



EUROPEAN COMMISSION

Brussels, 28.9.2011
SEC(2011) 1102 final

Vol. 14

COMMISSION STAFF WORKING PAPER

IMPACT ASSESSMENT

Accompanying the document

Proposal for a Council Directive

on a common system of financial transaction tax and amending Directive 2008/7/EC

{COM(2011) 594 final}
{SEC(2011) 1103 final}

ANNEX 13

EQUITY ASPECTS

The equity aspects are analysed with respect to two main issues. First, the capacity of the tax instruments under analysis to target intermediaries that are more risky is assessed. Second, the potential distributional effects arising from the taxes being shifted to consumers are discussed.

1. Taxes and risk

The likelihood of the taxes to target particularly risky financial institutions can be assessed in a static way by looking at the correlation between the tax charge and measures for riskiness. This exercise is particularly meaningful once one takes into account the policy objective of having the financial sector make a "fair and substantial contribution" to recovering the costs of the past crisis. While there is no data on the institution-specific contributions to revenues from the FTT, the bank-level data in the ORBIS database can be used to calculate not only the yield from the FAT (see Section 6.2.2 in the main document), but also the relationship between the tax charge and other individual characteristics. Interestingly, for all the three variants of the FAT the simple correlation between revenues and leverage – as a measure for risk – is practically nil. In contrast, the correlation with assets is as high as 0.75 for the addition-method FAT (FAT1), while it decreases to 0.46 for the risk-taxing FAT (FAT3).

A more sophisticated forward-looking approach consists in evaluating the correlation of the FAT revenues with the individual contribution of banks to the expected losses that would not be covered by the existing (and envisaged) tools for crisis resolution. This analysis is presented in detail in Annex 14.

2. Distributional impacts on consumers

To the extent that taxes on the financial sector are passed on through higher prices (see Annex 12) it is of paramount importance to disentangle which types of final users are most likely to suffer. Taxes on the financial sector could have a progressive effect if they fall disproportionately on high-income individuals, but middle and lower-income earners would also be affected. Moreover, it might be easier for wealthy investors, borrowers or lenders to avoid taxation by relocating to other markets. Importantly, as the use of the broad range of

financial instruments may markedly differ across income levels, the alternative tax instruments discussed entail dissimilar impacts on the different social strata. Thus, this analysis looks at the use of financial services by households across the income distribution using available evidence from different sources. First, it presents evidence on household expenditure on insurance and financial products in the EU. The analysis shows that mean spending on insurance is increasing by moving up the income quintiles for the majority of the EU MS. This conclusion is supported by aggregate average data on both the EU-27 and the Euro area, where the highest marginal increase can be observed at the fourth quintile. Important data limitations do not allow one to draw a similar conclusion in the case of consumption expenditures on financial services. Second, we report evidence on household ownership of financial assets and liabilities in selected Euro area countries, taken from national surveys on household finances. The data point to significant differences in the frequency of ownership of financial assets across the income distribution. Moreover, while bank deposits and sight accounts are in general equally widespread among the different income quantiles, the ownership of more sophisticated and risky financial instruments appears concentrated within the high-income households. On the liabilities side, mortgages represent the most relevant debt item for households, both in terms of volume and frequency. While they show the lowest participation in the mortgages market, households in the bottom income quartile seem the most vulnerable to changes in the cost of the loans, given the high levels of the service-to-income ratio.

2.1. Structure of private households expenditure on insurance and financial services

This section uses data on consumption expenditure by income quintile and detailed COICOP from the Household Budget Surveys (HBSs) for 2005 from Eurostat to investigate the existence of particular patterns behind consumption expenditure of private households on insurance and financial services by income quintiles¹.

¹ HBS are national surveys on consumption expenditure carried out in all EU Member States. The frequency of dissemination of the households' data is approximately every five year and the last available reference year is 2005. The period from the reference year to the publication of data ranges between 1 and 4 years depending on the country; the 2005 data was published in April 2008. The HBS data were weighted to correct for bias in the sample that might lead to divergence between the sample and the reference population. The design weights are calculated for each sampled household as the inverse of its probability of selection into the sample. The HBS expenditure data, as every sample survey data, are liable to sampling errors, which depend inter alia on the sample size. The data quality also reflects non-responses or under-reporting of some types of consumption expenditures. In order to reduce the bias from non-reporting the sample weights were inflated by applying correction factors. Eurostat declares

Mean Consumption expenditure on insurance

Figure 17.1 presents the data on consumption expenditure on insurance products by income quintile for all EU Member States except for Italy, where observations are not available. Insurance services include: **(1) dwelling** - charges paid by owner-occupiers and by tenants for the kinds of insurance typically taken out by tenants against fire, theft, water damage, etc; **(2) health** - charges for sickness and accident insurance; **(3) transport** - charges for insurance in respect of personal transport equipment; charges for travel insurance and luggage insurance and **(4) others** - charges for other insurance such as civil liability for injury or damage to third parties or their property. Hence, life insurance products are not covered.

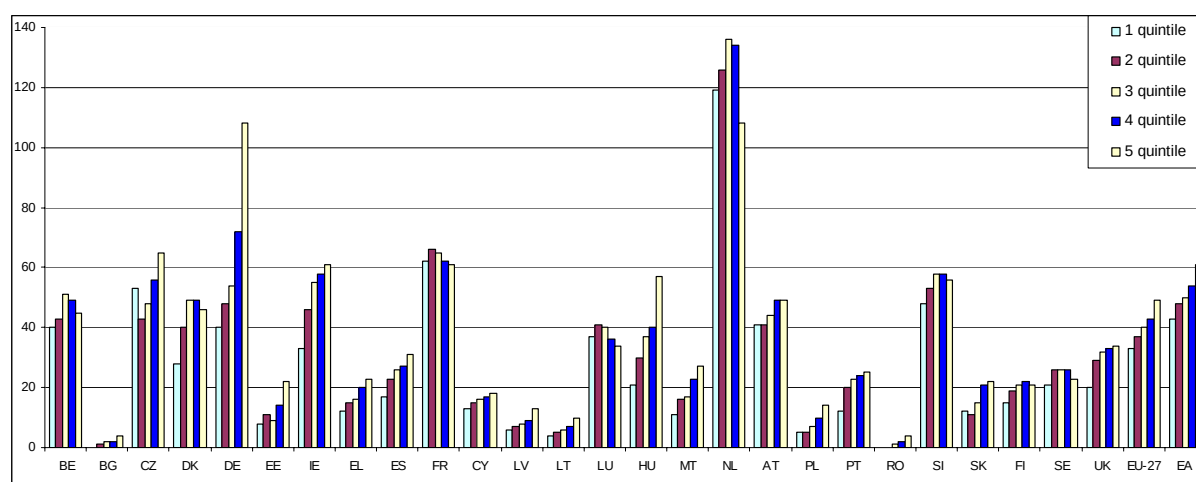
The data series is constructed as structural indicator and depicts the distribution of the total mean (average) expenditure of private households on insurance. The indicator, made available by Eurostat, is calculated per thousands. Each income quintile contains 20% of the country's population ordered by income, with 1 being the poorest and 5 being the wealthiest. Figure 17.1 shows that household spending on insurance is the highest in the Netherlands, with an average of EUR 125 per thousand². One could equally say that 12.5 percent of mean consumption expenditure goes into insurance products in the Netherlands. The second highest ratio can be observed in Germany (EUR 64 per thousand), the third highest in France (63) and the fourth highest in Slovenia with an average of EUR 55 per thousand. The lowest insurance to total expenditure ratio of EUR 1.4 per thousand can be observed in Romania, just below Bulgaria (EUR 1.8), Lithuania (EUR 6.4) and Poland (EUR 8.6 per thousand). This breakdown is not surprising since in general the richer (in GDP terms) the country the higher the value of the goods and services to be insured. The magnitude of the difference, however,

under-reporting as probably the most serious problem affecting HBS's data quality. Some spending on consumption is not reported because of the nature of the goods consumed such as drugs, alcohol and tobacco etc. The consequence is an underestimation of the weights for these items and an overestimation of the weights for the correctly reported items. All the HBSs for the reference year 2005 are sample surveys of private households. The vast majority of the participating countries chose a sample of households on the base of probability design, which implies that the probability of a household being selected is known. Germany and Czech Republic applied quota selection (non-probability scheme), which means that there is no guaranty that the sample selection is representative and not biased. The advantage of the probability design method lies in the possibility to project the outcome on the base of the selected sample to the household population with known levels of accuracy, i.e. standard errors and confidence intervals can be calculated. For a complete methodology, see Eurostat (2003): Household Budget Surveys in the EU: Methodology and recommendations for harmonisation, available at: http://epp.eurostat.ec.europa.eu/cache/ITY_SDDS/Annexes/hbs_esms_an2.pdf

² It is to be mentioned that the value of this structural indicator does not change if one uses Euros or PPS since the indicator is build as a ratio i.e. the denominator and nominator will be both multiplied by the same coefficient.

is considerable: the four countries with the highest insurance/consumption ratio spend on average³ 17 times more on insurance than the four low ratio countries. This is also reflected in the distribution of consumption expenditure on insurance in the EU-27 and the wealthier Euro area. The mean spending on insurance in the EU-27 and the Euro area is respectively 40 and 51, with an average percentage difference of 24.

Figure 1: Mean consumption expenditure on insurance by income quintile in 2005 per thousands.



Source: EUROSTAT (2011): Household Budget Surveys⁴.

Moving to the analysis of distributional issues within countries, one observes that in the majority of the countries consumption expenditures on insurance are increasing by moving up the income quintiles. This observation is valid for every single quintile i.e. the spending on insurance is either equal or above that of the preceding quintile. Moreover, the marginal increase by moving up the income quintiles is, in the majority of the countries, sizable in magnitude. For instance, in Romania and Bulgaria the insurance expenditures of the fifth quintile are 4 times higher than these of the first/second quintile; in Poland the same measure is 2.8 times higher and in Lithuania 2.5 times higher. From the Euro area countries the most significant difference can be observed in Germany: the fifth quintile spends 2.7 times more on insurance than the first quintile and the marginal average spending between the fourth and the fifth quintile is 40 percent. There are cases, however, where this conclusion can not be drawn,

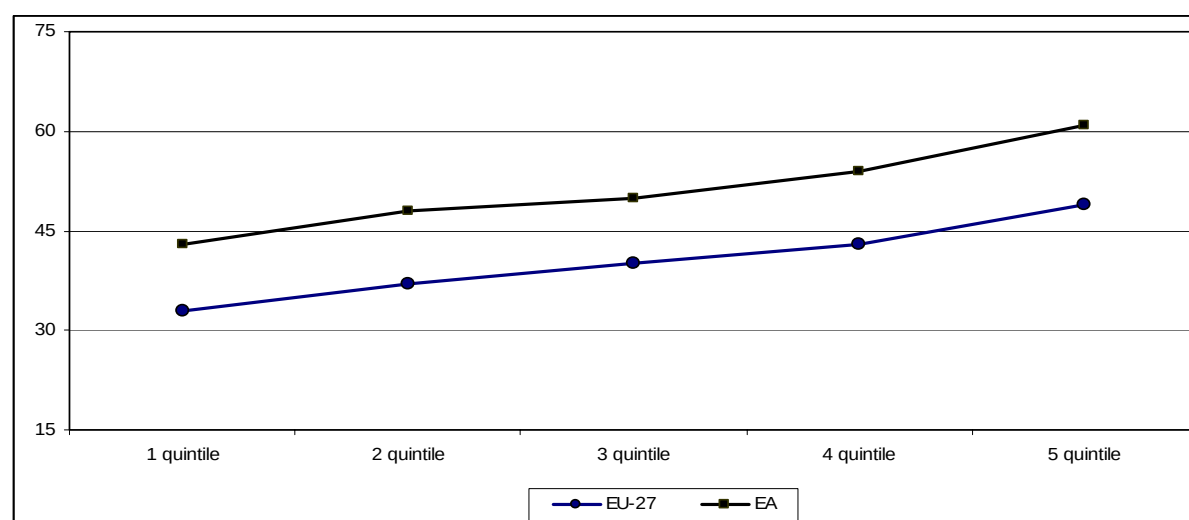
³ Averages are calculated arithmetically.

⁴ Household Budget Surveys: database available at: http://epp.eurostat.ec.europa.eu/portal/page/portal/household_budget_surveys/Data/database

as for example in France or Netherlands. In the former, the second quintile exhibits the highest spending on insurance (EUR 66 /thousands), whereas it is the third quintile (EUR 136 /thousands) in the Netherlands.

Apart from this, the distribution of the average aggregate consumption spending in the EU-27 as well as in the Euro area provides evidence that consumption expenditures on insurance is increasing by moving up the income quintiles. From Figure 2 one can easily observe that marginal spending on insurance in relation to the increasing number of the income quintile is positive for both the EU-27 and the Euro area. In addition to that, the pattern of marginal spending according to the income quintile seems to be similar in both areas, with the marginal increase recorded at the fourth quintile.

Figure 2: Mean consumption expenditures on insurance by income quintile in 2005



Source: EUROSTAT (2011): Household Budget Surveys.

Mean Consumption expenditure on financial services

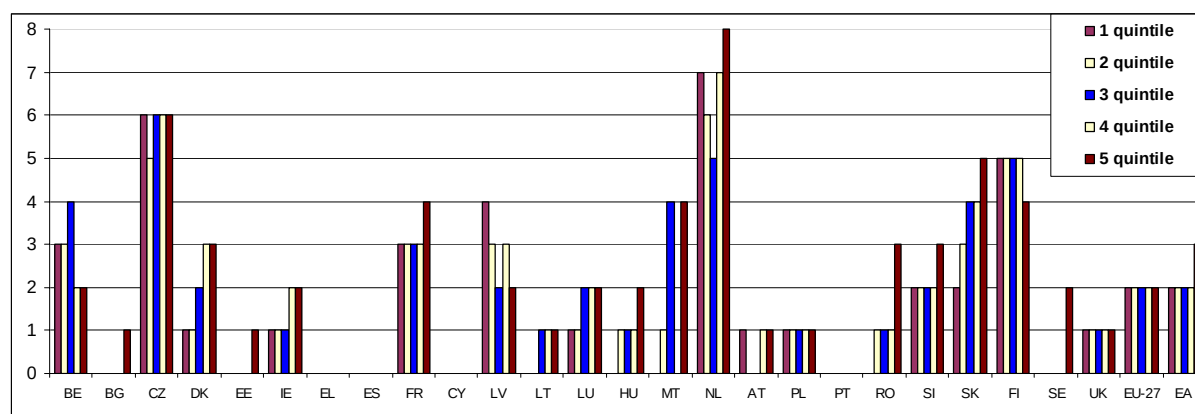
Figure 13.3 depicts consumption expenditure of private households on financial services by income quintile for all EU Member States, except Italy and Germany, where data is not available. Financial services include: **(1)** actual charges for the financial services of banks, post offices, saving banks, money changers and similar financial institutions; **(2)** fees and service charges of brokers, investment counsellors, tax consultants and the like and **(3)**

administrative charges of private pension funds and the like. Hence, the data do not cover the actual amount of savings or investment but only the fees linked to these operations.

In contrast to the statistics on insurance, the data series on financial services suffers from two significant drawbacks. In the first place, as shown in Figure 17.3, four countries - Greece, Spain, Cyprus and Portugal - seems to have reported zero expenditure on financial services which is, as a matter of fact, dubious. Another important drawback of the data is the small variation, which seems to be partly due to rounding. By simply looking at Figure 17.3, one observes in many cases the same values for different income quintiles. It is, therefore, not possible to judge on the way consumption expenditure are changing by moving up the income quintiles.

Nonetheless, the highest consumption expenditure on financial services can be observed in the Netherlands with an average of EUR 6.6 per thousand. It is interesting that the Netherlands are the biggest spenders on insurance and financial services in the EU-27. The second, the third and the fourth highest mean spending on financial services can be observed in the Czech Republic (5.8), in Finland (4.8) and in Slovakia (3.6) respectively. The lowest ratio, apart from the above mentioned zero values countries, can be monitored in Bulgaria with an average spending on financial services of EUR 0.2 per thousand.

Figure 3: Mean consumption expenditure on financial services by income quintile in 2005 per thousands.



Source: EUROSTAT (2011): Household Budget Surveys.

2.2. Households' financial assets and liabilities

Additional evidence on the ownership distribution of financial products can be obtained from national household surveys. These surveys are administered independently by the MS, so the questionnaires and periodicity are not harmonised. Hence, the detail of information available

might substantially differ across countries. The evidence reported here refers to selected MS, and shows that overall the frequency of ownership of financial assets varies with household income and with the educational attainment and work status of the head of the household. As such, it is fully consistent with the findings from the harmonised HBS described in the previous section.

According to the French Household Income and Wealth survey⁵, savings certificates with a favourable fiscal treatment are the most common financial asset held by private households in France in 2004. Overall, 82.6% of surveyed households reports ownership of such instrument. The percentage of ownership decreases significantly (to 50.7%) only for households declaring total wealth below EUR 3,000 (6.8% of households), whereas it remains in the 80-90% range for wealthier households. Securities are held by 24.2% of French households, with marked differences according to the wealth level. Among the households with net wealth between EUR 3,000 and 105,000 (roughly 40.5 % of the total of households), 11.9% own securities. The percentage rises to 30.3 % for the households with wealth between EUR 105,000 and 450,000 (44.3% of total households), and to 70.1% for households with wealth above EUR 450,000 (8.4% of households). A similar pattern can be observed for life insurance products and supplementary pension products: the percentages of ownership range from approximately 8% for households with wealth below EUR 3,000 to 75% for the top-wealth ones.

The Italian Household Income and Wealth survey⁶ shows that in 2008 almost 90% of Italian households own at least one financial asset. Among lower-income households, up to the second quintile, post office savings certificates are the most widely held type of asset after deposits. Government securities, corporate bonds and investment funds figure prominently in the holdings of upper-income households (fourth and fifth quintiles). In particular, among the households in the first income quartile only 0.3% own shares, while 0.6% own bonds and mutual funds. For the households in the top income decile the percentages top to 17.8 and 30.6%, respectively. The distribution of ownership follows a similar pattern when the educational qualification of the head of the household is considered. As far as insurance products are concerned, life insurance is held by 2.9% of households below the first income quartile, while for those in the top decile this percentage increases tenfold (29.4%). The share

⁵ INSEE, Les revenus et le patrimoine des ménages, édition 2010 – Fiches Thématiques Patrimoine. Available at: http://www.insee.fr/fr/ffc/docs_ffc/ref/revpmen10h.PDF

⁶ Bank of Italy, Supplements to the Statistical Bulletin - Household Income and Wealth in 2008. Available at: http://www.bancaditalia.it/statistiche/indcamp/bilfait/boll_stat/en_suppl_08_10.pdf.

of ownership of supplementary pensions is limited to 1.3% of the households in the first income quartile, whereas it reaches 19.2% among those in the top decile.

According to the Spanish Household Finances Survey⁷, bank deposits represent 49% of the total value of financial assets of households in 2008. Pension plans account for 18.2% of the assets, followed by publicly listed shares (9.3%), OTC shares (8%), investment funds (7.1%) and fixed income securities (1.7%). The composition of households' portfolios tends to be rather similar across the different classes of income, with the exception of the top income decile for which OTC stocks are the third most relevant category (17% of households owns that type of asset). Overall, the fraction of households reporting direct ownership of publicly listed shares and investment funds is 10.4%. However, among the lower-income households, up to the first quintile, only 3.5% directly own such shares, whereas for the top decile this percentage is 34.9%. Likewise, household in the top income decile are the most likely to invest in funds: 18.4% reports this type of investment, against 2.1% of households in the lowest income quintile (with the overall share of households around 5.6 %). Household liabilities represent 10.3% of the total value of the assets. The lion's share (59.6%) of household debt is mortgage finance for the purchase of the main residence, whereas mortgages for the purchase of other real estate account for 24.6% of total liabilities. In the first quarter of 2009, 50.1% of households have some type of loans, and 26.3% of households have loans to finance the purchase of dwellings. Households in the middle deciles of the income distribution are the most likely to have mortgages with this purpose. The median value of the loan is around EUR 53,900 for all households; the median volume increases with income and decreases with wealth. Overall, 7.9% of households have outstanding loans aimed at buying other real estate. In this case, the ownership share increases monotonically with the level of income, ranging from 0.7% for households in the bottom quintile to 23.3% for those in the top decile. The median value of such loans is EUR 63,000, without a clearly identifiable pattern across the income and wealth distributions. Among the other types of loans, the most widespread are those for personal credit (owned by 23.1% of households). While almost one out of three households between the fourth and the ninth income decile reports ownership of this type of loan, the participation rate of households in the first quintile is limited to 9%.

⁷ Banco de España, Encuesta Financiera de las Familias (EEF) 2008: Métodos, Resultados y Cambios desde 2005. Available at: <http://www.bde.es/webbde/SES/Secciones/Publicaciones/InformesBoletinesRevistas/BoletinEconomico/10/Dic/Fich/art2.pdf>

2.3. Housing finance

Debt for house purchase represents households' largest liability category. It makes up a significant part of bank lending. Hence, information on the distribution of loans to households for house purchase across household classes is useful for determining vulnerabilities associated with changes in interest rates, for instance as a consequence of potential shifting of taxes on financial institutions. Some evidence on the distribution of mortgages by income and age classes for selected Euro area (EA) members is provided in ECB (2009)⁸, with respect to several indicators. Among them, the share of households with mortgages and the debt service ratio (for households with this kind of debt) are reviewed here. Data availability is limited to Germany, Ireland, Greece, Spain, France, Italy, the Netherlands and Portugal, and is up to 2007⁹.

Household participation in the mortgage market is very heterogeneous across the countries under analysis, with the percentage of households with mortgages ranging from 12% in Italy to almost 40% in the Netherlands (see Figure 13.4). The share of households with mortgages increases monotonically with the income. In particular, households in the lowest income quartile have a significantly lower participation rate than those in the top two income quartiles. Concerning age classes, in Spain and Portugal, participation in the mortgage market essentially decreases the lower is the age of the household head. In the other countries, participation first increases up to the second or third age class, and then decreases with age. In the youngest age class (< 35 years), the dispersion of the participation rate is the largest, with the share of such households with mortgages ranging from 12% in Greece and 53% in Portugal. Among the households with a head aged between 35 and 44 years, who are the most likely to have mortgages, the differences across countries are smaller.

The debt service ratio measures the share of their disposable income that households pay to service the mortgage, i.e. for interest and principal repayment. This indicator is useful to evaluate the vulnerability of households to changes in the cost of debt for countries with a

⁸ ECB: Housing Finance in the Euro area, Occasional Paper 101, March 2009. Available at: <http://www.ecb.int/pub/pdf/scpops/ecbocp101.pdf>

⁹ When data from several years are available, the evidence reported refers to the latest survey. The time coverage varies across countries as follows: Germany: 2003; Ireland: 2005; Greece: 2007; Spain: 2005; France: 2004; Italy: 2006; the Netherlands: 2007; Portugal: 2006.

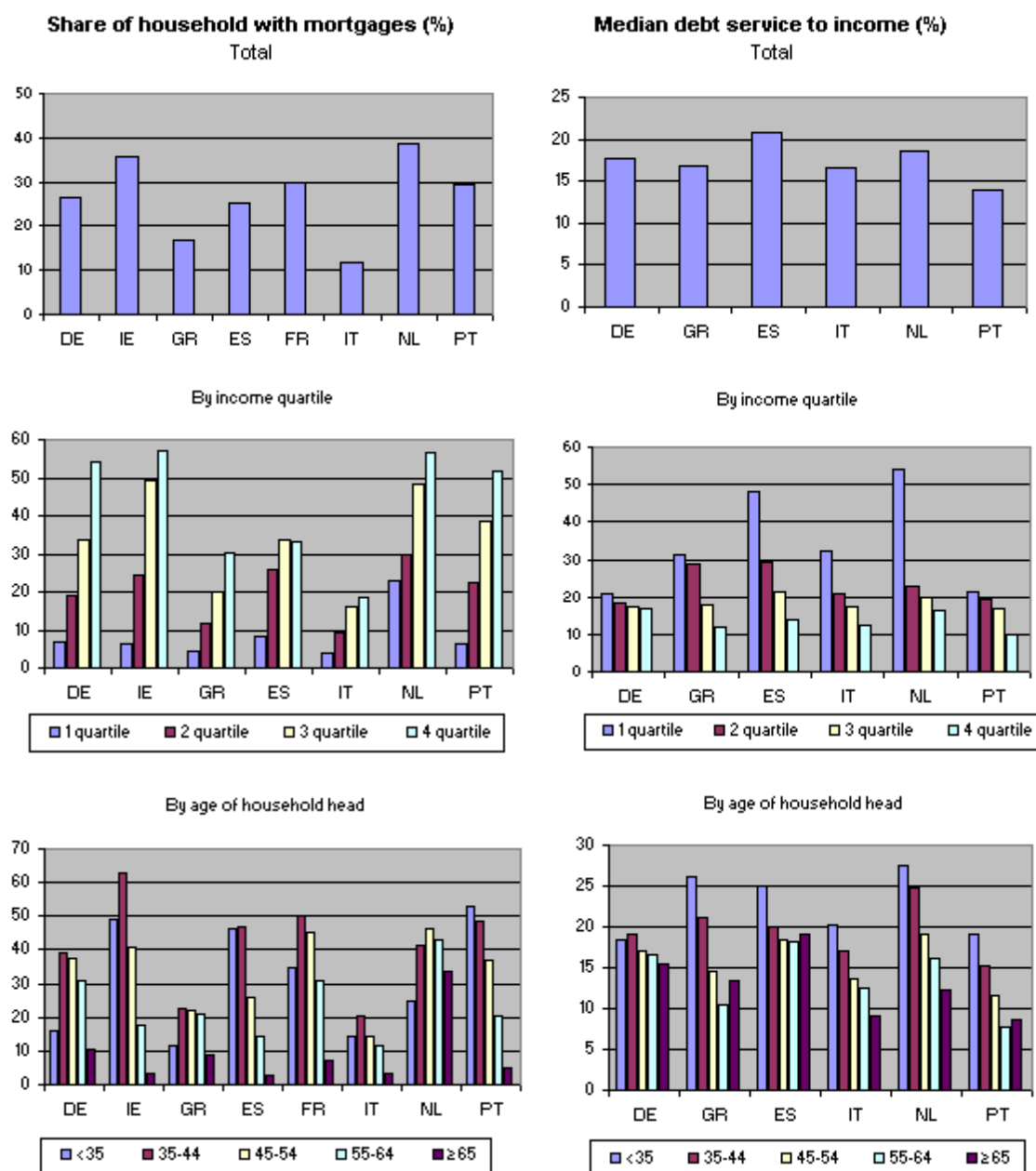
large share of variable rate mortgages¹⁰. Overall, despite differences in mortgage market participation rates, the debt service for such households is rather similar across countries, ranging from 14% in Portugal to 21% in Spain. The similarity can possibly be explained by long repayment terms, keeping the median ratio of debt service-to-income more affordable; for instance, Italy had a shorter typical mortgage maturity than the other countries, and this is reflected in a higher value of this ratio. The debt service ratio decreases with the household income, although this trend is less clear in Germany and Portugal. Overall, in Greece, Spain, Italy and the Netherlands households in the lowest income class already devoted more than one-third of their disposable income to service their mortgages in the period from 2005 to 2007; they therefore look particularly vulnerable to increases in interest rates, especially when mortgages are taken out at variable rates. As for the distribution across age classes, evidence is similar for the different countries, and points to a decreasing debt service with age.

In summary, participation in the mortgage market is the highest for high-income households, whereas the fraction of households with mortgage debt in the lowest income quartiles is generally limited. In some countries, participation is also particularly high for the households in the youngest age class, who are more likely, even if they have high incomes, to hold a lower amount of total assets. Overall, there are some groups of households, belonging mainly to the lowest income quartiles and to the youngest age class, who have reached high levels of the debt service ratio. These households are therefore particularly vulnerable to changes in interest rates.

¹⁰ An important drawback of the debt service-to-income ratio is that it reflects debt sustainability only in the short term. The indicator is therefore often complemented with other ratios such as the ratios of the mortgage to disposable income and to total assets. This latter, in particular, is a useful indicator of

households' ability to pay back their loans, assuming that houses and stocks can be sold at prevailing prices if a household faces serious difficulties in repaying its debt.

Figure 4: Share of households with mortgages and median values of the debt-to-income ratios for selected EA countries (*)



(*) : median values are calculated only for households with mortgages.

Source: ECB (2009).