Preliminary version that may be amended in the light of the Discussion

The Euro Bond Market: Developments and Implications for Monetary Policy

By Graham Bishop

Paper for European Central Bank Seminar, May 5/6 2000

Note: This paper is delivered in my new role as an independent consultant – *GrahamBishop.com* – as well as continuing as an Adviser to Salomon Smith Barney. Nonetheless, the views expressed are the author's own and are not necessarily shared by Salomon Smith Barney or any of its affiliates.

The purpose of this paper is to consider the developments in the euro bond market since its inception and highlight any trends that might impact the operation of monetary policy. The paper attempts to project the observed trends forward to the logical conclusion of the process. The analysis is split into three parts:

1. Consequences of introducing the euro: Technical, legal and other changes.
2. Developments in the euro denominated markets since inception.
3. The potential impact of the future markets on the operation of monetary policy.

Conclusions:

- *Without making extreme assumptions, it is not clear that the initial changes in the euro bond market could yet sum to an amount that would have a significant impact on broad money. Crucially, monetary policy is not mechanistically determined by monetary growth, so the risk of a significant distortion of policy seems modest – at least in the brief period of the euro bond markets existence so far.*

- *However, such a large bond market may eventually make it easy for savers to hold the ECB and politicians to account on the outlook for both inflation and public finance via, effectively, a rolling referendum.*

PART I: Consequences of introducing the euro: Technical, legal and other changes.

The European financial services industry as a whole is changing rapidly under the impact of several major driving forces. Most obvious is EMU itself but liberalisation is proceeding apace and technology is advancing into an exponential change phase that may well allow a dramatic dis-intermediation of many parts of the financial system. The first part of the paper gives an overview of the specific changes that seem most likely to impact the market structure within which the ECB will have to implement its monetary policy. Naturally, the first set of changes were those that were **required** to operate a monetary union of some 300 million people.

Simultaneously, several other fundamental factors have been at work in the background and the full implications of these will only be apparent in the medium term. Nonetheless, the consequences have the potential to have a very powerful effect on the implementation of monetary policy so they should be carefully monitored.

Technical Steps by the ECB

As part of the preparations for EMU, the ECB took a number of technical steps so that it could implement its monetary policy efficiently. Some of these developments might have occurred naturally in due course, as the technology became so readily available that cost reduction pressures would have pushed market participants to adopt these measures anyway. Nonetheless, EMU certainly accelerated the following key steps:

- **Real time cross--border payments were essential**. To create a single pan-Euroland money market, it is necessary for market participants to be able to arbitrage any geographical price discrepancies in money. The perfection of that arbitrage will depend on the efficiency of payments systems so very large volumes of money would need to be shifted rapidly. If the central banks wished to avoid potentially massive credit exposure to the payment banks, then a real-time system was the logical choice – and technology had just made it possible. So the TARGET system was born.
- **Real time securities settlement was another necessity**, once the choice of avoiding central bank credit exposure had been made. Execution of monetary policy via securities transactions required the ability to settle very large volumes of securities flows instantly. Moreover, the need for collateral movement as part of the payment system pointed in the same direction. Once the ECB had decided it would require these settlement systems to be built for the limited purposes of monetary policy implementation, then the starting gun had been fired on a major re-structuring of the entire settlement chain. Moreover, the ECB's minimum standards for depositaries also highlighted the need for some action. With this limited process underway, it was inevitable that market participants would apply the risk reduction and cost saving in all sectors of their activity.
- **A general broadening in the use of collateral was a natural response** to the development of systems for dealing with the ECB. Its definitions of Tier One (high credit quality, marketable debt instruments) and Tier Two (national instruments) seem wide enough to cover new securities that may be developed as market participants evolve new products to appeal to pan-EU investors. Nonetheless, the importance of the ECB's eligibility criteria should not be over-estimated. Total collateral held by the ECB was €600 billion, out of a pool of eligible assets standing at €6,300 billion in March, 2000. Salomon Smith Barney calculates the size of markets that are readily accessible to institutional investors by virtue of a minimum issue size of €500 million. That total was virtually €3,000 billion at the end of March 2000. Given the wide eligibility criteria, it would be surprising if a newly issued security were not "ECB eligible" and there seems to be hardly any price improvement at issue – or in secondary trading, even in the repo market itself – for "eligibility".

- **Improving the legal certainty of collateral** is an obvious step and the Giovaninni Group issued a report on this in October 1999. In particular, it urged Member States to apply a broad interpretation of Article 9(2) of the Settlement Finality Directive so that the protection of legal certainty was not unnecessarily narrowly defined to include merely the ECB and payments systems. Instead, they should eliminate legal risk for all participants in EU settlements systems.
- **Retail cross-border payment systems** fall into the ECB's basic mandate of overseeing the payments systems. Retail systems were subject to a new Directive in late 1999, but that may not be enough to create cross-border systems that are as efficient (fast and cheap) as domestic by 2002. Citizens are unlikely to be impressed if they cannot move the actual "single money" around to take advantage of price discrepancies. Indeed they may wonder what – at a technical level - the purpose of a single currency was. There may be serious political implications from any consequent loss of popular enthusiasm for "Europe" at a time when IGC ratification will be on the agenda to enable enlargement to occur.

Recasting the market infrastructure

The ECB's 1997 framework for monetary policy may have implied a major shake-up in the financial system but action is now underway. The first quarter of 2000 witnessed a renewed upsurge in announcements, and actions, to recast the market's infrastructure, whether in trading, or clearing and settlement. This realignment represents a progressive creation of the building blocks that will constitute the future European securities market(s).

The impact of Internet equity brokers in the US is well documented and that has spread rapidly to the creation of Electronic Crossing Networks (ECNs). But the proposed new partnership between the Pacific Stock Exchange and Archipelago takes the process another step along the road because this would become a fully regulated, but electronic, stock exchange. European equity exchanges seem to be some way behind this but the vision is shared and the chances are that the same process will flow over into bonds in due course.

Certainly, the bold move by the French, Belgian and Dutch Stock Exchanges to merge into Euronext offers competition to the demutualising London Stock Exchange and the about-to-be-quoted Deutsche Borse. At the same time, Euroclear and Sicovam announced that they would merge so that they can provide Euronext with, "straight-through processing services and consolidated reporting, from trade to netting to settlement…These services are also available to other stock exchanges and trading platforms". Recently, the London Clearing House (LCH) and Clearnet — ParisBourse's settlement system — announced a merger to provide a single European clearing house with a central counterparty. Again, press reports stated their willingness to talk to others.

Other depositaries are also gearing up. Cedel and Deutsche Borse Clearing cemented their merger as Clearstream and promptly announced that they are looking for further consolidation. Outside Euroland, the UK's Crest has forged closer links with its counterpart in the Swiss market — SIS — and has also linked to the US depositary — DTC — to provide individuals with easy settlement of leading US shares.

EuroMTS continued to expand its electronic inter-dealer network and, within a year of starting operations, has achieved an estimated 30%-40% market share. This year, Finnish government bonds extended its trading list to nine Euroland governments. It started trading repos in October 1999 and the LCH became a central counterparty in December — to improve security further. During the second quarter of 2000, Brokertec should start competing with EuroMTS in euros, as well as offering a similar service to the US Treasury market.

Bond trading with customers has not been immune to the downstream changes: several European bond issues were 'made over the Internet' in the first quarter. Initially, this may just be information but the Finnish Government issued a bond where investors could place orders on its dealers' websites. However, the next wave may already be in sight as several leading dealers — including Salomon Smith Barney — launched Syndicate.Hub to broadcast details of offerings. This gives access to electronic roadshows and prospectuses, as well as allowing investors to give an indication of their interest. Effectively, it will be a 'portal' into the lead managers' own system — such as Salomon Smith Barney's 'SSB Syndicate Direct'.

Liberalisation — by the politicians

Last year, European bond markets acquired a momentum for change driven by investors' thirst for yield and diversification. The rapid pace of change in the physical infrastructure opens the way to even more transformation. But that process is likely to have limits that reflect the legal infrastructure.

Finance Ministers and the European Commission recognised this possibility back in 1998 and launched the Financial Services Action Plan (FSAP) to identify, and then remove, the barriers to a single capital market. The process is gathering pace and the March Summit of EU Heads of Government in Lisbon gave liberalisation further impetus — at what was called the 'dot.com' Summit.

The Summit produced two particular, and strong, conclusions that are relevant to the capital markets:

1. That pending legislation should be adopted during 2000 on the legal framework for e-commerce, e-money, and the distance selling of financial services.
   Also, "the Commission and the Council to consider how to promote consumer confidence in electronic commerce".

2. "To accelerate completion of the internal market for financial services, steps should be taken: to set a tight timetable so that the Financial Services Action Plan is **implemented** [author's emphasis] by 2005…by means of a 'single passport' for issuers… eliminating barriers to investments in pension funds; promoting further integration and better functioning of government bond markets through greater consultation and transparency on debt issuing calendars, techniques and instruments; enhancing the comparability of companies' financial statements…"

The Heads of Government have now set themselves deadlines so that their actions can be measured against the rhetoric. That should be a powerful discipline — otherwise it will open the EU as a whole to the charge that there is more talk of reform than action! As the Summit Communiqué put it, "Efficient and transparent financial markets foster growth and employment by better allocation of capital and reducing its costs". For the FSAP, the commitment is to have it *"**implemented by 2005**"* — which plainly means that the relevant national laws will allow all the proposed actions to be legally valid throughout the EU after 1 January 2005. **The revolutionary changes that are underway in the market infrastructure should have come to fruition on a similar time scale, so the scene is set for a transformation of the European financial services industry. Undoubtedly, that will influence both the technical operation, and transmission channels, of monetary policy.**

Regulatory Change

The Basel Supervisors issued a discussion document for response by March 2000 so that they can issue definitive proposals later in the year. These will be incorporated into EU law by 2002, according to the Financial Services Action Plan. That future timetable immediately impacted market activity in structuring deals that may mature after the implementation date, thus posing capital uncertainties to banks that hold the bonds — or are securitising assets.

The implications for the bond markets are mixed as the main changes are proposed to the capital required for claims on the corporate sector. For those top-rated companies (AAA to AA–), the capital weighting would fall from 100% to 20% — but these companies are precisely those that have ready access to the bond market already. Moreover, only a modest number of European corporations are rated by Moody's in this higher category. However, claims on companies that are well below investment grade (B– or lower) would attract a 150% capital charge, so this could herald an accelerating build-up of 'high yield' bonds in Europe. This would fulfil the public policy objective of increasing the flow of capital to the riskier companies, which are often those that are increasing employment more rapidly. However, it is conceivable that banks will re-price loans to companies that are close to that threshold to take account of the risk that a credit downgrade would suddenly trigger a 50% increase in the capital requirement — with a corresponding cut in the bank's return on its shareholders' capital.

The Basel Committee has undertaken to study further the treatment of market risk where some banks may try to arbitrage regulatory capital for instance, by holding bonds on their 'trading book' as a loan substitute, which — when fully hedged against market risk and subject to certain conditions — may attract a charge of only about 20%.

Demographic Effects and Retirement Savings

Europe is beginning to grapple with the financial consequences of an ageing population. But movements towards fully funded, Second Pillar systems of providing retirement income are erratic. However, the demographic trends in the population are so well know that citizens who can afford to make provision for their eventual retirement are likely to do so long before it is mandatory. Indeed, the upsurge in mutual fund sales across Europe suggests that this process is already underway.

Whatever the political choice between encouraging Defined Benefit (DB) plans or Defined Contributions (DC) systems, there may well be a rough and ready matching of desired assets towards the aggregate liability of EU pensioners-to-be. The UK is already a long way down the road of funded pensions and there may be some useful lessons to be learnt about the consequences of the huge investment flows that occur. Moreover, in a price stable world, citizens will have to come to terms with the unwelcome facts of nominal investment returns that seem very low by the inflation-related standards of recent decades. The target pool of savings at retirement will have to be much higher and the thirst for absolute yield is likely to be a driving force in the years ahead. **In combination with the technological capacity to cut dealing costs, this could well be the "driving force" that "securitises" credit in Europe. This could have a profound influence on the implementation of monetary policy.**

The Lessons from the UK

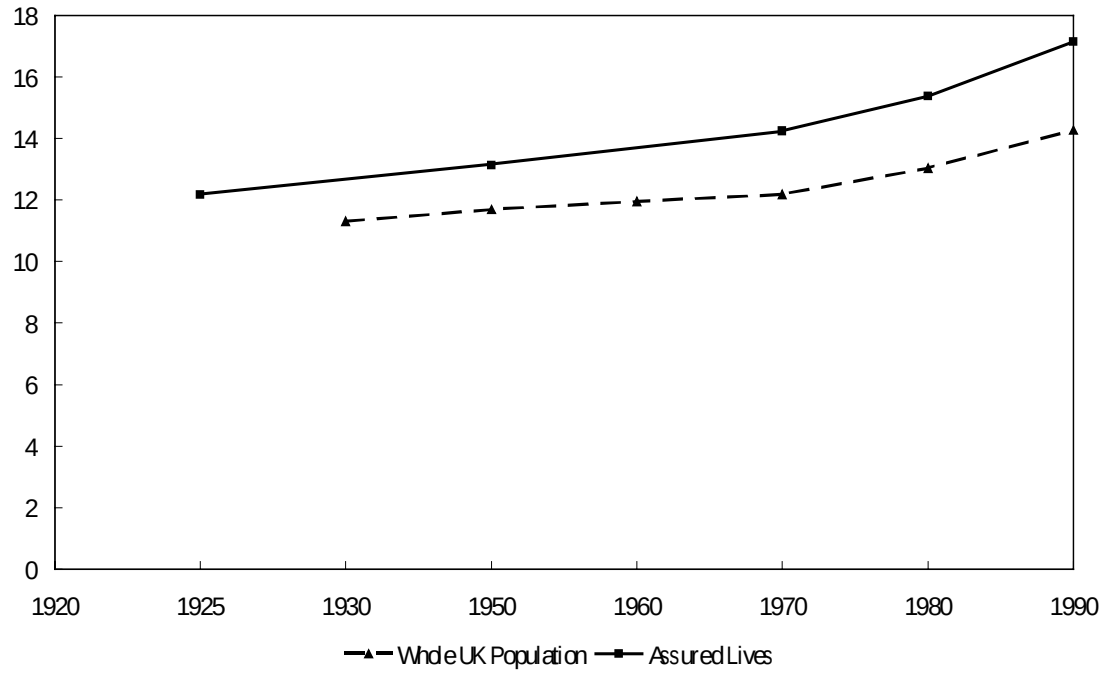
The early stages of this process are illustrated by the problem facing UK pension funds – with assets around £850 billion or 95% of GDP - the Minimum Funding Requirement (MFR). This was introduced by the Pensions Act of 1995 for actuarial valuations after 6 April 1997 - and these must be up-dated every three years. So April 2000 marks a new phase of maturity for this process. Assets must be not less than the accrued liabilities from now onwards and the liabilities are calculated using the long gilt yield as the discount rate for (1) retired lives and (2) a progressive blend of "equity returns and that long gilt yield" once a scheme member is within 10 years of retirement.

The consequences compound: Increased life expectancy plus rising numbers moving into the "less than 10 years" category gives a double hit in shifting the liability calculation onto the gilt yield basis. As Trustees are legally required to maintain sufficient assets, it seems reasonable to expect them to minimise the risk of breaching the Act, so they may well pay increasing attention to the nature of the liability that they are matching. Just as the banking community sought to minimise its regulatory risk versus the Basel capital standards, UK pension fund trustees are likely to take the same path of minimising personal liability.

The implications of the rising tide of retirement savings can be split into two. First, there is the sheer quantum of funds that will flow from the rising dependency ratio: The over-65s are set to rise from around 20% of the working age population to about 40% in the next 40 years. **But, secondly, the driving force for this bulge is increased longevity and that will determine the nature of the assets that the ageing population will wish to hold.**

The longevity "problem" has been accelerating for decades and Figure 1 shows the trends in the life expectancy of a 65-year-old male in the UK. The problem may be even more acute for the pensions and life insurance industry as the life industry - the source of these figures - seems to attract customers with a considerably better life expectancy than the population as a whole. There is no reason to think that the aggregate experience of the EU will be much different.

Figure 1: Changing Life Expectancy at Age 65, UK Male



Source: Continuous Mortality Investigation Bureau (CMIB) of the Faculty & Institute of Actuaries.

However, this chart does not show the complete story as the effective retirement age is often much lower than 65. The Continuous Mortality Investigation Bureau of the Faculty and Institute of Actuaries published new tables - with data for 1992 - in July 1999. A man retiring at 60 is currently expected to live for 23.75 years - up 13% from the expectation in 1980. A 55-year-old retiree can expect another 28.83 years - up only 9% from that earlier forecast. As medical science advances, albeit at great expense to the public purse, these survival rates are expected by the government actuaries department to improve further - for a 65 year old in 2040 by about 8% for the whole population. The survival rate of insured lives is expected to rise by about 13%.

Demand for Securities

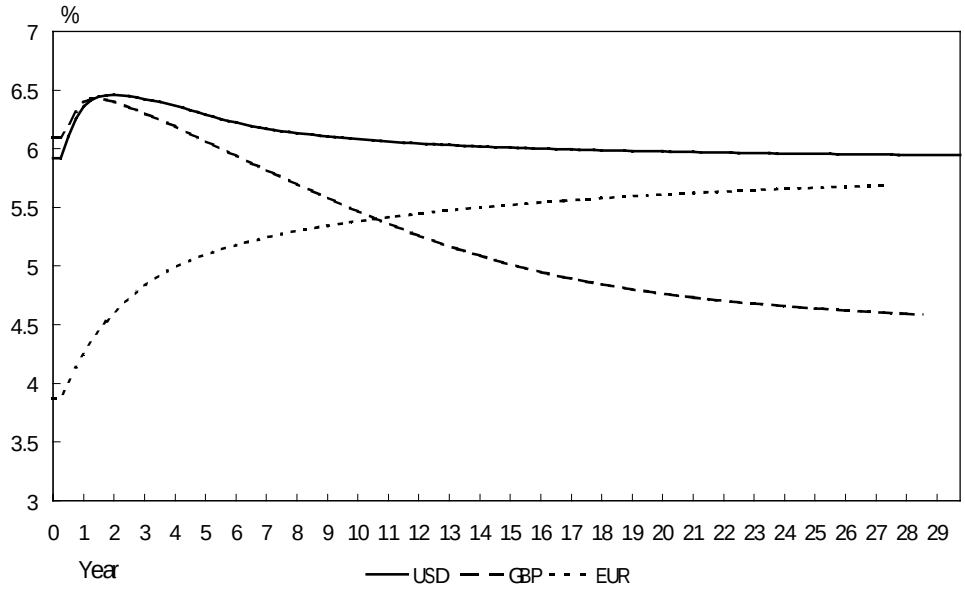
The MFR regulations impose a detailed set of asset/liability matching rules on UK pension funds. So the demographic pattern of the liabilities should define the asset mix. However, these funds have 71% of their assets in global equities but only 16% in global bonds - according to CAPS, a leading fund measurement service. But, 38% of members are pensioners and only 62% active/deferred members - where the liability would be based on equity returns (Source: National Association of Pension Funds, 1998 Survey). So there is a significant asset/ liability mismatch that this author has guesstimated at 10%, though it is almost certainly much higher.

There is a risk of a further twist to this mismatch. If employers conclude that the costs and responsibilities of running Defined Benefit Plans are too high, then - logically - they will shut existing schemes and only offer Defined Contribution Plans to new members. Thus existing DB schemes, and they hold the vast majority of the current £850 billion of assets, will age progressively until, eventually, ALL the then-remaining assets have to back liabilities calculated on a gilt yield basis. During the decade when the final segment of members move through the “ten years to retirement” category, there would be a massive requirement for fixed income securities. Regrettably, it appears that there is not any aggregate data that would enable the scale and timing of this problem to be analysed.

The Implications for Euroland may be very important. One way or another, there may be a structural, and massive, increase in the supply of capital with a desired term structure that is more related to expected mortality than conventional economic analysis about expected inflation. Indeed, real returns on long dated UK Index-Linked Gilts are now down to around half the comparable yields in France or the US. Again, the weight (and regulatory bias) of investible money is the most likely reason – especially when the Government is running a large budget surplus.

As a result the UK yield curve is extraordinarily distorted – with 30-year bonds yielding nearly 100 Bp. (and recently much more) less than 10-year bonds (see Figure 2). Currently long Gilts yield over 100Bp. **less than** corresponding German bonds – a margin that has declined from 140 Bp. in recent months. Since the US government announced that it would buy back some of its debt, the US yield curve has also inverted.

Figure 2: Par Yield Curves for Government Bonds in US Dollars, Sterling and Euros (Percent)- as at 25 April, 2000



Source: Salomon Smith Barney

The governments of Euroland have been moving towards budgetary balance but are not yet facing the problems of surplus. Also their debt managers have taken advantage of the decline in yields triggered by EMU entry to extend the average life of debt. The Euroland central government bonds in the Salomon Smith Barney Performance Indexes now have an average life of 6-7 years. But this is still dramatically shorter than the 10 – 20 years that ageing savers are likely to be seeking.

The combination of sound public finance - thus reduced demand for capital - and a mismatch with the desired maturity structure of the suppliers of capital could yet have consequences for the operation of monetary policy due to the impact on the shape of the yield curve. The mechanism for intermediating the capital flows from the savers to the borrowers may sharpen the impact. Will the process be based on the existing institutional structure? Or will it alter, perhaps radically, as a consequence of the technical, legal and technological changes now underway?

Management of Government Debt

The biggest single sector in the fixed income markets is government debt so its management sets a powerful example (see later discussion on recent developments). The creation of a single bond market in euro has focussed much attention on the yield spreads between different sovereign states. As a result there has been much debate about the need for a single "Debt Office" so as to create a benchmark yield curve. This subject seems entirely technical but, in reality, it goes to the heart of the political relationship amongst EU Member States because the ability to borrow is a critical ingredient in politicians' perception of sovereignty. Borrowing balances the spending commitments given to the electorate with the level of taxes to be imposed.

Any proposal to change the existing borrowing arrangements needs to be subjected to a careful cost-benefit analysis – where the political dimension is a very significant – if unquantifiable – item. Moreover, the first question to be answered is whether there is a general demand – from borrowers or investors – for a change in the current arrangements. It is not clear that investors are seeking anything more than incremental improvements that are likely to be delivered naturally by market forces over the next few years.

What benefits might accrue?

Borrowers point to the existence of yield spreads that are most noticeable at the longer end of the curve – recently ranging up to about 30 basis points for 10-year bonds. Naturally and properly, the debt managers of those States at the top of this range see it as their duty to seek a reduction. However, they are constrained by the credit outlook for their State and can focus only on the technical aspects that are under their control.
If spreads could be induced to narrow only through a decline in the yields paid by the high-spread States, then the savings on an EU-average debt, of say 70% of GDP, would still be modest. Figure 6 below shows that only about 52% of Gross General Government Debt (The Maastricht Treaty definition) is financed via bonds issued by the central government that are accessible to major institutional investors. Salomon Smith Barney measures this by the definition used for its well-known family of Performance Indexes. If as much as half this bond debt were subject to the 10-year spread, then its disappearance would eventually cut borrowing costs by perhaps 0.05% of GDP. Whilst it is right that every opportunity be taken to minimise public expenditure, such a relatively modest benefit implies that any countervailing disadvantages should be weighed up carefully

Disadvantages

These can be split into political and technical issues. These disadvantages need to be examined under the most stressful conditions to see whether problems that might seem remote and minor under normal market conditions could have the potential to create serious strains that could even threaten the continued existence of the EU.

- **Political disadvantages:** These stem from the possibility that the discipline imposed on finance ministers by the market's discipline of worsening credit spreads could be blunted by reducing the amount of debt exposed to borrower-specific market forces. In effect, this would risk negating the impact of the "no bail out rule". Many – if not most - market participants already regard this rule as illusory and any steps that re-inforced such an analysis would raise the risk that its application would be such a shock that it could de-stabilise the financial system. Any system of cross-guarantees increases the risk that investors will assume that it will be stretched further in crisis.

  Whilst a State that becomes subject to the Excessive Deficit Procedure, theoretically, could be expelled from the joint borrowing arrangements, a stress-test analysis points to the risk of such an action de-stabilising the State at precisely the most sensitive moment. This is the key reason why many market participants doubt that the Excessive Deficit Procedure would ever be rigorously applied in the first place let alone increasing the cost of the sanctions by raising that State's cost of borrowing.

- **Technical disadvantages:** There is a significant risk that any narrowing of spreads would be achieved at the cost of an increase in absolute yields for the most highly regarded borrowers. If those governments wished to raise their contribution to the EU generally, they might choose to use the money in a different way. Without that wish, it is not clear why they would participate at all.

  Any improvement in the absolute yields paid by the higher-spread States that is not at the expense of higher yields for others is only likely to come about from improved liquidity. Thus the requirement would be for single bond issues of about € 20 billion – matching the size of the typical Big-5 issuer. However, these States account for nearly 80% of the bonds outstanding. If only say 20% of the bonds of the Small-6 were put into this scheme, then the € 90 billion would have to be split into about 4 bonds of comparable size and this might take many years to build up, given the pattern of maturities and other constraints.

  The concept of a multi-issuer futures contract for these States needs to be examined critically as the disappointing performance of such contracts so far does not bode well. Liquidity of a futures contract is all-important and self-reinforcing. That is obvious for dealers hedging their positions but speculators are interested in market movements rather than the volatility of spreads between markets. Indeed, they are likely to be concerned that unexpected risks – such as sudden political developments – could shift this proposed contract to one that is dominated by a sudden change in the cheapest-to-deliver bond.

It is not clear that these yield spreads are susceptible to elimination to the extent that bonds are used for collateral purposes and thus become ”special” in repo. Tax effects can also be important in the context of spreads of this size. Auction concessions may be significant at times and “rare” but small issuers could well find that their rarity operates to their advantage because investors are seeking a well- diversified portfolio.

Improvements that investors require are easily summarised – transparency of issuing timetables, greater ease of settlement and enhanced liquidity. **Market forces are already delivering much of these demands:**

- Auction timetables by the bigger issuers are on the way to becoming set by convention as say France and Italy set out their schedules a year ahead. Other States could follow suit.
- Ease of settlement is a major factor in the current upheaval in the European depository industry and the next few years are likely to see major improvements delivered.
- In recent years, many States have realised the need for large liquid issues and the first year of the euro has witnessed several sets of exchange offers to enhance liquidity.

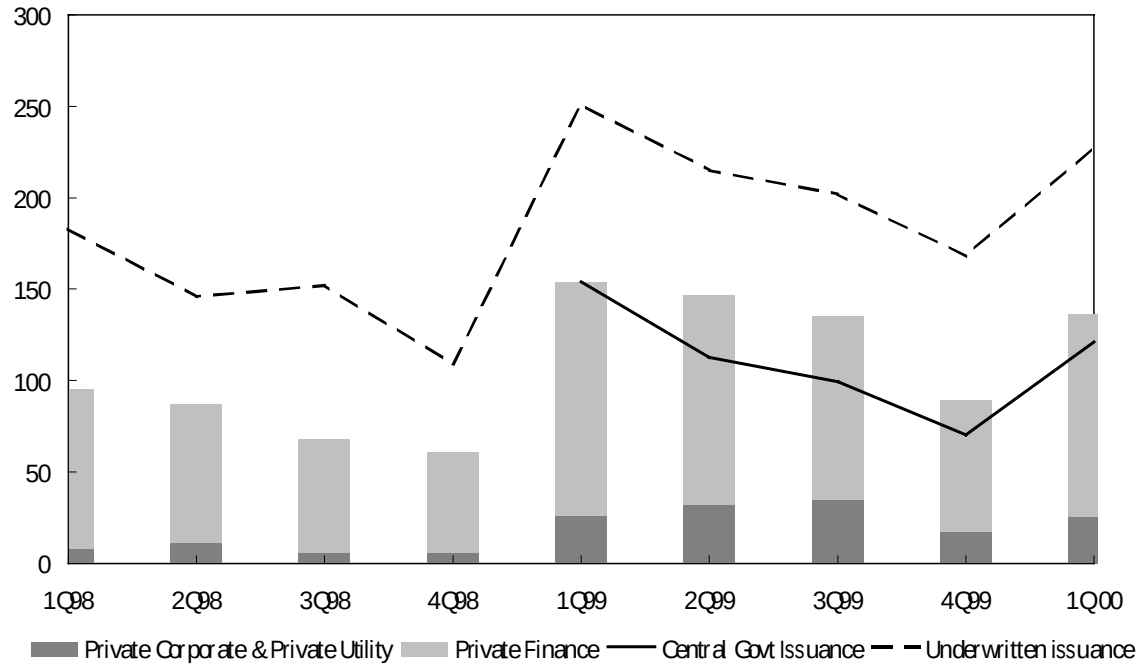
The Conclusions of the Lisbon Summit in March appeared to endorse the idea that these more limited needs should be met in the near future – and certainly by 2005.

PART II: Developments in the euro denominated markets since inception.

The capital raised by private corporations and utilities direct from the financial markets rose dramatically – overtaking the central governments. **Even in its first year, monetary union seems to have triggered a significant shift towards the securitisation of credit in Europe.**

What does ‘securitisation’ mean?
Securitisation is defined in the broadest sense, for this analysis. It means connecting the suppliers of funds directly with the users – via a market for securities, rather than through an intermediary bank.
The term “securitisation” is often applied to the specific process of making small loans – perhaps on residential mortgages or even credit cards – into bonds that can be issued on the capital markets and purchased by large investment institutions. More generally, it can include the process of governments transforming their non-marketable debts into highly liquid bonds that command a lower interest rate – and thus cost saving.

Figure 3. Central Government and 'Underwritten' Bond Issuance, 1Q98-1Q00 (Euros in Billions)



Source: Capital Data Bondware; Salomon Smith Barney.

The decline in the financial demands of the public sector is the natural, and desirable, result of the Maastricht Treaty's insistence on sound public finance as a pre-condition for EMU membership. So the trend to reduced government bond issuance may, eventually, have much further to go. EU-11 gross general government deficit – the Maastricht target – declined from 2.0% of GDP in 1997 to 1.7% in 1998 and 0.7% in 1999. Salomon Smith Barney forecasts a further contraction to 0.5% in 2001.

For the financial markets, the key factor is the level of bond issues – which reflects the maturity structure of existing debt as well as the choice of financing vehicle. This might be bank, money market or bond. Figure 3 demonstrates that the issuance of bonds has been on a declining trend since we started collecting the data at the beginning of 1999. Some governments – notably Italy – have been making efforts to lengthen the maturity of their debt. But the sharp steepening of the yield curve since last Spring has reduced enthusiasm for the moment.

Issuance of Underwritten Bonds

The rise in corporate issuance was a major trend in the new euro markets and has several components:

- The *tsunami* of M&A has produced a dramatic rise in the need for finance but it is not clear which is the chicken and which the egg! After Olivetti managed to raise the finance for its bid for Telecom Italia, the rules of the game have changed and now Vodafone's hostile bid for Mannesmann may result in a further wave of bond issuance. Vodafone's €30 billion bank facility was reported to be a 364-day facility so much of it will need to be re-financed longer term. If European M&A activity continues to run at anything like the €1200 billion pace of announcements in1999, and only 10% is re-financed in the bond market, then that would match the entire corporate bond issuance in 1999.
- In the investment grade sector, US companies became a major influence last year, in part because of FAS 133 but also the desire by the finance companies to broaden their investor base. Both these factors are likely to continue this year. Indeed, we believe that FAS 133-related issuance could easily double.
- Asset-backed securities (ABS) denominated in euro have just begun to scratch the surface of potential issuance despite reaching €43 billion in 1999. The potential scale of market that could result from the securitisation of European credit is most obvious when considering the second largest component of this volume – banks issuing Collateralised Loan Obligations (CLOs) to reduce their need for regulatory capital. The €9 billion issued in 1999 only amounted to less than 0.5% of the banking system's aggregate balance sheet.
- Finally, the high yield market has developed very strongly as European institutional investors have stepped up their credit research capabilities much faster than many observers recognise. During the year, €7 billion was issued and more than half of that was in the fourth quarter alone – driven by the telecom/cable companies. So the capital markets are financing a vital part of Europe's technological development.

The fact of this scale of issuance demonstrates that the European market for "credit products" is now firmly established. Investors are unlikely to backtrack on their evident enthusiasm for credit now that they have set up the portfolio management facilities. Moreover, they will not wish to give up the extra yield – even if rates rise – as demonstrated by the buoyancy of both asset-backed and high yield markets in the fourth quarter.

Taking 1999 as a whole, the issuance of corporate bonds was roughly equal to the budget deficits incurred by the EU-11 public sector. Yet that new debt capital in the hands of the private sector appears to be oiling the wheels of an economic revolution from the bottom up.

In the first quarter of 2000, Euro-denominated issuance rose 35% from the last quarter of 1999, notably in the private bank and private corporate sectors. But that can be seen as a rebound from the depressed levels ahead of the much-feared Y2K effect. Perhaps a better comparison is with the second half of 1999 — which showed a healthy 23% gain. Measured against the boom in the first quarter of 1999, issuance this year fell by 10%.

Central Government also increased its underwritten issuance — almost doubling its volume from the first quarter last year, and a fivefold increase from the last quarter of 1999. Frequently, issuers have chosen to start the New Year with new lines of fungible securities by launching an underwritten tranche to ensure a wide distribution and immediate liquidity.

Figure 4. Issuance of 'All' Euro-Denominated Bonds, 1998-1Q00 (Euros in Billions)

	1Q00 Amount	1Q00 (%)	4Q99 (%)	3Q99 (%)	2Q99 (%)	1Q99 (%)	1999 (%)	1998 (%)
Sovereign/Government/Author	**33**	**14.5**	**4.4**	**6.7**	**7.7**	**8.0**	**6.9**	**9.3**
Central Government	28	12.5	3.0	5.6	5.3	7.0	5.5	7.2
Local Authority	1	0.6	0.6	0.2	1.2	0.5	0.6	0.6
State/Provincial Authority	3	1.4	0.8	0.9	1.2	0.5	0.8	1.5
Supranational	**3**	**1.3**	**2.1**	**1.7**	**1.4**	**2.0**	**1.8**	**3.4**
Supranational Institution	3	1.3	2.1	1.7	1.4	2.0	1.8	3.4
Private Corporate/Utility	**25**	**10.9**	**9.8**	**17.1**	**15.1**	**10.4**	**13.1**	**5.2**
Private Corporate	24	10.6	9.2	16.5	13.8	9.3	12.2	4.7
Private Utility	1	0.3	0.6	0.6	1.3	1.1	0.9	0.5
Public Corporate/Utility	**9**	**3.8**	**3.4**	**3.2**	**3.2**	**2.1**	**2.9**	**2.4**
Public Corporate	1	0.2	0.6	0.3	0.4	0.4	0.4	0.3
Public Utility	8	3.6	2.8	2.9	2.8	1.7	2.5	2.1
Finance	**158**	**69.4**	**80.3**	**71.3**	**72.5**	**77.5**	**75.3**	**79.8**
Private Bank	96	42.2	32.2	43.0	45.8	45.6	42.3	41.1
Public Bank	46	20.3	36.3	20.5	16.4	24.2	23.8	30.1
Private Finance (Other)	15	6.5	10.9	7.0	8.0	5.3	7.5	6.4
Public Finance (Other)	1	0.4	0.9	0.8	2.3	2.4	1.7	2.2
Total		**100**	**100**	**100**	**100**	**100**	**100**	**100**
Total Amount	**228**		**168**	**202**	**215**	**251**	**836**	**590**

Source: Capital DATA Bondware, April 2000.

The fourth quarter of 1999 may also prove to have been a watershed in the international significance of the euro. The issuance of all types of €-denominated bonds exceeded that of international dollar bonds by 81% – as euro issuance surged by 52% from the depressed levels of late 1998 and dollar issuance fell by 20%. For the year as a whole, € issuance exceeded international issuance in dollars by 32% and this lead was broadly maintained in the first quarter of 2000.

Despite the continued weakness of the euro versus the dollar, in the first quarter of 2000, investors purchased 25% more euro-denominated bonds than international dollar issues. However, that was a less pronounced margin than the 32% recorded in the whole of 1999. For such a fledgling currency, that performance should be seen as a major success against the backdrop of a weak currency and rising bond yields.

As the vehicle of choice for private corporate borrowers, the dollar maintained its margin of around a quarter.

Figure 5. Issuance of 'All' Euro- and Dollar-Denominated Bonds, 1999-1Q00 (Euros in Billions)

	1Q00		1999	
	All €-denominated	Int US$-	All €-denominated	Int US$-denominated
Sovereign/Government/Authority	33	16	58	35
Supranational	3	10	15	25
Private Corporates/Utilities	25	32	110	135
Public Corporates/Utilities	9	4	24	13
Private Finance	111	52	416	220
Public Finance	47	68	213	206
Total	**228**	**182**	**836**	**634**
Memo: EU 6 Central Govt	***121***		***437***	

Source: Capital DATA Bondware, April 2000.

Methodological Note: *These comparative issuance tables are designed to capture the flavour of the bond investment opportunities that are available to investors that have a ready choice of currency because they are not legally constrained. Thus the analysis uses the international, rather than domestic, component of dollar issuance. In Euroland, the intention is to be as inclusive as possible, largely because the markets are moving — legally and technologically — in that direction. Indeed, public borrowers have taken a lead in Internet distribution. For this edition, we have expanded the definition of Government issues to include all those that are underwritten, rather than auctioned, even if they are classified as a domestic bond. The historic data has been adjusted correspondingly. In due course, it seems likely that even these distinctions may become blurred.*

Government bond markets

- **During 1999,** perhaps one of the most significant developments was the success of EuroMTS – the electronic broking system developed from the platform used to trade Italian Government bonds. Launched in April, it has expanded rapidly to cover 9 of the Euro-11 government markets and we believe its market share has already reached about 30-40% of inter-dealer volumes. This success was underlined by the December decision to include Pfandbriefe as an initial step into the non-government market – but still targeted at the liquid component. The improved investor confidence in liquidity and price transparency was demonstrated by a modest tightening of the spread of 10-year Portuguese bonds after their benchmark bond was listed in November.

- Moreover, EuroMTS has now announced a facility to arrange anonymous repos using the London Clearing House as the central counter-party. These developments underline the growing importance of the liquid benchmark issues and the associated ability to create a secured money-market. A necessary component is the drive to create legal certainty throughout the EU for this type of activity, highlighting the need for a broad interpretation of the Finality Directive (see discussion in Part I).

Figure 6. Government Debt (Euros in Billions)

	Bonds[a] as % of	Market Value	10-Year Benchmark (Outstanding)	
Country	'Maastricht Debt' End-1998	Mar 00	Mar 00	Recent
Italy	33	544	21	23
Germany	39	522	20	20
France	58	501	24	23
Spain	54	201	18	13
Netherlands	65	163	12	11
Belgium	51	156	5	11
Memo:				
EU-11	52	2,248		
US	36[b]	1,848	10	22
Japan	33[b]	1,915	14	14
UK	49	396	14	17

[a] Bonds as defined in SSMB World Govt Bond Index: fixed rate, over one-year remaining life. [b] US/Japan debt is OECD 'financial liabilities' definition.
NOTE: The ratio of central government fixed-rate bonds to the general government sector's debt (as defined for the Maastricht Treaty) is designed to indicate the degree of securitisation of public debt.
Sources: European Commission, OECD and Salomon Smith Barney.

- Debt re-structuring was a continuous feature during 1999 as debt managers sought to improve the liquidity of their issues. For example, the Dutch Treasury announced in June a Debt re-structuring was a continuous feature during 1999 as debt managers sought to €19 billion exchange offer programme to build up their liquid benchmarks to a typical size of €10 billion.
- Government bond markets continue to evolve rapidly as debt managers respond to the new environment of low issuance and rising technology. Finland led the technological way with an 11-year bond that was partly sold via the Internet.

Figure 7. Government Issuance for EMU 6 (Germany, France, Italy, Spain, Belgium and the Netherlands)

	Issuance by Maturity					
	2-3 yr	4-5 yr	10 yr	15 yr	30 yr	Total Gross Issuance
1Q99	49.8	33	53.5	1.7	15.9	154.0
2Q99	41.3	30.2	35.2	0.8	5.1	112.7
3Q99	31.2	19.8	42.1	1.3	5.1	99.7
4Q99	24.5	14.5	26.3	0.6	4.7	70.5
Total 1999	**146.8**	**97.6**	**157.2**	**4.4**	**30.8**	**436.7**
1Q00	37.9	28.3	37.3	0.5	17.2	121.2
2Q00F	40.2	20.2	32.7	0.6	6.3	100.1
3Q00F	33.8	19.7	37.9	0.3	10.8	102.5
4Q00F	31.7	19.1	40.2	0.6	5.1	96.8
Total 2000F	**143.5**	**87.5**	**147.9**	**2.2**	**39.5**	**420.6**

F: Salomon Smith Barney forecast.
Source: Salomon Smith Barney Euro Supply Monitor, 24 March 2000.

- In the first quarter, bond issuance was down by 21% and we expect a further decline of 12% in the second quarter. However, for the year as whole, we are looking for only a modest fall in issuance as some States shift the financing pattern to the longer maturities.
- Thus the 30-year sector is expected to see issuance expand by nearly a third. For the future, more debt managers may be inclined to experiment with such long maturities now that there is a defined yield curve in euros. The inversion of the yield curves in the UK, and now the US, illustrate the demand for long bonds from actuarially driven investors. The flattening of the euro curve is already noticeable and may whet the appetite of debt managers. Interestingly, just the **issuance** of 30-year bonds in Euroland would amount to about a third of the entire **stock** of long-dated UK government bonds — where the yield pattern has become seriously distorted by heavy pension fund demand. That has combined with low government issuance — even after the assistance from the new borrowing plans of the UK Government.

An initial assessment of the impact on monetary policy

The euro-denominated bond market has developed powerfully since inception – but this was from a low base and in a financial system that is largely based on intermediation by banks. It is worth considering some of the salient developments in the context of an M3 total of €4,800 billion, at end-1999. This increased by €340 billion during 1999.

- Underwritten corporate bond issuance quadrupled – to about €110 billion. But that includes a wide variety of financial corporations and there is no way of gauging the extent to which the **net** expansion substitutes for bank credit.
- The securitisation of bank balance sheets- via CLOs – seems an important trend but was only 0.5% of aggregate balance sheets so far. So it was not a big impact.
- The biggest sector of the new bond market is Jumbo Pfandbriefe – where the collateral is public sector loans. The real monetary impact would come through any expansion of credit to the public sector but this is constrained by the Excessive Deficit Rule/Stability Pact so shifts in the intermediation channels should have only modest effects. Maturity changes in the underlying public sector debt would be more important but there is no information on this.
- Without making extreme assumptions, it is not clear that these factors could yet sum to an amount that would have a significant impact on broad money. **Crucially, monetary policy is <u>no</u>t mechanistically determined by monetary growth, so the risk of a significant distortion of policy seems modest – at least in the brief period of the euro bond markets existence so far.**

PART III: The potential impact of the future markets on the operation of monetary policy.

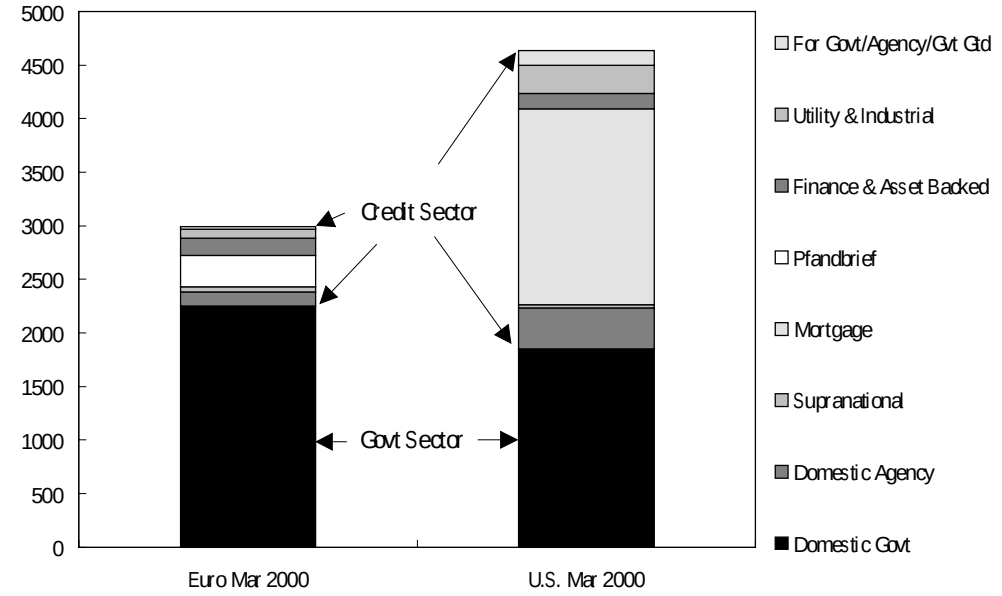
Even if the conclusion is that the euro bond market has probably not had much of an impact on the conduct of monetary policy in 1999, it could be wrong to conclude that its evolution should not be carefully monitored in the years ahead. Several powerful drivers have yet to have anything like their full impact on the development of the bond market:

- In a stable-price world, many aging investors are likely to prefer the stability of fixed income returns for much of their portfolio. With a positive yield curve, they are likely to be attracted to longer maturity assets – to match rising longevity.
- As nominal interest rates seem low by recent historical standards, many investors will seek to maximise their final return by dis-intermediating as many transaction costs as possible.
- Bonds may come to be seen as closer to deposit substitutes as these costs, as well as depositary costs, fall so that it is cheap, quick and simple to convert bonds into money.

These driving forces mesh neatly with public policy priorities. One of the strategic ambitions for the EU, in the world of the euro, should be to make cheap and convenient bond finance readily available throughout Euroland — which naturally involves issuing bonds across borders. The future market is likely to include selling bonds to individuals — though there are difficulties, such as different prospectus requirements. Also, technology is bringing Internet trading of these securities into the picture just as EMU gets underway. This co-incidence is likely to have a profound influence on the way these markets develop.

With government issuance constrained by the drive for balanced budgets, the arrival of the euro should open up new vistas that could take the euro-denominated non-government bond market, over the years, up to a comparable size with its US domestic counterpart – if securitisation develops to the same extent. Using the Salomon Smith Barney Broad Investment Grade Indexes as a proxy, the value could rise from the current €500 billion of bonds (denominated in euro and accessible to major investors) to nearer €3000 billion. **Such a development would still only convert less than 20% of the total assets of EU banks into securities.**

Figure 8. Bond Markets — Euro versus US (Euros in Billions) (Minimum Issue Size €500 Million)



Source: Salomon Smith Barney Fixed Income Indices, April 2000.

The advent of the euro opens up the possibility of consolidating Europe's capital markets into a single, world scale market that can intermediate the flow of savings to a wide spectrum of end-users. The financial services industry is that intermediary so it faces a huge challenge - and opportunity - from this same combination of rising savings flows and new technology. The pace of consolidation in the European industry suggests that the process of change is well underway. However, a merger takes time to be implemented so there may be a lag before the new services are rolled out and marketed to the ultimate client.

What is the "financial services industry"?

Essentially, it is those activities that give practical meaning to two of the economist's definitions of money: a means of payment and a store of value. The first function – the payments system – is probably about to undergo a revolutionary change anyway as electronic money takes over many payments activities. The second function is the "savings business". Once money has been collected into an account with an institution, it must be put to work to earn a return for the saver. The route may be the traditional bank making a loan, or a purchase of shares via a unit, or investment, trust or by purchasing bonds. The intermediary for these actions can be a bank, unit trust, pension fund or life insurance company.

The challenge is to maximise the efficiency of the intermediation process by utilising the opportunities created by dramatic technological change. This could become a significant competitive advantage for the EU within the global market place for trading securities.

The key areas are the steps in the process of fulfilling a transaction:

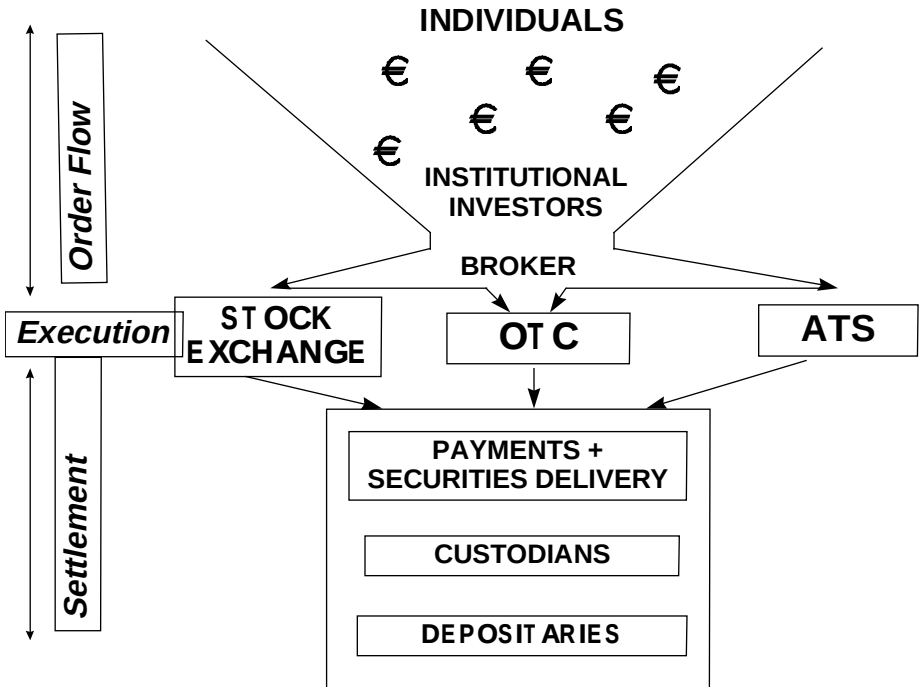
1. Formation of a legally binding contract to execute the transaction
2. Conduct of business rules
3. The actual trade - on or off a Stock Exchange
4. Delivery of the securities to/from a depository
5. The payment

The eventual aim of electronic trading is to minimise costs by making these steps "straight-through" from investor, to broker, to exchange, to custodian/paying bank and, finally, the security depository. This reduction in costs should widen access to capital markets for issuers and investors.

The financial services industry is seeking to position itself as this intermediary by offering asset management services – acting as an “institutional investor”- or as a direct execution agent. But the execution infrastructure is undergoing profound change as traditional Stock Exchanges face competition from the Over-The-Counter (OTC) traders and also from Alternative Trading Systems (ATS). Increasingly, these are Electronic Crossing Networks (ECNs).

A note of caution: The potential removal of other Stock Exchange functions would leave the certainty of settlement as the remaining key activity. But the scale of settlement risk is now so great that shorter settlement periods (eventually moving to real time) are reducing even that function. The growth of clearing houses e.g. for the futures exchanges, illustrates one approach to change. As more exchanges become electronic and remote trading becomes possible, it is essential for systemic stability of the financial markets for trading functions to continue to be carried out by adequately capitalised and regulated exchanges, clearing houses and financial intermediaries. Permitting unregulated and thinly capitalised software or technology companies to provide key processes in electronic securities transactions (e.g., trading software or electronic linkages) creates new risks.

Figure 9. The New System



However, the backdrop to this change is the political drive to liberalise the capital markets - with a 2005 deadline, set at the Lisbon Summit this March. To re-state the conclusion of Part I of this paper, "**The revolutionary changes that are underway in the market infrastructure should have come to fruition on a similar time scale, so the scene is set for a transformation of the European financial services industry".**

Given the power of the forces that are driving investors, these changes will also affect the conduct of monetary policy. The impact will certainly come at an operational level. But more importantly, the political setting may change radically:

- Lengthening bond maturities means that monetary policy actions should not be constrained by the risk that rising short-term interest rates would precipitate a breach of the 3% deficit/GDP limit by EU governments. So that loosens one constraint on policy.
- But the impact on the easily assessed, market value of elector's portfolios may create additional sensitivity.
- **However, such a large market will eventually make it easy for savers to hold both the ECB and politicians to account on the outlook for both inflation and public finance via, effectively, a rolling referendum.**