

MEDIUM-TERM PROSPECTS FOR THE IRISH FINANCIAL SYSTEM

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The world's financial systems have evolved rapidly during the past decade, and will continue to do so during the early years of the next millennium. The international financial architecture is currently being redesigned in response to the market turbulence of the late 1990s. In Europe, the commencement of the euro in 1999 has heralded dramatic change in the operation of monetary and financial policies of the eleven Member States. In Ireland, membership of the Eurosystem means that our monetary and exchange rate policies are now in the hands of, respectively, the European System of Central Banks (ESCB) and the Council of Ministers. More recently, the publication of the McDowell Report (1999) on the formation of a single regulatory authority for Ireland has focused attention on the search for a regulatory and supervisory infrastructure that will best serve the future development of the sector.

The existence of an efficient and well-functioning financial sector is crucial to the effective operation of the economy. The activities of the financial system ensure that corporations in the real economy have access to the funds they need to conduct their operations and generate output, exports and jobs. The many and varied financial instruments that have been developed in recent years are increasingly viewed by producers of real goods and services in many sectors of the economy as indispensable to the effective management of the risks they face in both domestic and international markets. Current trends in financial institutions and markets, however, suggest that the financial sectors in small regional economies will come under increasing pressure during the next decade. The combination of ongoing global and European financial integration, together with technological developments and burgeoning scale economies in the delivery of financial services, is creating a tendency towards institutional conglomeration and geographical concentration. In the absence of appropriate policy, small regional economies will face the prospect of being financially serviced to a greater degree by foreign institutions and markets. Although the extent to which this will occur remains as unclear as its full repercussions, some of the possible implications, such as the potential for lost output and employment together with reduced financial sovereignty, are already foreseeable.

The Irish government has, during the past decade and a half, adopted a proactive strategic approach to industry policy for the financial services sector. It has built upon the foundations of a well-educated, English-speaking workforce; an advanced and improving telecommunications system; progressive taxation policy and other inducements to attract international institutions to base their European and global operations here. This approach has sound theoretical foundations in the strategic trade theory and policy analysis of Krugman (1987), Porter (1992) and others. It has been demonstrably successful. The growth in Ireland's insurance, finance and business services sector has been spectacular over the past decade. Employment in the sector has risen by over 40 per cent from an average of 59,000 during 1990-94 to an average of 83,000 during 1995-99. If this rate of employment growth continues, there will be more people employed in this sector than in agriculture by 2005. The centrepiece of the government's strategy, the International Financial Services Centre (IFSC), has

gained both national and international recognition. The financial services industry in Ireland is consequently better positioned than in other small economies to compete successfully within the single European market. Given the ongoing tendency towards increasing returns to scale and institutional conglomeration in the financial services industry, however, more work remains to be done to ensure that the sector continues to prosper. Amongst the key areas for future concern is the need to produce higher value-added products and services with correspondingly higher paid employment.

This chapter presents an overview of the important issues that face Ireland's financial sector in the medium term. Previous related studies include the work of, amongst others, McGowan (1990), McKillip and Hutchinson (1992), Dowling (1996), Hutchinson (1996, 1999a,b) and Llewellyn (1999). The next section reviews the early operation of the euro and describes the medium-term prospects for monetary, exchange rate and financial policies in the Eurosystem. Section 3 discusses the prospects for financial markets and institutions in Ireland. It discusses, in turn, the money; foreign exchange; bond; equity and over-the-counter (OTC) markets, and it also discusses the important institutions including the banks, the National Treasury Management Agency (NTMA); the Irish Stock Exchange (ISE); and the IFSC. Section 4 looks at regulatory issues, and includes an analysis of the emerging new international financial architecture along with the proposed single regulatory authority for Ireland. The final section summarises this chapter and draws together the conclusions.

2 The Operation of the Eurosystem

The introduction of the Euro at the beginning of 1999 was an important milestone in European integration, and it carries far-reaching implications for financial policy in Ireland. In order to assess the early operation and future prospects of the Eurosystem, it is useful to first briefly describe how it works. The European System of Central Banks (ESCB) consists of the European Central Bank (ECB) and the national central banks of the fifteen Member States of the EU. The Eurosystem is the officially adopted user-friendly expression for the ECB and the national central banks of the eleven Member States that have adopted the euro, and the euro-zone is the term employed to refer to the economic and financial systems of the eleven Member States.

The ECB (1999d) provides a detailed description of the institutional structure of the Eurosystem. The ECB has a Governing Council and an Executive Board. The Governing Council is the primary decision-making body, designing the euro-zone's overall monetary policy and setting its intermediate objectives such as the level of interest rates. It presently has seventeen members, including the members of the Executive Board and the governors of the national central banks of the member States that have adopted the euro. It meets in Frankfurt every two weeks. Decisions are made by a majority vote, with each member having one vote and the President deciding in cases of a tie. The Executive Board consists of the President and Vice-President of the ECB and four other members appointed because of their recognised standing and professional experience in monetary and banking matters. The Executive Board implements monetary policy as decided by the Governing Council. It meets in Frankfurt at least once a week, with decisions being made by majority vote and the President deciding in cases of a tie. All voting on both the Governing Council and the Executive Board is taken with the perspective of the entire euro-zone in mind rather than the specific regions or countries from which the members originate. The ECB's independence from the institutions and governments of the EU and the Member States has been carefully designed and enshrined in legislation, making it the most independent central bank in the world.

The Eurosystem has objectives and tasks prescribed to it by Statute. Its primary objective is the maintenance of price stability. In doing this, it is required to support the wider economic objectives of the Community, but only to the extent that this does not prejudice its primary goal of price stability. The important tasks prescribed to the Eurosystem are to design and implement its monetary policy; to manage its official reserves and conduct its foreign exchange operations; to manage the Community's money and promote a smooth payments system; to contribute to the prudential supervision of credit institutions and the stability of the overall financial system; and to

participate in international monetary institutions. In carrying out these tasks and pursuing its primary objective, the ECB has the power to decide whether the ends are best achieved by direct action from the ECB or through the national central banks. Although it adheres to the principle of decentralisation in its operations, the ECB centralises the Eurosystem's decision-making process.

THE ECB'S MONETARY POLICY STRATEGY

The ECB's monetary policy objective of maintaining price stability is usefully described as a combination of that given to the German Bundesbank prior to the emergence of the Eurosystem, and that of the Federal Reserve System in the United States. The German Bundesbank's mandate was to "regulate the amount of money in circulation and of credit supplied to the economy – with the aim of safeguarding the currency". The Federal Reserve System's mandate is to "maintain long-run growth of the monetary and credit aggregates commensurate with the country's long-run potential to increase production, so as to promote effectively the goals of maximum employment, stable prices and moderate long-term interest rates". As Wynne (1999) points out, however, although the Bundesbank's mandate could be taken to include the exchange rate, and the Federal Reserve System's mandate is readily interpretable as much wider in its scope, the various monetary authorities around the world have tended to focus more or less on the objective of price stability. The ECB's narrowly defined objective of price stability is therefore appropriate, given that it lacks a history of credibility and that exchange rate policy is set independently by the Council of Ministers (after consultation with the ECB).

The ECB's monetary policy strategy defines how it responds to developments in the economy in order to meet its objective of price stability. Having considered both inflation targeting and monetary targeting as alternative strategies, the ECB's "stability-oriented monetary policy strategy" combines both approaches. Further details are provided by the ECB (1999a). To begin with, price stability is defined as an annual increase in the Harmonised Index of Consumer Prices (HICP) of less than 2 per cent. Next, the ECB has adopted a reference value for the annual growth rate of broad money (M3) of 4.5 per cent, and it monitors monetary growth on the basis of 3-month moving averages of the annual growth rates. Finally, the ECB also assesses the outlook for future price developments and the risks to price stability on the basis of a range of economic and financial variables.

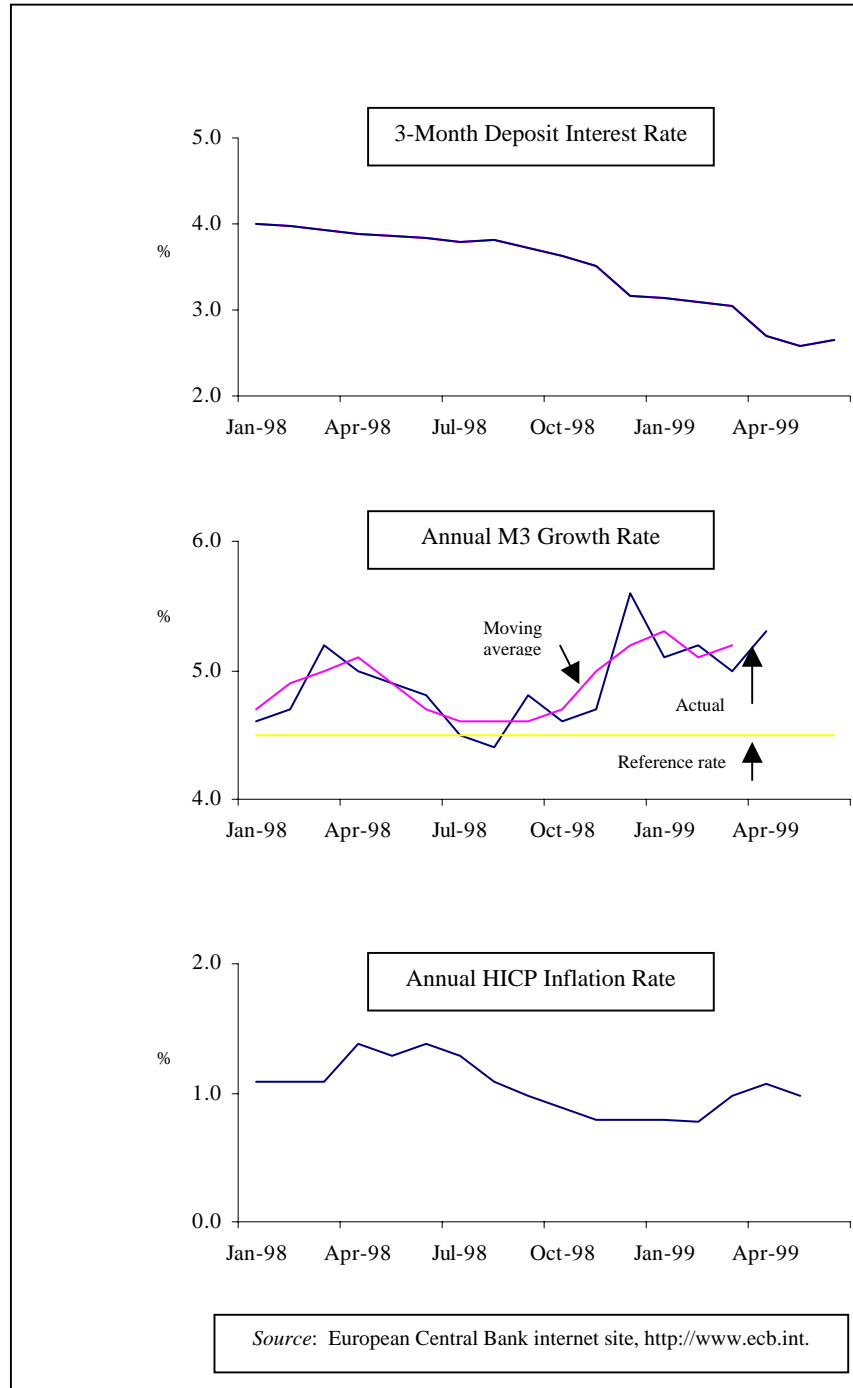
In implementing this strategy, the ECB uses open market operations, standing facilities and reserve requirements in order to influence liquidity and interest rates, and through them, monetary growth and inflation. The most important open market operation, which provides the bulk of the financial sector's refinancing needs, is the weekly "reverse transactions" (which have a two-week maturity).

The interest rate on these transactions is called the *main refinancing rate*. The standing facilities used by the ECB to influence short-term liquidity are the deposit facility (which allows institutions to deposit funds overnight) and the marginal lending facility (which allows institutions to borrow funds overnight against eligible assets). The *deposit facility rate* and the *marginal lending facility rate* provide the floor and the ceiling, respectively, to the overnight interest rate. The ECB's reserve requirements apply to credit institutions in the euro-zone at 2 per cent of eligible liabilities.

RECENT DEVELOPMENTS: MONETARY POLICY SETTINGS AND INFLATION IN THE EUROSYSTEM

Figure 1 shows recent developments in the ECB's monetary policy settings and in the Euro-zone's inflation rate, using monthly data from January 1998

Figure 1: Monetary Policy Settings and Inflation in the Eurosystem. Monthly Data: January 1998 – June 1999



to June 1999. Although the ECB commenced operations in January 1999, the data for the previous year is presented in order to facilitate appreciation of the recent trends. During this time, interest rates have continued to decline, broadly in line with international developments. The 3-month euro deposit rate shown in Figure 1, has declined from about 4 per cent at the beginning of 1998 to less than 3 per cent during

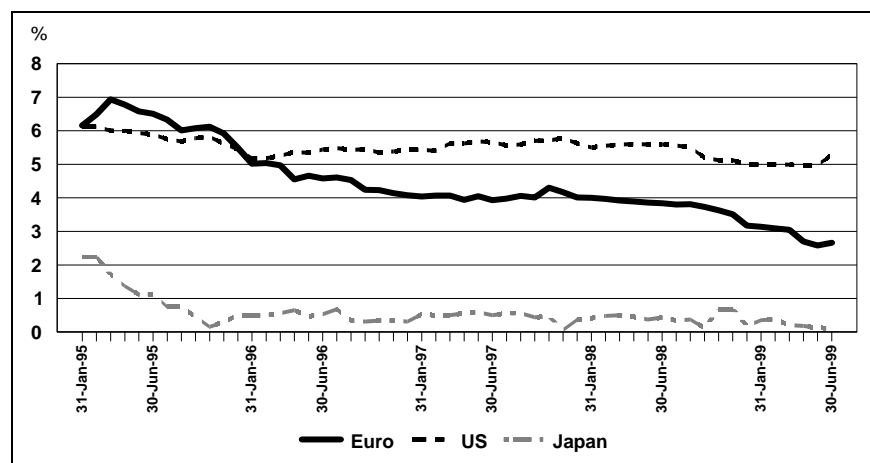
July 1999. The ECB reduced the *main refinancing rate* and the *deposit facility rate* by 0.5 per cent, and the *marginal lending facility rate* by 1.0 per cent in April 1999. The effect of this loosening of monetary policy on the 3-month euro deposit rate is clearly visible in the top part of the Figure.

Figure 1 shows the annual growth in M3 throughout the Euro-zone over the same period. It depicts the actual growth in M3 along with its 3-month moving average and the reference rate of 4.5 per cent set by the ECB Governing Council. Both the actual and the moving average of M3 growth have remained above 5 per cent throughout the first half of 1999. Although monetary growth continues to exceed the reference growth rate, the degree of overshooting is small. This should not unduly worry the ECB or market participants for the foreseeable future unless monetary growth begins to accelerate further away from the ECB's reference rate.

The annual rate of HICP inflation in the Euro-zone has remained close to 1 per cent during the year and a half up to the middle of 1999 (see Figure 1). This is well within the ECB's definition of price stability. The ECB's success in achieving price stability has been aided by the low rates of inflation throughout the world in recent years.

Some commentators have argued that the failure of the ECB Governing Council to raise euro interest rates during the first half of 1999 signalled to the markets that the new ECB is soft on its commitment to maintaining monetary control. They point in particular to the ECB's decision to reduce interest rates in April 1999 when monetary growth exceeded the reference rate. Figure 2 shows comparative 3-month deposit interest rates in the Euro-zone, Japan and the United States over the period from January 1995 to June 1999. Although euro rates have declined since the beginning of the ECB's operations in January 1999, they have been on a declining trend throughout the past five years, and they are not seriously out of line with their United States counterparts. Japanese interest rates have hovered close to zero for most of this period, placing the Japanese economy in a veritable liquidity trap.

Figure 2: Euro, Japanese and United States 3-Month Deposit Interest Rates Monthly January 1995 – June 1999



It has also been argued that the alleged softness of the ECB's monetary policy stance has contributed to the poor performance of the euro exchange rate *vis-à-vis* the US dollar. Table 1 provides annual average euro exchange rates against the British pound, the Japanese yen, the Swiss franc and the US dollar, as well as its nominal effective index, from January 1995 to June 1999 (with ECU rates being used prior to January 1999). The euro's performance on the foreign exchange markets during the first half of 1999 has not been significantly different from the performance of the ECU in the last five years. Although the euro has tended to depreciate slightly *vis-à-vis* the US dollar and the British pound throughout the period, it has maintained its value or appreciated *vis-à-vis* the Japanese yen and the Swiss franc. Putting the foreign exchange performance of the euro in September 1999 into perspective, it averaged less than US\$1.09 during January to March 1998, and it was worth less than UK£0.65

during July 1997 and again during March and April 1998. In summary, therefore, there is no justifiable reason to suspect that the ECB has been soft on monetary policy during the first nine months of its operation, and that this has led to weak foreign exchange performance of the new currency. A more balanced account of what has occurred is that the US dollar and the pound sterling have continued to perform strongly on the world's foreign exchange markets. This performance has been assisted by strong growth and higher interest rates in the United States, and by higher interest rates in Britain. The ECB has correctly resisted any temptation to track movements in these currencies. Overall, the ECB has performed well during the first six months of its operation.

Table 1: Euro Exchange Rates: Annual Averages

Year	US Dollar	UK Sterling	Swiss Franc	Japanese Yen	Effective Index
1995	1.31	0.83	1.54	1230	978
1996	1.27	0.81	1.57	1381	983
1997	1.13	0.69	1.64	1371	904
1998	1.12	0.68	1.62	1464	923
1999	1.09	0.67	1.60	1292	893

Source: European Central Bank internet site, <http://www.ecb.int>. Rates prior to 1 January 1999 are ECU rates. The euro effective rate is the nominal effective exchange rate. The averages for 1999 are for the first half of the year.

FUTURE PROSPECTS

The medium-term outlook for the ECB's ability to meet its objective of price stability is favourable. Commodity prices have tended to fall continually over recent years, producer prices have also fallen in virtually every developed country in the world, and consumer price inflation in the G7 countries is expected to remain low by post-WW2 historical standards. The prospects for continued low inflation in the euro-zone are consequently excellent, and this provides the best possible environment for the new ECB to establish credibility in its pursuit of price stability. As long as monetary growth does not begin to exceed the ECB's reference rate by a significant degree, the medium-term outlook for interest rates is that they will also continue to remain low.

As mentioned in Chapter 3 of the *Review*, however, this benign outlook for the Euro-zone and for the Irish economy is not without some downside risks. The possibility of a sudden and sizeable downturn in the United States stock market has particular relevance for the ECB's stability-oriented monetary policy strategy. Although the United States economy continues to perform well with buoyant consumer and producer sentiment, the combination of continuing strong domestic demand together with sluggish growth in world demand and prices is straining its balance of payments. In spite of this, and in response to the Asian financial crisis that caused a flight into the dollar as a "safe haven" currency, its foreign exchange rate remains strong and there is growing concern about the extent to which its stock market is surging ahead of fundamentals.

If a pronounced downturn occurs in the United States economy in the short- to medium term, it could spread globally and put further downward pressure on prices. If this scenario unfolds, the prospect of deflation rather than inflation will pose the greater risk to the ECB's price stability objective. There is increasing agreement that current measures of inflation, based on conventional consumer price indices, overstate the true inflation rate (see, for example, Boskin *et al.* (1996), Abraham *et al.* (1998), Diewert (1998) and Nordhaus (1998)). The average overestimate in these studies is about 1.2 per cent. This occurs because consumer price indices do not adequately account for improvements in competitiveness, greater substitutability between goods and services, and improvements in the quality of goods over time. When allowance is made for these factors, inflation in the euro-zone has actually averaged around zero for the past year and a half. If the possibility of deflationary pressure emerges, central bankers who have grown accustomed to fighting inflation rather than deflation, would have to adjust their thinking. In such a situation, the ECB would have to loosen its monetary policy stance. The public announcement of a commitment to maintaining a small positive rate of inflation would assist by reducing the possibility of widespread deflationary expectations.

Whatever scenario unfolds over the medium term, Ireland's monetary and exchange rate policies will be set in Frankfurt rather than in Dublin. The independence of the ECB, together with its system of voting on both the Governing Council and the Executive Board, guarantees that the day-to-day policy actions in our money and foreign exchange markets will be taken with the interests of the entire euro-zone in mind. Ireland's small size dictates that our specific interests in these matters will receive little attention. Our exchange rate *vis-à-vis* the eleven Euro Member States will remain irrevocably fixed. The exchange rates *vis-à-vis* non-euro-zone countries, together with interest rates, will be set without consideration of variations in Ireland's economic cycle or international trading position. Having surrendered these policy instruments in order to join the euro, we will both pay the costs and reap the benefits. It is not our intention to reiterate the results from many studies of this issue (see, for example, Baker, Fitz Gerald and Honohan (1996), Neary (1997) and Neary and Thom (1997)). With the Irish economy growing strongly, however, it is likely that the stance of the euro-zone's monetary policy in the foreseeable future will be somewhat looser than might optimally suit local conditions.

3 Prospects Financial Markets and Institutions

The global financial services industry's rapid evolution during the past two decades has resulted from the combination of technological change and the removal of restrictions on international capital movements. The world's financial sector has evolved from being largely domestically based to being more internationally integrated. The advancing integration of Europe, particularly the introduction of the euro in January 1999, has hastened this process of financial restructuring. The medium-term prospects for Ireland's financial services industry must be seen in this context, with further change being driven by the ongoing process of technological development in product design and service delivery, the continuing globalisation of financial services, and the adjustment to monetary unification in Europe.

3.1 THE MONEY AND FOREIGN EXCHANGE MARKETS

As alluded to earlier, the new Eurosystem formulates and implements the single monetary policy for the euro-zone, manages its official reserves, and conducts its foreign exchange operations *vis-à-vis* non-members. In essence, therefore, intra-EMU foreign exchange risk has been eliminated and interest rates will become increasingly unified throughout the Euro-zone. The implications of this are far-reaching, and will be felt increasingly over the next few years. The abolition of interest rate differentials and intra-member foreign exchange rates means that there is no longer any need for country-specific expertise on the causes of variations in, and the prospects for domestic interest rates or foreign exchange rates (although expertise in the responses of the economies of Member States to variations in euro interest rates and the euro exchange rate will remain). Country-specific derivative interest rate and foreign exchange rate instruments and markets are also no longer required within the Euro-zone. The wholesale euro money markets, such as for certificates of deposit, are becoming deeper, more liquid, and increasingly competitive. The effects of monetary unification will also be increasingly felt in other financial markets discussed below, and its repercussions will include significant change in the business orientation of many financial institutions.

The Banks

The trend towards consolidation in banking institutions is well established internationally (see, for example, Berger, Demsetz and Strahan (1999)). Scale economies in technological development have allowed new products to be developed more efficiently by larger institutions, and modern modes of service delivery, such as ATM's and telephone banking, also exhibit greater economies of scale than the more traditional delivery modes. The process of globalisation has at the same time increased market integration and created more scope for larger international institutions. The combination of these factors has led to increased merger and acquisition activity both

within and across national borders. The ECB (1999c) describes how concentration is rising amongst Europe's largest banking institutions. This consolidation has hitherto occurred mostly at the national level, in spite of the 1993 EU banking directive that allows banks to operate quite freely across national borders. The introduction of the euro, however, will enhance the emerging trend towards greater international consolidation in the provision of banking services. Although it is impossible to predict how this will turn out, the scale of merger and acquisition activity has grown throughout Europe's financial sector, from about €40 billion in 1995 to over €100 billion in 1997. Lee (1996, 1998) describes some possible scenarios, including large-scale mergers between European and United States conglomerates.

The *wholesale banks* will have to compete more vigorously across Europe. There is now greater homogeneity in both the credit risks and the yields on many of the products they trade, such as certificates of deposit and short-term bonds. With rapidly declining scope for national comparative advantage, cross-border arbitrage will become increasingly efficient. Margins will inevitably decline. Economies of scale will dictate that there will be increasing concentration in the sector. This trend is already visible with the recent acquisition by Deutsche Bank of Bankers Trust, and the moves by banks such as Citibank, BNP and Barclays to establish world-wide branch networks.

The *retail banks* are already undergoing fundamental change, and they will continue to do so over the medium term. There is huge scope for rationalisation in retail banking on an international basis. In the past, retail banking has tended to remain local because of the high fixed costs in establishing market share via branch networks. Technological advances such as telephone and internet banking, however, are making branch networks less relevant to the provision of many retail services. This trend is at a very early stage, but it is gathering momentum. The retail banks have long recognised the inevitability of greater international competition, particularly in lending but also in transaction banking and money management. They have responded to this by a combination of eliminating cross-subsidisation, introducing fee-for-service banking, and offering customers a wider range of services such as funds management and insurance products. In essence, they are reinventing themselves to resemble financial supermarkets, and they are exploiting their market penetration to offer a greatly expanded array of products at competitive prices.

The larger Irish retail banks are currently well positioned to face the rapidly evolving markets in which they operate. Hutchinson (1999b) describes how these institutions dominate the Irish financial sector, with the two largest banks, Allied Irish Banks and the Bank of Ireland, accounting for approximately 80 per cent of total clearing bank assets. In addition to their domestic retailing activities, they also have interests in merchant banking, insurance and stockbroking, and both have operations outside Ireland. Although these institutions are both financially healthy with good price earnings ratios and returns on equity, they cannot take their future independent existence as absolutely guaranteed. The threat of more intense competition for deposit and other business from the large international banks is set to continue, and the possibility of merger and acquisition activity involving Ireland's largest financial institutions cannot be ruled out.

3.2 THE BOND MARKETS

The elimination of foreign exchange risk that accompanied the introduction of the euro has already contributed to an expansion in Europe's bond markets. It has raised both the supply and demand for the single currency euro-denominated debt compared to bond issues denominated in the eleven currencies prior to the euro. This trend is likely to continue for some time, as new issuers and investors from both inside and outside the Eurosystem are induced to participate in the markets.

The *corporate bond market* has been internationalised for some time, due largely to the success of the euro markets in both short- and long-term debt. More recently, however, the introduction of the euro has led to very strong growth in Europe's corporate bond market. It has grown by almost 20 per cent during the first six months of the euro, to constitute 49 per cent of world bond issues compared to 41 per cent of

world issues denominated in the eleven pre-euro currencies in 1998. The supply of debt has risen due to an increase in both the number of corporate borrowers and in the size of issues. Corporate financial managers are switching from intermediated financing towards debt, because the latter offers less stringent restrictive covenants coupled with lower interest rates. The demand has also risen because of the historically low yields on government bonds, and because European fund managers who were previously restricted to investing in local securities can now invest in euro-denominated bonds. These factors will combine with the ongoing trend away from intermediation in wholesale lending to spur the growth of an increasingly attractive and liquid euro-denominated corporate bond market.

The Irish Stock Exchange (ISE) regulates the Irish *government bond* market. The issue of Irish government debt is conducted by the NTMA, which also manages the portfolio of government debt. Most trade in Irish government bonds is conducted over the telephone, and the ISE performs the role of price revelation rather than trading. Turnover in Irish government bonds as reported by the ISE declined from £111 billion in 1997 to £62 billion in 1998. Similar reductions were also experienced by other small European bond markets. This reflects the increasing concentration of trading activity in the German Bund market. The ten-year Bund market has gained benchmark status across Europe, and this has been assisted by the success of the Bund futures contract on the German/Swiss derivatives exchange, the Eurex.

The NTMA

The NTMA was established in 1990 to conduct the government's borrowing activities and debt management policy. In 1989, Ireland's ratio of government debt to GDP stood at 102 per cent. It declined to 95 per cent in 1990 and it has declined steadily since the early 1990s to stand at 52 per cent of GDP in 1998. Ireland's debt-to-GDP ratio is now the fourth lowest amongst the 15 EU Member States, bettered only by Luxembourg (7 per cent), Britain (49 per cent) and Finland (50 per cent). It should be noted, however, that the level of government debt is still high at £30 billion in 1998. With the introduction of the euro, the NTMA restructured the composition of the debt to exclude non-euro currencies except sterling. Its present composition is 94 per cent in euros and the remaining 6 per cent in Sterling. This is likely to remain so until Britain adopts the euro.

In conducting its borrowing activities prior to Ireland's entry into the euro, the NTMA could rely on a steady stream of domestic lenders. This arose because Irish institutional investors were largely confined to the Irish market, and/or they faced foreign exchange risk if they invested in offshore bond markets. With the introduction of the euro, however, bond purchasers are no longer constrained in this way. Rather, they are increasingly looking to the euro bond market, of which Irish bonds now constitute approximately 1 per cent. In order to attract investors into Irish government debt, the NTMA has sought to increase liquidity. It has done this by restructuring the primary dealers to include French and German as well as Irish companies, by rearranging settlement to enhance the Irish market's alignment with the German market, and by introducing a bond exchange programme under which the NTMA takes back bonds issued in the past and replaces them with more recent and liquid bonds.

The NTMA will play a more extensive role in Ireland's financial sector over the medium term. In July 1999, the government announced its intention to draft legislation to extend its role to provide a Central Treasury Service and a Funds Management Service for public sector bodies, and a State Claims Agency to handle common law personal injury and property damage compensation claims against the State, to provide advice on risk management, and in time, to provide a full insurance service. The Central Treasury Service will allow the NTMA to offer advisory and cash management services, including deposit, overdraft and loan facilities to public sector bodies such as health boards, vocational educational committees, local authorities and other designated public sector bodies. The Fund Management service will allow the NTMA to manage and invest long-term funds held by the State. It is envisaged that the

legislation will be drafted and presented to the Dáil by the end of 1999, and that it will be enacted during 2000. Many aspects of the proposed legislation remain undecided as yet, including the precise public bodies that will be designated under the legislation.

The establishment of a public sector agency to conduct funds management and treasury operations for designated public bodies might at first glance seem somewhat strange, given that Ireland already has a relatively sophisticated private sector financial services industry that is perfectly capable of providing the required advice and services. This decision also seems to go against the international trend towards privatisation of government involvement in many areas of the economic and financial system. On reflection, however, it makes sense as long as private sector institutions are allowed to compete on the provision of advice and services to the designated public sector bodies. The NTMA can exploit its economies of scale in its borrowing activities to ensure that it provides a competitive option to the designated public sector bodies and assist them to obtain the best deals from the private sector institutions. This will become increasingly important over the medium- and long term, particularly to the extent that private sector economies of scale lead to institutional conglomeration.

3.3 THE EQUITY MARKETS

The world's equity markets have been slower to integrate than the money and bond markets. The corporate sector has traditionally raised equity mostly in its country of origin, and it has accordingly tended to list on its national stock exchange. This tendency, however, has begun to change in recent years. As in other markets, the combination of less restrictive regulation and technological development has meant that the geographical and time zone location of equity markets and exchanges has become less relevant for corporate listing decisions. With the introduction of the euro, equity prices throughout the Euro-zone are now quoted in the same currency. This will hasten integration in the region's equity markets. The removal of foreign exchange risk within the Eurosystem has already seen institutional investors beginning to internationalise their portfolios. New indices of European stocks are being constructed that will increasingly be used by fund managers to track their portfolios. The market for corporate control, formerly dominated by intra-national mergers and acquisitions, is becoming increasingly integrated as cross-border activity in the euro-zone heats up in a number of industries.

The making of markets in equity has, until recently, been confined to the various stock exchanges. Exchanges are appropriately viewed as firms that compete for order flow by providing liquidity and price discovery services for issuers and investors. It is well established (see, for example, Arnold *et al.* (1999)), that exchanges have significant scale economies in their operations. These scale economies occur in the provision of liquidity because their average operating costs are negatively related to trading volumes, and they occur in the price discovery process because bid-ask spreads tend to decline with transaction volumes. Because of an historical lack of international competition amongst the exchanges, however, and an absence of competition from alternative service providers, the exchanges have not hitherto experienced significant pressure to exploit these scale economies. As *The Economist* (1999) points out, their traditional mutual status facilitated the development of an elitist culture that thrived on tradition rather than the pursuit of novel approaches to doing business.

This has recently begun to change at a very fast pace. The combination of internet equity trading, electronic communications networks (ECNs) and the spectacular growth in OTC markets are all threatening the exchanges' revenue base. When these factors are added to the growing trend towards global stock market integration, the viability of stock exchanges (particularly the smaller ones) around the world is coming into question. The exchanges have begun to respond to these challenges. Most have installed electronic trading systems and some have de-mutualised in order to enable them to better react to the serious competition they face. A growing number are seriously considering acquisitions, mergers, or are seeking strategic alliances. These developments are likely to continue over the medium term, as order flow gravitates towards a smaller number of larger, more efficient exchanges.

The Irish Stock Exchange

The Irish Stock Exchange (ISE) is a company limited by guarantee with a board of eleven directors; an independent chairperson, three co-opted directors representing market interests and seven directors elected by member firms. It separated from the London Stock Exchange (LSX) in 1995. The ISE provides markets for equities, government bonds, corporate bonds, and investment funds. It generates revenue mainly from listing fees, and from the sale of information services. It has in excess of 900 listed securities, 755 of which are investment funds (as at December 1998). Concerning the funds, 87 per cent are investment companies, 12 per cent are unit trusts, and the rest are limited partnerships. Just over one-third of the funds are domiciled in Ireland, and the rest (64 per cent) are overseas; with 22 per cent in the Cayman Islands; 13 per cent in the British Virgin Islands; 10 per cent in Bermuda; 7 per cent in Guernsey; 4 per cent in Jersey; and 8 per cent elsewhere. Its most active markets, however, are in equity and government bonds. It conducts three equity markets: the main market (the Official List), the Developing Companies Market (DCM); and the Exploration Securities Market (ESM). The latter two are very small (only six stocks, for example, are traded on the DCM), and the majority of stocks on the Official List are thinly traded and dual-listed on the LSX or elsewhere.

The ISE has clearly performed well since its separation from the LSX in 1995. Its success in attracting investment funds demonstrates its ability to compete successfully with the exchanges that specialise in these instruments. Given its historical close ties with the LSX, together with the economy's close ties with the United Kingdom economy, the ISE has also succeeded in an environment that is more competitive than that faced by many other small exchanges. It will continue to face considerable challenges over the medium term. Hutchinson (1999a) points out that when Britain eventually joins the euro, trade in dual-listed stocks might gravitate towards exclusive listing on the LSX. Furthermore, most multinational companies operating in Ireland do not list on the ISE, and an increasing number of new Irish companies are choosing to list on exchanges other than the ISE (such as in Frankfurt, London or the US exchanges). In addition, advancing technology is now making it just as easy for an Irish investor to trade on the large international exchanges as it is on the ISE. These trends are also likely to grow in strength over the medium term. Hutchinson (1999a) goes on to argue, however, that a number of factors will moderate the tendency towards centralisation of Europe's equity markets. He argues that first, underwriting and secondary trading might remain nationally-focused, especially for smaller companies that tend to be more domestic-oriented in their business, accounting and legal practices, and in their language. Second, he expresses scepticism about whether the internationalisation of portfolios will be matched by the internationalisation of clearance and settlement processes. Third, he points to a lack of equity culture in Europe that might inhibit the growth in demand, and fourth, he argues that the links between exchanges are likely to be bilateral in nature and concentrated amongst the smaller exchanges.

While these arguments possess merit, the medium-term prospects nevertheless indicate a strong tendency towards centralisation for the following reasons. First, although a country effect may still exist for smaller companies, the ISE's experience with the DCM illustrates the obvious point that business of this type will not be sufficient to ensure the viability of the smaller exchanges. It is more likely that small and medium enterprises will increasingly turn to venture capital firms or business angels (high net worth individuals who invest in, and also provide advice to young companies). Second, the internationalisation of equity trading will force exchanges to internationalise and integrate their clearance and settlement processes. Third, there is no reason why inter-exchange link-ups will be confined to the smaller exchanges, or to be bilateral in nature. There are compelling reasons to expect increasing conglomeration amongst the exchanges as they are forced to exploit their scale economies in order to survive. They will face increasingly intense competition from other providers of trading services such as the ECNs and the OTC markets. It is possible that global alliances involving exchanges from Europe as well as from Asia

and the United States will occur in the future. Finally, although Europe's equity culture is less well-developed than in the United States, it is arguable whether continental Europe lacks an equity culture, and Hutchinson (1999a) subsequently argues that Europe is set to experience a major expansion in its equity markets. This is particularly true when cognisance is paid to the many large-scale privatisations of formerly government-owned enterprises that have occurred, and are set to continue throughout the region. Also, the current bias of many continental European pension funds towards fixed-income assets will become eroded in time as they diversify increasingly towards equity. In addition, most equity trading will continue to be done by a small number of global conglomerate financial institutions whose equity culture is integral to their competitiveness and survival. In recognition of this, the ISE has recently decided to move to a fully electronic trading system by the beginning of 2000, and armed with Crest (one of the newest and most technologically advanced settlement systems), it is considering the prospect of strategic alliances with other exchanges.

3.4 THE OVER-THE-COUNTER MARKETS

One of the most exciting developments in modern financial management has been the rapid growth in the use of derivative financial instruments to manage risk. Today's managers have available to them an awesome array of instruments (such as forwards, futures, swaps and options) that can be used to engineer virtually any desired combination of risk and return. Some of these instruments have many different types. (Examples of options contracts include Asian, barrier, basket, chooser, compound, contingent, delayed, digital, exchange, ladders, lookback, multi-asset, power, quanto, rainbow, ratchet, spread and shout.) These derivative instruments, as well as combinations of them (such as swaptions – options on swaps), are available on interest rate, foreign exchange and equity instruments, and also on commodities and increasingly on services. Although many of these instruments were initially used exclusively in financial markets, their use has extended over time to other markets and sectors; including livestock and animal products (cattle, hogs and wool); grain and soft products (barley, canola, cocoa, coffee, cotton, corn, flax, orange juice, soybeans, sugar and wheat); metals (aluminium, copper, gold, lead, nickel, silver and zinc); and energy (electricity, gas and oil). The Bank for International Settlements (BIS (1999)) estimates that global notional derivatives contracts now amount to in excess of €70 trillion. Because many of these instruments are designed for the specific purposes of individual clients, only about one-fifth are traded on organised exchanges, with four-fifths being traded in the OTC markets between banks and their clients.

OTC derivatives trading in Ireland increased by 63 per cent between 1995 and 1998. Forward rate agreements (FRAs) declined, and swaps and currency options increased. Ireland's share of the global OTC market declined slightly. Market-making is almost entirely with overseas bodies. Although this can be explained by the market dominance of these institutions, there is scope for Irish-based institutions to gain the required expertise to participate more fully in these activities.

3.5 DUBLIN'S IFSC

The Irish government has, during the past decade and a half, adopted a proactive strategic approach to industry policy for the financial services sector. Building on the foundations of a well-educated, English-speaking workforce, an advanced telecommunications system, taxation policy and other inducements, it has attracted international institutions to base their European and global operations here. The main activities located in the IFSC are banking; funds administration and management; insurance and related services; securities trading; and treasury operations. IFSC companies attract a reduced corporate tax rate of 10 per cent – which will rise to 12.5 per cent in 2003 in line with the government's decision to reduce the standard rate of corporate profit tax to that rate. (Projects approved prior to August 1998 will pay the lower rate until 2005.) Firms locating in the IFSC are also granted generous capital and depreciation allowances, a 10-year remission from municipal commercial property

taxes, and commercial rental expenses are double deductible for 10 years. In 1998, the government reached agreement with the EU Commission on arrangements to phase out the preferential IFSC regime. Under these arrangements, the marketing deadline for the Centre was brought forward to the end of 1999, and the number of new projects that could be approved in 1998 and 1999 was subjected to a quota based on the average number of project approvals in the previous three years. Projects approved before end-July 1998 will continue to benefit from the regime for the full life of the scheme (i.e. to the end of 2005), while any new projects approved after that date will benefit from the regime for a more limited period until the end of 2002. Any projects establishing after 1999 will be subject to the standard Corporation Tax rate prevailing.

The IFSC's success to date is considerable. For example, half the world's top fifty banks have operations in the Centre, and over €100 billion of funds are under administration or management there. The Finance Dublin Yearbook (1999) provides detailed information on the companies operating in the Centre and the business they conduct. Table 2 shows that since the beginning of the 1990s to the end of 1998, the number of projects marketed through the Centre has more than trebled from 195 to 612, while employment has more than quadrupled with 3,741 new jobs being created. While there is a small number of large operations in the Centre, there is a correspondingly large number of very small operations. The average number of employees per project is 6.5. Employment in the IFSC accounted for less than 2 per cent of total employment in the insurance, finance and business services sector in 1991, but this had risen to over 5.5 per cent by 1998.

Table 2: Projects and Jobs in Dublin's IFSC

Year	Number of Projects	Employed Persons
1991	195	1,079
1992	217	1,345
1993	263	1,797
1994	399	2,430
1995	463	2,741
1996	517	3,601
1997	555	4,325
1998	612	4,820

Source: Department of Finance. Figures are end-year except for the number of projects in 1992, which is end-October. The average number of employees per project during 1991-98 is 6.5.

The introduction of the euro poses both challenges and opportunities for the IFSC as well as for Ireland's financial services industry more generally. The already visible trend towards market integration and institutional conglomeration is set to continue into the medium term. The effects of this, combined with the current and projected pace of technological developments in the delivery of financial services, will lead to greater arbitrage across financial centres and more concentration of the industry in the core countries of Europe. Although this will benefit some sectors, it could be detrimental to others including output and employment in the financial sectors of small regional economies like Ireland. The success of the IFSC in attracting international institutions with a European and global market perspective, however, has strategically positioned the Irish financial services sector to deal with this. Hutchinson (1999a) reports on a survey conducted in November 1998 by the Financial Services Industry Association of over thirty financial service sector firms, 60 per cent of which had most of their business in the IFSC. The survey included large, medium and small companies, over half of which operate in the capital markets and/or corporate banking areas. The majority of respondents indicated that they expect the introduction of the euro to lead to an expansion in their business. Approximately one-quarter anticipated a contraction in some of their business, but they indicated that this would lead to redeployment of staff rather than to redundancies.

The IFSC Clearing House Group (1999) provides the government's latest strategy to promote the continued development of the international financial services industry in Ireland, both within the IFSC itself, in the surrounding Docklands area of Dublin, and throughout the country more generally. It articulates the vision of achieving greater co-ordination amongst relevant government departments to promote the

4 Regulation and Supervision

industry in Ireland, and it reaffirms its commitment to encouraging financial services companies and back-office activity to locate in the Centre or elsewhere in the country. The government's strategy also includes the removal of potential obstacles to the development of electronic delivery of financial services; the introduction of legislation to facilitate the growth of securitisation; the adoption of secondary tax legislation coupled with a widening of Ireland's network of tax treaties; the development of a dedicated training facility with links to IFSC companies; and a co-ordinated marketing plan to promote the future growth of the industry. The IFSC Clearing House Group (1999) also points to the benefits of establishing a single regulatory authority that would provide the supervisory and regulatory infrastructure to further the development of the industry.

The enormous growth in financial instruments and markets – combined with the complexity of modern finance – make it increasingly difficult for managers and regulators to keep abreast of developments in order to properly manage risk. The processes of technological developments and globalisation interact with products and markets in ways that change the nature of financial institutions and how they operate (see, for example, Cox (1994), and Jeunemaitre (1997)). It is consequently important that proposed changes to supervisory and regulatory structures should be carefully scrutinised. As Hahn and Hird (1991), Lord Alexander of Weedon (1992) and Llewellyn (1993) amongst others have argued, reformers should clearly articulate the rationale and objectives of their reforms, carefully evaluate alternative proposals, and incorporate a set of performance indicators in their legislation to facilitate comparison of outcomes with their specified objectives.

Effective financial regulation should promote systemic stability, enhance institutional and market efficiency, ease the process of further innovation, and protect the consumer. Although these objectives are time-invariant, the ways in which they are pursued have changed radically in recent times. Today's regulators are moving towards systems in which the supervised institutions monitor and manage their own risk. The more traditional focus on capital and liquidity ratios together with limits on portfolio structure have increasingly been replaced by a greater emphasis on the transparency of financial institutions' operations and on the supervision of in-house risk management practices. The design of supervisory and regulatory infrastructure, both at the international and national levels, is undergoing great change at present, and this is set to continue into the medium term.

At the global level, there is at present widespread dissatisfaction with the international financial architecture. Historically high levels of volatility in international equity and foreign exchange markets during the second half of the 1990s, combined with the Asian financial crisis and its contagion, has induced the international community to search for a new global financial system. In April 1998, the Finance Ministers and Central Bank Governors from twenty-two systemically significant economies met in Washington DC in order to begin the process of designing the new international financial architecture. They set up three working groups to examine the following issues, and each group has produced a report with recommendations regarding the strengthening of the international financial system.

The first group examined the issue of *the enhancement of transparency and accountability* in both the private sector and in national and international public institutions. With regard to the private sector, it recommended the adoption and enforcement of national disclosure standards to ensure timeliness, completeness and consistency of information, and improved risk management and audit processes. It also recommended an improvement in the compilation of data regarding the international exposures of banks and other investment institutions such as hedge funds. With regard to national authorities, the group recommended that more timely and accurate information be made public on their fiscal and liquidity positions. Lastly, it recommended that international financial institutions operate in a more transparent manner. The second group investigated the need to *strengthen domestic financial systems*. Its report highlighted the need for strong prudential regulation and supervision of

banks, improved deposit insurance schemes, and better corporate governance. The third group examined the topical issue of the *management of international financial crises*. This group's report highlighted four issues. *First*, it sought to limit the scope of explicit or implicit government guarantees. *Second*, it recommended the expansion of the use of innovative financing arrangements to provide emerging economies with greater insurance against periods of market volatility; for example, arrangements that provide greater flexibility in repayments and fairer risk-sharing between creditors and debtors. *Third*, it examined the maintenance of appropriate exchange rate regimes and suggested that regime changes should be incorporated into risk assessments. *Lastly*, it examined the implementation of more effective arrangements for handling debtor insolvency in the event of a crisis.

The G7 countries met in October 1998 and committed themselves to implementing the recommendations of the World Bank Group (1998 a,b,c). They also went further, by recommending reform of international financial institutions such as the IMF, better co-ordination between countries, and the undertaking of further research on the growth and role of derivative markets. In addition, they suggested the establishment of a precautionary short-term credit facility available to countries that have been hit by contagion from other markets, but whose economies are basically sound. There remains, however, a great deal of debate about these issues, and although there has been much deliberation, there has been very little action. It is important that progress is achieved on this front in the near future.

At the European level, the need for enhanced co-ordination of financial supervision and regulation amongst the eleven Member States of the Euro ensures that this also will be an area of considerable change over the next few years. At present, financial supervision is co-ordinated on the basis of bilateral memoranda of understanding. Closer integration of markets within the euro-zone will require a more unified approach to supervision and regulation. It is yet unclear to what extent the ECB will act as the main supervisory and regulatory authority in Europe, or whether it will play a facilitating role, with a large degree of policy autonomy remaining within the Member States in a manner consistent with the principle of subsidiarity.

At the national level, the Irish government has recently agreed in principle to the establishment of a single regulatory authority (SRA) for the financial services sector. In October 1998, the government set up the Single Regulatory Authority Implementation Advisory Group (SRAIAG) to report on how this could be done. The McDowell (1999) Report, released in June 1999, presented the SRAIAG's recommendations. These included recommendations on the SRA's organisational structure and accountability, the range of service providers that it will oversee, the extent to which existing regulators will maintain their related functions, and on its appropriate level of funding, resourcing and staffing. The most important recommendation of the Report is that a proposed new SRA should be established separately from the main current regulator, the Central Bank of Ireland. This is a radical recommendation with far-reaching implications for the future development of Ireland's financial services sector. Since the government has not yet responded to it, however, the issue remains unsettled.

In the course of its future deliberations about how to respond to the McDowell Report, it is important that the government considers the merits of alternative models, as discussed by, for example, Llewellyn (1999). It is not clear from the McDowell Report how the envisaged SRA will better achieve the fundamental objectives of financial supervision and regulation. The issues are many and complex, and further detailed study is required.

The world's financial systems have evolved rapidly during the past decade, and will continue to do so during the early years of the next millennium. At the international level, the global financial architecture is currently being redesigned, and the commencement of the euro in 1999 has heralded dramatic change in the operation of monetary and financial policies of the eleven Member States. In addition to these developments, the combination of ongoing technological change and burgeoning scale

economies in the delivery of financial services is creating a tendency towards institutional conglomeration and geographical concentration. In the absence of appropriate industry policy, small regional economies like Ireland will face the prospect of being financially serviced to a greater degree by foreign institutions and markets.

This chapter first reviewed the early operation of the Eurosystem and described the medium-term prospects for monetary, exchange rate and financial policies in the euro-zone. The performance of the ECB was found to be creditable during the first nine months of its operation. Its overall objective of price stability was achieved, and looks like it will continue to be achieved over the medium term with the aid of low projected world inflation. When allowance is made for the extent to which measured inflation overstates its true level, however, euro-zone inflation has actually averaged around zero for the past year and a half. If deflationary pressure were to emerge, the ECB should loosen its monetary policy stance and publicly commit to the maintenance of a small positive rate of inflation. The ECB's refusal to raise interest rates in early 1999 has proved to be the correct decision. It does, however, highlight the fact that the ECB will be setting monetary policy from a euro-zone perspective, which is likely to be somewhat looser over the foreseeable future than would ideally suit Irish conditions.

This chapter then discussed the prospects for financial markets and institutions in Ireland. It discussed, in turn, the money, foreign exchange, bond, equity and OTC markets, and it also discussed recent developments and prospects for the important institutions including the banks, the NTMA, the ISE and the IFSC. The unification of the euro-zone's money and foreign exchange markets has far-reaching implications for other markets as well as for the financial institutions. The euro-denominated bond markets are thriving at the expense of their domestic counterparts, and Europe's equity markets are becoming integrated at a slower pace. The growth in the OTC markets continues to be spectacular, although at a slightly slower rate in Ireland than throughout the world.

With regard to the institutions, the large Irish retail banks are well placed to compete internationally, but the possibility of merger or acquisition activity cannot be ruled out. Although Ireland's national debt has declined, the NTMA's role in the financial sector will probably expand to include the provision of a Central Treasury Service and a Funds Management Service for public sector bodies, and a State Claims Agency to handle claims against the State. In respect to the first two of these services, however, private institutions should not be precluded from competing with the NTMA. The ISE faces a more uncertain future because of the emergence of intense competition from alternative supply sources as well as between the exchanges themselves. It is likely that the ISE will in due course form some kind of strategic alliance with one or more exchanges, and the possibility of merger activity remains open over the longer term.

Turning finally to regulatory issues, there is room for improvement in the reform processes in Ireland. The recommendation of the McDowell Report (1999) that a proposed new SRA should be established separately from the main current regulator, the Central Bank of Ireland is a radical recommendation with far-reaching implications for the future development of Ireland's financial services sector. Given the increasing importance of the financial services sector in Ireland, it is important that the process of regulatory reform is conducted with consideration of the complexities of the issues involved, and with more wide-ranging consultation.

REFERENCES

- ABRAHAM, K.G. *et al.*, 1998. "Working to Improve the Consumer Price Index", *Journal of Economic Perspectives*, Vol. 12, No. 1, pp. 27-36.
- ARNOLD, T., P. HERSCH, J.H. MULHERIN and J. NETTER, 1999. "Merging Markets", *Journal of Finance*, Vol. 54, No. 3, pp. 1083-1103.
- BAKER, T., J. FITZ GERALD and P. HONOHAN, 1996. *Economic Implications for Ireland of EMU*, Policy Research Series, Paper No. 28, Dublin: The Economic and Social Research Institute.
- BANK FOR INTERNATIONAL SETTLEMENTS, 1999. *Central Bank Survey of Foreign Exchange and Derivatives Market Activity*, Basle.
- BERGER, A.N., R.S. DEMSETZ and P.E. STRAHAN, 1999. "The Consolidation of the Financial Services Industry: Causes, Consequences, and Implications for the Future", *Journal of Banking and Finance*, Vol. 23, pp. 135-194.
- BOSKIN, M.J. *et al.*, 1996. "Consumer Prices, the Consumer Price Index, and the Cost of Living", *Journal of Economic Perspectives*, Vol. 12, No. 1, pp. 3-26.
- CLYMAN, D. and C. KEARNEY, 1997. "Volume and Liquidity in Financial Futures Markets: The FINEX Experience in Dublin's IFSC", *Irish Banking Review*, Winter, pp. 41-55.
- COUNCIL OF ECONOMIC ADVISORS, 1999. *Economic Report to the Congress*, Washington.
- COX, D.W., 1994. "Financial Services Regulation: Time to Stop and Think?", *Butterworths Journal of International Banking and Financial Law*, April, pp. 168-173.
- DIEWERT, W.E., 1998. "Index Number Issues in the Consumer Price Index", *Journal of Economic Perspectives*, Vol. 12, No. 1, pp. 47-58.
- DOWLING, B., 1996. "The Impact of EMU on Certain Irish Financial Institutions", *Irish Banking Review*, Summer, pp. 45-55.
- EUROPEAN CENTRAL BANK, 1999a. "The Stability-Oriented Monetary Policy Strategy of the Eurosystem", *European Central Bank Monthly Bulletin*, January, pp. 39-50.
- EUROPEAN CENTRAL BANK, 1999b. "Possible Effects of EMU on the EU Banking Systems in the Medium to Long Term", *European Central Bank Monthly Bulletin*, February,
- EUROPEAN CENTRAL BANK, 1999c. "Banking in the Euro Area: Structural Features and Trends", *European Central Bank Monthly Bulletin*, April, pp. 41-53.
- EUROPEAN CENTRAL BANK, 1999d. "The Institutional Framework of the European System of Central Banks", *European Central Bank Monthly Bulletin*, July, pp. 55-63.
- FRANKS, J. and S. SCHAEFER, 1993. *Costs and Effectiveness of the Financial Regulatory System*, London Business School.
- GROUP OF 22, 1998. Reports on the New International Financial Architecture.
- HAHN, R.W., and J.A. HIRD, 1991. "The Costs and Benefits of Regulation: Review and Synthesis", *Yale Journal on Regulation*, Vol. 8, pp. 233-261.
- HUTCHINSON, R.W., 1996. "The Financial Services Sector", in T. Baker, J. Fitz Gerald and P. Honohan (eds), *Economic Implications for Ireland of EMU*, Policy Research Series, Paper No. 28, Dublin: The Economic and Social Research Institute.
- HUTCHINSON, R.W., 1999a. "The Financial Services Industry in Ireland: Challenges and Opportunities in the New Millennium", Report produced with the support of the FSIA and the IBF, June.
- HUTCHINSON, R.W., 1999b. "Banking and Capital Market Activity in Dublin: Recent Developments and Future Prospects under the Euro", *European Financial Management*, Vol. 5, No. 1, pp. 103-116.
- IFSC CLEARING HOUSE GROUP, 1999. "Strategy for the Development of the International Financial Services Industry in Ireland", Dublin: The Stationery Office.
- JEUNEMAITRE, A., 1997. *Financial Markets Regulation: A Practitioner's Perspective*, Macmillan.
- KRUGMAN, P. 1987. *Strategic Trade Policy and the New International Economies*, Massachusetts: MIT Press.
- LEE, P., 1996. "Eat or be Eaten: The Great Shake-out in European Banking has only Begun", *Euromoney*, August.
- LEE, P., 1999. "Euro-gigantism", *Euromoney*, February.
- LLEWELLYN, D.T.L., 1993. "Reflections on Recent UK Experience of Financial Regulation", *Butterworths Journal of International Banking and Financial Law*, September, pp. 375-381.
- LLEWELLYN, D.T.L., 1999. "What Institutional Structure of Financial Regulations is Appropriate for Ireland?", *Irish Banking Review*, Spring, pp. 17-34.

- LORD ALEXANDER OF WEEDON, 1992. "Improving the Process of Law Reform", *Butterworths Journal of International Banking and Financial Law*, June, pp. 251-253.
- McDOWELL, M., 1999. *Report of the Single Regulatory Authority Implementation Advisory Group*, Dublin: Government Printing Office.
- McGOWAN, P., 1990. "Money and Banking in Ireland: Origins, Development and Future", Dublin: Institute of Public Administration.
- McKILLOP, D.G., and R.W. HUTCHINSON, 1992. *Regional Financial Centres in the British Isles*, Aldershot: Avebury.
- NEARY, J.P., 1997. "The European Union Stability Pact and the case for European Monetary Union", *Economic Outlook and Business Review*, Vol. 12; No. 4, pp. 41-52.
- NEARY, J.P., and D.R. THOM, 1997. "Punts, Pounds and Euros: In Search of an Optimum Currency Area", *Irish Business and Administrative Review*, Vol. 18, pp. 211-225.
- NORDHAUS, W., 1998. "Quality Change in Price Indexes", *Journal of Economic Perspectives*, Vol. 12, No. 1, pp. 59-68.
- PORTER, M.E., 1990. *The Competitive Advantage of Nations*, London: MacMillan Press..
- THE ECONOMIST, 1999. August, 34.
- WORLD BANK GROUP, 1998a. *Report of the Working Group on Transparency and Accountability*, October.
- WORLD BANK GROUP, 1998b. *Report of the Working Group on Strengthening of Domestic Financial Systems*, October.
- WORLD BANK GROUP, 1998c. *Report of the Working Group on the Management of International Financial Crises*, October.
- WYNNE, M., 1999. "The European System of Central Banks", *Federal Reserve Bank of Dallas Economic Review*, First Quarter, pp. 2-14.