The Taxation of Banking in an Integrating Europe

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Abstract: The banking sector is subject to explicit taxation and to bank regulation and supervision with quasi-fiscal implications. The assignment of national fiscal policy rights and duties regarding international banks in the EU varies with the fiscal instrument and with whether the international bank owns foreign branches or subsidiaries. Decentralized national policy-making in the EU gives rise to fiscal burdens on banks that differ internationally and with the national origin of banks in the same country. This paper discusses the international aspects of the overall fiscal regime facing banks in the EU and it evaluates some avenues for reform.

Keywords: banking; taxation

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1. Introduction

In the past decades, major steps have been undertaken to create a single European banking market. The second banking directive of 1989 enables all EU banks to operate freely anywhere in the Union. By 1990, all capital controls restricting the ownership of foreign bank deposits and other financial instruments were eliminated. The introduction of the euro in 1999 similarly eliminated multiple currencies as a barrier to international banking operations. Any expectation that these policies would lead to the creation of a single European bank market has so far proved wrong. Especially at the retail level, Europe's banking markets remain highly fragmented. The European Commission's Financial Services Action Plan (FSAP) aims to bring a single financial market closer to reality (see European Commission (1998)). The plan identifies a range of barriers in the legal, tax and regulatory areas to be ironed out by 2005. Outstanding taxation issues are summarized under four headings: tax distortions to the placement of savings, harmful tax competition between financial centers, the taxation of financial products (life insurance and pension funds), and tax obstacles to pan-European company structures and the mobility of persons.[2]

While the FSAP addresses some specific tax issues, its scope does not include corporate income taxation and Value Added Taxation (VAT) in general nor several other fiscal and quasi-fiscal instruments that can be expected to affect the location and efficiency of banking in Europe. Deposit insurance systems with their obvious fiscal implications, for instance, continue to differ materially across EU member states. Similarly, distressed banks in the EU have to knock on different doors if they want to receive liquidity support in the form of concessionary loans from central banks or direct capital support from national treasuries - with the potential for differences in national treatments.

In the EU there is already considerable international trade in financial services. In particular, there are several 'financial centers' – notably the UK and Luxembourg - with relatively large banking sectors that provide extensive financial services to non-residents as reflected in large external banking assets and liabilities. As seen in Table 1, Belgium, Luxembourg and the UK had large banking sectors with assets exceeding two times GDP in 1995, and Ireland's banking sector had reached this size by 1998 as

[2] European Commission (2003) is an eighth progress report on the Financial Services Action Plan. In the taxation area, it evaluates initiatives regarding the taxation of savings, the code of conduct on business taxation and the taxation of cross-border occupational pensions.

well. The large banking sectors in these four countries have attained such large sizes in part by catering to non-resident customers. As seen in Table 2, Belgium, Ireland, Luxembourg and the United Kingdom all had banking sectors with external assets exceeding 40 percent of GDP in 1999. As also reflected in the table, external bank assets in the EU-15 have increased from 11.7 percent of GDP in 1990 to 20.9 percent in 1999. In line with this, external liabilities have increased from 12.0 percent of GDP in 1990 to 13.1 percent in 1999 for EU member states.

Some of the same countries that engage in substantial financial services exports also experience significant inward Foreign Direct Investment (FDI) in the banking sector. In recent years, Ireland and Luxembourg have already had banking sectors with foreign ownership shares in excess of 50 percent (see Table 3). The table also indicates that in Europe foreign bank subsidiaries tend to be more important than foreign bank branches. This is surprising as the single passport accorded to internationally active banks by the EU Second Banking Directive of 1989 was expected to pave the way for international bank expansion primarily through branch networks. This suggests that there remain important barriers to the operation of foreign-owned banks in the form of branches that are not locally incorporated.

To be able to export financial services, a country needs to produce these relatively cheaply. At the same time, countries that produce financial services cheaply will attract additional banking firms, both domestically owned and foreign-owned in the form of FDI. Production costs of financial services indeed appear to differ considerably across the EU. A rough index of bank production costs is the bank interest margin, defined as a bank's net interest income as a percent of interest-bearing assets. As seen in Table 4, Luxembourg has the lowest interest margin over the 1995-1999 period at 1.18 percent followed by the Netherlands at 1.97 percent, against a EU average of 2.85 percent. At the other extreme, Denmark, Greece and Italy had interest margins of 3.50 or more. To some extent, differences in interest margins across countries reflect the different activity mixes and levels of service provided by national banking systems. Controlling for these, what remain are differences in productive efficiency, profitability (reflecting concentration, among other things) and the fiscal regime in its broad sense. Interest margins indeed tend to reflect differences in direct tax burdens, as shown by Demirgüç-Kunt and Huizinga

(2001). Hence, one can expect the overall pattern of production of and trade in financial services to be affected by the fiscal regime as well.[3]

The purpose of this paper is to review the main aspects of the fiscal treatment of banking in the EU. The focus is restricted to the fiscal treatment of the banks themselves rather than of the bank's customers, even if the income taxation of bank customers no doubt also is an important driver of international trade in financial services (see Huizinga and Nicodème (2004)). The fiscal treatment of banks continues to be the purview of national authorities, subject to European directives and regulations that impose minimum standards on the policies pursued. The exact assignment of fiscal rights and regulatory responsibilities vis-à-vis internationally operating banks differs with the fiscal or quasi-fiscal instrument considered. In the case of international banks, policy assignments also differ with whether the bank owns foreign branches or subsidiaries.

The potential for cross-border shopping by bank customers and the mobility of financial service providers render national policies towards banking interdependent and introduce the prospect of policy competition. The international mobility of bank customers first implies that banks in different counties in principle compete for the same banking customers. Moreover, the mobility of the financial service providers themselves implies that domestically and foreign owned banks located in the same country compete for the same national bank customers. Correspondingly, two types of policy competition can be distinguished as well: those that affect the "cross-country" and the "within-country" competition for bank customers by banks with different national origins.

The remainder of the paper is organized as follows. Section 2 discusses in general terms the role of the tax system in bringing about an efficient international banking system. Section 3 summarizes the assignment of the main tax and regulatory responsibilities vis-à-vis international banks in the EU. Section 4 reviews the current functioning of the main fiscal and quasi-fiscal policies directed at banks such as the corporate income tax, the VAT and deposit insurance. To conclude, section 5 evaluates whether the current room for policy competition in Europe is desirable from an EU perspective or whether further harmonization is warranted.

[3] International differences in investor protection and the rule of law may matter as well. Comprehensive evidence on system-level tax and non-tax factors as determinants of the patterns of financial services production and trade in the EU is lacking.

2. Standards for the taxation of financial intermediation

Even in a closed economy, the incidence of the taxation of banking is not straightforwardly determined. The main tasks of banks are to provide transaction services to their depositors and lending services to borrowers as they channel funds from savers (either individuals or firms) to investors. Thus the incidence of taxes on banking can be on the users of bank services such as account keeping and loan origination. At the same time, the incidence can partly be on the providers of funds, i.e. investing individuals and firms and, not least, on the owners of the banks. The exact incidence of banking-sector taxes depends on national and international substitution possibilities for the services provided by banks (see, for instance, Caminal (2003)).

The optimal taxation of banking, clearly, is intricately related to the optimal taxation of capital. In one extreme view, the optimal tax rate on capital, whether or not intermediated by banks, is zero and the tax system optimally relies on a combination of labor and consumption taxes, with the latter, for instance, implemented through the VAT. Regardless of one's view of the optimal capital income tax, potential arbitrage across financing institutions implies that it is unwise to tax income from capital intermediated by banks much differently from other capital income. Analogously, resources spent in the production of financial services should be taxed similarly to resources applied in other sectors of the economy. The latter observation suggests that the financial sector is optimally subjected to the VAT like any other sector.[4]

The focus of this paper is on the international implications of the taxation of banking in the EU. In the international economy, arbitrage opportunities between banks and other financing institutions, and among international banks themselves, are even greater than in one single economy. Substitution possibilities facing banks regarding their location and organizational structure imply that international differences in the fiscal treatment of banks are potentially very harmful. At the same time, consumer choice regarding where to transact may be affected by international

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[4] A thorough discussion of the optimal domestic taxation of the financial sector is beyond the scope of this paper. For a recent survey, see Boadway and Keen (2003). These authors particularly assess the propositions that the optimal capital income tax is zero and that financial services are optimally subject to VAT. See also Auerbach and Gordon (2002).

tax differences. International fiscal neutrality regarding these various bank and individual choices appears to be desirable.

3. Division of responsibilities regarding the fiscal treatment of banks

Responsibilities concerning the fiscal treatment of banks in Europe are shared between the European 'center' and national authorities. Reserve requirements, with potentially important fiscal implications, are the sole responsibility of the European Central Bank in the euro area. In fact, required reserves are 2 percent of the relevant deposit base, with the proviso that these reserves are remunerated at the ECB refinancing rate.[5] In other fiscal dossiers, there exist European directives or less formal understandings that define national responsibilities regarding internationally operating banks and set minimum standards for national policy making. There are separate directives in areas such as corporate income taxation, the VAT and deposit insurance, with the outcome that there is no uniformity as to the international assignment of fiscal rights and responsibilities across fiscal instruments. The assignment of fiscal rights and duties in practice varies with the fiscal instrument and it depends on the organizational form of the international bank, i.e. whether international establishments are organized as branches or as subsidiaries (see also Mayes and Vesala (1998)).

A summary of international policy assignments is provided in Table 5. Both foreign branches and subsidiaries are subject to corporate income tax in their country of operation. The country of the parent firm generally also subjects the income of foreign branches and subsidiaries to corporate income taxation, although an exemption or foreign tax credits are sometimes provided to alleviate double taxation.[6] The corporate income tax thus is a shared responsibility of home and host countries. In contrast, financial services are only subject to the VAT of the country of operation, regardless of where a bank's client is located in the EU. The VAT thus is the sole responsibility of the host county, subject to the common EU VAT framework including minimum tax rates. In the area of deposit insurance, national rights and duties depend on the bank's organizational form. The EU deposit insurance in 1994, in particular, stipulates that a subsidiary is subject to the deposit insurance regime of

[5] See Levin and Ritter (2003). Alworth and Andresen (1992) find for a sample of BIS member states that bilateral non-bank deposit outflows are positively related to the difference between the reserve ratios of the depositor and the bank countries.

the host country, while a branch is subject to the regime of the home country. Next, the central bank of the host country in contrast is responsible for providing emergency liquidity to all banks operating within its geographical jurisdiction. The primary responsibility for providing fiscal support to banks in distress instead depends again on organizational form: subsidiaries are to be bailed out by the treasury of the host country, while the home country is responsible for the foreign branches of its resident banks. Finally, the taxation of bank interest is a shared responsibility: host and home countries tend to levy non-resident interest income taxes and resident interest income taxes, respectively. The taxation of bank interest remains a shared responsibility under the newly adopted proposal on the taxation of savings income, as three EU countries will continue to levy a non-resident withholding tax, even if they are obliged to transfer three fourths of the revenue to the country where the depositor resides.

4. Tax and quasi-fiscal policies directed at banks

This section reviews some international aspects of the main tax and quasi-fiscal policies towards banks. In turn, corporate income taxation, the VAT, deposit insurance and fiscal responsibilities in case of banking insolvencies are considered.

4.1 Corporate income taxation

Europe's banks face a separate system of corporate income taxation in every EU member state. Decentralized tax policies in practice give rise to widely diverging tax burdens across Europe. As seen in Table 6, top marginal corporate income tax rates range from 10 percent in Ireland to 52.35 percent in Germany in 1999. The corporate tax burden faced by banks in practice depends on the share of retained earnings, new equity and debt finance. Effective tax burdens also depend on the rate of inflation, given that nominal interest income is taxed and the nominal interest on debt is tax deductible. Reflecting these considerations, the European Commission (2001b) has recently calculated the cost of capital for holdings of financial assets. This is the rate of return that firms need to make on their financial asset portfolio to break even given the tax system and benchmark assumptions about inflation and the real interest rate. The calculated cost of capital figures differ widely across the EU, as indicated in Table 6. Greece has the lowest cost of capital at 5.1 percent, while Germany has the highest at 10.0 percent. Thus the corporate income tax appears to

[6] Austria, Denmark, Finland, France, Germany, the Netherlands and Sweden are countries in the EU

distort competition among EU banks, even if banks in high-tax countries in principle can benefit from some additional spending financed by the higher taxation.

A second major concern is whether the corporate income tax system in Europe discriminates against or in favor of internationally operating banks. International banks benefiting from an exemption regime in their home countries are subject to the same level of taxation on their international operations as domestic banks. Alternatively, banks receive a foreign tax credit at home for taxes paid abroad to alleviate double taxation. The provision of full tax credits gives rise to a situation where the international firm operating abroad faces the effective tax rate of the home country. This may put the international firm at either a competitive advantage or disadvantage vis-à-vis domestic banks depending on whether the home country effective tax rate is lower or higher than the effective host country tax rate. In practice, however, full tax credits may not be available. A limitation on the foreign tax credit that prevents home country taxes on foreign source income from being negative, for instance, prevents international banks from operating at a lower effective tax than domestic banks. Conversely, limitations on the domestic tax offset of foreign losses may increase the effective taxation of international bank income. International banks at present are more likely to receive cross-border loss-compensation for foreign branches than for subsidiaries in calculating the parent company's tax liability. Specifically, EU member states generally provide immediate loss-compensation in the case of branches, while only two member states (Denmark and France) do so for subsidiaries (see European Commission (2001b)). This asymmetric tax treatment of branches and subsidiaries appears to favor branches, and hence cannot explain the observed preference for subsidiaries.

The current system of corporate taxation based on separate bookkeeping is vulnerable to tax evasion through the manipulation of transfer prices, and the potential for such manipulation appears to be especially large in the banking sector. In this sector, international profit manipulation can be achieved through international intra-bank lending at other than market interest rates. Using a sample of about 7900 bank observations for 80 countries over the years 1988-1995, Demirgüç-Kunt and Huizinga (2001) find that taxes paid by domestic banks rise with the statutory tax as is to be expected in the absence of international profit shifting. Taxes paid by foreign banks instead fall with this tax rate. This latter finding is taken to be evidence of profit

that provide exemptions.

shifting by foreign banks. In practice, profit shifting towards the home country may allow international banks to reduce the effective tax on their international operations to the effective tax of the home country, thus bypassing any foreign tax credit limitations. The potential for international profit shifting would be even greater for international banks that are officially domiciled in tax havens.

Tax distortions regarding the location and legal structure of European banks, as well as the incentive to shift profits within Europe, would be eliminated by the adoption of a European corporate income tax at a common rate. The adoption of such a scheme at present may not be politically feasible. Faced with this reality, the European Commission (2001a) has announced a strategy towards European corporate tax reform that has two parts. First, it has announced its intention to table legislative measures to improve loss-compensation availability for cross-border activities and to broaden the application of the merger directive by the end of 2003. At the same time, it has stated its preference for a coordinated tax system in the EU with a common tax base for internationally active companies. Such a system would require some type of apportionment, but it could allow for different tax rates across countries. A tax system along these lines would be sufficient to eliminate intra-EU profit shifting incentives for banks and other companies.

4.2 Value added tax

Financial services tend to be difficult to tax through a VAT. To see this, consider a simple bank that attracts deposits in order to make loans. The net interest income achieved by the bank can be seen as a measure of the output generated by the bank that in principle should be subject to VAT. However, it is not entirely obvious how to assign the net interest margin to output generated by the bank's loans and output generated by its deposits. A complication is that the contractual loan interest rate reflects bank output, a payment for the use of capital and a risk premium. Only bank-level output should be included in the bank-level VAT to maintain symmetry with the usual credit-invoice method of levying VAT.[7]

To circumvent the difficulties of bring financial services under a VAT, the EC Sixth VAT Directive of 1977 exempts most financial services, such as lending, depositing, security dealings and exchange transactions as well as insurance, from VAT. The exemption offered by the Directive implies that no VAT is assessed on the

value of these services. To compensate for the absence of a VAT on bank output, banks cannot claim VAT input credits for the VAT embodied in the prices of their purchased intermediate and (physical) capital inputs. Thus, the VAT-exemption of most financial services in the EU effectively replaces a VAT on bank-level output with a VAT on some bank-level inputs (intermediate inputs and physical capital inputs).

Note that banks operating in a country with a high VAT rate are at a disadvantage as these banks face relatively high VAT-inclusive input prices. This may be an important issue, as standard VAT rates differ substantially among EU member states (see Table 7). It is unlikely, however, that countries set their VAT rates primarily with international banking competition in mind. However, some scope for active international competition in the application of VAT to banks may exist, as countries can vary the intensity of their VAT enforcement. Most banks tend to produce a combination of exempt financial services and normally taxed financial services. As indicated, VAT input credits are only available for inputs used to produce normally taxed financial services, and banks in practice have to determine which shares of a bank's inputs is used to produce exempt financial services and normally taxable financial services. Countries have issued guidelines on how to do this, but these are difficult to comply with and equally difficult to enforce.

Ambiguities in this area of VAT enforcement allow countries some discretion to determine the effective level of VAT on their banking systems – independently of statutory VAT rates. The result appears to be a rather low effective VAT on EU banking systems (see Huizinga (2002)). In particular, the VAT input credits granted to banks in Europe in practice are much higher than expected on the basis of actual input use. Effectively, this means that the VAT system in some countries operates, as if banks can obtain VAT input credits on all inputs, including those used to produce exempt financial services. There is no border-adjustment of the VAT for cross-border financial services within the EU so that a light VAT burden assists banks to effectively compete for cross-border clients.

Several avenues for reform of the VAT are available to bring about standard VAT on financial services. A cash-flow system of taxation can be used to determined the VAT liability of banks and the size of VAT input credits to be granted to banks' business clients, as outlined by Poddar and English (1997). The European

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[7] In the aggregate it is easy to allow a bank to deduct its credit losses from its output VAT, but this is

Commission (2000) has outlined a modified cash-flow system of VAT for banks that allows the deferral of tax on capital transfers (as opposed to interest payments). The European Commission has conducted some pilot studies in the 1996-1998 period to test the practicality of applying VAT through such a modified cash-flow tax. The conclusion was that this approach, while feasible, would imply implementation costs that are prohibitively high.

As an alternative to cash-flow taxation, it is possible to allow banks to zero-rate financial services supplied to the business sector (this would allow banks to supply financial services to businesses taxed at zero rate while they can claim full VAT input credits). Zero-rating of financial service supplied to businesses can be combined with taxing financial services to households on an aggregate cash-flow basis (treating the household sector as a single customer). This alternative approach requires banks to price their financial products differently for businesses and households. This is possible if banks can identify the VAT status of their customers. At present, banks should be able to do so without great difficulty, as they already need to carefully check the identity of their customers to assist the tax authorities and other law enforcement agencies in their fight against, for instance, terrorism.[8]

4.3 Deposit insurance as a quasi-fiscal measure

Deposit insurance can be seen as a quasi-fiscal measure, as it requires banks to pay a tax-like deposit insurance premium for the deposit insurance coverage.[9] For international banks with branches, the deposit insurance system of the home state also applies to the bank's international branches. National deposit insurance systems have to meet the minimum requirements determined by the EU deposit insurance directive of 1994 (see European Commission (1994)). The main stipulation of this directive is the minimum insurance coverage of € 20,000. In addition, the directive allows for co-insurance by the depositor of up to 10 percent. Beyond these main coverage provisions, the EU directive is agnostic on many key elements of deposit insurance

difficult to do ex ante at the level of individual loans.

[8] Using a partial equilibrium framework, Huizinga (2002) provides some calculations on how reform would affect VAT revenues and welfare in the EU for varying assumptions regarding the elasticity of the demand for financial services and the marginal cost of public fund. For benchmark assumptions, reform is estimated to produce a small welfare gain in the order of € 5 billion per annum.

[9] Deposit insurance potentially interacts with other taxes. A tax on gross interest receipts, for instance, makes it more likely that a bank will go bankrupt and hence it increases the expected pay-out from the deposit insurance agency (see Brock (2003)).

design, such as whether banks should actually pay for the deposit insurance and whether a permanent fund should be established.

Hence, in principle countries can compete in these areas with a view to enabling their banks to attract additional international depositors. First, countries can compete by choosing a low deposit insurance premium relative to the insurance provided. In practice, deposit insurance premium rates appear to be rather low in the EU, as illustrated by Table 8. Laeven (2002) calculates 'fair' deposit insurance premiums for a large set of developed and developing countries and compares these with actual premiums. In particular in Germany, deposit insurance premiums – both public and private – are calculated to be lower than the fair benchmark. In Austria, Italy, Luxembourg and the Netherlands, deposit insurance assessment is contingent on losses occurring in the system, which complicates a comparison between actual and calculated fair rates. Ex post premium assessment is expected to occur at times when the banking system is under severe stress, and hence may turn out to be impracticable. This suggests that countries with ex post assessment in fact provide rather cheap, subsidized deposit insurance.

The low-rate deposit insurance in the EU suggests that countries are engaged in quasi-fiscal competition for international banking business by way of their deposit insurance system. [10]A necessary condition for international policy competition like this to make sense is that international banking customers discriminate among banking systems on the basis of deposit insurance policies. Little empirical research exists to ascertain whether deposit insurance indeed affects the location of financial activity.[11] Lane and Sarisoy (2000) examine the impact of deposit insurance on overall gross private capital inflows for a cross–section of 27 countries over the 1990-1995 period, but they fail to find a significant relation. Huizinga and Nicodème (2003) examine how deposit insurance affects bank deposit location for a sample of 16 BIS member states over the 1983-1999 period. Following the BIS classification, these authors make a distinction between the external deposits of national banking systems held by non-bank entities and by banks. De jure deposit insurance schemes in the BIS area cover most non-bank deposits, while they typically exclude interbank deposits from coverage. The coverage of non-bank deposits gives rise to the hypothesis that

[10] A politically effective banking lobby could of course be an alternative explanation for low deposit insurance premiums.

countries with explicitly defined deposit insurance systems are able to attract more international non-bank deposits. The empirical results indeed suggest that non-bank external liabilities are higher when explicit deposit insurance exists.

A priori the relationship between deposit insurance and the volume of international inter-bank deposits is less clear, as deposit insurance systems in the BIS-area de jure tend to exclude interbank deposits from coverage. Even without formal coverage of interbank deposits, the presence of explicit deposit insurance for non-banks, however, could increase the likelihood that bank deposits would also be covered in the event of a banking failure. If so, deposit insurance may also lead to a higher level of international interbank deposits. Conversely, a banking system that manages to attract additional non-bank deposits from abroad may need to recycle these funds as outgoing interbank deposits. In this scenario, there would be less room for a banking system with explicit deposit insurance to attract incoming interbank deposits. Perhaps not surprisingly, Huizinga and Nicodème (2003) fail to find a robust empirical relationship between deposit insurance and external bank deposits.

As indicated, some type of deposit insurance in the EU is required, and hence EU countries at this point no longer compete on whether there is deposit insurance. All the same, they can compete on deposit insurance characteristics such as the deposit premium. Huizinga and Nicodème (2003) relate their measures of non-bank and bank external deposits to several deposit insurance characteristics to examine whether external deposits are in fact sensitive to deposit insurance design. Their results suggest that non-bank deposits are higher if the deposit insurance scheme is characterized by a permanently established fund and by public involvement in the funding of the insurance. These features can be attractive to depositors, if they increase the credibility of the deposit insurance system. No relationship is found between external deposits and the deposit insurance premium. This may reflect that banks pass on only a small part of a lower deposit insurance premium to their depositors in the form of a higher deposit interest rate. Alternatively, international deposits are not very sensitive to the interest rate. This is to be expected if the primary motive behind international depositing is money laundering.

4.4 Budgetary implications of insolvency resolution

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[11] The focus of most empirical research on deposit insurance is on financial stability. Examples are Demirgüç-Kunt and Detragiache (2002), Demirgüç-Kunt and Huizinga (2004) and Gropp and Vesala (2001).

Public authorities have frequently spent vast resources in remedying banking crises. This suggests that the approach taken in financial crisis resolution is a major factor in determining the overall fiscal burden on the banking system.[12] In case of internationally operating banks, the issue arises which treasury or treasuries are responsibility for providing funds to insolvent banks if called for. The general EU principle of home country regulation implies that the home country treasury is first in line to support an international bank with branches. An international subsidiary instead is the primary responsibility of the host country. Important in this regard is the Directive on the Winding-Up of Credit Institutions of 2001 that states that the bankruptcy laws of the home country apply in case of a bankruptcy of a bank with international branches and, more importantly, that all bank creditors have to be treated equally. A bank with an international branch network tends to have international creditors, which makes paying off these creditors an international public good. Decentralized crisis management concerning an international bank with branches potentially leads to an underprovision of this public good, and hence a lower chance of a generous bailout following banking distress.

European policy makers are only recently focusing their full attention on the potential problems of international financial crisis management in Europe. Economic and Financial Committee (2001), specifically, lays out the responsibilities and duties of the international authorities concerned (supervisors, central banks, and national treasuries). The home country supervisor is the co-ordinating policy-maker for a distressed international bank with branches, while the host country supervisor co-ordinates policy towards a subsidiary in crisis. An adequate flow of information among public institutions is crucial, especially in the case of a branched firm. Currently, the bilateral exchange of supervisory information is usually arranged in Memoranda of Understanding, but these MoU's generally do not cover the special information needs in case of a financial crisis. Enria and Vesala (forthcoming) suggest the standardization of MoU's in the EU and binding commitments to exchange information as avenues to improve the flow of information among national authorities. Efforts along these lines, however, face the difficulty that the information required to resolve the next financial crisis may be difficult to define in advance and

[12] In the last three decades, Finland, Spain and Sweden have all seen systematic banking crises during the 1991-93 and 1977-85 periods and in 1991 respectively, each with a cost of between 5 and 8 percent of GDP (see Caprio and Klingebiel (1996)).

that international agreements to exchange supervisory information are difficult to enforce.

In practice, national authorities, therefore, are likely to retain some discretion in each financial crisis regarding the information to be shared. Presumably, national authorities will use this discretion to affect the outcome of the crisis management in their favor. Thus there is a tension between a co-operative supervisory model with unhampered information exchange in the EU and national incentives to keep their domestic public outlays at a minimum. The asymmetric information and divergent interests that characterize international financial crisis management suggest that the tools of game theory could be useful to help predict crisis management outcomes. Game theory, specifically, may help to predict whether international and purely domestic crisis management lead to different outcomes regarding the timing and financing of bank bail-outs. In this vein, Holthausen and Rønde (2001) consider bank closure decisions in a two-country model where the home and host country authorities have different incentives to rescue an international bank, as the home-country deposit insurance agency also covers deposits in the host country. Holthausen and Rønde (2001) do not explicitly address the cost aspects of crisis resolution, but the presumption is that decentralized financial crisis management leads to too little money spent on average to resolve a crisis. The main reason, as indicated, is that the Directive on the Winding-Up of Credit Institutions does not allow national authorities to discriminate against foreign creditors in a publicly financed bank bailout. Any moneys spent in crisis resolution by a national treasury thus have to benefit the bank's national and foreign creditors equally.

The balance sheets of subsidiaries, unlike those of international banks with branches, primarily reflect local deposits and perhaps borrowing in the local capital market. This type of geographical concentration of the bank's creditors and presumably also of its loan customers provides the host country authorities with relatively strong incentives to bail out the subsidiaries of international banks. The presumption that subsidiaries are treated favorably in an international financial crisis resolution may be a factor leading banks to prefer subsidiaries to branches.[13] Hence, the current assignment of bail-out responsibilities among EU treasuries may be one of the reasons that subsidiaries are the dominant form of international bank

[13] For a discussion of fiscal and other determinants of a bank's choice between a branch and a subsidiary, see Dermine (2003) and Huizinga (2003a).

establishment. This implies some costs in those cases where branches would in fact be the efficient organisational form.

5. The scope for policy competition and harmonization in the EU

In an international setting, two types of bank competition for bank customers and, correspondingly, two types of bank policy interdependence can be distinguished. First, banks located in different countries compete for bank customers that are willing to shop for bank services internationally. Second, domestically and foreign-owned banks located in the same country vie for bank customers located in that country. The fiscal and quasi-fiscal treatment of banks with different national origins generally affects both their "cross-country" and their "within-country" competition.

All the policy instruments mentioned in Table 5 can in principle be used to affect the "cross-country" competition of national banking systems. For this purpose, the corporate income tax, however, may be a rather blunt instrument as this tax broadly affects the overall private sector. The VAT and deposit insurance instead appear to be more appropriate for this. Specifically, a lenient enforcement of restrictions on allowable VAT input credits and a low deposit insurance premium serve to lower the costs of national banks vis-à-vis foreign banks. A lax enforcement of bank regulation more generally, including minimum capital requirements, increases the expected fiscal contribution to national banks in distress. Where this exists, it can be seen as a subsidy to national banks, although it is less clear that national banking system instability can help to attract international bank customers.

As seen in Table 5, deposit insurance policies can also be used to advantage nationally owned bank branches engaged in "within-country" competition for bank customers with indigenous banks in a foreign banking market. This reflects that deposit insurance is subject to home country control in the case of an internationally branched bank. This may provide countries with a strong incentive to keep the cost of deposit insurance low. To offset this, internationally branched banks, as discussed, may receive relatively ungenerous bail-out support in case of distress.

On net, policy competition in the banking industry probably reduces the fiscal burden on banking. Policy competition of this kind may provide welcome relieve for economies with 'repressed' financial systems that suffer from high explicit and implicit levels of taxation. The banking sector in Europe has been liberalized to the extent that this is no longer the case. This suggests that policy competition that

reduces the overall tax burden on banking is harmful. At present, the outcome of the political process in Europe is that both capital and labor generally are subject to positive levels of taxation. As long as this is the case, the factors of production applied in the banking sector should be subject to positive levels of taxation as well to prevent an undue misallocation of resources across sectors. Thus, the effective zero-rating of banking for purposes of the VAT, reflecting the lax enforcement of VAT rules, leads to an unduly low a taxation of banking. Similarly, deposit insurance with low or no deposit insurance premiums inappropriately reduces the tax burden on banking. To correct these apparently harmful effects of policy competition in the EU, it is necessary to revise the existing body of EU directives in these areas.

It similarly is important to provide the right incentives for national treasures in the EU to bail out internationally active banks. At first sight, it appears that moving decision making about bail-outs of such banks to a higher, European level is warranted to ensure that all EU-wide costs and benefits of such interventions are taken into account. Making bail-out decisions at the EU level, however, would be no guarantee that bail-outs would be timely and measured, as also EU-level decision makers can turn out to be short-sighted or subject to capture by banking lobbies.

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Table 1. Banking assets as percent of GDP

	1995	1998
Austria	168	
Belgium	250	
Denmark	72	83
Finland	87	74
France	148	
Germany	157	188
Greece	51	62
Ireland	152	255
Italy	94	94
Luxembourg	2866	
Netherlands	171	
Portugal	128	158
Spain	129	133
Sweden	84	121
United Kingdom	239	257
EU-15	159	
USA	75	83
Japan		

Note: EU-15 average is GDP weighted. Source: Huizinga (2003b)

Table 2. External positions of banks in individual countries vis-à-vis non-banks*

	External assets as percent of GDP		External liabilities as percent GDP	
	1990	1999	1990	1999
Austria	8.8	14.0	7.6	5.0
Belgium	28.5	47.8	18.4	36.7
Denmark	4.8	8.9	1.9	5.0
Finland	3.4	6.3	2.0	3.6
France	6.4	16.7	3.7	4.2
Germany	4.1	18.0	3.2	13.4
Greece				
Ireland	3.8	85.0	11.8	27.5
Italy	0.3	4.7	1.0	1.4
Luxembourg	982.5	1091.8	982.5	767.5
Netherlands	14.7	25.1	14.4	14.2
Portugal	:	10.2	:	10.4
Spain	2.6	6.8	5.2	12.7
Sweden	6.2	6.3	5.1	4.1
UK	26.4	43.3	33.3	27.9
EU-15	11.7	20.9	12.0	13.1
USA	1.6	1.8	1.4	1.5
Japan	5.9	11.7	0.4	0.7

Notes. The non-banking sector includes individuals, non-financial business, and non-bank financial firms such as mutual funds and insurance companies. External assets include loans and the ownership of foreign marketable securities such as government and corporate bonds, while external liabilities include deposits, bonds and other marketable short-term securities.
Source: European Commission (2001c) based on BIS data.

Table 3. Market share of foreign banks in percent, end 1997

	From EEA Countries		From Third Countries		Total
	Branche s	Subsidiaries	Branche s	Subsidiaries	
Austria	0.7	1.6	0.1	1.0	3.3
Belgium	9.0	19.2	6.9	1.2	36.3
Finland	7.1	0.0	0.0	0.0	7.1
France	2.5	:	2.7	:	9.8
Germany	0.9	1.4	0.7	1.2	4.3
Ireland	17.7	27.8	1.2	6.9	53.6
Italy	3.6	1.7	1.4	0.1	6.8
Luxembourg	19.4	65.7	1.4	8.1	94.6
Netherlands	2.3	3.0	0.5	1.9	7.7
Portugal	2.5	6.8	0.1	1.0	10.5
Spain	4.8	3.4	1.6	1.9	11.7

Notes. Market share of branches and subsidiaries of foreign credit institutions as a percentage of the total assets of domestic credit institutions. Figures for France are for 1996.
Sources: European Commission (2001c) and Dermine (2003)

Table 4. Bank interest margins in percent, 1995-1999

Austria	2.16
Belgium	2.38
Denmark	5.28
Finland	1.99
France	2.86
Germany	2.66
Greece	3.50
Ireland	3.49
Italy	3.67
Luxembourg	1.19
Netherlands	1.97
Spain	3.40
Sweden	2.39
United Kingdom	2.98
EU average	2.85

Notes. The interest margin is interest income minus interest expense divided by interest-bearing assets and is average over 1995-1999. The EU figure is average of national averages except Portugal. Source: Demirgüç-Kunt, Laeven and Levine (2003, Table 1),

Table 5. Assignment of banking policy responsibilities in for international banks

	Host country control	Home country control		Mix
A. Branches				
Corporate income tax				X
VAT	X			
Deposit insurance		X		
Liquidity assistance	X			
Treasury support in case of distress		X	or	X
B. Subsidiaries				
Corporate income tax				X
VAT	X			
Deposit insurance	X			
Liquidity assistance	X			
Treasury support in case of distress	X			

Table 6. Corporate tax rates and costs of capital for holding financial assets, 1999

Country	Corporate tax rates	Cost of capital
Belgium	40.2	8.0
Denmark	32.0	7.1
Germany	52.4	10.0
Greece	40.0	5.1
Spain	35.0	7.4
France	40.0	8.0
Ireland(2)	10.0	5.5
Italy	41.3	7.7
Luxembourg	37.5	7.7
Netherlands	35.0	7.4
Austria	34.0	7.3
Portugal	37.4	7.7
Finland	28.0	6.8
Sweden	28.0	6.6
United Kingdom	30.0	6.9
EU average	34.7	7.3

Notes. Corporate tax is inclusive of surcharges and local taxes. For Ireland, the tax rate for the manufacturing sector is 10 percent as used in the calculation of cost of capital. Corporatation tax for other sectors such as services is 28 percent. Cost of capital figures are an average across three types of finance, with weights of 55% for retained earnings, 10% for new equity and 35% for debt.
Source: European Commission (2001b)

Table 7. Standard VAT rates, start 1999

	VAT rate
Austria	20
Belgium	21
Denmark	25
Finland	22
France	20.6
Germany	16
Greece	18
Ireland	21
Italy	20
Luxembourg	15
Netherlands	17.5
Portugal	17
Spain	16
Sweden	25
United Kingdom	17.5
EU average	19.4

Sources: PriceWaterhouseCoopers, World Tax Summaries, 1999/2000 edition

Table 8. Deposit insurance premium assessments

Country	Assessment Base	Annual premium in percent
Austria	Insured deposits	Pro rata, ex post
Belgium	Insured deposits	0.02 plus 0.04 if necessary
Denmark	Insured deposits	0.2 (maximum)
Finland	Insured deposits	0.05 to 0.3
France	Deposits plus 1/3 Loans	Risk-adjusted
Germany	Insured deposits	0.008 (statutory scheme); 0-0.1 (private sector)
Greece	Deposits	Decreasing by size: 0.0025 to 0.125
Ireland	Insured deposits	0.2
Italy	Insured deposits	Ex post, adjusted for size and risk
Luxembourg	Insured deposits	Ex post to a maximum of 5% of capital
Netherlands	Insured deposits	Ex post to a maximum of 10 % of capital
Portugal	Insured deposits	0.08 to 0.12
Spain	Insured deposits	0.1 (maximum of 0.2)
Sweden	Insured deposits	0.5 (maximum)
United Kingdom	Insured deposits	On demand, not to exceed 0.3

Source: Laeven (2002, Annex)