recast into other bars within a short space of time (if the authorities were to find kilobars on say a jeweller's premises, there are bound to be questions asked, whilst tael bars are less problematical because they circulate so widely). The overwhelming number of tael bars circulating in Vietnam are produced by Saigon Jewellery Company (SJC), although Vietgold and a few other fabricators also produce limited volumes. Vietnamese consumers are particularly brand sensitive, which is one of the reasons for the rise to pre-eminence of SJC bars, and when gold was still being imported legally, the popularity of 3-keys bars from Swiss Banking Corporation. Most jewellers also produce their own chi's of gold, which are widely circulated locally (bar brands are important, and can be quite parochial). In both the rural and urban areas it is still common for many large transactions, for example, buying a house, to be priced in gold and usually transacted in the metal as well.

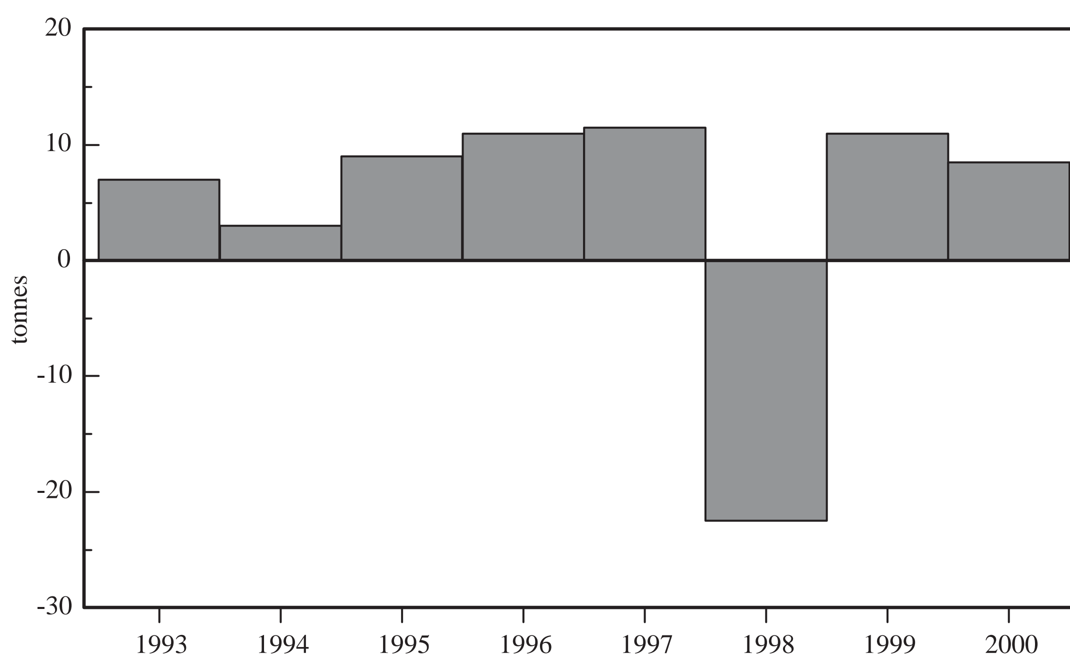
Indonesia

Retail Investment Demand (tonnes)							
Annual							
1993	1994	1995	1996	1997	1998	1999	2000
7.0	3.0	9.0	11.0	11.5	-22.5	11.0	8.5
Quarterly							
99Q1	99Q2	99Q3	99Q4	00Q1	00Q2	00Q3	00Q4
1.5	1.5	5.0	3.0	2.0	3.0	1.0	2.5

Source: GFMS

The GFMS data series for Indonesia goes back as far as 1968, reflecting the fact that this type of investment activity is well established in the collective psyche. The 1970s saw very high levels of buying and selling, although the former easily outweighed the latter, resulting in net hoarding of over 200 tonnes. The early 1980s also witnessed huge levels of hoarding activity, reaching 45 tonnes in 1982. From the perspective of analysing the hoarding market in Indonesia, and its potential, it is crucial to understand that much of this buying at that time was undertaken by the ethnic Chinese business community on the back of fears of a currency devaluation and local political disturbances. Since then, this community has been able to diversify risk in numerous other ways (the most obvious being holding offshore dollar accounts in Singapore), which is one of the reasons for the steady decline seen in the average levels of hoarding since then.

As in the case of Vietnam and India, much of current hoarding demand is to be found in the rural areas. Agriculture has historically been the dominant activity, in terms of both employment and output, although it has declined in importance in recent years. Rural dwellers, like their counterparts in many other Asian countries, lack access to the formal banking infrastructure (and often do not trust the banks that operate in their areas), and tend to store their wealth in gold – both jewellery and other investment forms of gold such as coin, small bars and wire. Jewellery is the predominant form of savings in these areas, in spite of its low caratage and relatively high mark-ups compared to say bar.



Indonesia - Economic and Social Indicators (Source: EIU)	
Population:	212.6m (2000)
Population growth:	1.8% (average, 1996-2000)
GDP growth:	0.6% (average, 1996-2000); 4.8% (2000)
GDP per head:	US$720 (2000, at market exchange rate); US$3,270 (2000, at PPP)
Inflation:	17.6% (average, 1996-2000); 3.7% (2000)

GFMS data has consistently pointed to the fact that there do not appear to be very large amounts of coin, bar and wire purchasing in Indonesia, although some more recent work does suggest that more gold may be going to investment in the rural areas than we had previously estimated (which simply means that the jewellery/hoarding split changes; the absolute amount of gold consumed is unchanged). Having said this, our data has indicated a fall in the average levels of hoarding in the 1990s on the back of growing economic sophistication, especially in the urban areas (it needs to be borne in mind that gold offtake rocketed in the early 1990s as the economy posted double digit growth). The wild oscillations in the rupiah against the dollar since 1997 has made it more difficult to be precise about the absolute levels of hoarding, not least of all because of the volumes of two way business (i.e. buying and selling back of bar) that has accompanied this. For instance, currency movements in 2000 saw sustained selling of both jewellery and bar, and GFMS estimated that over the year, more investment gold (bar mainly) was sold back than bought.

Retail Investment Demand (tonnes)

1968	20.0	1979	23.0	1990	5.0
1969	25.0	1980	-15.0	1991	-22.0
1970	45.0	1981	45.0	1992	-10.0
1971	17.0	1982	71.0	1993	7.0
1972	-15.0	1983	-4.5	1994	3.0
1973	14.0	1984	13.0	1995	9.0
1974	-13.0	1985	9.0	1996	11.0
1975	24.0	1986	14.3	1997	11.5
1976	45.0	1987	-21.0	1998	-22.5
1977	25.0	1988	11.0	1999	11.0
1978	12.0	1989	4.0	2000	8.5

Source: GFMS

Thailand

Retail Investment Demand (tonnes)

Annual

1993	1994	1995	1996	1997	1998	1999	2000
30.5	24.6	26.2	28.9	-9.2	-38.9	-1.7	14.3

Quarterly

99Q1	99Q2	99Q3	99Q4	00Q1	00Q2	00Q3	00Q4
0.0	0.0	-1.3	-0.4	3.1	4.1	6.1	1.0

Source: GFMS

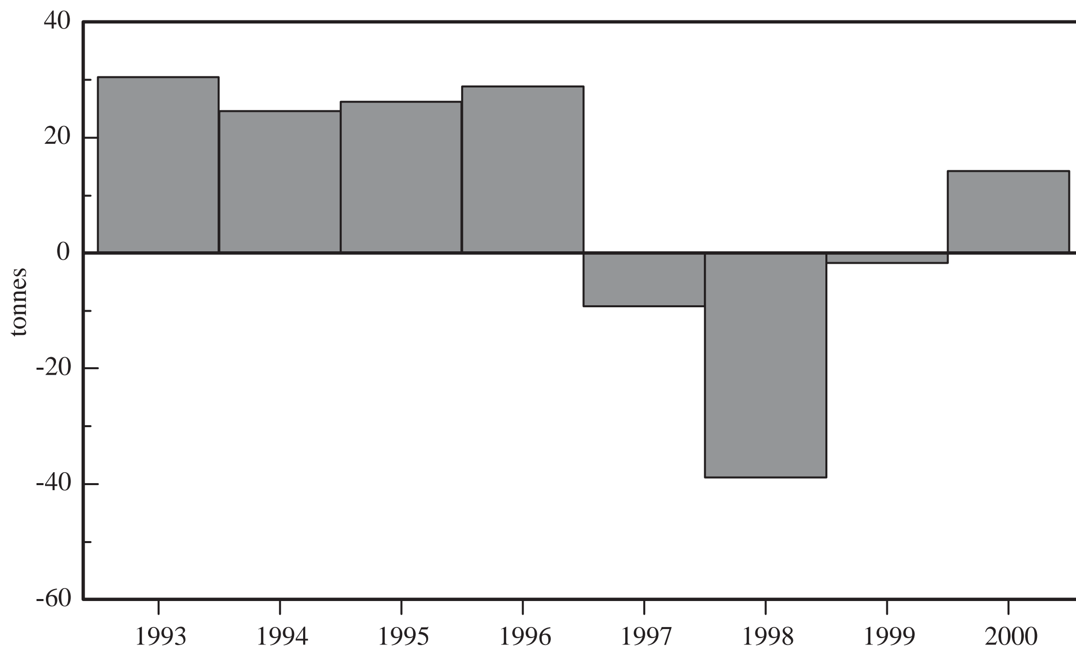
Thailand has an extremely well established tradition of bar hoarding, as the table above shows quite clearly. In earlier years, buying was concentrated amongst the wealthy who wished to protect themselves against economic and political uncertainty (much as in Indonesia). It is worthwhile remembering when looking at the historical hoarding figures for Thailand that there have been 17 military coups, with the last one as recently as 1991, since the absolute monarchy was abolished in 1932. Civilian governments have been short-lived and unstable, encouraging private citizens to protect their wealth in the form of gold.

Thailand - Economic and Social Indicators (Source: EIU)

Population:	62.4m (2000)
Population growth:	1.0% (average, 1996-2000)
GDP growth:	0.5% (average, 1996-2000); 4.4% (2000)
GDP per head:	US$1,950 (2000, at market exchange rate); US$7,260 (2000, at PPP)
Inflation:	4.3% (average, 1996-2000); 1.6% (2000)

The economic growth of the 1990s (which saw GDP rising by close to 10% per annum after the last coup in 1991) facilitated the "democratisation" of hoarding (with some of the traditional buyers moving to other means of protecting their wealth). Both the urban and rural middle and lower classes began to buy increasing amounts of investment gold. This was particularly noticeable during major family events such as weddings, with quite large gifts of gold given by the groom to the bride's family, and the bride herself, becoming the norm.

Currently, bars remain the most popular form of hoarding gold, and it is not uncommon for wealthy individuals to purchase kilo bars (although some of the hoarding statistics are "distorted" by jewellers, say in the Bangkok area, who purchase gold for trading purposes, rather than for hoarding per se). Another very popular form of holding gold is in the form of baht bars (bars that are 965 fine, weighing 15.4 grammes). In addition to this, there is a well established market for what are generally termed ornaments. These may vary quite widely in terms of weights, but are more often than not under 10 grammes, with religious images being especially popular, for example depictions of Buddha. In terms of overall offtake however, this would account for no more than a small fraction of total hoarding.



Retail Investment Demand (tonnes)					
1976	13.0	1985	12.5	1993	30.5
1977	3.0	1986	6.0	1994	24.6
1978	5.0	1987	6.0	1995	26.2
1979	10.0	1988	11.0	1996	28.9
1980	-2.0	1989	46.4	1997	-9.2
1981	2.0	1990	64.8	1998	-38.9
1982	5.0	1991	58.8	1999	-1.7
1983	1.0	1992	39.0	2000	14.3
1984	8.0				

Source: GFMS

South Korea

Retail Investment Demand (tonnes)

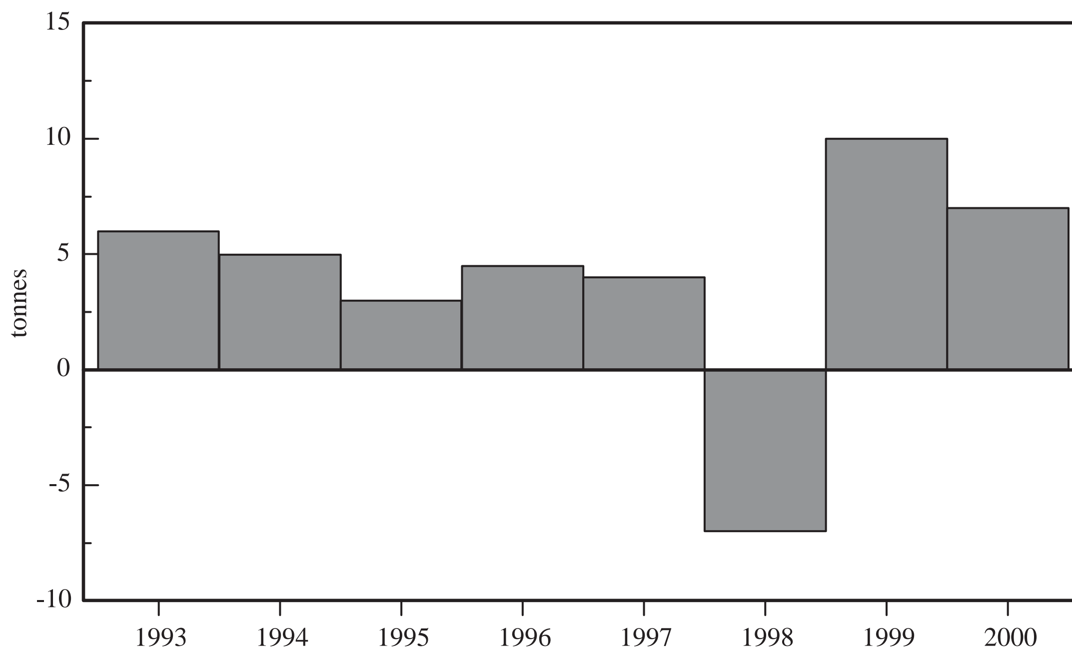
Annual

1993	1994	1995	1996	1997	1998	1999	2000
6.0	5.0	3.0	4.5	4.0	-7.0	10.0	7.0

Quarterly

99Q1	99Q2	99Q3	99Q4	00Q1	00Q2	00Q3	00Q4
1.4	1.5	4.0	3.1	0.4	0.6	3.1	2.9

Source: GFMS



Hoarding and so-called "gifting" are well-established traditions in Korea. GFMS data shows that since 1975, Koreans have hoarded something in the order of 150 tonnes of gold. The precise split between hoarding and jewellery has become a little more difficult to estimate in recent years because of the surge in touch down trading, and the large volumes of so-called semi-manufactured goods being exported. However, based on data from before the crisis, it would seem safe to assume that "average" hoarding is something in the order of around 8-10% of jewellery fabrication demand.

South Korea - Economic and Social Indicators (Source: EIU)

Population:	47.3m (2000)
Population growth:	1% (average, 1996-2000)
GDP growth:	4.7% (average, 1996-2000); 8.6% (2000)
GDP per head:	US$9,660 (2000, at market exchange rate); US$17,110 (2000, at PPP)
Consumer price inflation:	4% (average, 1996-2000); 2.3% (2000)

During the 1990s there were numerous attempts by a number of banks and other institutions to develop the hoarding/gold banking market, but it has to be said that a variety of factors, not least of all high won interest rates and VAT on bars, meant that these schemes were not particularly successful (e.g. Sunkyong and Korea Exchange were pushing GAP type plans in 1994, LG started selling its own bars over the counter of Korea First Bank in 1995). The gifting market has always been important in both the silver and the gold markets, although in the case of gold, it probably accounts for less than 5% of offtake.

Retail Investment Demand (tonnes)

1975	6.0	1984	8.0	1993	6.0
1976	18.0	1985	11.3	1994	5.0
1977	4.0	1986	6.4	1995	3.0
1978	8.0	1987	6.0	1996	4.5
1979	5.7	1988	15.0	1997	4.0
1980	1.5	1989	8.0	1998	-7.0
1981	2.0	1990	5.0	1999	10.0
1982	2.0	1991	4.5	2000	7.0
1983	0.8	1992	4.0		

Source: GFMS

Much was made of the huge volumes of gold shipped out of Korea in 1998, during the currency crisis, to the rest of world. GFMS estimates that the overwhelming quantity of the metal shipped out in bar form at this time was, in fact, melted jewellery, and that net dishoarding was quite modest, at only 7 tonnes.

Taiwan

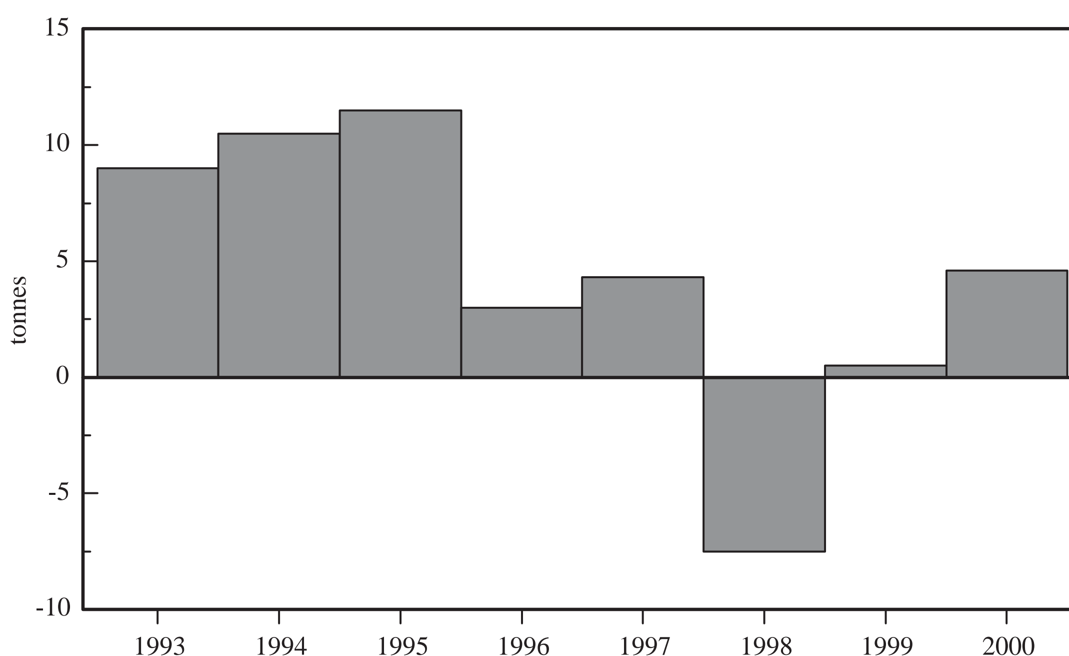
Retail Investment Demand (tonnes)							
Annual							
1993	1994	1995	1996	1997	1998	1999	2000
9.0	10.5	11.5	3.0	4.3	-7.5	0.5	4.6
Quarterly							
99Q1	99Q2	99Q3	99Q4	00Q1	00Q2	00Q3	00Q4
1.0	1.0	-1.0	-0.5	4.9	2.5	-1.3	-1.5

Source: GFMS

A Brief Chronology of Taiwanese Gold Market Liberalisation:

- Removal of 5% VAT on gold bars in 1988.
- Import duty of NT$100 per Taiwanese Tael lifted in 1989. Further restrictions on re-import of gold and on the two way trading of gold also lifted. Banks allowed to trade in gold products.
- Local retail gold investment market effectively fully liberalised in 1991.
- Removal of 5% VAT on gold jewellery in 1997

In our opinion, Taiwan is a good case study illustrating how many of the markets in Asia are likely to evolve over the coming years. In particular, the huge shifts seen in hoarding post the liberalisation of the market in the late 1980s and early 1990s seems a salutary lesson on how quickly things can change. The surge in hoarding in 1988 was partly due to institutional factors, including the removal of a 5% sales tax that year, but much of it had to do with rising prosperity at a time when there was still a huge parallel economy, especially in the financial services sector. At that time, the authorities were looking to monitor stock market accounts, and were considering moves against a number of clandestine investment companies, which prompted a massive move into the anonymity of gold. Similar forces were at work in 1989.



By the beginning of the 1990s, relaxation of exchange controls, access to international capital markets and falling share prices led to a collapse in hoarding. This initiated a steady decline in offtake, such that by the end of the decade, demand had fallen to rather insignificant levels, although there have been periods of heavy buying at times of crisis (e.g. perceived military threats from the mainland).

Taiwan - Economic and Social Indicators (Source: EIU)

Population:	22.1m (1999)
Population growth:	0.8% (average, 1996-2000)
GDP growth:	5.7% (average, 1996-2000); 6% (2000)
GDP per head:	US$13,918 (2000, at market exchange rate); US$22,551 (2000, at PPP)
Inflation:	1.4% (average, 1996-2000); 1.3% (2000)

Bar hoarding has not been the only way in which the Taiwanese have invested in gold, however, and for many years, the local coin market was particularly buoyant. After the opening of the market (unofficial imports of coin into Taiwan prior to this are very difficult to estimate), coin sales peaked at around four tonnes that year. Thereafter, absolute sales levels did fall, but held steady for most of the 1990s, at around an average of just over two tonnes per year.

Retail Investment Demand (tonnes)

1975	14.0	1984	60.0	1993	9.0
1976	55.0	1985	51.0	1994	10.5
1977	7.0	1986	21.0	1995	11.5
1978	17.0	1987	73.7	1996	3.0
1979	68.0	1988	150.5	1997	4.3
1980	30.0	1989	138.0	1998	-7.5
1981	40.0	1990	41.0	1999	0.5
1982	38.0	1991	26.0	2000	4.6
1983	1.5	1992	17.0		

Source: GFMS

Japan

Retail Investment Demand (tonnes)

Annual

1993	1994	1995	1996	1997	1998	1999	2000
73.4	66.6	139.1	30.9	37.1	55.7	108.6	55.4

Quarterly

99Q1	99Q2	99Q3	99Q4	00Q1	00Q2	00Q3	00Q4
26.0	15.2	46.5	20.9	9.7	14.6	15.5	15.5

Source: GFMS

Japan is arguably the most interesting country to study hoarding in because it breaks the mould of how one, *a priori,* might have expected it to behave. Following on from our comments on Taiwan, one might have expected Japanese investors to have turned their back on gold many years ago, but this has not been the case. A possible explanation for this is that the gold market in Japan, from the end of the War, was always strictly controlled (although controlled in Taiwan, gold was still quite freely available). For example, the free trade of gold was prohibited by the pre-War Gold Mining Law and the post-War Precious Metals Control Law (later to become the Gold Control Law). All metal produced

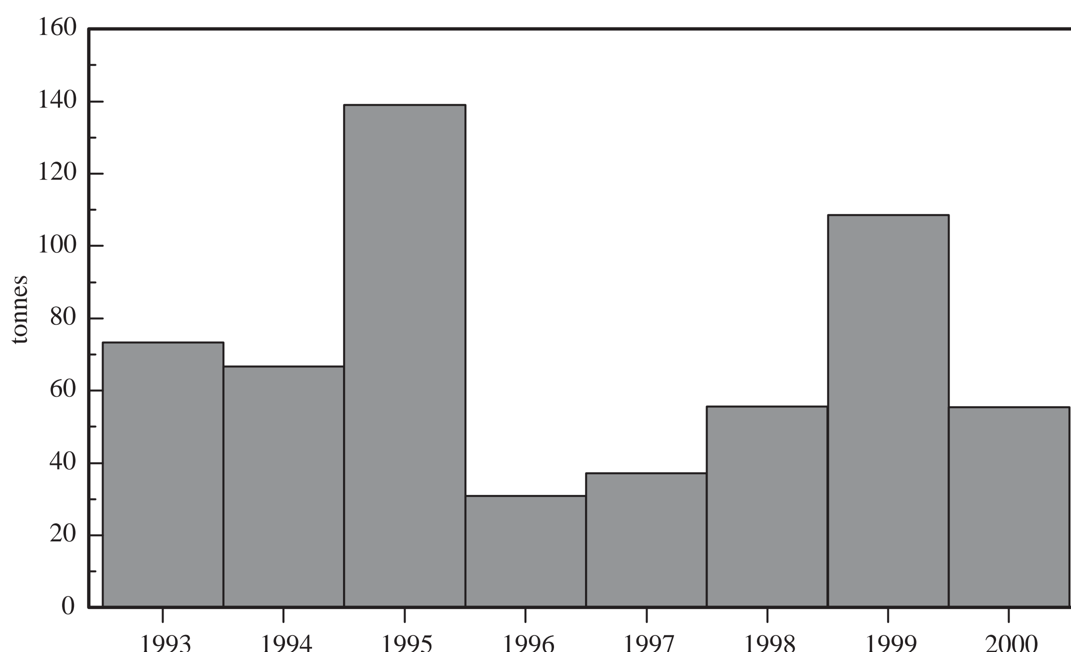
within Japan was purchased by the government, imports and exports were tightly restricted, and private sector corporations and individuals could not buy or sell gold freely.

Japan - Economic and Social Indicators (Source: EIU)

Population:	126.5m (2000)
Population growth:	0.2% (average, 1996-2000)
GDP growth:	1.3% (average, 1996-2000); 1.5% (2000)
GDP per head:	US$37,558 (2000, at market exchange rate); US$26,034 (2000, at PPP)
Inflation:	0.3% (average, 1996-2000); -0.7% (2000)

Following President Nixon's abolition of America's gold-dollar exchange system in August 1971, Japan moved towards liberalising its foreign exchange regime, revising its Foreign Exchange and Foreign Trade Control Law. Most importantly from the perspective of gold, some of the restrictions on trading were removed, and bullion was free to pass into the ownership of private-sector companies and individuals from 1st April 1971. In the immediate aftermath of these changes, hoarding in Japan rose sharply, peaking at over 36 tonnes in 1978 (full market liberalisation actually came about in April of that year). After this, the movements in the dollar gold price placed a damper on this activity, and in 1981, Japan recorded its first, and to date, only year of dishoarding.

Thereafter hoarding exploded, touching 110 tonnes in 1981, driven primarily by the fact that the price had fallen below 3,000 yen per gramme (after having been above 3,000 for some time). The rest of the 1980s were the "golden" years for Japanese investment. A combination of falling local and dollar gold prices saw hoarding interest continue apace, peaking in 1988 at over 168 tonnes, related in part to the ongoing deregulation of the gold market and the banking industry, as well as to the fact that gold was below 2,000 yen (it is remarkable that in 1986, Japan absorbed more gold, in all forms, than South Africa's total mine production). Another factor underpinning the surge in investment in the late 1980s was the so-called "bubble" economy. The typical buyer profile was someone who had made it rich overnight on the stock and real estate markets, and who wished to shift a portion of their excessive profits into gold. Their buying was primarily speculative in nature, with an expectation of quick capital gains similar to those that they had seen on the stock and real estate markets.



Although at this time taxation issues skewed demand towards bars (any coin with a value above 37,000 yen (around 1/2 ounce) attracted a luxury sales tax, so investors looking for anything above this weight were naturally attracted to bar), coin consumption also rose sharply in the 1980s. In particular, the market for coin of 1/2 ounce and less blossomed, with the Maple Leaf dominant (in the mid-1980s, the total coin market, mainly for 1/2 ounce and less, totalled around 15 tonnes). Needless to say, no commentary on the coin market would be complete without mentioning the Hirohito coin, issued to mark the 60th Anniversary of the Emperor's reign. Slightly more than 9 million of the coins, equivalent to around 180 tonnes, were sold in 1986 (although significantly more were actually minted). In the 1990s, the coin market in Japan has been quite muted, dropping to a fraction of what was consumed in the previous decade.

Another major event in the 1980s was the launch of the Gold Accumulation Plan in 1987 by Tanaka KK, which ushered in a new era in hoarding in Japan. There can be little doubt that the launch of this plan helped push gold offtake higher than it would otherwise have been.

In the 1990s, a new group of "post-bubble" gold buyers emerged in the Japanese market. With the final realisation that the party was over, investors turned from being return-conscious to risk-conscious, having witnessed the value of their investments fall sharply. The Kobe earthquake (1995) was a major catalyst for investment buying, driving home, very painfully, how easily certain assets could be lost. A TV image of an old woman opening a safe in the ashes of her house and finding in it completely destroyed banknotes yet intact gold coins was an advertiser's dream come true. Gold got a tremendous boost from being perceived as an indestructible asset, and well over 100 tonnes of bars were bought in the immediate aftermath of the earthquake. Throughout the 1990s, hoarding demand in Japan has remained at fairly elevated levels, reflecting the fact that the Japanese public still perceive gold as an attractive investment, especially at times of economic uncertainty.

Retail Investment Demand (tonnes)

Year	Tonnes	Year	Tonnes	Year	Tonnes
1973	54.4	1983	38.3	1993	73.4
1974	12.3	1984	105.3	1994	66.6
1975	11.6	1985	111.7	1995	139.1
1976	10.7	1986	173.6	1996	30.9
1977	3.2	1987	129.0	1997	37.1
1978	36.9	1988	168.5	1998	55.7
1979	10.5	1989	119.1	1999	108.6
1980	-1.7	1990	75.5	2000	55.4
1981	110.0	1991	59.0		
1982	72.4	1992	43.5		

Source: GFMS

The history of hoarding in Japan suggests that there have been a multitude of forces sustaining it – institutional changes, movements in the price, economic uncertainty and simply the belief that holding gold is sensible. This is in part reflected in the econometric results presented later in this report. In the multiple regression run on Japanese data, the only coefficient of any significance was the exchange rate. The coefficient on this variable, of -3.34, points to hoarding being very sensitive to changes in the value of the yen relative to the dollar - in this instance, a fall in the yen per dollar (i.e. a strengthening of the yen) leads to a rise in hoarding, a result that is entirely consistent with GFMS' experience in that market. Having said this, the econometric results were actually quite weak, suggesting that myriad other factors play a role in Japanese hoarding behaviour.

This last comment is probably the most important in the context of Japanese hoarding demand - there is no single, simple explanation as to why they continue to hoard at such relatively elevated levels. What these results may point to is that the Japanese desire to hoard gold is an "archetype", something deeply rooted in culture and tradition (by contrast say with the Taiwanese where hoarding demand has been a lot more "functional"). It also points to where the Japanese market may go in the near future. The one caveat that one would have to add here is that this cultural attachment to gold may well be generation-specific (namely, tied most closely to the older generation who have memories of economic deprivation and turmoil). Having said this, some insight into possible positive future trends comes from interesting work on the profile of typical gold buyers in the 1990s conducted by the WGC. They have identified two main groups of purchasers, the "man-in-the-street" who is typically a buyer of small quantities, and High Net Worth (HNW) individuals, who buy large amounts per transaction.

Japanese Coin Imports (tonnes)

Year	Tonnes	Year	Tonnes
1980	1.0	1991	8.9
1981	7.7	1992	8.6
1982	6.8	1993	6.4
1983	4.7	1994	8.6
1984	7.8	1995	10.1
1985	7.9	1996	5.9
1986	15.7	1997	4.4
1987	14.9	1998	3.8
1988	15.9	1999	4.6
1989	13.1	2000	3.0
1990	8.3		

Source: WGC

The former tends to buy gold via Gold Accumulation Plans (GAPs). They found that 70% of GAP holders are in the age-bracket of 20 to 40 years old, and are roughly equally divided between men and women. The research has shown that they participate in GAPs for the following reasons:

1. Gold can be bought in affordable tranches - most had a desire to own it but always thought it was beyond their means.
2. Gold is available from credible companies, such as Tanaka, Mitsubishi and Sumitomo amongst others.
3. Gold can be bought and redeemed conveniently, for example at a bank branch in the neighbourhood or by telephone.

Of particular interest, purchasing a GAP for capital gains was only listed as the eighth most important reason for participating.

The research has also shown that HNW can be divided into two segments, namely speculators and hoarders. Speculative HNW individuals typically use futures on TOCOM, and seek high returns, whilst accepting the associated high risks. By contrast, the hoarder HNW individual typically accumulates kilobars, particularly on dips in the price, and purchases with the aim of keeping them for their retirement or children. Underpinning a number of these purchases is the fear of inflation and economic uncertainty.

China/Hong Kong

Retail Investment Demand (tonnes)

Annual (China)

1993	1994	1995	1996	1997	1998	1999	2000
35.4	28.1	12.7	8.8	34.9	36.0	9.7	6.8

Quarterly (China)

99Q1	99Q2	99Q3	99Q4	00Q1	00Q2	00Q3	00Q4
4.2	2.8	1.4	1.4	1.4	1.4	2.7	1.4

Source: GFMS

Retail Investment Demand (tonnes)

Annual (Hong Kong)

1993	1994	1995	1996	1997	1998	1999	2000
5.5	5.0	3.0	-2.1	4.2	-7.5	-2.7	0.2

Quarterly (Hong Kong)

99Q1	99Q2	99Q3	99Q4	00Q1	00Q2	00Q3	00Q4
1.3	0.9	-1.8	-3.1	0.0	0.0	0.1	0.1

Source: GFMS

Although technically speaking hoarding in China is prohibited, GFMS believes that in the past actual offtake has been substantial. The basis for this contention is two-fold. Firstly, major Hong Kong based bar fabricators (of mainly taels) have for many years reported elevated levels of production to meet the demand for bar out of the mainland. The assumption on their part, and one that has been shared by GFMS, is that a significant proportion of this production has not been for jewellery fabri-

cation. Secondly, anecdotal information from market sources has always pointed to there having been sustained hoarding activity on the mainland in spite of the prohibitions in place.

In addition, many jewellery fabricators on the mainland have always produced their own bars (and not just since 1999 when restrictions appear to have been eased somewhat). Admittedly, these bars have often been sold as "ornaments", usually with special, higher prices than ordinary jewellery, but the fact remains that they were and are still ostensibly hoarding items. In addition to this, China Gold Coin has been releasing limited amounts of coin into the local market, but this has been somewhat trivial in volume terms. Distribution of these products is not just confined to the urban areas. Rural demand has always been of tremendous importance in the overall scheme of things.

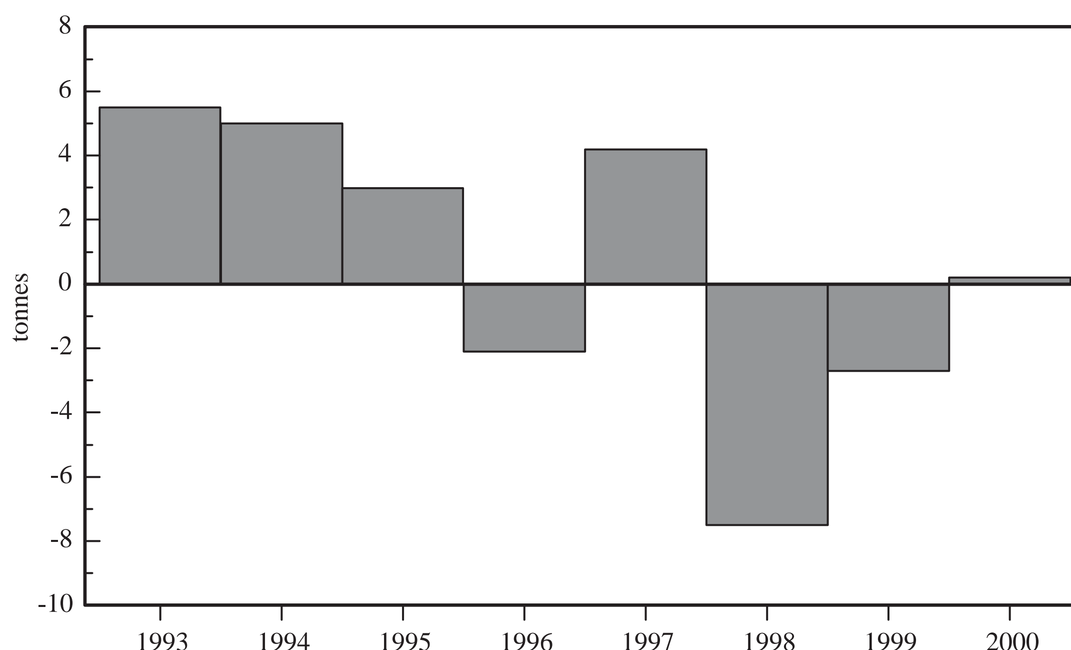
China - Economic and Social Indicators (Source: EIU)

Population:	1.26bn (2000)
Population growth:	1% (average, 1996-2000)
GDP growth:	8.3% (average, 1996-2000); 8% (2000)
GDP per head:	US$870 (2000, at market exchange rate); US$4,670 (2000, at PPP)
Inflation:	1.9% (average, 1996-2000); 0.4% (2000)

Hong Kong - Economic and Social Indicators (Source: EIU)

Population:	6.9m (end-2000)
Population growth:	2% (average, 1996-2000)
GDP growth:	3.4% (average, 1996-2000); 10.5% (2000)
GDP per head:	US$24,010 (2000, at market exchange rate); US$27,240 (2000, at PPP)
Inflation: 1.3%	(average, 1996-2000); -3.8% (2000)

The main drivers behind Chinese hoarding are usually identified as having been the fear of inflation and devaluation, coupled to political uncertainty (in the rural areas, the usual lack of access to banks plays a role too). The econometric results presented later on in this report do not really provide any definitive answers to what these might be, suggesting that currency devaluations, inflation and even



GDP growth are not statistically important. Having said this, it does seem intuitive that the threat of devaluation and inflation in the early 1990s, coupled to the fact that there were few alternative investments available to the mainland Chinese at the time, were of tremendous importance in explaining the surge in offtake then.

It is possible that the absence of some of these factors explains the decline in investment seen in the latter stages of the 1990s. Lower inflation, a stable yuan, reasonably robust economic growth and the surge in investment alternatives (here one thinks of the stock market, dollar denominated bank accounts, insurance policies, privatisation of the housing stock etc) have all conspired to drive down hoarding.

In the Hong Kong market, similar forces have been at play, and gold has been relegated to second class status on the investment front – property, the stock market and the internet have all played a role in the declining attractiveness of the metal. The near absence of trading activity on the Hong Kong Gold and Silver Exchange is a reflection of the collapse in both the Hong Kong and Chinese investment markets.

Retail Investment Demand (tonnes) **(China)**

Year	Tonnes	Year	Tonnes
1989	16.0	1995	12.7
1990	20.0	1996	8.8
1991	15.0	1997	34.9
1992	33.0	1998	36.0
1993	35.4	1999	9.7
1994	28.1	2000	6.8

Source: GFMS

It has not always been so, as the data shows all too clearly. And in addition to hoarding demand, Hong Kong's coin consumption, especially in the 1980s and early 1990s, was actually quite strong. The first real push on the coin front in Hong Kong was in the early 1970s when the International Gold Corporation introduced the Krugerrand. However, it was not until the mid-1980s that the coin market really took off, with imports pushing above 400,000 ounces in 1984, and peaking at over 550,000 ounces in 1988. There were three main catalysts behind the spectacular growth in offtake.

Retail Investment Demand (tonnes) (Hong Kong)

Year	Tonnes	Year	Tonnes	Year	Tonnes
1971	5.0	1981	30.0	1991	12.0
1972	-5.5	1982	26.0	1992	10.0
1973	10.0	1983	-30.0	1993	5.5
1974	-14.0	1984	40.8	1994	5.0
1975	-7.5	1985	29.4	1995	3.0
1976	15.0	1986	-57.2	1996	-2.1
1977	4.0	1987	-2.0	1997	4.2
1978	14.0	1988	19.0	1998	-7.5
1979	25.0	1989	30.0	1999	-2.7
1980	17.0	1990	-13.0	2000	0.2

Source: GFMS

Firstly, the distribution network was significantly enhanced in 1985 when Po Sang Bank, a member of the Bank of China Group, was appointed as the sole distributor of the Maple Leaf. Their experience and influence at the Chinese Gold and Silver Exchange Society, coupled to their extensive retail experience in marketing treasury types of products (such as multiple-foreign currency deposit accounts and margin trading accounts) to retail customers through their banking network, was a major fillip to

the local coin market. Possibly most importantly of all, Po Sang Bank encouraged customers to trade gold coins by narrowing the spread to only US$1.00 and making this facility available through their 220-plus branch network.

Secondly, towards the end of the 1980s, uncertainties concerning the handover of the colony to the mainland in 1997 witnessed a massive wave of emigration to Canada, primarily by middle and upper class Hong Kong residents. Many of these people bought Maple Leaf coins before emigrating, partly as a means of transferring their wealth, but also because is was widely perceived as a "patriotic" act to buy the gold coins of their newly adopted homeland.

Finally, another factor behind the success of coin in the 1980s was the high spending on advertising by the gold coin industry. For example, total expenditure jumped from US$700,000 in 1985, when the Maple Leaf was the only coin being advertised in the market, to around US$2.4 million in both 1988 and 1989, when all of the bullion coin brands were being actively marketed. It is revealing to note that in the early 1980s, when the Krugerrand was dominant, something in the region of US$2 million per annum was being pumped into advertising that particular coin.

Hong Kong Coin Imports (tonnes)

Year	Tonnes	Year	Tonnes
1979	3.0	1990	7.4
1980	1.2	1991	4.9
1981	8.2	1992	4.0
1982	3.5	1993	3.5
1983	3.4	1994	2.0
1984	12.8	1995	1.0
1985	9.9	1996	0.4
1986	5.1	1997	1.0
1987	11.5	1998	0.5
1988	17.3	1999	0.4
1989	16.5	2000	0.2

Source: WGC

All of the major bullion coin brands saw elevated levels of sales in Hong Kong in the 1980s, although the Maple Leaf was by far and away the dominant one in the latter stages of the decade. In 1985, just before the Krugerrand fell out of favour because of its apartheid associations, the Maple Leaf had a 36% market share (versus the Krugerrand's 62%). However, by the following year, its share had risen to over 60%. In 1988, the peak year of coin demand, the Maple Leaf had a 50% market share, followed by the Panda with 22% and the Eagle, the Nugget and the Britannia each with just under 10%.

A period of benign neglect, coupled to a changing investment climate, saw coin demand fall dramatically in the following years. Having consumed over 16 tonnes of coin in 1989, demand fell to just over seven tonnes the following year. By 1996 less than one tonne was imported, and in 2000, coin sales were being counted in the kilogrammes.

Singapore

Retail Investment Demand (tonnes)							
Annual							
1993	1994	1995	1996	1997	1998	1999	2000
-7.0	-3.5	2.8	2.3	2.3	-1.6	1.0	0.9
Quarterly							
99Q1	99Q2	99Q3	99Q4	00Q1	00Q2	00Q3	00Q4
0.3	0.2	0.2	0.3	0.2	0.2	0.2	0.3

Source: GFMS

Singapore - Economic and Social Indicators (Source: EIU)

Population:	4.0m (2000)
Population growth:	3.7% (average, 1996-2000)
GDP growth:	6.3% average (1996-2000); 9.9% (average, 2000)
GDP per head:	US$27,330 (2000)
Inflation:	0.9% (1996-2000); 1.4% (average, 2000)

Although Singapore has a long history of bar hoarding and coin purchases, having accumulated around 200 tonnes net, purchases have fallen off sharply in recent years. Also, the city state has always been first and foremost a transshipment point for gold moving into the rest of the region, and a very small percentage of the gold imported has ever stayed put.

Retail Investment Demand (tonnes)			
1973	1.0	1987	4.4
1974	5.0	1988	14.7
1975	4.1	1989	8.0
1976	10.0	1990	11.6
1977	6.0	1991	3.5
1978	3.0	1992	13.1
1979	12.0	1993	-7.0
1980	6.1	1994	-3.5
1981	9.3	1995	2.8
1982	6.3	1996	2.3
1983	7.5	1997	2.3
1984	21.9	1998	-1.6
1985	12.9	1999	1.0
1986	6.6	2000	0.9

Source: GFMS

The Singapore gold market was opened on 1st April 1969, as part of the strategy to make it an important financial centre. It became the main distribution centre for physical gold to South East Asian countries such as Indonesia, Malaysia, Thailand and Vietnam as well as becoming an important source of supply for the Indian sub-continent.

Singapore, unlike Hong Kong, has remained essentially a physical market and although major bullion banks are active there, along with some local banks, it has never been a major trading centre. For example, the Gold Exchange of Singapore opened in 1978 with two futures contracts of 100 ounces and 1 kilogramme, but achieved little success.

Singapore's Coin Imports (tonnes)

1980	0.07	1990	3.20
1981	0.11	1991	2.88
1982	0.18	1992	2.59
1983	0.30	1993	1.81
1984	0.50	1994	1.27
1985	0.84	1995	0.51
1986	1.40	1996	0.20
1987	2.33	1997	0.08
1988	2.59	1998	0.03
1989	2.88	1999	0.01

Source: WGC

The exchange then tied up with Chicago's International Monetary Market (IMM) in 1983 to form the Singapore International Monetary Exchange Ltd (SIMEX). It was an open outcry market with a 100 ounce futures contract quoted in US dollars and was cash settled. However, trading volumes were always limited and, although the contract is still technically in place, there has been no trading since March 1996.

Malaysia

Retail Investment Demand (tonnes)

Annual

1993	1994	1995	1996	1997	1998	1999	2000
4.9	4.5	3.5	3.1	2.0	-0.9	3.0	3.4

Quarterly

99Q1	99Q2	99Q3	99Q4	00Q1	00Q2	00Q3	00Q4
0.6	0.6	0.7	1.1	0.7	0.6	0.8	1.2

Source: GFMS

Malaysia - Economic and Social Indicators (Source: EIU)

Population:	23.8m (mid-2001)
Population growth:	2.3% (average, 1996-2001)
GDP Growth:	4.7% (average, 1996-2000); 8.5% (2000)
GDP per head:	US$3,841 (2000, at market exchange rate); US$7,934 (2000, at PPP)
Inflation:	3.1% (average, 1996-2000); 1.5% (2000)

Malaysian bar hoarding and coin purchases have never reached particularly high levels in absolute terms, although considering the population size and income level, the per capita amounts have certainly not been trivial.

The Maple Leaf was heavily pushed by the Royal Canadian Mint in 1989, followed by the Australian Nugget, which resulted in total coin sales peaking in 1990 at over five tonnes. Arguably, further development of this market was held back by an uncompetitive retail pricing structure. Since the weakening of the gold price in the early 1990s, the retail gold investment market has been dominated by other investment tools such as stocks, property and mutual funds.

A Brief History of Gold Market Liberalisation in Malaysia

1983 In order to encourage jewellery-manufacturing industry and promote local merchandise as a major tourist attraction, government abolished the import duty on bullion.
1987 Import license on bullion waived.
1989 10% import duty on bullion coins abolished, first on the Maple Leaf and six months later on the Nugget.
1991 10% import duty on bullion and bullion coins re-imposed.
1992 Import duty reduced from 10% to 5% on bullion and bullion coins.
1993 5% import duty on bullion and bullion coins abolished.
1995 Gold jewellery industry accorded pioneer status under the Investment Promotion Act of 1986.

Retail Investment Demand (tonnes)

1984	0.3	1992	5.6
1985	0.3	1993	4.9
1986	0.4	1994	4.5
1987	1.0	1995	3.5
1988	2.6	1996	3.1
1989	3.9	1997	2.0
1990	6.0	1998	-0.9
1991	5.8	1999	3.0
		2000	3.4

Source: GFMS

More recently, and in response to a request from Prime Minister Mahathir for more investment vehicles for Malaysians, a local coin was launched. The Kijang Emas is minted by the Royal Mint of Malaysia and is distributed by Malayan Banking Bhd and Bumiputra Commerce Bank Bhd at selected branches nationwide. The Kijang Emas is issued in three sizes, one ounce, half-ounce and a quarter ounce with gold purity of 9999.

Malaysia's Coin Imports (tonnes)

1984	0.1	1992	4.3
1985	0.2	1993	3.0
1986	0.4	1994	2.1
1987	1.0	1995	0.8
1988	2.6	1996	0.3
1989	3.7	1997	0.1
1990	5.3	1998	0.1
1991	4.8	1999	0.0
		2000	0.0

Source: WGC

5. PRIVATE INVESTOR STOCKS

Summary

This Chapter provides data and commentary on private investor stocks of bullion. The analysis extends to all private investor stocks, not just those held by retail investors. This is necessary because there is insufficient information on which to distinguish between different categories of private investor stocks, for example separating institutional from personal or family holdings.

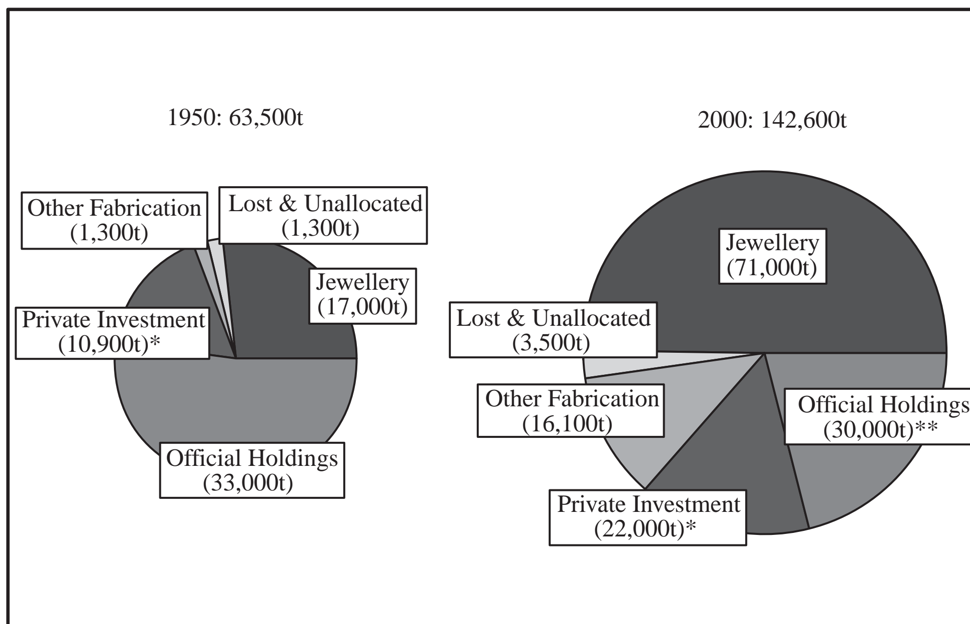
Another point to make about the analysis in this Chapter is that for the majority of countries, we are not yet in a position to distinguish between stocks of bars as opposed to coins. At a global level, however, we have been able to make a tentative estimate for each of these categories of bullion.

The starting point for any analysis of above-ground stocks is cumulative historical mine production which totalled 142,600 tonnes at the end of 2000. The comparable figure in 1950 was 63,500 tonnes. Due to the boom in mine production over the past 20 years, the above-ground stock has increased by nearly 40% since 1980 alone.

Above-ground stocks fall in to two basic categories: fabricated products and bullion. The latter can be further subdivided into private and official sector holdings. Allowance also needs to be made for a small amount of metal that has been "lost" over the millennia or which cannot be accounted for.

A noticeable change when comparing the distribution of above-ground stocks in 2000 with that in 1950 has been the declining share of official sector reserves. New mine production since then has gone almost exclusively into fabricated products and, to a much lesser extent, private bullion stocks. Also, since about 1989, there has been a net transfer of gold from the official to the private sector, mainly for the fabrication of jewellery. As a result, since 1950, official bullion stocks (excluding nearly 5,000 tonnes of metal lent to the market at the end of 2000) have fallen by close to 10%, while stocks of

Global Above-ground Stocks



* Includes bar hoarding, European and North American investment and coins.
** Official Holdings excludes lent metal.

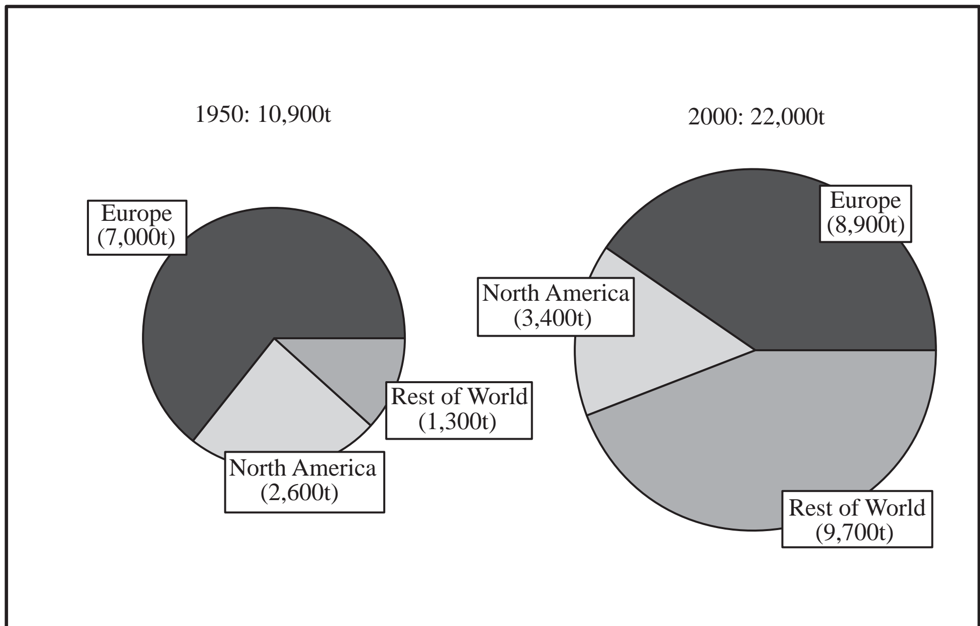
fabricated products, mainly jewellery, have risen by almost 400%. Over the same 50 year period, private investor stocks rose by over 100% to an estimated 22,000 tonnes at the end of 2000. In relative terms, the percentage of the total above-ground stock of gold accounted for by private investors has fallen slightly from 17% in 1950 to 15% in 2000.

Private investor stocks can be further analysed on a disaggregated basis. One revealing distinction is the one to be made between holdings of bullion bars as opposed to coin. At the end of 2000, on a global basis, we estimate that, of the 22,000 tonnes of total private investor stocks, 16,300 tonnes (74%) was in bar form and 5,700 tonnes (26%) held as coins. If we were able to distinguish between retail and other investors (see comments above), there is little doubt that the percentage of bullion held in coin form by retail investors would be much greater than the above percentage shows. Conversely, other holdings, be they institutional or proprietary, would overwhelmingly be in bar form. This observation is also true for most metal account and "paper gold" holdings - only occasionally are these in coin form or backed by positions in bullion coins. In spite of the strong sales of coins such as the Krugerrand, Eagle and Maple Leaf in the 1970s and 1980s, it is probable that the share of coin in the global total for private investor stocks has fallen. One reason for this is coin melt, especially in the latter part of the 1980s and in the 1990s. This phenomenon has affected the stock of Krugerrand and, even more so, that of certain pre-World War 2 coins such as the French Napoleon.

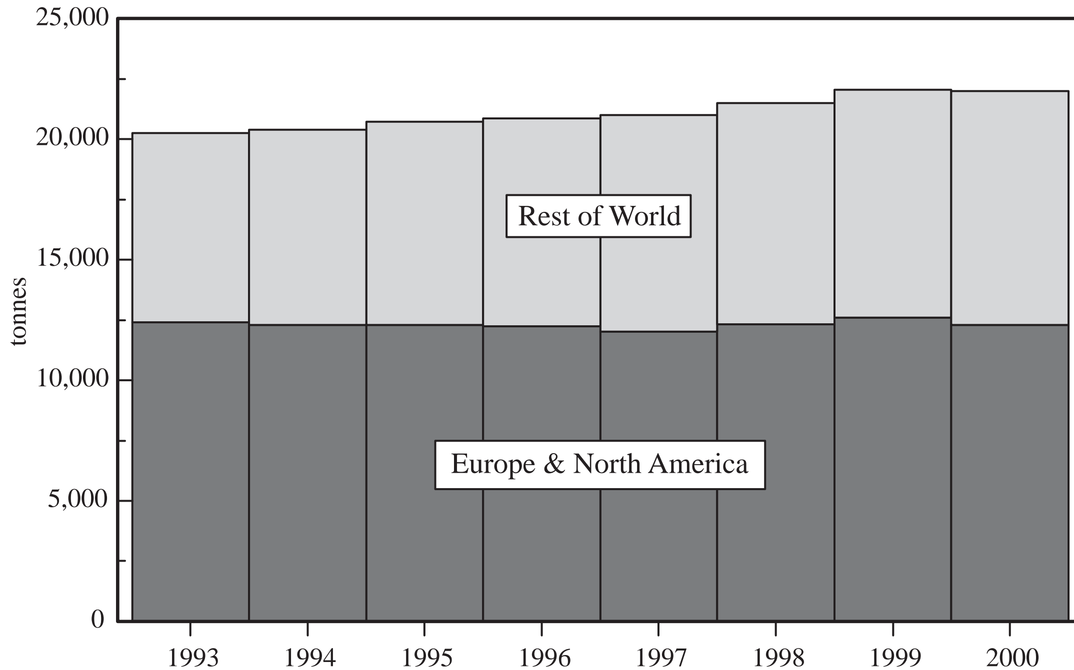
The second reason why the share of coins will have fallen is the growth in demand from developing countries plus Japan in the last 20 years compared to a stagnation in the combined offtake of Europe and North America. The important point to note here is that demand from developing countries has always mostly been for bars such as kilobars, ten tolas and tael bars. Relatively little coin has been absorbed over the past two to three decades in developing countries and Japan.

This brings us to the subject of the breakdown by country of global private investor stocks. In the sections below we present a detailed analysis of private investor stocks by country. The table and accompanying graph overleaf summarise our findings. What they show is that some of the largest stocks

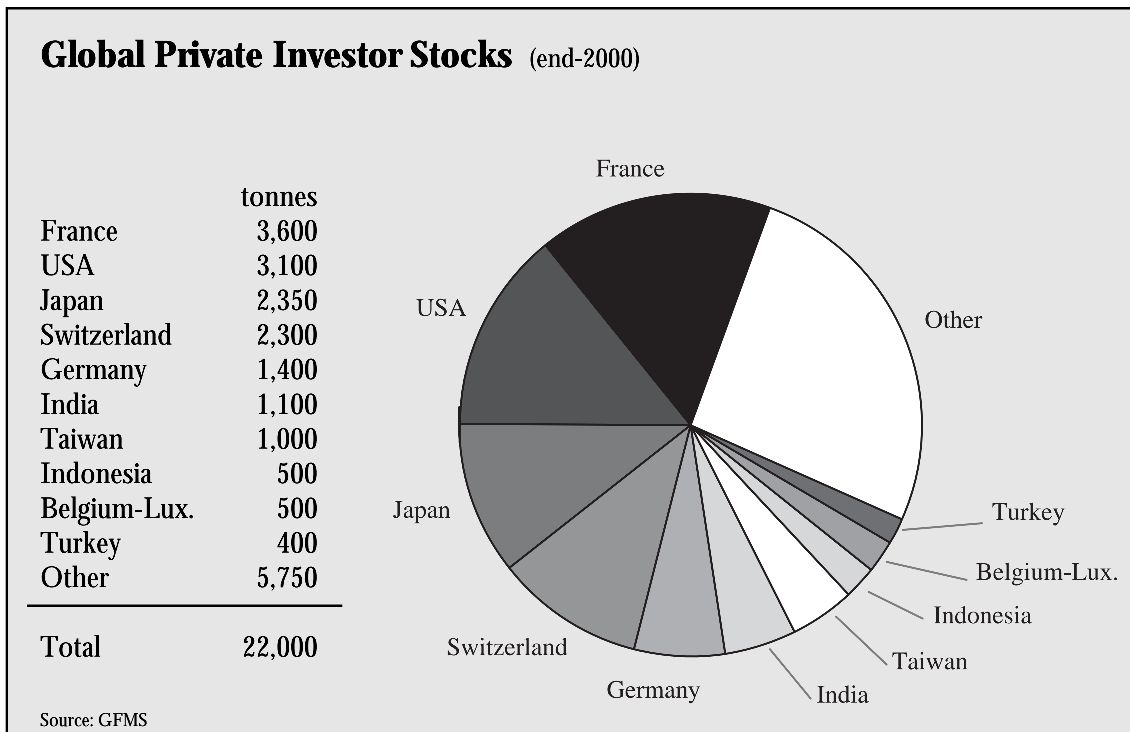
Global Private Investor Stocks



Global Private Investor Stocks 1993-2000



are still to be found in Europe and North America. (Furthermore, it should be borne in mind that our estimates for most European countries are conservative, which could, in part, explain the large entry for “Other” in the table below.) Nevertheless, most of the growth in stocks since 1980 has taken place elsewhere, especially in Japan and certain other Asian countries. Indeed, in the 1990s total private investor holdings in Europe and North America combined are estimated to have fallen slightly. By contrast, such stocks in the rest of the world rose by more than 2,000 tonnes in 1993-2000.



Global Private Investor Stocks (end-2000)

	tonnes
France	3,600
USA	3,100
Japan	2,350
Switzerland	2,300
Germany	1,400
India	1,100
Taiwan	1,000
Indonesia	500
Belgium-Lux.	500
Turkey	400
Other	5,750
Total	22,000

Source: GFMS

Methodology

The assessment of individual country private investor stocks of gold bars and coins is a complex procedure. Other published studies provide little help as they rarely contain any country-specific information. Even that which is available must be treated with some caution. For example, a figure for France may be frequently referred to yet we need to know whether this is of substance or just a rumour made concrete by repetition.

Much of the absence of published information stems from the marked lack of hard public data. For coins at least, good numbers are available for minting by country yet these become rapidly undermined by poor information on their remelt and import or export. The information gap for bars is if anything even more acute. Despite this, we have assembled what should be taken as a fair breakdown of individual country numbers by piecing together what fragments of hard data there are with information contained in GFMS' archives (which stretch back over 30 years) and by backing this up through consultations with key players in the industry. Given these complexities, it was often most appropriate to provide a range of estimates for some of the countries in question.

Contrary to expectations, the estimates for some countries not best known for their provision of statistics, such as many in the Middle East, are easier to assemble than those for western countries, such as Switzerland. In large measure this is because the former group (plus Japan) is covered by the GFMS bar hoarding series, which extends back to 1968. Once an allowance has also been made for coin remelt and trade, the sum of these series therefore provides a straightforward and quick estimation of the total stock built up since 1968. Assessing the investment volumes prior to this date is of course far trickier but the scale of the numbers involved at this point (typically between 10% and 20% of the end-2000 figures) means their level could easily be within the realistic margin of error for the 2000 figures.

Such luxuries do not, sadly, exist for Europe and North America and it would be wrong to assume that there is compensation in the form of published, hard data as this remains rare and intermittent. The picture is also complicated because much of the private investor stock in these regions (particularly in Europe) was already established prior to 1968. For Europe and North America, therefore, our conclusions are instead based more heavily on consultations with banks, coin dealers and the like plus a systematic review of in-house archive information.

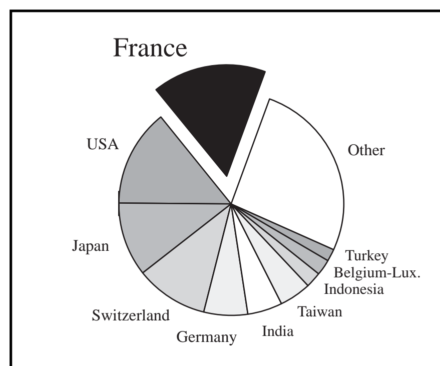
Europe

It is frequently claimed that **France** is home to some 5,000 tonnes of private investment gold. It is our belief, however, that a figure of 4,000 tonnes marks the upper limit of possibilities and the figure could even be less than 3,000 tonnes.

A substantial amount of gold was certainly acquired for private investment during the 1950s and 1960s when political and economic uncertainties encouraged heavy investment. Some years are said to have exceeded 100 tonnes though a more typical figure might be closer to 50 tonnes net. As such, the figure for total net investment during these two decades is thought to be in the region of 1,000 tonnes.

During this period, it is believed that this investment was split roughly equally between bars and coins. The most popular coin by some margin was the domestic Napoleon though Switzerland's Vreneli and Mexico's 50 peso coin also achieved substantial volumes in many years. (The peso was popular with more serious investors as the premium it commanded over the gold price was far lower than that for more obvious coins.)

Holdings prior to this period were also not insignificant but most studies point to levels of coin stocks well under 1,000 tonnes and bar hoarding at a not dissimilar level. These two stock numbers plus the additions of the 1950s and 1960s therefore imply a stock figure for the early 1970s of around 3,000 tonnes. Some additional investment occurred during this decade but already in the late 1970s France began to swing from being a substantial net hoarder of gold to a net dishoarder.



The last time major investment took place was in 1981 when net investment is said to have approached the 100 tonne mark. This sudden leap was essentially the result of the Socialists' parliamentary victory that year which triggered a variety of mainly economic concerns. Since then, net disinvestment has increasingly become the norm, amounting to an estimated 277 tonnes, for example, from 1993 to 2000. As such, we can perhaps at best regard the 5,000 tonne figure as a slightly exaggerated high-water mark that occurred sometime during the 1970s.

There were three principal factors behind the above mentioned shift from hoarding to dishoarding.

- Arguably the most important was a long term, broad change in social attitudes that began during the 1970s and has become even more apparent since. This relates to younger generations no longer seeing any value in holding gold as the political and economic concerns that so troubled their parents no longer seem relevant. This was compounded by gold's disappointing price performance during the 1980s and the rise of accessible alternative investments.

- Speculation and to a large extent therefore investment were heavily curtailed in 1977 by the introduction of a 4% tax on any gold being sold, regardless even of whether a profit or loss had been made on the transaction. This tax was increased over the years and now stands at 8%, a level that even further discourages retail investment in gold. A black market in gold did come about to circumvent the tax but this only partially made good any volume losses.

- A final lesser factor was the end to the anonymity of gold trading in 1981 which meant black market money was less likely to seek gold out. It may be of interest that gold coin prices on the Paris market dropped 5% on the day this legislation was introduced.

Perversely, the absence of anonymity and the existence of a sales tax may now be helping to maintain existing gold holdings as potential sellers shy away from alerting the tax authorities to their inheritances and in particular their property valuations.

Various estimates have been made of disinvestment since the late 1970s which suggest a net figure of around 30 tonnes a year. This therefore points to a retail investment stock by end-2000 of closer to 4,000 rather than the original 5,000 tonnes. It is quite possible, however, that this level of disinvestment remains understated. This could have come about through the following ways:

- Covert trade: If people have only ever looked at official numbers, this would immediately exclude the covert movement of often sizeable volumes of gold out of France into neighbouring European countries and North Africa. Flows into Algeria, for example, could prove strong when tensions there grew. Such exports were in part a function of the cheap price of gold in France with the Napoleon, for example, normally trading at a 2% discount to its gold content. Movements to neighbours such as Luxembourg would primarily be driven by the desire to avoid the sales tax, with those shifting the supplies usually motivated either by a wish to move money into a more attractive investment class or as a distress sale.

- Coin remelt: A second factor behind movement to neighbours has been to remelt coins, since the remelt of French gold coins within France is illegal. This plus domestic black market melting helps explain another more general factor behind the overestimation of stocks, namely that the scale of the coin remelt may also be larger than some suppose.

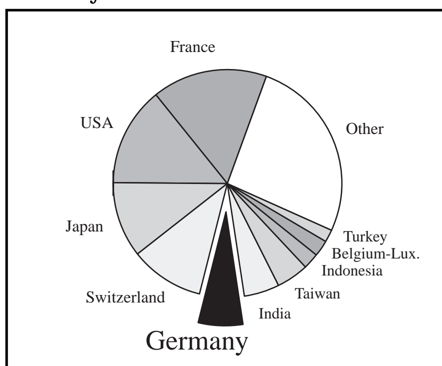
- Coin repatriation: A substantial volume of foreign coins, most typically American, held within France has been sold back to their home countries where they can command a far higher premium over their gold content.

- Mint number duplication: Another minor factor which could lead to coin stocks being overstated concerns actions taken during World War 2. Just prior to the German invasion in 1940, a sizeable number of coins were melted down into bars so that they could be more easily moved abroad for safekeeping. These coins were all replaced immediately after the war, being restruck as the 'Coq Neuf'. This production therefore does not represent any addition to the volume of coins held in the country compared to the situation pre-War. Conversely, another subsequent factor may mean estimated coin stocks have been underestimated; additional coin minting after the replacement programme was limited but it has often been claimed that the actual number of coins produced was higher than that published.

As noted above, this leaves France with at best 4,000 tonnes and perhaps less than 3,000 tonnes of gold held as private investment. Precision on the split between coin and bar is difficult to achieve. Various trade estimates point to there being easily over 1,000 tonnes of coins remaining and perhaps as many as 2,000 tonnes. The obvious liquidity of the Napoleon market certainly supports estimates of the existence of a sizeable volume. This argument is reinforced by the illiquid nature of a fair portion of the rest of this market; the supply from inheritances must contain an element that lacks fluidity and there is the reluctance in some cases to sell because of tax implications.

It can be assumed with a fair degree of certainty that by 1950 **German** private investor stocks had experienced over a generation of decline and were at a low level. The hyperinflation of the 1920s would seem to have damaged as much as promoted gold investment due to its destruction of financial wealth. The following decade saw draconian financial as well as political controls imposed by the Nazi regime. And the privations of World War 2 and its immediate aftermath would also surely have seen private gold stocks fall rather than rise. Thus, we think it doubtful that such holdings in 1950 would have exceeded more than, at most, a few hundred tonnes. For the purposes of this analysis, we have therefore deliberately chosen what could be a fairly conservative starting point of 200 tonnes for private investor stocks in Germany.

There was certainly some build-up in stocks during the first two decades of post-War economic recovery. Nevertheless, on the basis of the limited information we have on offtake during this period, it would not seem as if German investor demand was very substantial. For instance, a study of the German gold market made by the mining group Consolidated Gold Fields (CGF) in 1968 concluded as follows: "...in contrast to the French and Austrians, Germans hoard practically no gold (in Germany), though it is suspected that small tonnages are held by wealthy German residents in Swiss banks...". Even though the CGF report was probably a little too dismissive of investor interest in the country, its basic conclusion would appear to have been sound, at least that is until the 1970s.



In fact we have discovered that, according to CGF, already in 1969 German bar hoarding had hit 15 tonnes. Demand for gold bars then declined and was at a low level in 1970-73 (a few tonnes per annum) due to the 11% Value Added Tax (VAT) in force at the time plus the successful introduction of the Krugerrand, which was VAT-free. Sales of the Krugerrand in Germany were estimated to have hit 13 tonnes in 1971, the first full year that they were available in the country. (The coin in fact made its debut in the fourth quarter of 1970.)

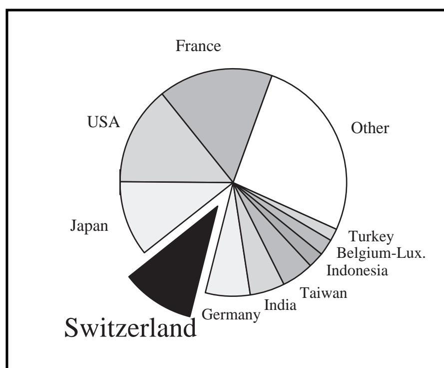
Overall, demand in Germany in the mid to late-1970s was at a very healthy level. Our information is that offtake of bars and coins combined was consistently above 50 tonnes and occasionally hit 70 tonnes. The larger part of this demand was in the form of Krugerrand purchases, although in certain years, e.g. 1974, gold bar sales by the banks to investors were also strong. The prime motivation for investor purchases at this time was inflation (the 7% level being cited as an important psychological trigger point), the rising deutschemark gold price and the poor performance of most other financial assets. In this environment, the positive commitment of major German banks to the bullion investment market was another important factor behind the high level of demand and consequent growth in private investor stocks. It was common at the time for banks to recommend gold to their clients. For example, in September 1976, one of the big German banks was advising a 10%-15% portfolio weighting for its discretionary accounts.

There were two important changes to the German private investor market in the 1980s. Firstly, the absolute level of net investment fell sharply due to lower primary demand and more selling back of material through the secondary market. What lay behind this was in large measure the decline in inflation, the high real interest rates that helped bring this about and, by contrast, the declining trend in deutschemark gold prices, which from end-1979 to end-1989 fell by 24%. (Another factor was that the "pro-gold" generation, which had experienced severe economic difficulties and the hardships of World War 2 was beginning to pass away.)

Secondly, a higher proportion of gold purchases by German citizens was effected outside the country, primarily in Luxembourg and Switzerland. Although some of this gold was repatriated, the bulk was kept where it was purchased. The reasons for this shift owed a lot to the imposition of VAT on coins (it had already applied to bars) and more intrusive rules on the identification of investors in Germany compared to other jurisdictions.

Nevertheless, in spite of these twin trends, it would be wrong to conclude that the 1980s saw no loco-Germany investor demand. During the first few years of the decade, indications are that, while falling short of the previous decade's peaks, purchases of bars and coins remained at a healthy level. However, it is clear that, from the middle of the 1980s onwards, investor interest was waning. We estimate that, for the 1980-89 period as a whole, net investor demand in the country could have averaged 20-25 tonnes per annum.

Loco-Germany net demand in the latter part of the 1980s and in 1990-92 was certainly comfortably below this 20-25 tonne mark. The lifting of VAT from investment gold in January 1993 then gave the local market a boost to above this level. As explained more fully in Chapter 4, from 1993 to 1998, cumulative net investment totalled 207 tonnes. In 1998, the level of private investor stocks is estimated by us to have peaked at a little over 1,400 tonnes (given that the local market swung into net disinvestment in 1999 and 2000). As mentioned at the beginning of this country section, this figure assumes a starting point of around 200 tonnes in 1950. It is interesting to note that well over a quarter of the estimated 1,200 tonne rise in German investor stocks between 1950 and 2000 took place in the six golden years from 1974-79.



Establishing a reasonable estimate for the level of private investor gold holdings in **Switzerland** has proved to be extremely difficult. On the bullion product side, foreign markets dominate Swiss refiners' output, which complicates matters compared to, say, Germany where local output of small bars can generally be assumed to be for local investors. Similarly, the Swiss banks, especially in recent years, have had little cause to spend much time on the local investor market. What this means is that it is difficult to gather meaningful information from source on the scale of local investor purchases (or for that matter sales). Another difficulty stems from the issue of client confidentiality which makes a simple survey of, for example, allocated and unallocated accounts held with the major financial institutions something of a non-starter. This is important because we believe that the majority of investor stocks in Switzerland is held by banks on behalf of their private customers, unlike for example France where individuals personally hold nearly all the private investor stocks located in that country.

As mentioned above, it has not been possible to obtain comprehensive, hard data on the quantity of allocated and unallocated gold held by the Swiss banks. Nevertheless, this is an issue that GFMS has been investigating for a long time and over the years several of the major players have given some guidance as to probable tonnages and also been prepared to comment on the trends in these stocks. The quantity of gold held on this basis within the banking system in Switzerland is a matter of commercial sensitivity. We are therefore reluctant to discuss numbers. Suffice it to mention that the quantity in question is conservatively thought by us to be in the several hundreds rather than tens of tonnes range.

A complicating factor when evaluating the level of these stocks is their location. There are two questions that immediately spring to mind in this regard, the first relating to whether stocks managed by Swiss banks are necessarily in Switzerland (as opposed to e.g. loco-London) and, secondly, the proportion of unallocated metal that is not physically held but instead lent out by the commercial banks to the market. (These questions, of course, apply equally to investors' stocks managed by banks from other countries.) Above all when it comes to unallocated accounts, it is very difficult to establish exactly where metal is held and how much of it is really available as opposed to committed in the form of loans. Nevertheless, our understanding is that over the years the proportion of unallocated metal has grown as has the percentage of this bullion that the banks are prepared to lend out. (Once again, these observations are good not just for the Swiss banks.) Tempering this is the fact that overall metal account and similar such holdings had until recently declined for at least a decade.

A final point to make about the stocks managed by the banks is that they are mostly foreign-owned. In the post-World War 2 era, Switzerland has attracted a very large share of what might be termed "flight capital" from both Europe and further afield. During much of this period, the Swiss private and large commercial banks were actively encouraging their customers to park significant percentages of their monies in gold bullion. This was the era of the famous "10% in gold" portfolio recommendations. (Indeed in researching this Chapter, we found that our files contain numerous examples of such recommendations from Swiss and other banks made during the 1960s, 1970s and through to the mid-1980s urging clients to place anything from 5% to 15% of their portfolios in gold. In one extreme case, a figure of 33% was for a while the advice of a non-Swiss institution!)

A smaller part of the country's private investor holdings would be held either entirely outside of the banking system or in safety deposits. For example, we assume that the bulk of the Vreneli gold coin production, which has not been melted over the years, is held privately (and by Swiss citizens) rather

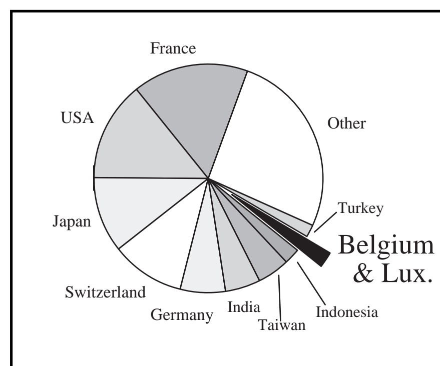
than in metal accounts or managed portfolios. According to one informed source, the amount of Vreneli still in circulation could amount to more than 150 tonnes. (A slightly smaller quantity appears to have been melted over the years.) In addition, we would be surprised if directly held stocks of other coins and bullion bars do not amount to considerably more than this, i.e. several hundred tonnes. A good deal of these other bullion products would probably be owned by foreigners and held in safety-deposits located in Switzerland.

Overall, we estimate that private gold stocks held in Switzerland must have comfortably exceeded 1,500 tonnes and are more likely to have been safely over 2,000 tonnes at the end of 2000. For the purposes of this study, our "best-guess" would be a tentative 2,300 tonnes. As described above, after growing in the 1960s, 1970s and early 1980s, the level of these stocks has until recently declined. Furthermore, the quantity actually "available" is difficult to determine and may have fallen still more sharply due to commercial banks lending out a higher proportion of their unallocated investor metal.

Until the 1990s, since when they have consistently featured as net sellers, **Belgian** investors could be described as "gold friendly". The experience of two major wars in the last century plus the surprisingly large informal economy provide much of the explanation for why bullion stocks in the country probably amount to several hundred tonnes. From the mid-1960s through to the late 1970s, we estimate that net investment in the country ranged from 5 to 10 tonnes per annum. Belgium was a good market, for instance, for the Krugerrand coin and we assume that it still accounts for a large part of private stocks. Other coins and, especially, kilobars would make up the balance of investor holdings.

Demand in Belgium slackened in the early 1980s, in particular after a 6% tax on bar and coins came into force in September 1981. Although this tax was reduced to 1% in March 1982, the local market never recovered its former levels. Much of the business in the interim had been driven to Luxembourg and, in any case, Belgian investors' love affair with gold seemed to have ended by the end of the 1980s. Indeed, since then, private stocks have declined due to regular disinvestment of bars and coins.

The **Luxembourg** market came about in 1981 (the first gold fixing was in March) due to the imposition of tax on bullion in Belgium and on the Krugerrand in Germany. In the early 1980s, much of the investor demand from these countries, to a lesser extent other European states and, initially, also France was actualised in the Grand Duchy where bullion remained tax-free. The other advantage provided by Luxembourg was that it provided a greater degree of anonymity to foreign investors than they could expect at home. Thus, it was no surprise that there was healthy demand in Luxembourg for physical gold and metal accounts during the early to mid-1980s. Our information is that at this time over 40 tonnes a year were being snapped up by investors. A little over half of this was in bar form with the balance in coins, especially the Krugerrand and also, towards the middle of the decade, the Maple Leaf. Approximately 75% of this metal was thought to have nominally remained in Luxembourg. (One important difficulty is knowing to what extent some of this gold was switched at the time or subsequently into loco-London positions.)



In the second half of the 1980s, gold demand in Luxembourg declined. By the end of the decade, annual offtake had fallen to below 20 tonnes. Furthermore, there was an increase in the amount of metal being sold back to the banks by investors (e.g. this was notably the case in 1989). Thus, net investment was falling even more sharply. Another factor was that an increasing amount of activity, especially the kilobar business, was in reality related to jewellery fabrication and other tax-driven issues in other countries. By the early 1990s, the reduced investor interest in gold plus measures taken to

control the above-mentioned activities had resulted in Luxembourg becoming a shadow of its former self. The final deathblow came with the lifting of VAT from investment gold in Germany which removed most of the Luxembourg market's remaining customers.

Distinguishing between demand in Belgium and Luxembourg has never been easy. For example, trade data for the two countries, as well as a host of other statistics, treats them as one entity. With this caveat in mind, we expect that a slightly larger share of the roughly 500 tonnes of private investor stocks that we estimate for the two countries combined should be located in Luxembourg (although as mentioned above, some of this may have been swapped into London).

Austria is another European country with a long pedigree of private investment in gold. As we explain in Chapter 4, it was Europe's star market in the 1990s, even if the absolute tonnages involved are somewhat questionable. Indeed, merely adding up the numbers for 1993-2000 published in this report would suggest an 89 tonne addition to private investor stocks over that period. Taking into account the likely level of investment demand prior to 1993 and making an allowance for the post-World War 2 level of stocks (conservatively estimated at between 30 and 60 tonnes) results in implied holdings of around 200 to 300 tonnes at end-2000.

One area that can often get overlooked as an area in which private supplies of bullion may have built up relates to possible differences between theoretical and actual working losses in **Italy**. The latter is invariably lower than the more generous theoretical provisions under fiscal legislation. The resulting gap represents additional gold that will have either gone into unofficial fabrication or into bullion stocks. It is thought that the latter would account for the majority of such supplies and that the majority of these stocks may well be held in Switzerland. Nevertheless, it is important not to overstate the significance of this component. Estimates towards the top end of the range of possibles imply that the volume of bullion accumulated here is unlikely to have greatly exceeded 100 tonnes. Besides this special phenomenon, there has been little evidence of wider investor interest in gold bullion. This has had relatively little to do with the draconian exchange control regulations that until recently also affected gold. For instance, we have only rarely come across evidence of Italians purchasing bars and coins (except for jewellery fabrication purposes) in the major "free" gold markets of Europe. It has probably had more to do with historically high interest rates on the country's debt and the fact that Italian treasury bills could be acquired and held anonymously. Private investor bullion stocks held in Italy outside the jewellery industry are therefore thought to be low.

With the exception of the United Kingdom, bullion stocks elsewhere in Europe are not thought to be at a particularly high level. For example, holdings located in the **Netherlands** are thought to total less than 100 tonnes. Even though there was some investor interest during the 1970s that saw demand for a few years reach up to 4 tonnes per annum, this was somewhat exceptional. Making an estimate for probable retail investor stocks and a limited amount of local metal account holdings, we would be hard pressed to exceed the figure quoted above. Much the same would apply to other countries in Europe that are not covered in the earlier sections of this Chapter. Collectively, their private investor stocks are unlikely to exceed a few hundred tonnes.

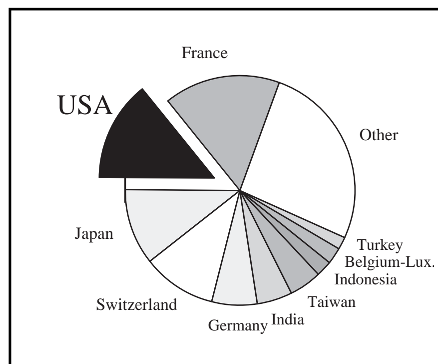
The **United Kingdom** is probably something of an exception. This is not due to a history of local investment demand. As explained in Chapter 4, this has been patchy at best. The average British investor has traditionally not been much interested in bullion (rather like the Scandinavians and the Dutch). This suggests to us that UK investors' stocks would not have been that great at our starting point in 1950. We have no hard data to go on and so can only guess that perhaps a few hundred tonnes at most were held back in 1950. Through to the early 1970s, we doubt that these stocks would have grown by much. Apart from the investors' traditional lack of interest in bullion, this can be assumed because, prior to this date, gold investment was strictly prohibited as part of the country's foreign exchange controls. Indeed, it was illegal to possess gold bullion in any form as a private individual,

except as a bona fide collector of numismatic coins. (Even then, proof was needed for the Bank of England in order to obtain a licence.) Once these controls were relaxed, some local buying interest emerged. Yet even if the majority of the 121 tonnes of Sovereigns sold between 1974 and 1982 were still held locally, the implied quantity is not that impressive for what was one of the main gold investment vehicles at the time. Adding to this purchases of the Krugerrand and other coins plus a limited amount of small bars both before and after the period quoted above, we doubt that cumulative net investment in the 1970s and 1980s could have exceeded, at most, a couple of hundred tonnes. In fact, taking into account some disinvestment, coin exports and local melting of coin as part of VAT frauds, we would be more comfortable with an indicative number for UK investment of closer to 100 tonnes over the two decades in question. Added to this would be a minimal level of demand in the 1990s. In conclusion, we would be surprised if UK investors' stocks were outside a 150-350 tonne range in 2000.

As alluded to on several occasions earlier in this Chapter, loco-London positions are something of a "wildcard" in our assessment of private investor gold stocks in the United Kingdom. We are unsure as to how significant these may be when it comes to the private investor. It is probable, however, that such positions are often rather short term and fluctuate a good deal more than do directly-held retail investor stocks. Also, caution is probably advisable, given that investors have tended to be short rather than long gold in recent years. Nevertheless, it would surprise us if, at times, loco-London stocks held by or on behalf of private investors had not reached sizeable quantities.

North America

Gold investment in the **United States** was prohibited from 1933-74. Nevertheless, it is clear that not all Americans handed over their bullion to the authorities. An assessment of the data on coin melting by the US Treasury from 1933 through to the post-World War 2 period strongly suggests that a relatively large amount of bullion was retained by the public. Most of this would have been in coin form (the majority American but also some foreign coins). Such stocks, including a smaller amount of bar gold, probably exceeded 1,000 tonnes in 1950. A figure of this order of magnitude is supported by other studies we have come across in researching this issue. One of these (Sherman) concluded that at the end of 1974, private stocks were around 1,400-1,600 tonnes, most of which was accounted for by coin acquired before 1933. This fits well with our own conclusions and, moreover, supports the view that the stock build-up from 1950-74 was relatively small.



The unshackling of the US investor that took place in 1974 did not at first result in a widespread move into gold. However, in the second half of the 1970s, demand was booming. For example, in 1978, North American sales of the Krugerrand coin hit 72 tonnes. Offtake was at a high level through into the 1980s. The study mentioned above quoted a figure of 1,213 tonnes for the rise in private stocks from 1974-81, of which 637 tonnes was in coin form and 576 tonnes in bars. We would not dispute the coin numbers - our own estimates are broadly in agreement. However, the bar number, which was derived from an analysis of the US import/export data, is we believe far too high. Our information is that the volume of bars sold has always been markedly less than sales of bullion coins. GFMS' own estimates are that from 1974-1981 stocks may have risen by closer to 700-800 tonnes. This would have left the outstanding level of private stocks at around 2,300 tonnes at the end of 1981.

Demand during the 1980s was strong, partly due to the introduction of the US Eagle coin. We can be fairly sure that stocks rose by another 300 tonnes plus through to the end of the decade. Already in 1988, however, purchases had begun to slacken. And investor demand continued to weaken during the 1990s

until the extraordinary 1997-99 period (see Chapter 4 for details) when there was a remarkable growth in, mainly, coin sales to retail investors, followed by a smaller yet significant wave of disinvestment in 2000. From 1990-2000, it is probable that stocks rose by at least another 300 tonnes. This leaves us with a total of around 3,000 tonnes for private investor stocks in the United States at the end of 2000. To this can be added perhaps 300-400 tonnes of **Canadian** stocks (a sizeable proportion of which would be pre-1974 US-owned metal account gold) to give a grand total for North American (excluding Mexican) private investor stocks of possibly up to 3,400 tonnes.

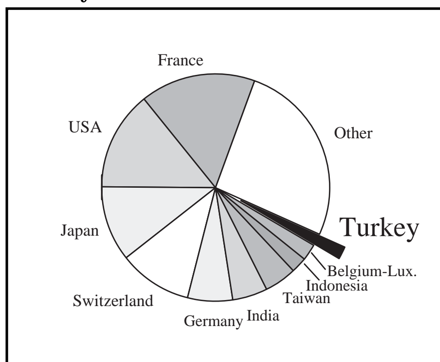
Middle East

It is estimated that total investor stocks for the region as at end-2000 approached a figure of 1,400 tonnes. As ever, the lack of hard data makes a precise estimate impossible and information exists which suggests a number as high as 1,600 tonnes is not out of the question. In this instance, the downside looks more certain with little to imply a figure below 1,300 tonnes. Again, the majority of gold acquisition has occurred in more recent years with sustained investment setting in from the early 1980s. Indeed our estimates show that around 900 tonnes were accumulated in the period 1982-2000.

This bias to the recent is fortunate as the fresher the data, the more certain the number and, as has already been noted, the historical data dating back before 1968 must be treated with caution. Nevertheless, it is our estimate that at this point retail gold investment stocks were in the region of 250 tonnes. It may be of interest that this forms a not insignificant proportion, 18%, of the 2000 figure. The higher estimates noted above for end-2000 total stocks appear to rest upon the assumption of higher pre-1968 figures and it is concerns surrounding the unreliability of this early data that lead us to shy away a little from some of the higher possibilities. Another factor that has boosted others' 2000 estimates is the assumption that all coin and bar gifts should be counted as investments. The vast majority can of course be taken as such but a not insignificant amount would have been *en route* to jewellery fabrication.

Much of the relatively high pre-1968 percentage is a result of the comparatively large amount of historical gold coin fabrication in Turkey and its Ottoman Empire predecessor. The earliest Ottoman gold coin was minted in 1477. The weight and devices of the sultani remained essentially unchanged for more than two centuries when the tughra or imperial monogram was added. In the fourth year of Abdülmecid's reign, all the different types of gold coins then in circulation in the empire were abolished and replaced with a standardised system of "Mecidiye" coinage consisting of coins worth 500, 250, 100, 50 and 25 kurush each. The fineness, weights, dimensions and basic devices of these coins remained unchanged throughout the reigns of the last five Ottoman sultans. The first gold coin issued after the establishment of the Republic of Turkey was a 5-lira piece minted in 1925 under a law passed by the Grand National Assembly.

Turkey is one of three countries, the others being Saudi Arabia and Iran, that dominate investor stocks in bar and coin form in the Middle East, accounting for over 70% of the 2000 total. Another 15% or so is held by the smaller Gulf States whilst Israel and Egypt have the next largest holdings.



Turkey is believed to have the most sizeable private investor stocks in the region with possibly more than 400 tonnes at end-2000. Its chief anomaly is that, whereas in the rest of the Middle East, bar accounts for around 80% and coin 20% of total investor stocks, in Turkey, the shares appear almost to

be reversed. This is chiefly the result of Turkey's long tradition, as noted above, of gold coin production such as today's Zynet coin which is given as a gift. Furthermore, it was only from 1989 that individuals were allowed to hold bars.

The next most significant holdings are believed to be in **Saudi Arabia** at around 350-400 tonnes. Bars are the overwhelming choice for investment with coin inventories not thought significant. The vast majority was acquired from 1982 onwards as oil revenues began to generate the requisite purchasing power. For Saudi Arabia, acquisitions in the period 1982 to 2000 account for almost four-fifths of end-2000 stocks compared to the regional average of two-thirds. Equally, early acquisitions, those prior to 1968, are thought unlikely to comprise more than 10% of the 2000 total.

Iran is estimated to have private investor stocks somewhere over the 200 tonne mark though, in light of the opaque nature of gold dealings and statistics in general within the country, a significant "health warning" should be given as regards exactitude. Iran is similar to Saudi Arabia in that very little was acquired before 1968 (perhaps less than 10%) with the vast majority instead bought from 1982 onwards (again around four-fifths). One important difference, however, is that over a half and perhaps as much as two-thirds of the total level of Iranian private holdings are held in coin form. Anecdotal evidence suggests that bar hoarding only attracted investor interest from the late 1980s onwards.

Of the small Gulf countries, **Kuwait** is understood to have one of the largest holdings of private investment gold, possibly exceeding 50 tonnes. The absolute level may not be that substantial but this gives it a per capita hoarding rate some five times that of Turkey. As noted in Chapter 4, much was acquired in 1992 post-liberation and in 1998 on fresh security concerns. In this instance, security even extends to a fear of holding gold in banks with numerous reports circulating of people having physically buried their gold. Such concerns seem fainter further south in the **United Arab Emirates** where investors' coin and bar stocks may only be a little larger than those in Kuwait despite Dubai's role as one of the world's leading bullion centres.

Israel is slightly unusual in that its pre-1968 gold holdings were comparatively large at over a third of the end-2000 stock figure, no doubt reflecting its own security concerns during the early phase of its troubled modern history. An additional 40 or so tonnes are thought to have been added subsequent to this date.

Despite an affinity for gold in coin form as a store of value or for hoarding, investor stocks in **Egypt** do not appear to account for that significant an amount of gold in tonnage terms, with the total unlikely to be much above 50 tonnes. As discussed in Chapter 4, this is due, among other reasons, to a stronger preference for gold jewellery as an investment vehicle. It is worth noting that, although its investment figure may be an eighth or a sixth of the Turkish and Saudi figures respectively, Egyptian jewellery fabrication is more like two-thirds the size of what it is in these two other countries.

Elsewhere in the Middle East, there is less evidence of significant bar hoarding. As with Egypt, this does not necessarily imply that there is only a limited role for gold as an investment vehicle. Instead, gold jewellery, either in 21 or 22 carat form, has been the preferred investment medium.

Indian Sub-Continent and East Asia

As with all historical stocks data, the further one goes back in time, the less reliable the estimates. Fortunately, in the case of East Asia and the Indian sub-continent, the vast bulk of the acquisition of both jewellery and bar/coin occurred in the post-1968 period, as the various data series in this report show. In the context of bar and coin, GFMS estimates that, of the stocks held at the end of 2000 in

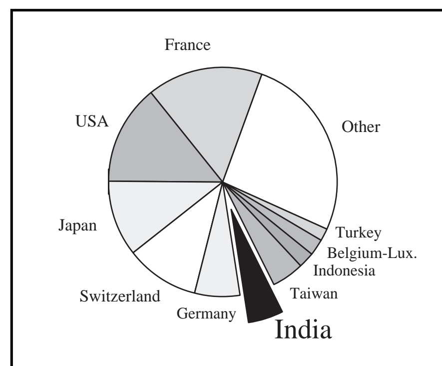
these regions, only 12% was built up in the period before 1968. The discussion below focuses on the acquisition of investment gold prior to 1968. For a fuller discussion of the factors that have driven investment demand post-1968, the reader is invited to read Chapter 4.

In contrast to European and North American investors, Asian hoarders have emerged, in aggregate, as continuous (and usually substantial) net buyers of bars and coin over the past 20 or more years. The increases in bar hoarding during this time have been due to the phenomenal rise in economic wealth in these countries, a traditional affinity for gold and the decline in the price from its 1980-peak (Asian hoarders are also highly price-sensitive). Although, in aggregate, they have usually absorbed substantially more gold in a year than they supplied to the market, theirs has been an approach of taking profits in times of high prices only to step-up buying when the price falls again. Indeed, as a group, they have behaved contrary to, and often more rationally than, their "Western" counterparts. To a considerable extent, due to a widespread preference for holding so-called "investment jewellery", the historical numbers presented in this Chapter for Asian private investor stocks actually understate quite substantially the amount of gold held for investment purposes.

Although **India**'s ascendancy in the world gold market has been a relatively recent phenomenon, substantial amounts of the metal have been entering the sub-continent for centuries. Indeed, the total stock of metal (in all forms) held in India probably now stands in excess of 10,000 tonnes, with somewhere in the region of 35% of this having been built up before 1968.

Both gold and silver have been closely woven into the social fabric of India for generations, especially in the rural areas where they are the basic form of saving and are intimately tied to events such as weddings. The history of gold acquisition in India goes back to Roman times when trade between the East and the West saw commodities like silk and spices going one way and, amongst other things, gold going in the opposite direction. In particular, the first gold ducats struck by the mint in Venice in 1285, which became a primary form of international payment for around three hundred years, went to the Levant and on to India. (Much of the historical information in this section has been gleaned from various publications by Timothy Green.)

Further historical perspective is provided by noting that much of the gold and silver from the Americas, after Columbus' discoveries, simply passed through Spain on its way to the east. In the 17th century, the Dutch and English East India companies sent gold and silver to Java and India to pay for goods. The English East India Company shipped 20 tonnes, almost three years' world mine production then, to India between 1660 and 1690. Mocatta, the oldest member of the London gold market, first sent gold to India in 1676 to pay for diamonds, the beginning of a long relationship between London and Bombay (now Mumbai) merchants. During the American Civil War in the 1860s, India imported almost 420 tonnes in payment for cotton exports because of disrupted American cotton crops. Only once has India been a significant dishoarder, when 1,244 tonnes were shipped out in the 1930s due to famine induced distress selling and the new high price for gold (up from $20.67 to $35.00). Throughout this time, gold demand was dictated by factors such as economic growth, movements in the international price, the efficacy of the monsoon (because of its impact on agriculture and rural incomes) and the marriage season, much as it is today.

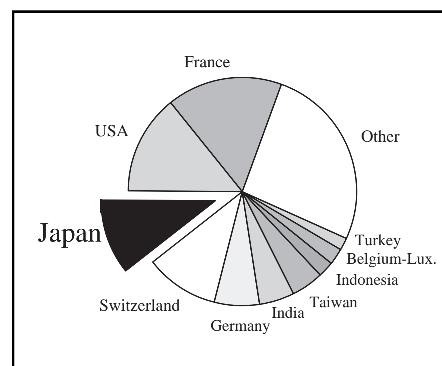


GFMS estimates put Indian holdings of gold in all forms at around 3,500 tonnes in 1968. In terms of the breakdown of these holdings into jewellery and bar/coin, it is important to note that the official import of gold into India was banned from 1947 and, under the Gold Control Act of 1962 (repealed in 1990), private holdings of gold bars were

prohibited. Consequently, most investment has taken the form of purchases of (usually) 22-carat jewellery during this period (invariably from smuggled ten tola bars) and holdings of bar at the time were simply converted to jewellery to avoid problems with the authorities. We estimate that, at most, 8% of the total holdings of gold built up before 1968 would have been in bar form. However, one could make the argument that upwards of 70 to 80% of purchases prior to 1990 would have had some sort of investment motive underpinning them.

East Asia

Although **Japan** has evolved as a major market for gold for fabrication and investment since trading was liberalised in 1974, the metal has a long history in that country. Gold has been mined in Japan for centuries, with some of it being shipped out to the international market (in the 17th century, Japan exported gold through the Dutch East India Company to East Asian countries) and some of it being used locally for a variety of purposes (these include jewellery, coin, small bars and a not inconsiderable quantity of high carat ornaments such as teapots, vases and chopsticks). It is worth noting that a number of Japan's most prominent gold houses have actually been in business for a long time, pointing to the fact that gold has been purchased and worked there for many years. For example, Tokuriki Honten, which is still an important refiner and fabricator of precious metals, is well over 200 years old. Tanaka Kikinzoku Kogyo, the leading precious metal refiner and trader, was established in 1885 and the other major local player, Ishifuku, has been active in the gold market for over 60 years.

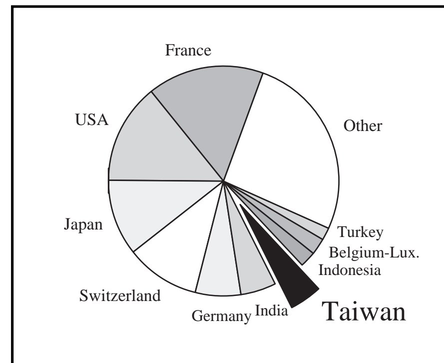


Despite this long history of involvement with gold, it is estimated that the level of retail stocks in 1970 may not even have reached 50 tonnes or less than 2% of end-2000 stocks. This condition underwent a profound change during the 1970s, 1980s and 1990s, as detailed in Chapter 4, when, respectively, gold liberalisation was implemented, the "excess" profits of boom times were funnelled speculatively into gold and the post-bubble, earthquake struck final decade saw a raft of security related buying. This led to retail stocks punching through the 1,000 tonne mark sometime during the mid-1980s and then through the 2,000 tonne mark a decade later. Current levels are thought to be modestly higher still at a little over 2,300 tonnes.

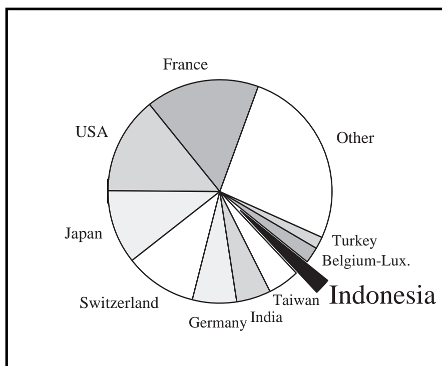
GFMS believe that both **China** and **Hong Kong** were important centres for the accumulation of gold prior to 1968, although, as is the case for much of the region, most of the build up has taken place subsequent to that date. (Technically speaking, hoarding in China is still prohibited.) Certainly, the former British colony, which was returned to China in 1997, has long been a major regional gold market. Gold trading dates from the foundation of the Gold and Silver Exchange Company in 1910, which changed its name in 1918 to the Chinese Gold & Silver Exchange Society. The Society was effectively the world's first gold trading exchange.

Stringent foreign exchange controls, which were in place from 1947-74, only allowed gold trading of industrial metal of 945 fineness in Hong Kong and this resulted in smuggling of bullion from neighbouring Macau. Gold arriving in the colony was used to feed jewellery and hoarding demand both locally and on the mainland. Prior to 1968, most hoarding in Hong Kong and on the mainland took the form of tael bars. (This is still a widely used measure of weight, with 1 tael equal to around 1.2034 troy ounces or 37.429 grammes. The nominal fineness of the Hong Kong tael bar is 990 and they are

usually traded in denominations of 1, 5 and 10 taels.) GFMS estimates that between them, China and Hong Kong held around 100 tonnes of gold in investment form prior to 1968.



The long history of political and economic uncertainty facing **Taiwan** since its formation resulted in a fair degree of hoarding in the years prior to 1968 (certainly, well above the levels that would be suggested by per capita income at the time). Most of the gold entering Taiwan over this time was sourced from Hong Kong and Macau and GFMS estimates that around 60 tonnes were hoarded, a modest 6% of the total holdings at the end of 2000. Ongoing security concerns saw steady offtake over the next decade or so such that holdings are thought to have already reached a more than respectable 500 or so tonnes a couple of years prior to liberalisation in the late 1980s. This liberalisation (on top of growing economic prosperity), however, did bring about an acceleration in hoarding with retail stocks not far off doubling by the beginning of the 1990s. The modest level of savings seen since then means end-2000 stocks could stand a fraction over the 1,000 tonne mark.



In the context of **Indonesia**, there has been a long history of purchases, especially by the ethnic Chinese population prior to 1968 and mainly as a form of safeguarding their wealth. This was especially true in the 1960s during periods of regional political uncertainty, with much of the gold being supplied from Hong Kong/Macau and Singapore. Until recently, most of the metal hoarded in Indonesia was held locally. However, in the past four years, many of the traditional large holders of gold have moved their holdings offshore, either holding it loco-Singapore or Hong Kong or simply selling it locally and buying loco-London. On fairly conservative assumptions, GFMS estimates that upwards of 140 tonnes were held in Indonesia in 1968 (or not far off 30% of end-2000 estimates).

What distinguishes Indonesia from the above Asian majors is the stagnation in its holdings. By the early 1980s, retail investment appears to have risen to around 500 tonnes, possibly making these the largest of this group of five (taking Hong Kong and China as one). However, periodic bouts of disinvestment (often linked to the volatility of the rupiah) plus a cultural shift away from hoarding, in part through the development of a banking infrastructure, meant that stocks by end-2000 were scarcely changed on this early 1980s level. This placed it quite firmly at the bottom of this Asian "mini-league".

APPENDIX 1

Elasticities of Investment Demand

One of the key issues in the investment market is how responsive investment demand (used generically here to mean investment demand in Europe and North America and bar hoarding elsewhere) is to changes in certain key variables. The most obvious variables that spring to mind in this context are the price (in the examples that follow, the US dollar gold price), the local gold price (proxied by the local currency dollar exchange rate) and economic growth. These are arguably the most important "core" variables impacting on buying and selling, although there are a whole host of other factors which would be expected to affect investment. These can be roughly split into "one-off" effects and longer term effects.

In the case of the former, events such as natural disasters (think here of events in India in January 2001) will and do affect the buying and selling of investment gold. Similarly, political/military events can have a pronounced impact on buying activity. Here one needs to look no further than Taiwan in 1996 and 2000. Finally, and possibly most importantly, there is the impact of changes in tastes. Economic growth has brought about major changes in tastes, especially in the Asian markets in recent years. GFMS research reports have systematically argued that these changes in tastes have, and will continue to exert, a profound impact on the willingness of people to invest in gold.

Although it is possible in principle to test for these effects econometrically, the data sets available (in the case of historical GFMS data, at best half-yearly) make this extremely difficult to do. (Changes in tastes, for example, have happened relatively recently meaning that the data sets are far too short to test rigorously for any effect). As a result, the econometric results presented below focus on the impact of the three core variables discussed above, namely dollar and local gold prices and economic growth. Less measurable drivers of investment demand such as changes in tastes, alternative investment vehicles and so on are discussed in more detail in the country profiles presented elsewhere in this report.

Before looking at the results in detail, it is probably worthwhile to give a very brief overview of the methodology used.

Regression Analysis - An Outline of the Technique

Linear regression analysis using the "least squares" method is a mathematical technique used to fit a straight line through a set of observations. Using this technique, it is possible to analyse how a single dependent variable (for example hoarding or investment) is affected by the values of one or more independent variables (for instance the price).

The regression results in this study calculate the statistics for a line by using the "least squares" method to calculate a straight line that best fits the data.

The equation for the line is:

$$y = mx + b$$

Here, the dependent y-value is a function of the independent x-values. The m-values are coefficients corresponding to each x-value and b is a constant value. (The variables, coefficients and constants can also be treated as vectors).

The regressions have been run in levels and in natural logarithms. The primary reason for running the regressions in logarithms is technical, allowing one to read off the elasticity of say changes in hoarding to movements in the price directly (i.e. the coefficient on the dependent or X variable is the elasticity). From a methodological perspective, it is important to note that we have assumed a linear relationship, both in the levels and in the logs, which may not be the case in reality.

There are a few other methodological points that are worth making. For instance, we have not run the full gamut of statistical tests on the data sets, for example unit root tests, and we have not attempted to formally model any cointegrating relationships or the Error Correction Model which, at a theoretical level at least, one might have expected to find. There are two main reasons for this. Firstly, the data sets tend to be fairly small and are highly aggregated, meaning that important intra-year impacts on investment are lost in the "noise" of the system. Secondly, we believe that there have been major structural shifts that have influenced the behaviour of economic agents in most of the countries covered in this report which directly affects any econometric study.

What this points to is that the regression results in this study should be treated as, at best, indicative only. Most of the results obtained are very weak statistically speaking, which may be suggestive of other forces being at work. All of the econometric results presented in this study were generated in Excel version 7.

Investment/Disinvestment

This section starts by examining the relationship between the dollar price and European and North American investment/disinvestment. The component parts of this category are discussed in more detail elsewhere in this report, suffice to note here that it is very much a catch-all for a variety of activities in the gold market that by their very nature are not particularly amenable to measurement. To the extent that price would be expected to be an important influence on global investment activity, it is worthwhile conducting an exercise at this level of disaggregation to see if there is any evidence of an effect.

The results are presented in condensed form below. There were 33 observations in the sample (i.e. the regressions were run for the years 1968 to 2000).

European & N American Investment vs the Dollar Gold Price

Regression Statistics

Multiple R	0.16	
R Square	0.02	
Adjusted R Square	-0.01	
Standard Error	1.18	
Observations	33	
	Coefficients	t Stat
Intercept	4.78	3.44
Natural Log Price	0.22	0.88

Source: GFMS

There are a number of observations that one needs to make about these results. Firstly, the R-squared, a measure of the strength of the relationship, is extremely low (an R-squared of 1 would indicate that

the two variables were perfectly correlated, 0 that there is no statistical relationship). Secondly, the t-statistic on the price variable coefficient is very low (a rule of thumb would be that the value should be 2 or higher), suggesting that we should assume that no relationship in fact exists. (It is important to remember that this is not to say that price is unimportant, only that at the global level, it does not seem to be a major factor in explaining investment/disinvestment). And finally, worryingly from an econometric perspective, the residuals show clear autocorrelation, a sure sign that there is something misspecified in terms of the equation we are trying to estimate.

What conclusions can we draw from this? Strictly speaking, there is actually not a great deal that one can say on the back of these results. Having said this, it does point to the fact that dis/investment is most probably the result of the complex interaction between a number of economic and socio-political factors and that globally at least, price may not be a key driver. In many respects, this sits well with our earlier observations that this component of the supply/demand balance is simply the residual needed to bring the market into balance and that there is no reason, *a priori*, to believe that price should influence all of these components in equal measure or, in fact, influence them in the same direction at all.

Notwithstanding these comments, it is interesting to note that the sign of the coefficient (to the extent that one can "believe" it) does suggest that *increases/decreases* in price/investment are associated with *increases/decreases* in investment/price (suggesting a causal link of investment driving price which in turn drives investment and so on?). Certainly the anecdotal evidence suggests that this is probably the case, with many of the rallies in the price having been precipitated by a rise in investment demand (e.g. the Goldsmith/Soros rally in 1993). However, to the extent that one can take this result at face value, it does point to there being an "inelastic" relationship between the two (i.e. a 1 unit increase in price leads to a smaller than one unit - in this case 0.22 of a unit - increase in investment).

Bar Hoarding

This section starts by examining the relationship between the dollar price and identified bar hoarding (which is defined earlier in this report). There are over 20 countries for which GFMS systematically collects hoarding data.

Bar Hoarding vs the Dollar Gold Price

Regression Statistics

Multiple R	0.44	
R Square	0.19	
Adjusted R Square	0.16	
Standard Error	1.08	
Observations	33	
	Coefficients	t Stat
Intercept	1.65	1.30
Natural Log Price	0.62	2.70

Source: GFMS

The first comment to make is that the R-squared is very low, "explaining" only 19% of the movement in hoarding since 1968 when the gold price was effectively freed from its institutional shackles. As with investment, the coefficient suggest that there is a positive link between price and hoarding. Reading

off the results presented above, it suggests that although the responsiveness is "inelastic", it is still positive, as in the case of investment (suggesting a similar interpretation here?). Reworking the regression results with a truncated data series, for example, covering just the 1990s, comes up with a similar conclusion although it has to be said that the results are statistically very weak.

In addition to the regressions run on the global aggregate data, a similar exercise was conducted on 7 of the largest bar hoarding countries where reasonable data sets are available. (Even here, the data sets are often too small to enable firm conclusions to be drawn). However, in this instance we tested for the effects of four variables on hoarding demand, namely the exchange rate (proxying changes in the local price relative to the dollar price), inflation, the dollar gold price (nominal) and real GDP growth.

Japan

Statistically speaking the results for Japan were quite weak. The R-squared, of only 0.26, suggests that these four variables are of limited use in explaining the evolution of Japanese hoarding since 1968. None of the variables are statistically significant. The only coefficient to hint at significance is the exchange rate. The coefficient on this variable, of -3.34, points to hoarding being very sensitive to changes in the value of the yen relative to the dollar - in this instance, a fall in the yen per dollar (i.e. a strengthening of the yen) leads to a rise in hoarding, a result that is entirely consistent with GFMS' experience in that market. In other words, the Japanese buy gold when the yen strengthens, all other things remaining equal.

Of the other variables, only GDP appears to have a greater than unity elasticity, but interestingly, of the "wrong" sign. In other words, this suggests that as GDP grows, hoarding will fall other things remaining equal.

Japanese Bar Hoarding vs the Exchange Rate, Inflation & GDP

Regression Statistics

Multiple R	0.51	
R Square	0.26	
Adjusted R Square	0.14	
Standard Error	1.07	
Observations	28	
	Coefficients	t Stat
Intercept	29.37	1.15
Ln Exchange Rate	-3.34	-1.33
Ln Inflation	-0.47	-0.15
Ln GDP	-1.19	-0.36
Natural Log US Price	-0.07	-0.09

Ln = natural log

Source: GFMS

China

The results for China were also very weak. The t statistics on the four explanatory variables suggest that there is in fact no relationship between them and hoarding. If one were to be generous, then perhaps the very large coefficients on the exchange rate, GDP and the dollar gold price could be interpreted as being suggestive of some of the drivers that we believe may be at work: (expectations of?) devaluations lead to more hoarding, growing GDP results in lower hoarding and lower US dollar prices result in more hoarding). But from a statistical perspective there is actually not a great deal that one can say.

Chinese Bar Hoarding vs the Exchange Rate, Inflation & GDP

Regression Statistics

Multiple R	0.37	
R Square	0.14	
Adjusted R Square	-0.35	
Standard Error	0.93	
Observations	12	
	Coefficients	t Stat
Intercept	43.32	0.88
Ln Exchange Rate	3.42	0.70
Ln Inflation	0.19	0.35
Ln GDP	-3.66	-0.87
Natural Log US Price	-5.30	-0.74

Source: GFMS

India

Perhaps not too surprisingly, the results for India were particularly striking, both in terms of the R-squared, which came out at a respectable 95%, but also in terms of the coefficient values and their statistical significance.

Both inflation and GDP appear to be statistically significant (although one does have to make allowance for the small sample size). In the case of inflation, there is an incredibly high value, suggesting that hoarding is very sensitive to it. The relationship is also of the "right" sign (the results suggest that a 1% increase in inflation leads to a 9.54% increase in hoarding, all other things remaining equal). Hoarding is also highly elastic to GDP, with the results suggesting that a 1% increase in GDP leads to a 9.38% *fall* in hoarding, all other things remaining equal, a rather counter-intuitive outcome. (It is revealing to note that running a simple 2 variable regression of hoarding against GDP gives a result of the "right" sign).

Indian Bar Hoarding vs the Exchange Rate, Inflation & GDP

Regression Statistics

Multiple R	0.98
R Square	0.95
Adjusted R Square	0.93
Standard Error	0.30
Observations	13

	Coefficients	t Stat
Intercept	37.24	1.37
Ln Exchange Rate	-0.12	-0.09
Ln Inflation	9.54	2.43
Ln GDP	-9.38	-2.22
Natural Log US Price	1.67	1.50

Source: GFMS

Vietnam

Vietnam's Bar Hoarding vs the Exchange Rate, Inflation & GDP

Regression Statistics

Multiple R	0.79
R Square	0.62
Adjusted R Square	-0.90
Standard Error	0.54
Observations	6

	Coefficients	t Stat
Intercept	-11.37	-0.08
Ln Exchange Rate	6.68	0.70
Ln Inflation	-14.78	-0.91
Ln GDP	3.68	0.38
Natural Log US Price	0.23	0.03

Source: GFMS

The dearth of macro-economic data for Vietnam before 1995 makes econometric analysis particularly difficult. The results shown above are really purely for illustrative purposes only and none of the variables is significant. Taking these results at face value, one sees that devaluations are associated with higher hoarding, a result that is intuitively appealing. Likewise, GDP growth is associated with higher investment. However, the data suggest the somewhat counter-intuitive result that higher inflation is associated with lower hoarding and dramatically so.

Thailand

The sample size for Thailand is reasonably large compared to some of the other countries and the econometric results are markedly more robust than in other cases. The R-squared of 0.49 suggests that the four variables are reasonably important in explaining hoarding behaviour since 1981.

Both inflation and GDP stand out as explanatory variables, with the t-statistics in both cases being significant. In the case of GDP, we have the intuitively appealing result that higher GDP growth (very elastically) leads to higher hoarding. As in Vietnam, inflation appears to work in the "wrong" direction. (Inflation in Thailand over the sample period was extremely subdued, averaging only 4%). Increases in the dollar gold price has a negative and elastic impact on hoarding, as might be expected.

Thai Bar Hoarding vs the Exchange Rate, Inflation & GDP

Regression Statistics

Multiple R	0.70	
R Square	0.49	
Adjusted R Square	0.35	
Standard Error	0.77	
Observations	20	
	Coefficients	t Stat
Intercept	41.97	2.12
Ln Exchange Rate	-0.28	-0.18
Ln Inflation	-10.81	-2.74
Ln GDP	5.65	3.15
Natural Log US Price	-2.17	-1.03

Source: GFMS

Indonesia

The results for Indonesia are statistically robust and all of the coefficients are of the expected sign. The R-squared is quite low, pointing to other factors being important in explaining hoarding demand but nearly all of the coefficients are statistically significant. A fall in the rate of exchange against the dollar leads to an elastic fall in hoarding (over 2% for a 1% fall in the exchange rate, pointing to the importance of local gold prices in Indonesia) whilst higher inflation is associated with more hoarding, an intuitive result. By contrast, lower hoarding is associated with a higher dollar gold price. GDP does not seem to have been a major driver, perhaps as a result of the concentration of demand in the rural areas where agricultural GDP is more important (and is probably not fully reflected in the overall measure of GDP).

Indonesian Bar Hoarding vs Exchange Rates, Inflation & GDP

Regression Statistics

Multiple R	0.57	
R Square	0.33	
Adjusted R Square	0.23	
Standard Error	0.85	
Observations	33	
	Coefficients	t Stat
Intercept	16.52	3.72
Ln Exchange Rates	-2.14	-3.08
Ln Inflation	2.40	2.38
Ln GDP	0.04	0.03
Natural Log US Price	-1.21	-2.59

Source: GFMS

Saudi Arabia

The regression for Saudi Arabia really tells us nothing at all. The R-squared is very small and all of the coefficients have insignificant t-stats.

Saudi Bar Hoarding vs the Exchange Rate, Inflation & GDP

Regression Statistics

Multiple R	0.38	
R Square	0.14	
Adjusted R Square	-0.02	
Standard Error	0.83	
Observations	26	
	Coefficients	t Stat
Intercept	-6.36	-0.77
Ln Exchange Rate	-0.92	-0.47
Ln Inflation	4.00	1.17
Ln GDP	-1.83	-0.70
Natural Log US Price	0.08	0.15

Source: GFMS

Taiwan

The regression results for Taiwan are relatively strong. The R-squared comes in at just under 50% and the t-statistics on two of the explanatory variables point to their being significant. However, both of the significant coefficients are of the "wrong" sign. For example, the implication of the table below is that rising inflation leads to lower hoarding (and very elastically) and that rising dollar gold prices lead to higher hoarding.

Taiwan's Bar Hoarding vs the Exchange Rate, Inflation & GDP

Regression Statistics

Multiple R	0.69	
R Square	0.48	
Adjusted R Square	0.38	
Standard Error	0.84	
Observations	26	
	Coefficients	t Stat
Intercept	11.84	1.56
Ln Exchange Rate	-1.84	-1.40
Ln Inflation	-3.12	-3.46
Ln GDP	0.47	0.85
Natural Log US Price	1.79	3.12

Source: GFMS

Although the coefficient on the exchange rate is not statistically significant, it is nonetheless interesting to note that it is at least the "right" sign, implying that a devaluation (higher local prices) is associated with lower hoarding.

Conclusion

Considering the data sets available and, in particular, the fact that there are no disaggregated hoarding and investment numbers (for example, on a monthly or weekly basis), it is extremely difficult to conduct a statistically robust analysis. The results shown above are, at best, meant to be suggestive. But even here, statistical puritans will be able to point out that effectively very few conclusions can be drawn from the above exercise.

APPENDIX 2

Annual Retail Investment Demand

tonnes

	1993	1994	1995	1996	1997	1998	1999	2000
Germany	39.6	32.9	38.4	32.6	38.4	25.0	-7.0	-28.0
France	-33.3	-25.0	-28.5	-35.5	-30.0	-27.0	-25.0	-35.0
Belgium-Luxembourg	-5.0	-10.0	-4.0	-5.0	-4.0	-5.0	-5.0	-6.0
Switzerland	5.0	-25.0	-15.0	-15.0	-15.0	-20.0	-30.0	-40.0
Austria	7.5	7.5	27.1	17.1	17.8	12.7	7.9	-8.5
Other Europe	-1.0	-3.0	-3.0	-5.0	-5.0	-4.0	-4.0	-5.0
Brazil	-5.0	-6.0	-12.0	-6.5	-1.8	-1.5	-2.0	-3.8
Mexico	1.9	2.2	-6.9	0.8	1.8	2.1	4.0	2.6
Canada	3.0	2.0	2.2	0.2	4.0	5.1	5.0	-7.0
United States	32.1	21.0	15.3	6.0	54.6	82.0	87.2	-18.8
Kuwait	1.0	1.0	1.0	1.0	5.1	10.6	4.9	-1.3
Saudi Arabia	2.5	5.0	16.0	4.0	23.0	8.0	4.5	4.0
Turkey	10.8	8.3	15.4	16.2	19.9	20.1	24.0	32.1
Iran	10.0	2.0	10.0	7.0	27.0	9.9	7.0	8.2
Egypt	1.3	1.4	1.5	1.5	6.5	1.0	1.3	1.8
Arabian Gulf (exc. Kuwait)	2.0	2.0	4.5	6.0	14.5	-0.4	2.5	2.8
Japan	73.4	66.6	139.1	30.9	37.1	55.7	108.6	55.4
Singapore	-7.0	-3.5	2.8	2.3	2.3	-1.6	1.0	0.9
Malaysia	4.9	4.5	3.5	3.1	2.0	-0.9	3.0	3.4
Vietnam	12.0	35.0	27.0	28.0	29.0	26.0	31.0	34.0
Thailand	30.5	24.6	26.2	28.9	-9.2	-38.9	-1.7	14.3
South Korea	6.0	5.0	3.0	4.5	4.0	-7.0	10.0	7.0
Indonesia	7.0	3.0	9.0	11.0	11.5	-22.5	11.0	8.5
Taiwan	9.0	10.5	11.5	3.0	4.3	-7.5	0.5	4.6
Hong Kong	5.5	5.0	3.0	-2.1	4.2	-7.5	-2.7	0.2
China	35.4	28.1	12.7	8.8	34.9	36.0	9.7	6.8
India	25.0	45.0	80.0	95.0	105.0	98.2	83.0	80.0
Pakistan	2.0	2.0	2.0	1.3	5.0	2.0	3.0	4.0
TOTAL	**276.1**	**242.1**	**381.8**	**240.1**	**386.9**	**250.6**	**331.7**	**117.2**

Source: GFMS

APPENDIX 3

Quarterly Retail Investment Demand

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	99Q1	99Q2	99Q3	99Q4	00Q1	00Q2	00Q3	00Q4
Germany	2.0	2.0	3.0	-14.0	-10.0	-6.0	-8.0	-4.0
France	-5.0	-5.0	-5.0	-10.0	-13.0	-8.0	-7.0	-7.0
Belgium-Luxembourg	-0.8	-0.8	-0.8	-2.6	-3.2	-1.3	-0.8	-0.7
Switzerland	-2.0	-2.0	-2.0	-24.0	-25.0	-5.0	-5.0	-5.0
Austria	3.4	2.0	2.4	0.1	-10.0	-3.4	3.9	1.0
Other Europe	-0.4	-0.4	-0.4	-2.8	-3.4	-0.8	-0.4	-0.4
Brazil	-0.4	-0.4	-0.4	-0.8	-2.3	-0.7	-0.4	-0.4
Mexico	0.3	0.6	1.0	2.1	0.6	0.6	0.5	0.9
Canada	2.0	1.4	1.1	0.5	-3.6	-1.9	-1.3	-0.2
United States	31.8	24.7	24.6	6.1	-14.1	-5.8	-2.9	4.0
Kuwait	2.2	1.2	0.9	0.6	1.5	1.0	-1.7	-2.1
Saudi Arabia	1.1	1.1	1.1	1.2	3.5	2.5	-1.5	-0.5
Turkey	5.2	7.1	8.7	3.0	9.4	8.6	9.9	4.2
Iran	1.8	1.8	1.7	1.7	2.1	2.1	2.0	2.0
Egypt	0.3	0.4	0.3	0.3	0.5	0.5	0.4	0.4
Arabian Gulf (exc. Kuwait)	1.5	2.0	2.0	-3.0	-0.5	0.5	1.0	1.8
Japan	26.0	15.2	46.5	20.9	9.7	14.6	15.5	15.5
Singapore	0.3	0.2	0.2	0.3	0.2	0.2	0.2	0.3
Malaysia	0.6	0.6	0.7	1.1	0.7	0.6	0.8	1.2
Vietnam	18.0	9.0	3.0	1.0	16.0	5.0	6.0	7.0
Thailand	0.0	0.0	-1.3	-0.4	3.1	4.1	6.1	1.0
South Korea	1.4	1.5	4.0	3.1	0.4	0.6	3.1	2.9
Indonesia	1.5	1.5	5.0	3.0	2.0	3.0	1.0	2.5
Taiwan	1.0	1.0	-1.0	-0.5	4.9	2.5	-1.3	-1.5
Hong Kong	1.3	0.9	-1.8	-3.1	0.0	0.0	0.1	0.1
China	4.2	2.8	1.4	1.4	1.4	1.4	2.7	1.4
India	16.6	23.9	25.5	17.0	18.9	17.4	19.3	24.5
Pakistan	0.8	0.7	0.8	0.7	0.9	0.9	1.1	1.1
TOTAL	**114.6**	**93.0**	**121.3**	**2.8**	**-9.3**	**33.1**	**43.3**	**50.1**

Source: GFMS

APPENDIX 4

GFMS Identified Bar Hoarding outside Europe and North America

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	1993	1994	1995	1996	1997	1998	1999	2000
Latin America								
Brazil	-25.0	-12.0	-24.0	-13.5	-3.3	-2.5	-4.0	-7.5
Other	2.9	4.5	5.9	5.2	2.4	2.7	0.6	0.5
Total Latin America	-22.1	-7.5	-18.1	-8.3	-0.9	0.2	-3.4	-7.0
Middle East								
Saudi Arabia & Yemen	2.5	5.0	13.0	1.0	17.2	5.5	2.0	2.0
Iran	10.0	2.0	3.0	2.0	21.0	4.0	1.0	2.0
Iraq & Syria	1.0	1.0	1.0	0.5	2.0	2.0	-1.0	1.0
Kuwait	1.0	1.0	0.8	0.5	3.7	10.2	4.5	-0.5
Other	7.3	7.3	4.1	4.4	19.3	-0.3	1.8	1.2
Total Middle East	21.8	16.3	21.9	8.4	63.3	21.4	8.3	5.7
Indian Sub-Continent								
India	25.0	45.0	80.0	95.0	105.0	98.2	83.0	80.0
Bangladesh & Nepal	0.0	0.0	0.0	0.0	13.0	5.0	3.0	4.5
Pakistan & Afghanistan	2.0	2.0	2.0	1.3	5.0	2.0	3.0	4.0
Sri Lanka	1.0	1.0	1.0	0.5	1.0	2.0	1.0	1.5
Total Indian Sub-Cont.	28.0	48.0	83.0	96.8	124.0	107.2	90.0	90.0
East Asia								
Japan	31.0	58.0	129.0	25.0	31.0	51.0	100.0	52.4
Vietnam	12.0	35.0	27.0	28.0	29.0	26.0	31.0	34.0
Thailand	30.0	24.3	25.5	26.7	-9.4	-39.0	-2.0	14.0
South Korea	6.0	5.0	3.0	4.5	4.0	-7.0	10.0	7.0
Burma, Laos, Cambodia	5.0	5.0	4.0	4.0	3.9	2.0	2.1	2.3
Indonesia	7.0	3.0	9.0	11.0	11.5	-22.5	11.0	8.5
Hong Kong	2.0	3.0	2.0	-2.5	3.2	-8.0	-3.0	0.0
Other	-0.8	5.6	13.9	5.2	4.3	-10.9	3.7	5.9
Total East Asia	92.2	138.9	213.4	101.9	77.5	-8.4	152.8	124.1
Oceania								
Australia	1.1	1.2	1.0	1.1	1.2	1.3	1.4	1.4
Total Oceania	1.1	1.2	1.0	1.1	1.2	1.3	1.4	1.4
Western World Total	**121.0**	**196.9**	**301.2**	**199.9**	**265.1**	**121.7**	**249.1**	**214.2**
Other Countries								
China	30.0	25.0	10.0	6.0	30.0	33.0	7.0	5.0
Other	10.0	10.0	8.0	-10.0	3.5	3.0	0.5	0.0
Total Other Countries	40.0	35.0	18.0	-4.0	33.5	36.0	7.5	5.0
World Total	**161.0**	**231.9**	**319.2**	**195.9**	**298.6**	**157.7**	**256.6**	**219.2**

Note: This includes the hoarding and dishoarding of physical gold in bar form outside of Europe and North America. Totals may not add due to independent rounding

Source: GFMS

APPENDIX 5

GFMS World Coin Fabrication

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Bullion Coins	1993	1994	1995	1996	1997	1998	1999	2000
Austria	10.4	11.1	29.3	18.1	18.3	13.1	11.3	8.9
Iran	0.0	1.0	7.0	5.0	6.0	5.9	6.0	6.2
United States	20.0	13.2	14.0	11.0	26.0	57.2	60.3	5.4
Canada	14.0	9.8	10.5	7.3	20.9	22.5	24.6	4.3
Mexico	7.0	2.7	1.7	1.8	0.5	2.9	1.7	4.2
Australia	10.7	13.7	10.1	6.2	10.8	11.5	10.5	3.9
UK & Ireland	4.2	6.9	4.0	3.1	2.9	2.9	3.2	3.2
South Africa	4.8	5.1	2.3	1.0	1.9	2.6	5.6	2.4
Turkey	3.0	1.5	1.3	1.8	1.6	1.5	0.5	0.5
Italy	0.2	0.4	0.4	0.3	0.4	0.4	0.4	0.4
France	0.4	0.4	0.4	0.5	0.5	0.5	0.4	0.4
Singapore	1.2	0.2	0.3	0.3	0.3	0.3	0.3	0.4
Portugal	0.7	0.7	0.2	0.2	0.2	0.4	0.1	0.1
Switzerland	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
Belgium	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.1
Japan	36.0	0.0	0.0	0.0	1.7	0.9	4.0	0.0
Norway	0.3	1.4	0.0	0.0	0.0	0.0	0.1	0.0
Other Countries	2.3	0.8	2.2	2.9	0.9	0.8	1.1	3.9
Western World Total	**115.2**	**68.9**	**83.8**	**59.6**	**93.0**	**123.6**	**130.2**	**44.4**
China	5.4	3.1	2.7	2.8	4.9	3.0	2.7	1.8
Soviet Union/CIS	0.6	0.1	0.1	0.4	0.4	0.1	0.1	0.2
World Total	**121.2**	**72.1**	**86.6**	**62.8**	**98.3**	**126.7**	**133.0**	**46.4**

Source: GFMS

Imitation Coins	1993	1994	1995	1996	1997	1998	1999	2000
Turkey	3.8	5.2	13.6	14.0	18.3	20.0	23.5	31.6
India	5.0	6.0	7.0	7.0	11.0	18.0	18.0	23.0
United Arab Emirates	3.0	3.0	3.0	4.0	4.0	2.4	2.3	2.4
Italy	1.5	2.0	0.9	0.5	0.6	0.6	0.6	0.7
Switzerland	0.2	0.3	0.6	0.4	0.8	0.4	1.9	0.6
Iraq & Syria	1.7	1.7	2.0	0.5	0.5	0.3	0.6	0.6
Germany	0.2	0.5	0.5	0.3	0.3	0.3	0.3	0.4
Thailand	0.4	0.2	0.4	0.4	0.4	0.4	0.1	0.1
Japan	0.5	0.4	0.4	0.4	0.3	0.3	0.3	0.0
Saudi Arabia & Yemen	3.3	3.3	3.0	3.0	4.0	2.5	0.0	0.0
Pakistan & Afghanistan	1.5	1.5	1.5	0.7	0.5	0.0	0.0	0.0
South Korea	1.0	1.0	0.5	0.5	0.4	0.0	0.0	0.0
Other Countries	2.8	1.4	1.1	1.6	1.1	1.2	0.9	0.9
World Total	**24.9**	**26.5**	**34.5**	**33.3**	**42.2**	**46.4**	**48.4**	**60.2**

Source: GFMS

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Tel + 44.(0)20.7930.5171, Fax + 44.(0)20.7839.4314. E-mail: cpps@wgclon.gold.org

WORLD GOLD COUNCIL OFFICES

Headquarters: UK
45 Pall Mall
London SW1Y 5JG, UK
Tel. +44.(0)20.7930.5171
Fax.+44.(0)20.7839.6561

Website:
www.gold.org

Americas/Europe
Regional Office & USA
444 Madison Avenue
New York, NY 10022
Tel. +1 212.317.3800
Fax. +1 212.688.0410

Brazil
Avenida Paulista 1499
Conj. 706
01311-928 Sao Paulo
Tel. +55.11.3285.5628
Fax. +55.11.3285.0108

Mexico
Consejo Mundial del Oro
Av. Reforma No. 382,
Despacho 701, Col. Juarez
Delagacion Cuauhtemoc
06500 Mexico D.F.
Tel/Fax +52.5.514.5757/2172

East Asia
Regional Office & Singapore
6 Battery Road No. 24-02A
Singapore 049909
Tel. +65.227.2802
Fax. +65.227.2798

China (Beijing Office)
Room 1706, Scitech Tower
22 Jian Guo Men Wai Da Jie
Beijing 100 004
Tel. +861.0.6515.8811
Fax. +861.0.6522.7587

China (Shanghai Office)
Unit 3504, 35th fl., Plaza 66,
1266 Nan Jing Road (West),
Shanghai, PRC 200 040
Tel. +86.21.66289.2111/2555
Fax. +86.21.6289.3222

China (Hong Kong)
Unit 603, Low Block, Grand
Millennium Plaza 181 Queens
Road Central, Hong Kong
Tel. +852.2521.0241
Fax. +852.2810.6038

Indonesia
Tamara Center Level 6, No 602
Jl. Jenderal Sudirman Kav 24
Jakarta 12920
Tel. +62.21.520.3693/94/95
Fax. +62.21.520.3699

Malaysia
Menara Dion No. 12-05
27 Jalan Sultan Ismail
50250 Kuala Lumpur
Tel. +60.3.381.2881
Fax. +60.3.381.2880

Thailand
14th Floor, Thaniya Plaza,
52 Silom Road, Bangrak
Bangkok 10500
Tel. +662.231.2486/7
Fax. +662.231.2489

Taiwan
Room 808,
205 Tun Hwa N. Road, Taipei
Tel. +886.2251.47.400
Fax +886.2251.47.466

Vietnam
No 6 Phung Khac Khoan St,
Room G7
District 1, Ho Chi Minh City
Tel. + 848 8256 653/654
Fax + 848 8221 314

Japan/Korea
Regional Office & Japan
Shin Aoyama Building / W21F, 1-1-1 Minami-Aoyama
Minato-ku, Tokyo 107 0062
Tel. +81.3.3402.4811
Fax. +81.3.3403.2477

South Korea
19th Floor, Young Poong Bldg.
33, Seorin-dong, Jongro-ku
Seoul 110 752
Tel. +82.2.399.5377
Fax. +82.2.399.5372

Middle East
Regional Office & UAE
Dubai World Trade Centre
Level 28
P.O. Box 9209
Dubai, UAE
Tel. +971.4.3314.500
Fax. +971.4.3315.514
gold@wgcdubai.org.ae

Turkey
Mim Kemal Öke Caddesi
Dost Apt. 8/4
Nisantasi
80200 Istanbul
Tel. +90.212.225.1960/22
Fax.+90.212.225.1913

India
Regional Office & Mumbai
101, Maker Chamber VI
10th fl., 220 Nariman Point
Mumbai 400 021
Tel. +91.22.230.1323
Fax. +91.22.230.1324

India (Chennai Office)
B-2 Alexander Square
34/35 Sardar Patel Road
Guindy
Chennai 600 032
Tel. +91.44.230.0083/0084
Fax. +91.44.230.0086

India (New Delhi Office)
47, Basant Lok
Vasant Vihar
New Delhi 110 057
Tel. +91.11.614.9394/95
Fax. +91.11.614.8281

India (Calcutta Office)
World Trade Center Calcutta
Somnath Building, 4th Floor
8/1A, Sir William Jones Sarani
Calcutta 700 016
Tel. +91.33.249.4318
Fax. +91.33.292.793