



# The euro in the Swedish Financial Sector – Progress Report 6 Euromarkets

---

Additional copies may be ordered from:  
Sveriges Riksbank Information Centre, SE-103 37 Stockholm, Sweden  
Telephone +46-8 787 01 00 Fax +46-8 787 05 26  
E-mail [info@riksbank.se](mailto:info@riksbank.se) – Internet [www.riksbank.se](http://www.riksbank.se)

# Contents

■ Preface .....	5
■ Introduction .....	7
■ The euromarket in the EU .....	8
The use of the euro .....	8
The banking sector .....	9
A strong trend towards domestic consolidation .....	10
The money and bond market .....	11
Changes in the money markets .....	11
Changes in the bond market .....	12
The stock market .....	14
Developments in the stock market .....	14
Conclusions .....	15
Systems for cross-border payments in euro .....	15
The TARGET payment system .....	15
The Euro 1 payment system .....	17
Correspondent bank payments .....	18
Summary .....	18
■ The euro in Sweden .....	19
The euro in the Swedish interest and foreign exchange market .....	19
Introduction .....	19
The euro in the Swedish monetary financial institutions .....	19
The activity of the Swedish bank in euro in the money and bond market .....	22
The euro in the Swedish foreign exchange market .....	25
Summary .....	26
Euro payments in Sweden .....	27
The E-Rix payment system .....	27
Summary .....	28
The stock market – OM Stockholm Exchange .....	29
■ References .....	31



# Preface

The economic and monetary union, EMU, started over two years ago. A single currency and monetary policy in the twelve countries that now make up the euro area, has meant that the collaboration on economic policy within the EU has intensified and further developed.

For the financial markets, the introduction of the euro has meant changes in many respects. As the currency risk has disappeared, in the euro area, a common capital market has been created for the twelve euro countries. This has increased competition between the previous national markets and stimulates harmonisation and consolidation. Sweden stands outside the monetary union although the Swedish financial sector is greatly affected by the changes that are taking place in our surrounding world with regard to globalisation, technical development and not least EMU.

This progress report deals with some of the changes that have taken place in the financial sector in the euro area and in Sweden since the euro was introduced. On the basis of available data, it is described how the structure of the euro markets has changed during the two years of monetary union and how the use of the euro has developed in the euro area and in Sweden. The intention is to create a picture of the extent to which the euro is used in Sweden, but also to give a more general picture of the euro markets.

This report has been produced within the framework of the co-operation between the Riksbank and the financial sector, which is known as SIFS (Consultation and Information with the Financial Sector). The authors of the report are Johan Arvidsson, Ann Elvhult, Eva Julin (project leader) and Enar Olofsson from the Riksbank. In addition, Thomas Jeppsson (Swedish Central Securities Depository/VPU), Tomas Tetzell (Swedish Bankers' Association) and Leif Vindevåg (OM Stockholm Exchange) have contributed material. We would like to express our gratitude to them, the SIFS steering group and all the others who have contributed with valuable points of view and assisted in the production of this report in other ways.

Stockholm, March 2001

Eva Srejber  
Deputy Governor of Sveriges Riksbank



# Introduction

Since 1996, the Riksbank has published six progress reports on the euro in the Swedish financial sector. The previous progress report described the lead times in the Swedish financial sector for possible future Swedish participation in the monetary union. This report aims at describing what has taken place in the euromarkets during the euro's first two years, by analysing what has taken place in the money and bond markets in euro as well as in the foreign exchange and stock markets, and by describing the development of payment flows in euro in the single payment system, TARGET. The approach has been to shed light on the extent to which the euro is used in Sweden and to describe how the financial markets in Sweden have been affected by the introduction of the euro and to give a picture of developments in Europe. Assessments were made before the start of the monetary union that the euro would be used to a considerable extent despite non-participation. The report describes developments in 1999 and 2000 on the basis of available statistics. These statistics show a modest use of the euro. However, it should be borne in mind that the euro has only been a currency for two years and moreover has only existed in electronic form. It is therefore too early to make any far-reaching assessments of the development of the use of the euro at this stage. It should also be pointed out that statistics on the use of the euro in Sweden to some extent are scarce and in process of development.

# The euromarket in the EU

The introduction of the euro on 1 January 1999 was a major economic and political event with important effects not only within but also outside the euro area. The single market for financial services within the euro area that has developed after the introduction of the euro has entailed increased competition, new products, a more strategic collaboration between different financial agents, and portfolio adjustments due to the disappearance of the exchange risk within the EMU. Today, the euro is the second most used currency at the international level which is due to the size of the previous national currencies that the euro replaced and to the fact that the euro has a major economic importance in the world economy. The euro area's member states together account for approximately 16 per cent of the world's GDP.

## THE USE OF THE EURO

The development of the euro as an international currency in future will be a market-controlled process affected by private participants' decisions to use the euro. Among other things, the decision of private participants will be affected by the degree of integration of the European states, liquidity and di-

versification in the financial markets, the size of the cross-border payments within and outside the euro area, risk assessments and the economic growth in the euro area.

In general, it can be said that the use of a currency and its international role is affected both by *economic* factors such as the number of cross-border transactions between the currency area and the rest of the world, and the size of the domestic financial markets, and *social* factors, such as the inflation risk. The larger the currency market is in a particular currency, the lower the transaction costs will be in this market. This will encourage even more participants to use the currency, which will further reduce transaction costs and increase the incentive to use the currency. The risk factors on the other hand usually result in investors choosing to spread their investments between different international currencies.

The integration of the national capital markets in the euro area will slowly but surely create a capital market characterised by considerable improvements as regards size, breadth, depth and openness. These structural changes should in all probability lead to increased use and continued internationalisation of the euro.

Table 1. Use of the euro in the monetary union, third quarter of 2000  
Per cent

	Corporate sector						Consumers			
	Domestic payments		International payments		Bank accounts		Domestic payments		Bank accounts	
	Value	Volume	Value	Volume	To date	New	Value	Volume	To date	New
Belgium	42.0	5.60	(37.6)	19.4	10.5	11.3	5.60	2.40	1.30	3.46
Finland	9.70	2.30	20.8	34.5	0.60	-	(0.70)	-	0.05	-
France	1.40	1.80	(75.0)	(30.0)	5.60	7.80	0.40	0.70	0.80	0.78
Greece	(4.1)	(0.1)	(20.8)	(34.5)	0.10	0.30	5.30	(17.7) <sup>?</sup>	0.11	0.38
Ireland	0.05	0.85	2.00	20.0	0.05	0.00	0.00	0.03	0.03	0.00
Italy	(41.9)	0.25	9.00	9.00	1.00	15.01	(25.2)	0.25	0.13	1.58
Luxembourg	52.0	15.0	92.0	32.0	9.00	26.5	15.0	4.00	6.60	24.0
Netherlands	-	(0.50)	-	-	9.5	-	-	-	1.30	-
Portugal	31.7 <sup>1)</sup>	0.80	29.5	16.1	0.20	2.40	31.7	0.80	0.03	0.36
Spain	46.7	1.20	65.7	62.4	0.60	1.60	10.2	1.50	1.40	0.30
Germany	23.4	1.50	45.1	15.7	2.40	4.00	4.90	0.70	0.70	0.95
Austria	1.05	0.58	0.80	6.80	1.07	0.14	0.20	0.20	0.15	0.14

All payments refer to payments made not payments received.

() Figures in brackets indicate the second quarter of 2000

- Information not available

? Figures with a question mark are very high without a noticeable explanation

<sup>1)</sup> Portugal: the figure contains transactions for both consumers and businesses.

Source: The Commission



The European Commission has regularly monitored euro preparations in the euro area. One way of monitoring activities has been to measure the use of the euro within a number of areas in the Member States (see Table 1). It is striking that the euro as late as the third quarter of 2000 is still used to a relatively small extent in the euro countries. It is therefore not particularly remarkable that there is also relatively little use of the euro in Sweden. See also the section on the euro in Sweden.

In the euro area according to the Commission, only around 3 per cent of the total number of businesses domestic payments were in euro in the third quarter of 2000. However, the value of these was relatively high, approximately 25 per cent of the total value. With regard to international payments, the euro is used more frequently and approximately 24 per cent of international payments take place in euro. In terms of value, these payments correspond to 36 per cent of corporations' international payments. The variations between countries are striking as can be seen in Table 1. The same study also shows that the number of bank accounts in euro is very few in the Member States. Only 3 per cent of corporations and only 1 per cent of private individuals have euro accounts. Only 3 per cent of new accounts opened by households and 7 per cent of business accounts were in euro in the third quarter of 2000.

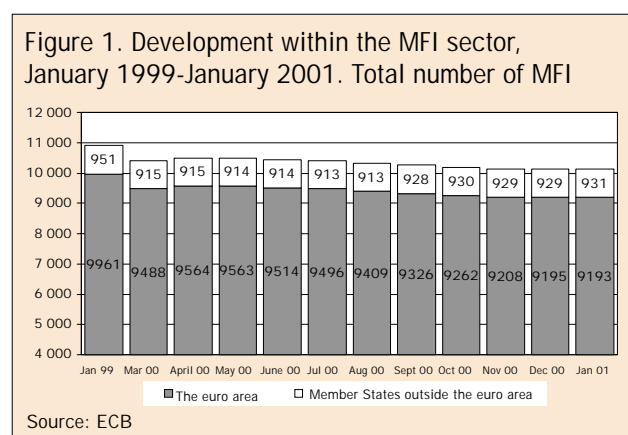
The use of the euro has not developed as strongly as many analysts expected before the introduction of the monetary union. The use of the euro as a means of payment, both for businesses and households, has been very low during the euro's first two years. The euro has had greater importance in the stock market, for instance, which can be seen in the section on the stock market. However, an increased use of the euro should take place successively during 2001, as the end of the transition period approaches and the national currencies finally cease to apply as legal means of tender in the euro area in 2002. The Commission in 2001 will also encourage both businesses and households to increase use of the euro and encourage Member States to support the use of the euro.

## THE BANKING SECTOR

The European financial market is traditionally bank-oriented. Although forms of financing differ between Member States, financing via shares or bonds is much more widespread in the USA than in Europe where businesses have relied on bank financing to a greater extent. However, during the 1990s, businesses in Europe have increasingly started to finance their investments and development costs directly. Competition in the banking sector has also increased considerably, both within and outside the euro area. A number of factors have driven on this development in the banking sector. Among the most important of these factors are the financial liberalisation, globalisation, technical advances, and differentiation of saving and securities portfolios. The euro has in all probability affected the process, made competition tougher and hastened ongoing structural changes in the banking sector. For services primarily targeted on households, however, the national market is still the most important even if modern technology for self-service and remote service, for instance, through telephone and internet banks is expanding the market. For business-targeted services, the market is already international.

The euro will probably affect different types of financial services and markets at different speeds in a very varying way. This is due, for instance, to tax, legal and cultural differences, as well as national differences as regards the way of running businesses. For bank services targeted on households, the introduction of the euro is expected to lead to a gradual structural change. The spread of computer technology and changes in customer preferences from bank deposits to other forms of saving are important factors in this process. The established banks will see stiffer competition. The importance of having a local network of branches will be reduced with the new technology, although the products that require personal advice, more advanced assessment of credit risks and a broad local knowledge will retain their national character for a long time to come. However, the euro can hasten the introduction of new technology for banking services since the single currency creates a larger potential customer base.

The disappearance of the exchange rate risk can, on the other hand, increase the willingness of the banks' small customers to seek a higher return by alternative forms of investment. The increasing transparency will also lead to increased competition between financial institutions. However, cultural and language barriers will prevent a rapid development of a market for banking services targeted on households. The major part of the banks' activities targeted at consumers in the euro area has continued to be national after the introduction of the single currency. It would be reasonable for the euro's physical introduction in 2002 to contribute to an increased interest in a European private customer market. The clear trend towards domestic consolidation of the European financial institutions is described below.



#### A STRONG TREND TOWARDS DOMESTIC CONSOLIDATION

During the first years of EMU, consolidation has taken place in the financial services sector in the euro area. From January 1999 to January 2001, the number of monetary financial institutions (MFI) in the euro area fell from 9 961 to 9 193 (see Figure 1). As regards the largest group of MFIs, the credit institutions, there has been a trend towards a reduced number in particular since the beginning of the 1990s, which reflects the ongoing national consolidation in the banking industries. In 1985, there were more than 11 200 credit institutions in the countries in the euro area. By January 2001, this number had fallen to 7 521 (see Table 2).

Table 2. Total number of MFIs, January 2001

	Total number of MFIs	Of which credit institutions
Belgium	142	118
Finland	362	341
France	1 764	1 099
Greece	105	57
Ireland	211	81
Italy	884	861
Luxembourg	662	202
Netherlands	620	586
Portugal	223	218
Spain	571	368
Germany	2 782	2 742
Austria	866	848
The euro area <sup>1</sup>	1	0
The euro area, total	9 193	7 521
Denmark	213	210
Sweden	177	146
United Kingdom	541	491
Total	931	847
EU total	10 124	8 368

<sup>1</sup>. The euro area refers to the ECB which is a part of the Eurosystem.

Source: ECB

The reduction in the number of credit institutions is rather due to mergers than closures of existing institutions. Consolidation has been a global phenomenon in the financial services sector and is not primarily an effect of the single market or the monetary union. The reduction in the number of credit institutions has continued for more than a decade in Europe and is primarily the banks' reaction to the changed market conditions with the increasingly global competition which has made it necessary to increase efficiency and reduce costs.

Although the monetary union and the single market have aroused expectations on mergers over borders, consolidation has to date primarily dealt with a consolidation at the national level. Both the trend towards fewer monetary institutions and the trend towards an increasing domestic consolidation are clear. Bank activities at national level in the smaller countries have become increasingly concentrated to the largest institutions.

Table 3. The assets of the five largest credit institutions as a percentage of the total assets of the domestic credit institutions

	1985	1990	1995	1999
Belgium	48.00	48.00	51.20	77.39
Denmark	61.00	76.00	72.00	77.00
Finland	38.00	41.00	70.62	74.33
France	46.00	42.50	41.30	42.70
Greece	80.56	83.70	75.66	76.62
Ireland	47.50	44.20	44.40	40.79
Italy	–	29.19	32.36	48.33
Luxembourg	26.83	–	21.23	26.09
Netherlands	72.88	73.39	76.14	82.25
Portugal	61.00	58.00	74.00	72.60
Spain	35.06	34.91	47.30	51.90
United Kingdom	–	–	28.27	29.07
Sweden	80.81	82.68	86.53	88.21
Germany	–	13.91	16.67	18.95
Austria	35.88	34.67	39.19	50.39
Average	52.79	50.93	51.79	57.11

Source: ECB, Mergers and acquisitions involving the EU banking industry, December 2000

The largest institutions have an increasingly large part of the institutions' total assets now compared with 1985. Sweden had, followed by the Netherlands, Belgium, and Denmark the most concentrated credit market in Europe from the point of view of the assets of the five largest institutions as a percentage of total assets of domestic credit institutions in 1999. The lowest concentration was in Germany, Luxembourg and the United Kingdom (see Table 3).

## The money and bond market

### CHANGES IN THE MONEY MARKETS

The introduction of the euro and the single monetary policy control system has meant that the money market has undergone a far-reaching integration and standardisation process throughout the euro area. Among the more integrated are the market for unsecured deposits and derivative markets. The repo market and the markets for short-term securities such as treasury bills, commercial paper and deposit certificates are still less integrated. The

ESCB has also reinforced the development of cross-border transactions in the money market by its refinancing transactions. The TARGET system<sup>1</sup> has facilitated levelling out of liquidity within the euro area and contributed to eliminating price differences within different segments of the money markets throughout the euro area. Tougher competition and a larger number of available counterparties for individual banks and improved liquidity in the secondary markets are other important structural changes that have taken place together with the increased cross-border activities. It is primarily the bigger players in the money market, in particular the big banks, that have extended their activities to the whole euro area.

The markets for short-term securities have increased in 1999 and 2000 with the exception of treasury bills. This is primarily due to the improvement of central government finances in the EU Member States and because of the consolidation of central government debt. Reduced bank financing (disintermediation) is one reason for the increased issue of private short-term securities in relation to central government securities. At the start of the monetary union in 1999, the primary and secondary markets for short-term securities were weakly developed in the majority of euro countries and cross-border transactions played a very limited role. However, this development has taken place quickly and increased activity and integration in the market segment for private securities has increased since 1999. A continued higher degree of integration and increased development of markets for short-term securities can be expected.

The sector for settlement of securities transactions in the EU is also undergoing an important consolidation. The institutions that are responsible for securities trade, clearing, settlement and safekeeping are becoming increasingly integrated. A uniform system for securities and risk paper, which is traded on spot and derivative markets, is now being developed, for instance. This process started before the euro was introduced and is now at an advanced stage, in, for instance, France and Germany. The next phase of the development process should mean a higher degree of integration and collaboration over

<sup>1</sup> Trans-European Automated Real-time Gross settlement Express Transfer system. Se tidigare lägesrapporter om euron i den svenska finansiella sektorn för mer information om Target-systemet samt avsnittet om gränsöverskridande betalningar i euro i denna rapport.

borders between institutions that provide similar services and products. Before stage three of EMU, most credit institutions could only use their domestic portfolio to obtain central bank credit. Now all collateral that is acceptable either in connection with monetary policy transactions or to obtain credit during the day in TARGET, is used by all market participants, regardless of the location of the collateral or the participant in the euro area. This effectivisation of the infrastructure contributes to deepening markets, which makes the euro area's financial markets more liquid and reduces transaction risks.

#### CHANGES IN THE BOND MARKET

The introduction of the euro has also meant considerable changes in the European bond market. The previous national markets have become increasingly integrated and activity has increased. Since the exchange rate risk has disappeared in the euro area, many investors have increased diversification of their bond portfolios. Investors in smaller countries have diversified more rapidly than in the larger countries. Price-setting of bonds has also changed. Before stage three of EMU, the differences with regard to the inflation and foreign exchange risk were the most important factors underlying interest rate differences. In the monetary union, credit risk considerations and the liquidity aspects have instead become increasingly important in investments in treasury bonds issued in euro. The integration of the national markets has also increased competition between the issues in the public sector. For further integration of the EU bond markets, however, a more har-

monised regulatory framework is required on, for instance, right of ownership, accounting rules, and provisions on documentation.

The clearest development with regard to the European euro bond market is the growth of the market for private bonds and the reduction of the treasury paper market which has taken place due to the euro states' economic consolidation. The increased new issue of company paper has been expected. The creation of a single capital market creates better conditions for a large business bond market by a number of potential investors increasing liquidity in the market. The market for corporate paper has also been favoured by the presently low interest rates in government paper. This has led to individual investors with high yield requirements deciding to invest in corporate paper with a greater risk and yield than low-yield treasury paper as well as the "crowding in" effect of the reduction of central government debt. Corporate bonds in euro have also to a large extent been issued by corporations outside the euro area. From March 1999 to September 2000, the stock of outstanding securities, excluding shares, increased from EUR 6 220.2 billion to EUR 7 097.6 billion – an increase of 14 per cent in 18 months (see Table 4).

However, the volume of private bonds in euro is still relatively low, in particular in comparison with domestic credits in euro in the euro area or with the market for private bonds in the USA, which is about three times as large as the market for private euro bonds. Nevertheless, the development for private bond issues in euro has been substantial in particular with regard to private, non-financial corporations and private community service corporations. This development depends to a large part on the volumes being very small to start with. MFI still accounts for half of the gross issues of euro bonds. As shown by statistics from the ECB, issues of bonds by private non-financial corporations in the first nine months of 1999 increased by 294 per cent compared with the same period in 1998, while private community service issues increased by 188 per cent during the same period.

The largest private issuers in 1999 were banks which accounted for 50 per cent of the total issue volume (see Table 5). From the point of view of net issues per quarter in 1999 and 2000, the banks are

Table 4. Issues of securities, excepting shares, total in billion euro\*

		Net issues during the quarter	Outstanding amount at end of quarter
<b>1999</b>	March	186.3	6 220.2
	June	157.7	6 388.6
	September	192.7	6 584.4
<b>2000</b>	March	146.9	6 829.2
	June	149.8	6 986.7
	September	103.6	7 097.6

\* Including items expressed in national currency units of the euro

Sources: ECB and BIS

Table 5. Private gross issues of euro bonds by type of issuer during 1999. Annual percentage change.

	Private banks	Private corporations	Private finance service	Private community corp	Total
1 <sup>st</sup> quarter	49.4	231.7	22.8	116.4	62.9
2 <sup>nd</sup> quarter	49.4	248.2	24.5	2 541.7	76.4
3 <sup>rd</sup> quarter	52.3	476.5	163.2	7.0	99.2
Jan-Sep	50.2	294.4	47.1	187.6	77.2

<sup>1</sup> Issues calculated on the basis of the nominal amount.

Source: Capital Data Bondware/ECB Monthly Report Jan 2000

still the largest issuers, on average just under 40 per cent (see Table 6). The share of issues of non-monetary financial institutions varied during the corresponding period, in September 2000 they accounted for 20 per cent of the total issues. As expected, the private sector has increased its participation in the euro area's capital market in relation to the public sector in 1999 and 2000. Of the total volume of euro issues, euro issues by non-financial private corporations were 15.2 per cent in March 1999. In September 2000, the proportion had increased to 29.4 per cent. At the same time, the proportion of government securities issued fell from 31.9 per cent in March 1999 to 13 per cent in September 2000 (see Table 6).

Table 6. Securities in euro\*, excepting shares  
Proportion of total issues in per cent, 1999 and 2000

	Banks**	Non monetary financial corporations***	Non-financial corp.	Central government
<b>1999</b> March	43.6	9.0	15.2	31.9
June	37.9	25.8	12.9	21.4
September	43.4	12.5	18.9	23.4
<b>2000</b> March	41.3	6.0	9.3	44.5
June	46.3	10.7	23.5	19.8
September	36.1	20.4	29.4	13.0

\* Including items expressed in national monetary units of the euro.

\*\* By banks (including central banks) is meant institutions of a similar kind as MFI.

\*\*\* Includes other financial institutions (S123), financial service undertakings (S14) and insurance undertakings and pension institutions (S125) according to ENS95.

Source: ECB and BIS

Besides the introduction of the euro, the strong growth in the market for private euro bonds has been driven on by a number of factors that have led to a larger, more liquid market for private bonds. One of the most important factors has been the ongoing restructuring of businesses in Europe. The introduction of the euro has stimulated the integration of European business and industry. Company mergers and acquisitions have often been financed by large issues of promissory notes in euro. Merger and acquisition activities among the euro area corporations have increased in recent years, both among banks and other corporations. In 1998, the value of transactions for mergers and acquisitions among banks was 168 per cent higher than in 1997 and among other corporations 92 per cent higher than in 1997. Between 1998 and 1999, the value of the transactions increased by 34.9 per cent for the banks and by 152 per cent for other corporations. Likewise, the number of mergers has increased from 199 to 245 with regard to banks and from 4 323 to 6 138 with regard to other corporations, between 1997 and 1999 (see Table 7).

In addition to the high level of merger and acquisition activities in the euro area in recent years, development is also characterised by institutional investors starting to invest to a greater extent in high-

Table 7. Mergers and acquisitions in the euro area (billion euro, number of transactions and increase in per cent compared with previous years).

		Banks <sup>2)</sup>	Other
Value of transactions in billion euro	1997	41.1	174.3
	1998	110.2	335.3
	1999 <sup>3)</sup>	148.7	847.6
Annual percentage change of value of transactions	1998	168.0	92.3
	1999 <sup>3)</sup>	34.9	152.8
No. of transactions	1997	199	4 323
	1998	245	5 167
	1999 <sup>3)</sup>	245	6 138
Annual percentage change of number of transactions	1998	23.1	19.5
	1999 <sup>3)</sup>	0.0	18.8

<sup>1</sup> Classified according to the target corporations' geographical situation

<sup>2</sup> The ECB's definition of MFI and Securities Data Company's definition of banks is not uniform

<sup>3</sup> As per 23 November 1999.

her yield bonds i.e. bonds issued by institutions with a lower credit rating. Furthermore, demand for private bonds has been affected by the strong growth of the European pension market and investment funds. Altogether, the euro area's financial structure is moving towards an increasing securitisation, the increased market for private bonds being an indication of this. Another indication is the increased activity on the stock market which is described in the next section.

## The stock market

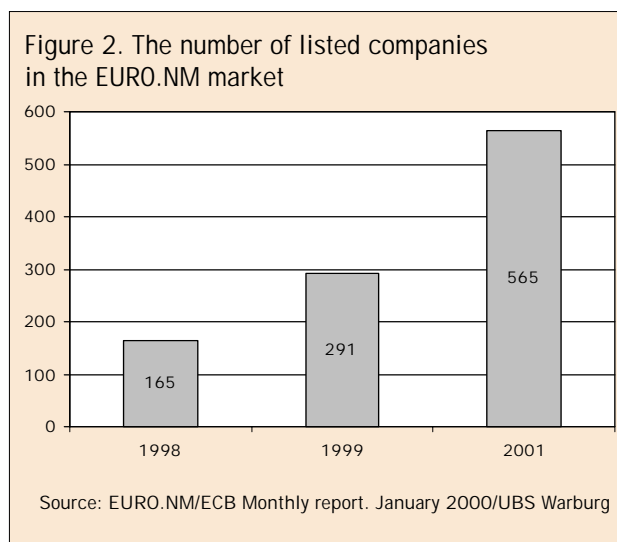
In the EU the stock markets have traditionally been less important for saving and investments than, for instance, in the United States. Pension and household saving in the EU has been dominated by bank deposits and interest-bearing low risk investments. As previously mentioned, a trend towards increased securitisation has been noted in Europe, a trend which the euro is expected to reinforce. Moreover, the total number of stock exchange listed corporations in the countries of the euro area has increased steadily during the 1990s, which strengthens the picture of their increasing importance of direct financing and a better functioning risk capital market in the euro area.

As the exchange rate risk has disappeared in the euro area as a result of the introduction of the euro, the domestic market is no longer the national stock market but the whole euro area. Today, it is possible to invest within the whole euro area, without as previously being restricted by matching rules for assets and liabilities in foreign currency. The demand for, for instance, life insurance corporations and pension funds to have 80 per cent of the assets in the domestic currency is now synonymous with having 80 per cent of the assets in euro. Therefore, very extensive reinvestments are in process from shares in corporations in the national market to shares in comparable corporations in other EMU corporations. The majority of fund investors have since the start of EMU reinvested parts of their share portfolios from national markets to the euro area. Many fund managers already carried out portfolio adjustments before the start in 1999 or at the beginning of the same year. However, there are still a number of reasons why investors opt to remain in

the national stock market, for example, cultural, tax and political reasons or that they have a competitive edge in the form of good knowledge of the market.

### DEVELOPMENT OF THE STOCK MARKETS

The total number of listed companies in the euro area countries has increased steadily during the 1990s. The growth of the so-called growth exchanges in Europe has been important. The number of listed companies in, for instance, EURO.NM<sup>2</sup> increased by 76 per cent from 1998 until the end of 1999 and by 94 per cent between 1999 and January 2001 (see Figure 2). According to the Federation of European Stock Exchanges (FEDE), the market value of all domestic shares on the 11 European stock exchanges was EUR 5 517 billion. This accounted in turn for 56 per cent of the total stock exchange value on the FESE stock exchanges that amounted to EUR 9892 billion. Eleven months later in November 2000, the stock exchanges in the EMU had a market capitalisation of domestic shares totalling EUR 5 716 billion or 57 per cent of the total of EUR 10 090 billion. In November 2000, there was a total of 4 856<sup>3</sup> domestic and foreign com-



<sup>2</sup>EURO.NM is the European alliance of stock exchanges for growth companies. The members of EURO.NM and their respective growth markets currently include Paris Bourse (Le Nouveau Marché), Deutsche Börse (Neuer Markt), the Amsterdam Exchanges (NMAX), the Brussels Exchanges (EURO.NM Belgium) and the Italian Exchange (Nuovo Mercato). It should be pointed out that EURO.NM is a small part of the total stock exchange market.

panies listed on the EMU stock exchanges. This is 52 per cent of the total of 9 316. The weak increase in value during 2000, is explained primarily by the poor increase in prices, even though developments in Europe were better than in other parts of the world.

### CONCLUSIONS

The euro will probably work as a catalyser and reinforce the current tendencies in the euro area's finance sector. In particular, it is probable that the market in the euro area will continue to be integrated and that competition among the credit institutions will be further reinforced. When these effects take place and what they lead to will probably differ considerably between different kinds of activities. In addition to integration of the money market, wealth administration, services relating to mergers, and acquisitions and payment processing of large amounts will probably be carried out in forms that apply to the whole euro area, since the existence of national currencies has been the factor that has primarily prevented integration of the markets for these services. The consumer-focused market will however be national for a long time to come. The growth of a more integrated bank market which includes the whole euro area does not depend only on the extent to which "pan-European" banks arise but also on how money, bond and capital markets are integrated and on how cross-border relations between banks and customers develop. Structural changes have taken place, new products and services have developed, mergers, strategic alliances, and collaboration agreements have been initiated, etc. As a consequence of this, the institutions that operate in the euro markets will be increasingly exposed to economic developments that take place outside their own national borders as well as for the shocks that occur in financial markets abroad. In previous sections, some of the development trends that have taken place in Europe in the short term have been shown as well as increased securitisation,

consolidation and larger more liquid stock markets and bond markets. What happens in the long run is difficult to say but the ongoing trends which are visible today will in all probability continue.

## Systems for cross-border payments in euro

### THE TARGET PAYMENT SYSTEM

The implementation of the single monetary policy within the euro area presumes a functioning infrastructure for the monetary policy operations to be able to be carried out in an efficient and secure way. This infrastructure consists of the common payment system TARGET. The system is a network that links together the national settlement systems of the EU Member States. TARGET is based on the principle of real-time gross settlement, i.e. payments are settled continuously during the day, one after another. In addition to settlement of payments related to the single monetary policy in the euro area, TARGET is also used for interbank payments and for, in particular, large customer payments.

TARGET only processes payments in euro. This has meant that there are settlement systems for payments both in the national currency and in euro in Sweden and in the other EU Member States that are not participating in the monetary union. The Riksbank's system for settlement in kronor is called K-RIX and the system for settlement in euro is called E-RIX. The systems share the structure and technical platform although they are functionally quite separate.

A payment in TARGET can be settled domestically, i.e. between participants in a national settlement system or cross-border, i.e. via TARGET to the central bank in which the beneficiary has his account. Credit institutions<sup>4</sup> with registered offices or branches in the European Economic Area (EEA) are able to participate in TARGET. The central bank in the respective country can furthermore enable certain other financial institutions, such as clearing organisations and certain investment firms<sup>5</sup>, and central government agencies to participate in the national settlement system.

<sup>3</sup> This figure is probably too high as the company may be listed on several exchanges at the same time.

<sup>4</sup> Institutions that correspond to the definition in Article 1.1 of Directive 2000/12/EC of the European Parliament and of the Council of 20 March 2000 relating to the taking up and pursuit of the business of credit institutions.

<sup>5</sup> Institutions that correspond to the definition in Article 1.2, first paragraph in the Council Directive 93/22/EEC of 10 May 1993 on investment services in the securities field.

### Figure 3. Average turnover in TARGET per day, billion euro

TARGET has definitely become the largest system for transfers of large payments within the EU area. During the fourth quarter of 2000, an average of 199 000 payments were settled in TARGET each day. The corresponding figure for the first quarter of 1999 was 155 000, which means that the number of payments has increased by 28.5 per cent since the first quarter of operations of the TARGET system.

The turnover in TARGET has varied somewhat (see Figure 3) although viewed over time it has increased. During the fourth quarter of 2000, the average turnover was EUR 1 060 billion per day.

As mentioned, TARGET can be used to send both domestic and cross-border payments. During the fourth quarter of 2000, an average of approximately 157 000 domestic and 42 000 cross-border payments were made per day (see Figure 4). The majority of the payments in TARGET are thereby payments that are settled between participants in the same country. However, the proportion of cross-border payments in TARGET has increased from 16 per cent in the first quarter of 1999 to 21 per cent in the fourth quarter of 2000. The value of the cross-border and domestic payments was on average approximately EUR 435 and EUR 625 billion respectively per day in the fourth quarter of 2000.

A distinction is made between customer payments and interbank payments where a customer payment is a payment between customers of two different banks. Interbank payments take place between two banks where the payment has not been initiated by a customer. Of the total number of cross-border payments, the number of customer payments was

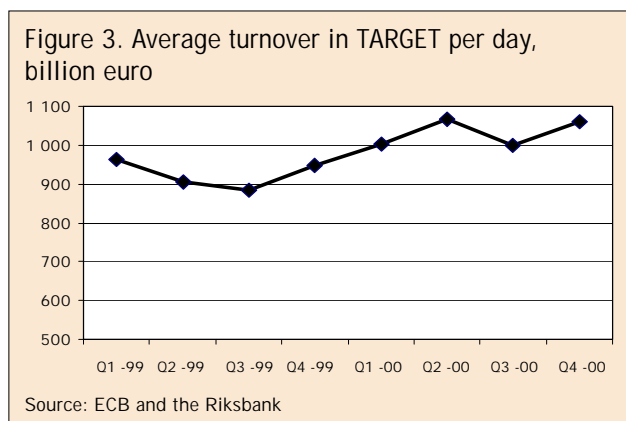
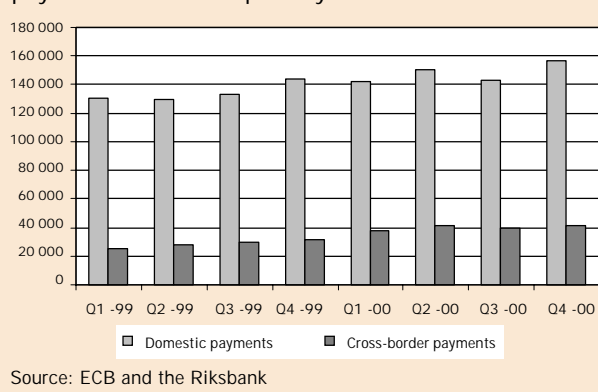


Figure 4. The number of domestic and cross-border payments in TARGET per day



just over 36 per cent in the fourth quarter of 2000. This is a marked increase compared with 1999, when the number of customer payments made up 23 per cent of the cross-border payments. This increase is probably due to smaller banks in the EU which previously used correspondent banks, to a greater extent have started to use the TARGET system to send cross-border customer payments.

The increased number of customer payments explains to a large party the increase of the number of cross-border payments. As customer payments are of considerably lower value than interbank payments this increase does not affect the value significantly. Of the total value of cross-border payments in TARGET, customer payments only make up approximately 3.5 per cent.

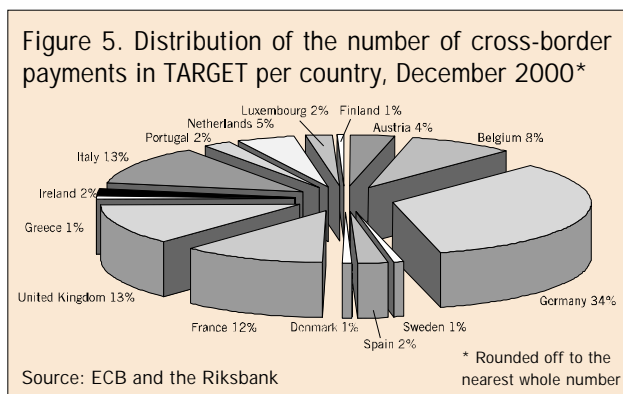
It is clear that a few countries account for a large part of the payments in TARGET. If the volume of cross-border payments is broken down by country (see Figure 5), it can be seen that over a third of the payments come from Germany. The United Kingdom, Italy and France also send a large number of cross-border payments.

Sweden accounts for a relatively small part, less than one per cent of the cross-border payments in TARGET. One of the reasons for this is that the Swedish banks have mainly preferred to use EBA's payment system Euro 1 for their payments in euro and TARGET to a more limited extent.

### Figure 5. Breakdown of cross-border payments in TARGET by country

TARGET was developed above all so that the monetary policy operations within the euro area could be carried out in a secure and efficient way. On this





point, TARGET has served its purpose. This also applies from a payment system perspective, although the structure, with 15 interlinked national settlement systems, is relatively complicated and the large quantity of systems and components makes TARGET sensitive to disturbances. The major requirements placed on availability and security means that the system is expensive. Neither is the structure adapted to include applicant Member States and it cannot automatically be adapted for the systems of these countries.

This altogether has led to a discussion taking place of the extent to which TARGET should be changed towards a more concentrated system solution than today's decentralised system.

During the fourth quarter of 2001, CLS<sup>6</sup> is expected to start its activity. CLS is an international bank, owned by private banks, which aims at reducing the risk that arises in settlement of foreign exchange transactions<sup>7</sup>. The first wave of participating currencies includes the euro<sup>8</sup>. CLS will calculate the net amount for CLS participants' payments in the respective currency. Ingoing and outgoing payments in euro will be settled in TARGET. CLS activities will thereby probably lead to a reduction in the number of foreign exchange transactions in TARGET. Furthermore, CLS will make greater demands on the TARGET system's availability and its processing of liquidity since the banks taking part in CLS have to carry out their net payments to CLS according to a demanding timetable.

<sup>6</sup> CLS stands for Continuous Linked Settlement

<sup>7</sup> The settlement risk arises when there is a time lag between payment and delivery in a foreign exchange transaction. The settlement risk can be limited by simultaneously settling both sides of the transaction (Payment versus Payment). This is the functionality that CLS is intended to provide.

<sup>8</sup> The first wave of participating currencies includes: the euro, the British pound, the American dollar, the Canadian dollar, the Swiss

## meçîäçä-ñäi äçö-ä-q^odbq

As a consequence of TARGET being based on real-time gross settlement, there can sometimes be large, short-term fluctuations in the participants' payment flows during the day. In order to enable a smooth flow of payments, the banks are allowed to borrow money at the central banks against full collateral. Securities used within the Eurosystem for monetary policy transactions can also be used as collateral for credit during the day.

Since the market lacked mechanisms that made possible fast transfers of collateral from one EU Member State to another, the ECB and the central banks within the EU introduced the so-called Correspondent Central Banking Model, CCBM. This model is based on the central banks within the EU acting as correspondents for one another, which makes it possible for a bank to obtain credit in one central bank for collateral that is kept in another EU Member State. CCBM was introduced as a temporary solution pending the introduction of links between all national securities settlement systems within the EU. Currently, there are 62 approved links. However, these links are currently used to a relatively small extent.

## THE EURO 1 PAYMENT SYSTEM

Within the EU during 2000, average daily payments to a value of approximately EUR 1 500 billion were sent via large-value payment systems. TARGET has the largest market share both with regard to value, 70 per cent and volume, 52 per cent. The second largest is EBA's<sup>9</sup> payment system Euro 1, with a market share of 27 per cent viewed with regard to the number of transactions. The third largest is the German system EAF<sup>10</sup>, with a market share of 14 per cent.

Euro 1 is, like TARGET, a payment system for cross-border payments in euro. Over seventy banks take part in Euro 1, including the four largest Swedish banks. The structure of Euro 1 entails participants having only a net claim or net liability towards

franc, the Japanese yen, and the Australian dollar. Discussions relating to the association of a second wave of currencies have taken place with Sweden, Norway and Denmark.

<sup>9</sup> EBA stands for Euro Banking Association. EBA is an association of a large number of private banks which among other things provides the payment system Euro 1.

<sup>10</sup> EAF stands for Euro Access Frankfurt.

other participants in the system during the course of the day. What primarily characterises Euro 1 in comparison with TARGET is that the net amount in Euro 1 is settled at the end of the day, through TARGET, while settlement in TARGET takes place in real time.

Generally, Euro 1 is, in comparison with TARGET, better suited for payments with a somewhat lower requirement for rapid settlement. However, Euro 1 processes interbank payments as well. As regards the volume of payments in December 2000, the number of interbank payments totalled 41 per cent. An average payment in Euro 1 is, however, lower than an average payment in TARGET. In December 2000, an average payment in Euro 1 totalled almost EUR 2 million. An average cross-border payment in TARGET amounted to over EUR 10 million in the same period.

#### CORRESPONDENT BANK PAYMENTS

As a result of the single currency and the existing payment systems for cross-border payments in euro, there has been less need for correspondent bank accounts. The banks in the EU area have also reduced the number of correspondent banks and instead use, for instance, TARGET or Euro 1 for cross-border payments in euro.

However, cross-border retail payments are still processed to a large part by the correspondent bank procedure. This is one of the reasons why it still takes a long time to send cross-border retail payments and that the cost is still high compared with sending domestic payments.

EU's directive on cross-border credit transfers<sup>11</sup> which is to be applied to credit transfers up to EUR 50 000, has generally not been fully implemented.

The directive was intended to make cross-border credit transfers of smaller amounts more rapid, to improve reliability and to prevent double-charging.

The ECB published a report in 2000<sup>12</sup> where the development of cross-border retail payments in the euro area was followed up. The report describes what has been done by the bank and payment system industry to meet the objectives the Eurosystem has set up. Among other things, reference is made to EBA's newly introduced Step 1 system, which is a cross-border retail payment system for payments in euro, that the banks have agreed on standards<sup>13</sup> that make possible straight-through processing (STP) and automatic settlement and taken the initiative to eliminate double charges.

#### SUMMARY

On average payments for approximately EUR 1 500 billion per day were sent through large-value payment systems in the EU during 2000. The largest system is TARGET followed by Euro 1 and EAF. The total number of payments and the corresponding value in these systems increased by 20 and 10 per cent respectively compared with 1999. In TARGET this increase depends among other things on the increasing number of customer payments. During the fourth quarter of 2001, CLS, which is an initiative to reduce the risk in settlement of foreign exchange transactions, is expected to start its activity. This will make great demands on the TARGET system's availability. Furthermore, a discussion is in progress on changing the future structure of the TARGET system, among other reasons due to the coming expansion of the EU. With regard to cross-border retail payments, extensive work is in progress at the banks in Europe to improve these services.

<sup>11</sup> Directive 97/5/EC of the European Parliament and of the Council of 27 January 1997 on cross-border credit transfers.

<sup>12</sup> ECB, Improving cross-border retail payment services, progress report, September 2000

<sup>13</sup> Examples of such standards are SWIFT MT 103+, IBAN (International Bank Account Number), BIC (Bank Identifier Codes) and IPI (International Payment Instruction).

# The euro in Sweden

## The euro in the Swedish fixed income and foreign exchange market

### INTRODUCTION

Before the introduction of the euro, there were a number of expectations as to what the euro would mean for the development of the European financial markets. A single market for financial services in the euro area was expected to lead, among other things, to increased competition, new products, more mergers and acquisitions in the banking sector, extensive portfolio adjustments due to elimination of the foreign exchange risk. It was also expected that the euro would have a strong position as a world currency, i.e. that it would compete with the dollar as a contract and reserve currency. As has been shown in previous chapters, it can be noted, two years after the introduction of the euro, that these expectations have been fulfilled to a varying extent.

Before the introduction of the euro, there was also discussion on what the euro would mean for Sweden, despite it being clear already in December 1997 that Sweden would not participate in the third stage of EMU from the start on 1 January 1999. However, since Sweden is a part of the internal market and Swedish participation in the monetary union was not regarded as being so far in the future, there were expectations that the euro market would entail new opportunities for Swedish financial agents and corporations, such as lower financing costs in the euro market compared with the krona market. There was even talk of the use of the euro being so extensive that there was a risk that the krona would be marginalised.

However, this was not the case. Two years after the introduction of the euro, it can be noted that the activity of Swedish financial agents in the euro market is relatively limited. There are a number of conceivable reasons for the limited Swedish use of the euro. One of the foremost reasons is probably that financing costs for Swedish participants in the euro market compared with other alternatives were not as low as had been expected. Probably, the delay in the decision on Swedish participation in the monetary union has also affected use of the euro in Sweden, among ways to the extent that certain preparations for handling transactions in euro (open accounts in euro, noting shares in euro in the Stockholm Stock Exchange, having accounts in euro, etc.) have been postponed.

### THE EURO IN SWEDISH MONETARY FINANCIAL INSTITUTIONS

Every month, the Riksbank compiles financial market statistics from Swedish monetary financial institutions (MFI)<sup>14</sup>. A review of these statistics shows that the euro<sup>15</sup> is a relatively small part of MFI's balance-sheet total. The krona has, not particularly surprisingly, the largest proportion of the balance-sheet total (see Table 8), 73 per cent on the assets side and 64 per cent on the liability side, although the proportion has reduced since January 1999 when the corresponding part was 78 and 70 per cent respectively. However, the reduced proportion of kronor is not corresponded to as it could perhaps be expected by an increased share of euro in the balance-sheet total. Instead the proportion of foreign currencies other than euro and other EU currencies<sup>16</sup>, i.e. probably most dollars, has increased most. On the assets side the proportion of other foreign currency has increased by almost 4 percentage points and on the liabilities side by over 6 percentage points since January 1999.

The proportion of euro in MFI's balance-sheet total has, as Table 8 shows, increased slightly between 1999 and 2000, although the increase varies between different types of institutions and items in

<sup>14</sup> There are approx. 180 monetary financial institutions in Sweden. These include all the banks, credit market companies with the exception of finance companies, some credit institutes that are regulated in special legislation and money market funds. MFI comprises less than half of the Swedish financial sector's total assets.

<sup>15</sup> The euro and the eleven currencies in the Euro-system.

<sup>16</sup> Other EU currencies are GBP, DKK and GRD.

Table 8. Swedish monetary financial institutions balance-sheet total, SEK billion

ASSETS									
	Balance-sheet total	SEK	Euro	EU-currencies other than euro	Other foreign currency (other than euro and other EU-currencies)	Proportion of SEK %	Proportion of euro	Proportion of EU-currencies	Proportion of other foreign currency, %
Jan 1999	3 978	3 099	205	137	537	77.9	5.1	3.4	13.5
Dec 1999	3 906	3 037	222	96	550	77.8	5.7	2.5	14.1
Jan 2000	4 176	3 137	282	110	647	75.1	6.8	2.6	15.5
Dec 2000	4 398	3 218	289	126	764	73.2	6.6	2.9	17.4
LIABILITIES									
	Balance-sheet total	SEK	Euro	EU-currencies other than euro	Other foreign currency (other than euro and other EU-currencies)	Proportion of SEK %	Proportion of euro	Proportion of EU-currencies	Proportion of other foreign currency, %
Jan 1999	3 978	2 763	227	168	820	69.5	5.7	4.2	20.6
Dec 1999	3 906	2 693	254	129	830	69.0	6.5	3.3	21.2
Jan 2000	4 176	2 763	300	135	977	66.2	7.2	3.2	23.4
Dec 2000	4 398	2 817	263	132	1 185	64.1	6.0	3.0	26.9

Source: Riksbank's financial market statistics

Table 9. Different institution groups (MFI) balance-sheet total and proportions in euro (SEK billion)

Group of Institutions	Date	Assets			Liabilities		
		Balance-sheet total	Euro	Proportion of euro %	Balance-sheet total	Euro	Proportion of euro %
Banks	Jan -99	2 548	190	7.4	2 548	190	7.5
	Dec -00	2 948	227	7.7	2 948	207	7.0
Mortgage institutions	Jan -99	1 193	1	0.1	1 193	19	1.6
	Dec -00	1 170	0	0.0	1 170	30	2.6
Other credit market corp.	Jan -99	239	14	6.0	239	17	7.1
	Dec -00	280	61	21.9	280	26	9.3
Total MFI	Jan -99	3 978	205	5.1	3 978	227	5.7
	Dec -00	4 398	289	6.6	4 398	263	6.0

Source: The Riksbank's financial market statistics

the balance sheet. At the beginning of 1999, the euro accounted for 5-6 per cent of the balance-sheet total, which corresponds to over SEK 200 billion.

In December 2000, the euro's share had increased to 6-7 per cent, or just under SEK 300 billion. Due to the low absolute amount, the average rate of increase expressed in percent will be high on an annual basis, on average 33 per cent on the asset side for the full year 2000 and 13 per cent on the liabilities side. In December 2000, the 12-month change (Dec 1999 to Dec 2000) was 30 per cent on the assets side and 4 per cent on the liabilities side. In absolute figures, the euro since its introduction in 1999 up to and including December 2000 has increased by SEK 85 billion on the assets side and SEK 35 billion on the liabilities side.

It is above all the banks and the group other credit market corporations<sup>17</sup> that have activities in euro in their own balance sheet. As Table 9 shows, the banks accounted in December 2000 for the major part of the volume of euro in absolute figures, while the group other credit market corporations through a fast increase in euro borrowing had the highest proportion of euro in the balance-sheet total.

<sup>17</sup> Credit market corporations are specially focused financial intermediaries. Each group of institutions has its limited area for provision of credit, which is shown by the articles of association. The group credit market corporations consists of mortgage institutions and other credit market corporations. Other credit market corporations consists of the earlier other intermediary institutions and financial corporations. Their activity is focused on lending to, for instance, municipalities, agricultural enterprises and/or special financing such as export financing.

**Fact panel – Swedish bank customers**

According to information from the Swedish Bankers' Association (SBA), there were approximately 16 000 euro accounts in Swedish banks in April 2000 which can be compared with approximately 15 000 in September 1999 (of a total of 26 million accounts). Around 2 per cent of corporate customers at Swedish banks have euro accounts while the corresponding figure for private customer is 0.03 per cent. The number of customer payments made (retail payments) in euro was less than 1 000 per month in both 1999 and 2000. This figure does not include domestic payments via international systems, for instance EBA.

**Swedish bank customers' use of euro in Swedish banks**

	Sept -99	April -00
Number of euro accounts	15 000	16 000
Proportion of corporate customer with euro accounts	1.5-2%	2%
Proportion of private customers with euro accounts	0.02%	0.03%
Number of domestic customer payments in euro/month	<1 000	<1 000

Source: Swedish Bankers' Association and EU Commission

As the table shows, the change is small between autumn 1999 and spring 2000. It is only a matter of marginal increases in the number of accounts. The great majority of euro accounts are held by corporations. The domestic payments in euro are insignificant and it can be added that card transactions in euro hardly exist. As regards international payments, the material from the SBA shows that payments by businesses in the third quarter of 2000 were scarcely 30 per cent of the number and scarcely 17 per cent of the value in euro, while the corresponding figure for private persons was 14 and 8 per cent respectively. It should be noted that the statistics are based on a very preliminary basis.

It is primarily banks and other credit market corporations that have assets in euro while mortgage institutions mainly have liabilities in euro. In the group banks, it is the four major banks<sup>18</sup> which substantially account for the holding of euro while among the other credit market corporations, corporations with export-related activities are responsible for the major part of the exposure in euro.

**i ÉaÇááÖ-á-Éi èç**

Of the-Á-áâÛ total lending in euro in December 2000, euro lending accounted for approximately 7 per cent of SEK 146 billion (see Table 10). Of the banks' different loan items, it is lending to the foreign general public (mostly non-financial corporations) in other EU Member States that shows the largest proportion of euro, 23 per cent or the equivalent of SEK 72 billion. This is an increase since

<sup>18</sup> Swedbank, Nordea, SEB and Svenska Handelsbanken.

the euro was introduced, when euro lending accounted for 19 per cent of lending to the foreign general public or SEK 45 billion. Lending to foreign financial institutions, mainly banks in other EU Member States, also indicates relatively large volumes of euro, SEK 39 billion, or a share of this item at 10 per cent at the end of December 2000. However, this is a small decrease from SEK 40 billion or 13 per cent in January 1999.

As regards the bank's domestic lending, it is the item lending to non-financial corporations that contains the rather larger volumes of euro equivalent to SEK 28 billion in December 2000, or 5 per cent of the total loans to corporations from banks. This volume has not changed overall since January 1999. Household demand for euro loans at the banks is insignificant, SEK 0.6 billion or 0.2 per cent of household loans and the item is unchanged since January 1999

j çêÛ-ÛÉ-ááéáí ïáçæ have no larger demand for housing loans in euro and lending in euro is accordingly negligible. As regards çÛÛÉ-áéÛá-á-éáÛ-ÁçéçÏ é-ïáçæ lending in euro totalled SEK 5 billion in December 2000 or just over 3 per cent of their total loans.

**cãÉÇ-ááÇã É-éÉÁi éááÉ-á-Éi èç**

Of the banks' total assets in securities, which Table 10 shows, 9 per cent or the equivalent of SEK 35 billion in December 2000 was invested in euro-denominated government securities, bonds or other fixed income securities. This is a small increase since January 1999.

Table 10. A selection of asset items for different groups of institutions (MFI), SEK billion

Group of Institutions	Date	Lending			Interest-bearing securities		
		Balance sheet total	Euro	Proportion of Euro %	Balance sheet total	Euro	Proportion of Euro %
Banks	jan -99	1 654	122	7.4	464	30	6.5
	dec -00	2 016	146	7.2	384	35	9.0
Mortgage institutions	jan -99	1 153	0	0	7	0	0
	dec -00	1 134	0	0	10	0	0
Other credit market corp.	jan -99	144	3	2.1	80	11	13.3
	dec -00	150	5	3.1	116	55	48.0
Total MFI	jan -99	2 951	126	4.3	551	41	7.4
	dec -00	3 299	150	4.6	510	90	17.6

Source: Riksbank's financial market statistics

Table 11. A selection of debt items for groups of institutions (MFI), SEK billion

Group of Institutions	Date	Deposits/borrowing			Issued securities		
		Balance sheet total	Euro	Proportion of Euro %	Balance sheet total	Euro	Proportion of Euro %
Banks	Jan -99	1 738	118	6.8	239	34	14.4
	Dec -00	1 923	125	6.5	329	41	12.5
Mortgage institutions	Jan -99	246	0	0	812	18	2.2
	Dec -00	294	0	0	758	29	3.8
Other credit market corp.	Jan -99	51	3	5.0	150	13	8.5
	Dec -00	45	4	9.2	194	17	8.9
Total MFI	Jan -99	2 035	121	5.9	1 200	65	5.4
	Dec -00	2 261	130	5.8	1 282	88	6.8

Source: Riksbank's financial market statistics

The group *çîŭĕ=ĀēĬĀ=ā-ēāĬ=Āçēēçē-īāçāē* had in December 2000 invested SEK 55 billion or 48 per cent of its securities assets in euro-denominated fixed income securities. This is an increase from SEK 11 billion or a share of 13 per cent in January 1999.

### *i ā-Āāāāē-ā-Ĭēç*

As shown in Table 11, the banks' total deposits/borrowing in euro in December 2000, was SEK 125 billion, which is 6.5 per cent of the total deposits/borrowing. On the banks' liability side, it is transactions between banks, mainly deposits/borrowing from banks in other EU Member States that show the greatest volume in euro, SEK 73 billion, or 13 per cent of the whole item in December 2000. In deposits/borrowing from other counterparties in other EU Member States, probably most corporations, EUR 26 billion is included, which corresponds to 10 per cent of the item. Deposits/borrowing from Swedish non-financial corporations are among the items that have had a somewhat greater amount in euro, equivalent to SEK 13 billion, which is 4 per cent of the Swedish corporations' bank deposits.

*j çēīŦ-ŦĬ-āēīāĬ īāçāē* which issue securities largely lack borrowing in euro in December 2000.

The group *çîŭĕ=ĀēĬĀ=ā-ēāĬ=Āçēēçē-īāçāē* had borrowed SEK 4 million in euro in December 2000, which is 9 per cent of total borrowing. Borrowing mainly take place from banks in other EU Member States and of their total bank deposits, the euro accounts for 50 per cent.

### *cāĬĬç-āĀç ā Ĭ-ēĬĀ ĩ çāāē-āēī Ĭç*

The *Ā-āāē* stock of fixed income securities issued totalled SEK 41 billion in December 2000, which is just under 13 per cent of the total stock of securities issued (see Table 11). Of the different instruments that have been issued in euro, commercial paper has the greatest volume, SEK 24 billion.

The *āçēīŦ-ŦĬ-āēīāĬ īāçāē* stock of securities issued in euro is somewhat less than the banks, equivalent to SEK 29 billion in December 2000. The proportion of euro-denominated securities of the total stock of securities issued was, however, scarcely 4 per cent. In the mortgage institutions, unlike the banks, it is, as expected, bonds that are the predominant instrument (equivalent to SEK 27 billion).

Other *ĀēĬĀ=ā-ēāĬ=Āçēēçē-īāçāē* stock of securities issued in euro totalled SEK 17 billion in December 2000, which was 9 per cent to the total stock of securities issued. Bonds are also here the instrument that is most often issued in euro.

Besides the aforesaid items in the balance sheets of the monetary financial institutions, there are also other items that show somewhat greater volumes in euro. For instance, in December 2000, *çîŭĕ=ēēĬē* had a euro share of 5.2 per cent or SEK 17 billion, while the proportion of euro of *çîŭĕ=āāāāē* was 6 per cent or SEK 26 billion. Both these items include derivative instruments that account for between 40 and 60 per cent of these amounts.

### THE SWEDISH BANKS' ACTIVITY IN THE EURO MONEY AND BONDMARKET

In order to obtain a view of the extent to which the euro is used in the Swedish money and bond market, the Riksbank asked the four big Swedish banks<sup>19</sup> about their activities in euro, both with regard to customer-related flows and their own financing activity in euro and trade on the secondary market in euro-denominated securities. The conclusion of the interviews with the banks is that the total activity in euro is still relatively small and concentrated to certain market segments.

### *qŭĕ-āçāēō-ā-ēāĬ*

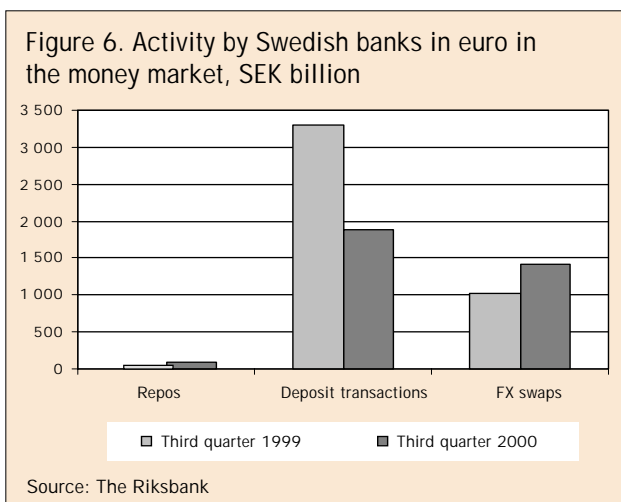
The activities of the banks in the euro money market on behalf of customers are rather limited. Altogether, the banks interviewed made commercial paper issues

<sup>19</sup> Swedbank, Nordea, SEB and Svenska Handelsbanken.

in euro for almost SEK 700 million in the third quarter of 2000. There were no such issues in the corresponding quarter of 1999.

As regards the banks own financing in euro, there is considerably greater activity, however (see Figure 6). The banks consider that the deposit market in euro functions well, both as regards prices and liquidity. In the third quarter of 2000 the banks made altogether deposit transactions in euro for the equivalent of SEK 1 890 billion. The corresponding figure for the third quarter of 1999 was SEK 3 340 billion. What was involved then was a considerable reduction between 1999 and 2000 although it should be pointed out that the reduction did not apply to all the banks asked.

Deposit transactions in euro are somewhat more common with foreign counterparties than with Swedish and the largest volumes in euro are traded in the shortest maturities.



With regard to FX swaps (EUR/SEK), in the third quarter of 2000 the banks carried out transactions totalling SEK 1 420 billion, which is an increase from the corresponding quarter in 1999 when swaps for the equivalent of SEK 1 030 billion were carried out. The major part (almost two-thirds) of trade in FX swaps takes place with foreign counterparties.

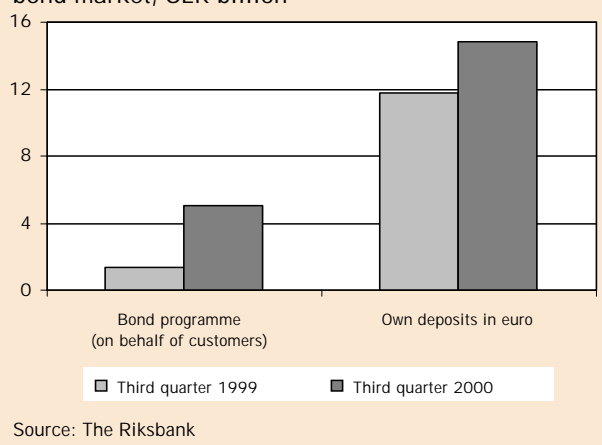
The Eonia<sup>20</sup> swap market is large and well functioning although it is used only to a relatively small extent by Swedish banks since there is still no significant customer demand for euro-denominated

<sup>20</sup> Eonia is an abbreviation for Euro OverNight Index Average

<sup>21</sup> In maturities of up to a year

<sup>22</sup> Stina is an abbreviation of Stockholm Tomnext INterbank Average

Figure 7. Activity by Swedish banks in euro in the bond market, SEK billion



swaps<sup>21</sup>. The major part of activity by the Swedish banks in this short swap market is still in the Stina<sup>22</sup> swap market, the Swedish equivalent to Eonia. One reason that has been mentioned for customer demand for both Eonia and Stina swaps being so little is that Swedish customers have limited system support for these products.

According to the banks interviewed there is largely no trade in euro-denominated securities in the secondary market of the money market.

## qÜÉ-ÀçàÇ-ã~êâÉí

Some corporate loans in euro are issued on behalf of customers. However, the volume varies greatly between banks. Altogether bond issues in euro equalled SEK 5 billion in the third quarter of 2000. This is an increase from just over SEK 1 billion in the third quarter of 1999 (see Figure 7). The major part (over 95 per cent) of the issues is on behalf of Swedish customers. The increase in bond issues in euro between 1999 and 2000 relates, however, to both Swedish and foreign borrowers.

The euro market is considered to be deeper and more liquid than the Swedish (since the range of product and turnover is obviously larger in the euro market) although according to the banks, the euro market for certain corporations is a more expensive alternative to borrowing in the krona market. Moreover, Swedish corporations in the first place still require kronor so that the euro loan is often swapped for kronor. The fact that Swedish corporations nevertheless opt to borrow in the euro

market is often due to it being the only possibility to borrow larger volumes.

Since demand by customers for credit in euro for longer terms is still rather limited, the banks' long term financing in euro is relatively low. Banks issued bonds in euro for a total equivalent to SEK 15 billion in the third quarter of 2000, which is somewhat higher than in the third quarter of 1999, when the banks' total financing in euro was SEK 12 billion. The largest part of the financing was made by the banks with Swedish counterparties (over 60 per cent) and it is above all with Swedish counterparties that the increase between 1999 and 2000 has taken place.

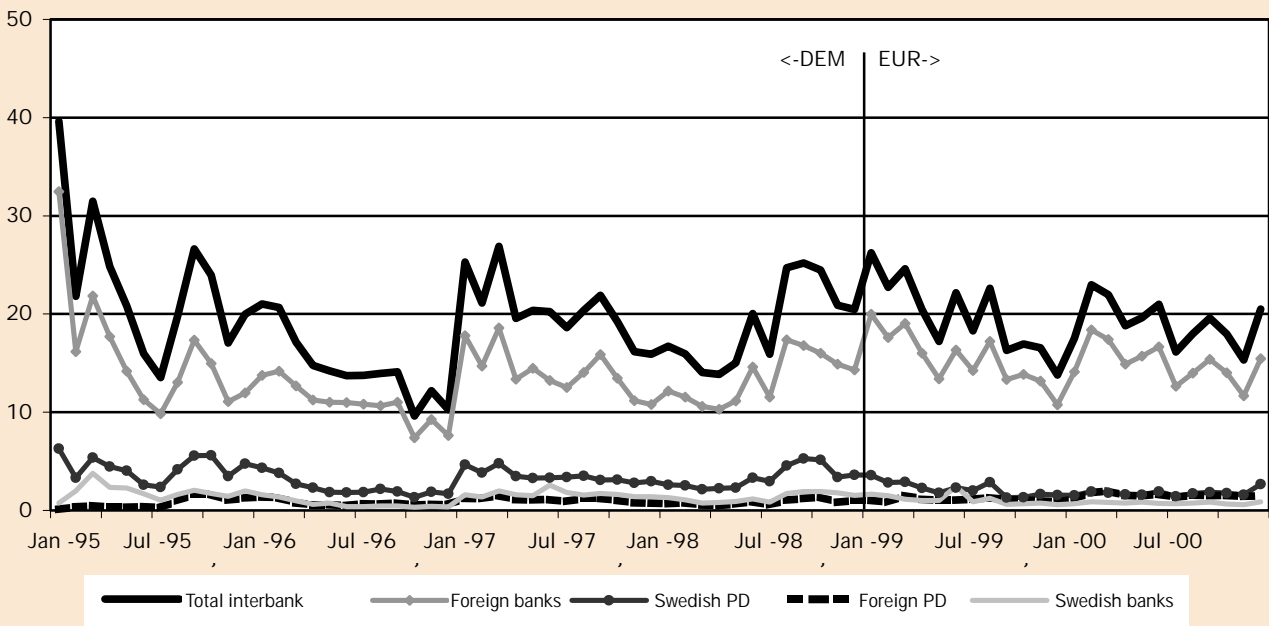
With regard to the activity of the Swedish banks in the secondary market for bonds, it has increased between 1999 and 2000. In the third quarter of 1999, the total turnover was just under SEK 3 billion while the corresponding figure for the third quarter of 2000 was over SEK 9 billion. The increase in the secondary market refers both to the banks' Swedish and foreign counterparties.

**pi ÉÇæÛ-Ä~aaë-ça-iÛÉ-Éi êç-ã~èâÉiÜ  
i~ó-çÑÑi áÁiáçááÖ**

According to the Swedish banks, the euro market is well functioning and developments are considered to be moving in a positive direction. At the same time, however, it is noted that there is some way to go before the euro market has the same standard as the dollar market. The euro market is still young and the agents on the dollar market still have the benefits of, for instance, greater market experience and volumes. Some concrete examples of why the dollar market can be considered to work better than the euro market are that the dollar market has a better functioning credit analysis and is more rational with regard to rating. The lack of homogenous credit concepts in the euro market makes prices fluctuate more than in the dollar market, which in turn can lead to higher financing costs in euro than in borrowing in dollar.

However, smaller corporations can find it difficult to enter the dollar market and the euro market is then often considered a good alternative despite the greater variation in prices.

Figure 8. Daily turnover spot (interbank) in the Swedish foreign exchange market 1995-2000, SEK billion



Note: The Riksbank has eleven foreign exchange policy counterparties (Swedish and foreign banks) and these are called Primary Dealers. Total interbank trade in the Swedish foreign exchange market includes spot trade within the PD circuit and the counterparties' trade with Swedish and foreign banks that are not counterparties of the Riksbank.

Source: The Riksbank



Another problem with the euro market which was mentioned by the interviewed banks is that there are no clear benchmarks in the euro market. There are a lot of securities and issuers, which creates some lack of clarity in relation to benchmarks in the dollar market.

As regards the future, there is cautious optimism among the banks asked. Although the Swedish activity to date has not been so extensive as was anticipated when the euro was introduced, it emerged in the interviews with the banks that the transactions carried out in euro work well. There is also some confidence that the mode of functioning of the euro market will in time develop in a positive direction, in particular if the euro in general has more positive development as a transaction currency than it has had previously. Furthermore, it was mentioned that the euro, in accordance with the expectations on the introduction of the euro, has driven on structural change in the financial markets in the euro area and that the credit market in euro is developing to become more transparent (more in line with the American market).

#### THE EURO IN THE SWEDISH FOREIGN EXCHANGE MARKET

The biggest players in the Swedish foreign exchange market are the Riksbank's foreign exchange policy counterparties, the so-called primary dealers (PD) which consist of the four big Swedish banks and seven foreign banks. These eleven PDs trade as a group mainly with foreign banks that are not counterparties to the Riksbank but also within the PD sphere and with Swedish banks which are not PDs. Altogether this interbank trade accounts for approximately 65 per cent of all spot transactions in the Swedish foreign exchange market while other spot transactions are made directly with customers. In the interbank market all transactions are largely made in kronor for euros while futures and swap transactions are made in kronor for US dollars.

Figure 8 above shows how the spot turnover interbank in the Swedish foreign exchange market has developed since the euro was introduced compared with prior to 1 January 1999 when the krona was traded spot against the Deutsche mark).

#### Fact panel VPC statistics

Table A. Settlement at VPC in euro, in guarantee and contract parts, April 1999 to January 2001, euro

Month and year	Guarantee parts (stock market)	Contract parts (money market)
April -99	727 822 204.00	0
May -99	2 337 861.70	0
June -99	517 720.00	0
July -99	3 153 876.80	0
August -99	130 401.00	0
September -99	4 832 906.30	0
October -99	543 376.80	0
November -99	2 456 409.60	0
December -99	3 660 444.29	0
January -00	33 873 990.00	0
February -00	4 411 018.46	74 616 024.00
March -00	10 565 769.09	61 811 122.00
April -00	78 193 897.50	78 554 234.00
May -00	7 920 319.76	146 675 654.00
June -00	43 756 909.87	89 048 590.00
July -00	16 387 513.50	101 824 370.00
August -00	17 853 831.70	0
September -00	7 065 737.84	48 384 862.00
October -00	1 186 446.19	86 506 636.00
November -00	12 073 674.96	20 047 025.00
December -00	14 404 654.20	0
January -01	4 798 321.25	0

Table B. Different types of securities issued in euro, number

Month and year	Shares	Purchase shares
August -00	54 966 929	12 000 000
September -00	48 774 749	12 000 000
October -00	47 319 500	12 000 000
November -00	44 176 372	12 000 000
December -00	43 051 744	12 000 000
January -01	37 011 139	12 000 000

Table C. Securities issued in euro, nominal

Month and year	Discounting paper	Interest-bearing securities
August -00	140 000 000	7 139 573 000
September -00	31 500 000	7 199 573 000
October -00	45 000 000	7 234 573 000
November -00	22 000 000	7 223 573 000
December -00	10 500 000	7 243 573 000
January -01	5 000 000	7 293 573 000

In relation to kronor, the settlement amounts in euro have been extremely low at VPC AB. A comparison shows that during the last four months (Oct 2000 to Jan 2001) over SEK 2 407 152 million were settled in the guarantee portion in relation to only EUR 3 million. It may also be mentioned that the trend is downward with regard to the number of shares issued and discounting paper.

Source: VPC AB

As the diagram shows, the daily spot turnover (interbank) has fluctuated around SEK 20 billion since 1995. The largest part of interbank spot trade was made with foreign banks as a counterparty.

The average daily turnover in SEK for D-mark during the period 1995-1999 was SEK 19.2 billion and SEK 19.5 billion in the corresponding period for the period 1 January-31 December 2000, i.e. after the introduction of the euro. It is thus only the issue of a marginal increase in the average daily turnover in euro compared with the previous spot trade in D-marks.

#### SUMMARY

Before the introduction of the euro, it was speculated that the euro would have great importance in Sweden despite Sweden initially not participating in the euro area. It was expected among other things that the single euro market would lead to new financing opportunities and lower financing costs for Swedish financial agents and corporations. The foremost reasons for these expectations were probably the importance of the internal market for Swedish trade, that it was thought the euro would rapidly become a strong international currency on a par with the dollar and that Swedish entry into the monetary union was not viewed as being too distant.

Two years after the introduction of the euro, it can be noted that the euro has had less important than expected in Sweden. Swedish financial agents are certainly active in the euro market, although to a varying extent depending on agent and market.

A review of statistics of Swedish monetary financial institutions (MFI) shows that the euro is a relatively small part of the balance sheet total: 5-7 per cent in 1999 and 2000. It is primarily banks and the group other credit market corporations that have activities in euro in their own balance sheet and they have then above all assets in euro. In the group banks, it is the four major banks that substantially account for the euro holdings while among the other credit market companies, it is corporations with export-related activities that account for the major part of the exposure in euro. The mortgage institutions on their part have mainly liabilities in euro.

A special study of the four big Swedish banks shows that their activities in euro in the Swedish money and bond market is relatively limited and that this activity is concentrated to certain market segments. In the money market, the activity is largest in the deposit and swap market. Commercial paper issues in euro are limited and the turnover in euro-denominated securities in the secondary market at the money market is very small. In the bond market, a number of credit bonds are issued in euro and there is some trade in the secondary market in euro-denominated bonds.

With regard to spot trade in kronor for euros, (interbank) in the Swedish foreign exchange market, no greater change has taken place since the euro was introduced compared with the previous spot trade in kronor for German marks; turnover has fluctuated around SEK 20 billion since 1995.

An important explanation for the euro's relatively limited importance in the Swedish financial markets is probably that the demand for euro from private individuals and businesses is relatively small (as long as Sweden does not participate in the monetary union, there is an exchange rate risk between the krona and the euro that must be taken into account in all euro transactions. The euro market did not offer improved financing/investment opportunities to the extent that was expected prior to the introduction of the euro. The delay in the decision on Swedish participation can also be thought to have affected the use of the euro in Sweden in different ways, among other by preparations for handling transactions in euro being postponed.

The overall assessment of the basis of the statistics that have been presented above and the interviews with the Swedish banks is accordingly that the euro does not have any special position as a foreign currency in Sweden. When Swedish agents make decisions on an investment or borrowing in euro, the decision is often taken on the basis of a general assessment of differences in yield/costs and risk between the euro market and the other markets. Consequently, there is Swedish activity in the segments in the euro market that are considered to be favourable compared with other investment/financing alternatives.

## Euro payments in Sweden

### THE E-RIX PAYMENT SYSTEM

The Riksbank has two parallel but separate settlement systems: one for payments in Swedish kronor (K-RIX) and one for payments in euro (E-RIX). A payment in E-RIX can be settled domestically, i.e. between participants in E-RIX or cross-border, i.e. through TARGET to the central bank in which the beneficiary has its account. E-RIX is open for different types of payments, both interbank payments and customer payments. There is no limit on the amounts.

The Riksbank's body of rules and regulations for settlement in E-RIX<sup>23</sup> is based on the principles established by the ECB. The system is open for credit institutions, certain investment firms, clearing organisations and government agencies.

### Number of cross-border payments

The number of cross-border payments from Sweden averaged 245 per day in 2000 (see Figure 9). Compared with 1999, this was an increase of approximately 43 per cent. The value of the cross-border payments from Sweden averaged approximately EUR 6.7 billion per day in 2000, an increase of over 27 per cent compared with 1999. Few domestic payments were settled in E-RIX, on average 10-15 per day.

The number of cross-border payments to Sweden is considerably more than the number of payments

from Sweden. During 2000, an average of 525 payments per day were received. In comparison with 1999, that is an increase of 35 per cent. Unlike payments from Sweden, which are almost exclusively interbank payments, customer payments account for a relatively large share, approximately 30 per cent of payments to Sweden.

Looking at the distribution of cross-border payments from the different EU Member States, Sweden accounts for less than one per cent of the cross-border payments in TARGET. The fact that few cross-border payments were sent from Sweden is primarily due to Swedish banks choosing to channel the majority of their payments through Euro 1, EBA's payment system. Banks in Europe, largely banks that do not participate in Euro 1, use TARGET to a greater extent to send cross-border customer payments.

Since payments sent from Sweden are almost exclusively interbank payments, the average cross-border payment from Sweden is relatively high compared with the average TARGET payment (see Figure 10). Another explanation is that the Riksbank does not have central bank liquidity in euro, which means that large liquidity transfers are required daily.

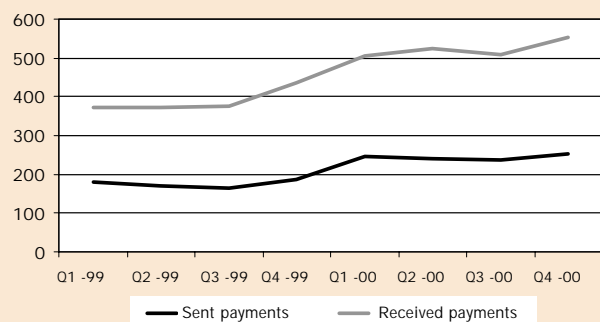
As mentioned in the section on TARGET, CLS is expected to start its activity during the fourth quarter of 2001. There are Swedish banks that intend to take part in CLS. It is therefore probable that the number of foreign exchange transactions in E-RIX will be reduced due to CLS's activities.

### Value of cross-border payments

The countries that participate in the monetary union provide the non-participating countries with liquidity. This is essential as central banks in non-euro area countries of the EU cannot create euro liquidity.

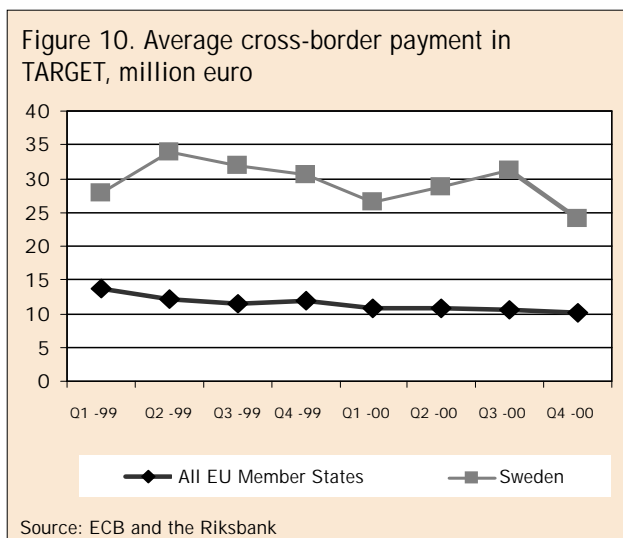
Initially, the Riksbank's ability to grant participants in E-RIX intra-day credit in euro against collateral was limited to one billion euro. Since the need from participants in E-RIX proved to be smaller than expected, the amount has been reduced in stages to EUR 500 million. The cost for provision of euro is charged by the Riksbank to the participants who use the credit.

Figure 9. The number of payments sent and received via TARGET to and from Sweden per day



Source: ECB and the Riksbank

<sup>23</sup> Sveriges riksbank, Rules and regulations for settlement of payments in RIX, *g-ài-êó-OMN*



The reason why participants in E-RIX do not have such a great need as the Riksbank to provide them with euro is that most of the banks have branches or subsidiaries in one or more of the countries in the euro area, which means that they can obtain access to liquidity in euro from a central bank in the euro area. Another possibility is to make an agreement on a credit facility with another bank in the monetary union. A third possibility is to use the interbank market.

Securities which can be used in the euro system for monetary policy transactions can also be used as collateral for obtaining credit during the day. The Riksbank has, like other central banks in non-euro area countries of the EU, its own list of collateral which can be used for intraday credit in euro. As regards Swedish issuers, the ECB has generally approved, at the request of the Riksbank, use of bonds and other debt instruments issued by the Swedish government and bonds issued by Swedish housing finance institutions as collateral by the Riksbank for intraday credit.

These Swedish securities can also be used by other central banks in the EU as collateral for intraday credit after approval by the ECB. The central banks in Finland, France, the Netherlands, and Germany have received such permission. A bank which takes part in these central banks' settlement systems can in this way use Swedish securities as collateral for intraday credit in the system.

## SUMMARY

The Riksbank has a settlement system for payments in euro, E-RIX, which is linked to the EU common payment system TARGET. The number of payments to Sweden from other countries via TARGET was on average 525 per day in 2000. Relatively few cross-border payments are made from Sweden via TARGET, which is largely due to the Swedish banks choosing to send the major part of their euro payments through other systems than TARGET. In 2000, an average of 245 cross-border payments were sent from Sweden per day via TARGET. The value of these payments was EUR 6.7 billion.

## The stock market –

### The OM Stockholm Exchange

As mentioned earlier, securitisation and increased share trading characterise developments in the EU in the 1990s. Sweden has shown a similar pattern. The number of companies listed on the Stockholm stock exchange has accordingly increased by 40 per cent since 1995 while the turnover has increased almost sevenfold during the same period (see Table 12).

The first eleven Member States in the monetary union introduced the euro as a trading currency in their stock markets from the first day of trading in 1999. The local customers had to adjust at all levels to new stock prices in this way as in an issue or stock split. It does not seem to have led to any appreciable difficulties among other things because amounts are converted into the "old" currency automatically and free of charge to customers. As the exchange rate is fixed, there is no exchange rate risk for customers in the euro area.

For customers in third countries, the adjustment has meant that they have a common listing currency for eleven countries in Europe, which facilitates handling especially for those that do not have an extensive trade in foreign currencies.

Sharetrading on stock exchanges that have introduced the euro have on average increased more rapidly than for the group European stock exchanges outside the monetary union, although it is un-

clear if this can primarily be explained by the transition to a common listing currency. Among other things, as a result of different strong components of IT corporations, the price and volume development has varied greatly between the European ex-

Table 12. Share trading on Stockholm Stock Exchange

Year	Total turnover, SEK billion	Total listed companies at year-end
1995	665	223
1996	918	229
1997	1 346	261
1998	1 830	276
1999	2 609	300
2000	4 456	311

Source: OM Stockholm Exchange

changes in 2000. Stock exchange turnover has for instance doubled in Finland and Italy and by over 60 per cent in Sweden and Denmark although it has fallen greatly in Belgium, Ireland, Greece and Austria.

In London foreign shares are normally listed in the home currency which mean that trade takes place in a number of different currencies. No separate accounts are made of trade in euros but the proportion is stated to be approximately 40 per cent or about 12 per cent of the total stock trading in Europe. The distribution between the euro and other listing currencies in trade in 2000 is shown in Figure 11 below. It should be noted that Greece is part of the euro area as from 1 January 2001 and is therefore changing currency for stock trading.

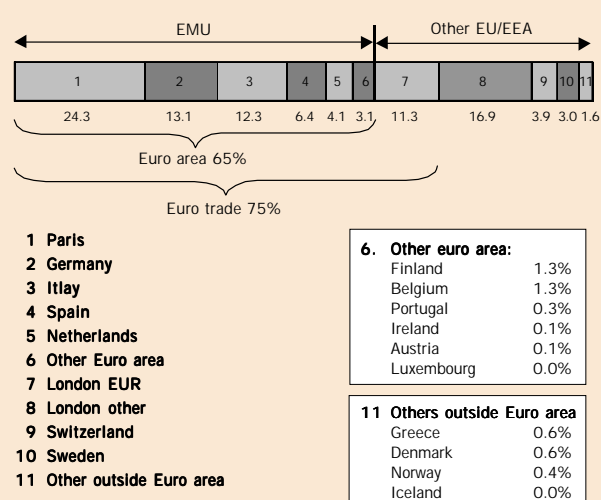
Since the start of EMU in 1999, it has been possible to make parallel listing of shares in euro or list them exclusively in euro on OM Stockholm Exchange. VPC offers full settlement service both in kronor and in euro taking into consideration the handling of securities between the central banks. The stock exchange's trading system, SAXESS, as well as VPC's settlement system is in principle already adapted to handle euro trade. A full transition to euro trade requires, certain measures, however for adaptation of indices, which the Stock Exchange considers possible to carry out within six months. To date, the brokers' internal system has not fully been adapted for Euro trading on a large

scale and these measures can be expected to require a longer transition period.

The stock exchange has set up a special section for shares traded in euro which at the end of 2000 consisted of three corporations: Electrolux, Nord-ea (former Nordic Banking Holding), and Stora Enso Oy. These three corporations have been able to trade in euro since 1999. Companies that wish to be listed in euro shall notify this to the stock exchange which can start trading in euro after a three-month forewarning period for the market.

However, no company has notified its interest in euro listing in 2000 and almost no trade in euro has taken place in Sweden for the companies in question. It should be noted in this context that Nordea and Stora Enso are both Swedish-Finnish corporations and that an extensive trading in euro instead takes place on the stock exchange in Helsinki. Liquidity in the market, i.e. in the stock exchange register book, and convenience are the two crucial factors for euro trading to occur. In the present situation, the final motive is lacking since euro banknotes and coins are still not in use and few private customers have access to euro accounts. For institutional customers, the possibility of trading large volumes is crucial. It should also be mentioned that companies that wish to start trading in euro are greatly affected by the group's accounting cur-

Figure 11. Stock trading in the EU/EEA 2000  
Total volume USD 16 440 billion/EUR 18 900 billion



Source: OM Stockholm Exchange

rency. If more corporations in Sweden decide to change their accounting currency to euro, this will affect the size of the euro trade.

Options for shares or share indices are normally issued in the same currency as the underlying securities. In the light of the insignificant euro trading in Swedish shares, OM Stockholm Exchange has not offered any euro trading in derivatives for Swedish shares or Swedish index in 2000. The inconsiderable trading in euro has also meant that the OMX index continues to be traded as a pure krona index. Preparations have been made, however, for offering euro trading in derivative instruments. The intention is to be able to issue standardised euro options etc. in the most sold shares and indexes without delay as soon as the underlying indexes are traded in euros. The preparations are expected to be concluded in the above-mentioned time frame for the total transition of the stock exchange to trading in euro.

# References

Bank of England, Practical Issues arising from the Euro, *1-2000*

BIS, Central Bank Survey of Foreign Exchange and Derivatives Market Activity 1998, *1-2000*

ECB, Monthly Report, *1-2000*

ECB, Improving cross-border retail payment services – Progress report, *1-2000*

ECB, Occasional paper series No. 1, The impact of the euro on money and bond markets, Javier Santillán, Marc Bayle, Christian Thygesen, *1-2000*

ECB, Possible Effects of EMU on the EU Banking Systems in the Medium to Long Term, *1-2000*

ECB, The Globalisation of Financial Markets, Otmar Issing, *1-2000*

ECB, Working paper series No. 19, The euro and international capital markets, Carsten Detken, Philipp Hartmann, *1-2000*

European Commission, Preparation for the changeover to the euro, *1-2000*

Sveriges riksbank, The Euro in the Swedish Financial Sector – Situation Report 4, *1-2000*

Sveriges riksbank, Rules and Regulations for settlement of payments in RIX, *1-2000*

SOU 1998:136, Redovisning och aktiekapital i euro, *1-2000*