

The redistributive character of taxes and social security contributions

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Introduction

The distribution of incomes resulting from the remuneration of labour and capital in the production process is often referred to by the term primary income distribution. It is influenced partly by factors for which individuals are not responsible, such as their talents or their social background, and by wealth inequality. Moreover, there are certain social risks, such as illness, old age or unemployment, which prevent a substantial proportion of the population from participating in the labour market and thus acquiring an income. There is a social consensus endorsing partial compensation for the impact of these factors on the distribution of income, and pursuit of what could be considered a fairer distribution of income. Reducing inequality in the distribution of primary income and wealth – and at the same time combating poverty – is therefore one of the government's principal tasks (Musgrave, 1959). How far the government should go in that redistribution depends on the value judgments of society.

The government can adjust the distribution of income, or more generally the distribution of well-being, in various ways. It can provide social benefits, e.g. in the form of pensions, invalidity benefits and unemployment benefits. It can produce or purchase goods and services such as education and health care, public transport or social housing, and make them available to the population free of charge or at low cost. It can oblige enterprises to charge social rates, as

in the case of electricity or fixed telephony. However, the government can also make use of taxes and social contributions for the purpose of its redistribution policy.

Typical for redistribution via taxes and social contributions – leaving aside the use of the resources generated – is that nobody's income improves. The redistributive character lies in the diversity of the amounts of the individual contributions, so that these compulsory levies modify the differences in terms of disposable income. In this connection, reference is often made to the principle of "contributive capacity" whereby everyone should contribute to the financing of public spending in accordance with their economic capacity. Specific criteria for measuring an individual's economic capacity are the level of income, size of assets, scale and type of consumption or the effort required to obtain income or assets. This contributive capacity principle therefore amounts to ensuring that "the strongest shoulders bear the heaviest burdens".

Apart from the aim of fairness, there are other considerations involved in the decision to levy taxes and social security contributions. A central idea of the theory of optimal taxation is that these levies disrupt the efficiency of the market because of their effect on the allocation of the factors of production and on the composition of spending⁽¹⁾. To limit the loss of efficiency due to the market distortion,

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(1) According to this theory, taxes and social security contributions are considered to be essentially negative for general economic performance because they disrupt the market mechanism and distort decisions on working, investment, consumption and saving, and inhibit economic initiative. Conversely, certain types of public spending (infrastructure, education, research & development, etc.) enhance the productivity of the economy and are therefore essential to the achievement of satisfactory economic growth. On the basis of these considerations, the prevailing consensus is that the favourable economic effects of public spending compensate for the adverse effect of taxes when that spending remains below a certain level and is clearly productive.

the government should raise its finance by low, uniform rates of tax levied on the broadest possible base, which should preferably be inelastic. The disruption of the efficient allocation of the production factors is thus kept to a minimum. A tax in the form of a fixed amount per person, regardless of income, assets or expenditure, would therefore be optimal from the point of view of efficiency. This shows that efficiency considerations are sometimes difficult to reconcile with the aim of equitable taxation.

The government also has to take account of the practical constraints which may restrict its freedom of action. Thus, international agreements are necessary in order to avoid unfair fiscal competition, particularly as regards sources of taxation such as assets, which may be highly mobile. The effort to achieve the taxation and income distribution desired by society may also be hampered if the tax rules are not properly respected, e.g. in the case of tax evasion.

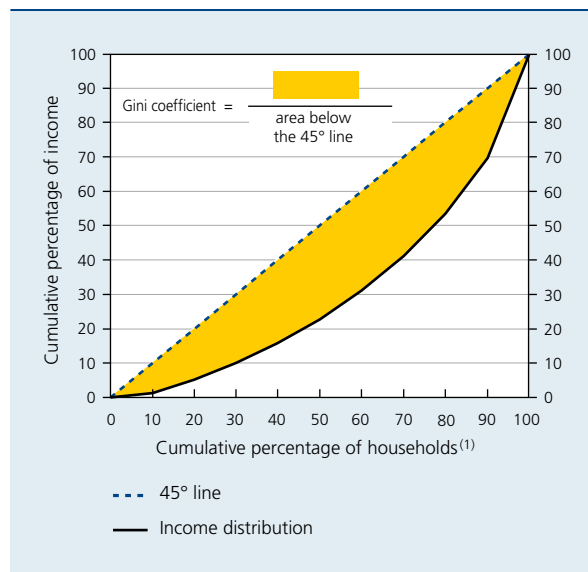
This article aims to explain the redistributive character of taxes and social security contributions in Belgium, and to demonstrate the mechanisms behind that redistribution. The article begins by presenting the measures of inequality and redistribution. Next, it compares the degree of redistribution in Belgium with that seen in the other European Union countries, showing the level of redistribution by means of taxes, social security contributions and social benefits. It then describes in succession the redistributive mechanisms of personal income tax, social security contributions and indirect taxes⁽¹⁾. Finally, it summarises the main conclusions.

1. Measures of income inequality and redistribution

1.1 Measures of income inequality

The inequality of the income distribution is often represented graphically in the form of the so-called Lorenz curve. Individuals or households are ranked in ascending order of income, and the curve plots the cumulative number of individuals or households against their cumulative share of income. In a situation in which everyone has the same income, the Lorenz curve coincides with the bisector or 45° line, whereas a Lorenz curve which is aligned with the axes corresponds to a situation in which a single person or household receives all the income.

CHART 1 THE LORENZ CURVE AND THE GINI COEFFICIENT, MEASURES OF INCOME INEQUALITY



(1) Households are ranked in ascending income order.

A frequently used aggregate measure of the inequality of the income distribution is the Gini coefficient, which is closely connected with the Lorenz curve. This coefficient is calculated by taking the area between the Lorenz curve and the 45° line and dividing it by the total area below the 45° line. It always has a value between 0 and 1. The higher the Gini coefficient, the greater the income inequality. The value 0 corresponds to a totally even distribution, whereas the value 1 corresponds to an income distribution where a single person receives all the income. However, one drawback of this measure is that the same Gini coefficient can represent different types of income distribution. The Gini coefficient can also be used to measure the inequality of the tax distribution.

1.2 Measures of income redistribution

Income redistribution means the reduction of inequalities in the distribution of income. The degree of redistribution is measured by the difference between income inequality before tax (and social security contributions and benefits) and income inequality after tax (and social security contributions and benefits). In graph form, redistribution is shown by the Lorenz curve moving closer to the 45° line.

The degree of redistribution (**R**) is defined as the difference between the Gini coefficient before the income redistribution (**G_b**) and after it (**G_a**):

(1) Owing to the lack of relevant information, the article does not consider the effect of taxes on assets and capital incomes.

$$R = Gb - Ga$$

It can be shown that the redistributive character of the tax (R) depends partly on the progressiveness of the tax (P) and partly on the average rate of the tax (t) via the formula⁽¹⁾:

$$R = \left(\frac{t}{1-t} \right) \times P$$

The progressiveness of a tax represents the degree to which the tax differs from a proportional tax which would generate the same revenue. A progressive tax has a rising average rate. In a system of progressive taxation, the proportion of taxes payable by the lower (higher) income groups is thus lower (higher) than their share of the income. If the opposite is true, it is called a system of degressive (or regressive) taxation.

The index of progressiveness is defined as the difference between the Gini coefficient of the tax distribution (C) and the Gini coefficient of income distribution before taxes.⁽²⁾

$$P = C - Gb$$

Apart from the Gini coefficient used here, the literature proposes various other ways of measuring inequality and redistribution. As the correlation between these various measures is sometimes low, they may lead to different conclusions. The results should therefore be interpreted with caution.

2. Income redistribution in Belgium in a European perspective⁽³⁾

As already mentioned, the inequality of the primary distribution of income is the inequality resulting from the remuneration of the production factors. In other words, it is the income inequality before the collection of any social benefits and before payment of taxes and social contributions⁽⁴⁾. According to EUROMOD⁽⁵⁾, Belgium – with a Gini coefficient of 0.46 in 1998 – had the fourth lowest rate of primary income inequality in the EU-15. Only Denmark, Austria and – in particular – the Netherlands had a lower primary inequality. Belgium is thus below the EU-15 average, for which the Gini coefficient was 0.48. The highest inequality in the primary distribution of income was recorded in southern Europe (Portugal, Italy, Greece and Spain) and in the Anglo-Saxon countries (Ireland and the UK).

Social benefits, social security contributions and direct taxes on income⁽⁶⁾ bring about a significant reduction of income inequality in all the EU-15 countries. However, there are large differences between countries. The smallest inequality reduction occurs in the southern European countries, excluding Spain. The Gini coefficient also shows a relatively small decline in the Netherlands, but the initial inequality there is significantly less than in the other European countries. In Belgium, the inequality reduction – the Gini coefficient falls by 0.21 – exceeds the average for the EU-15, where the (unweighted) average reduction comes to 0.19 (the weighted average reduction comes to 0.17). Only Finland, Denmark and Luxembourg have a higher degree of redistribution. Belgium is thus among the countries with relatively low primary income inequality and a high degree of redistribution.

The breakdown⁽⁷⁾ of the redistribution between social benefits and income taxes shows that, in all countries, social benefits account for the bulk of the income redistribution. That is not surprising since social benefits are largely intended for persons with little or no primary income. However, in the majority of countries, taxes on income account for a considerable part of the redistribution. On average, those taxes reduce the Gini coefficient by 0.07. In Belgium, taxes and social security contributions actually reduce the Gini coefficient by 0.09. After Luxembourg, Belgium has the highest level of redistribution via income taxes in the EU-15.

As already stated, the degree of redistribution via income taxes is determined by the average rate and the progressiveness of those taxes. In Belgium, the average rate of taxes on income is higher than in the EU-15. However, it is primarily the relatively high progressiveness of those taxes in Belgium that generates the higher degree of redistribution. As the progressiveness of the personal income tax in Belgium is more or less the same as the EU-15 average,

(1) However, this breakdown is possible only if the ranking of households according to their income is not changed by taxation.

(2) This index of progressiveness was calculated by N.C. Kakwani (1977) and is named after him.

(3) This analysis is based on Immervoll (2005) and Verbist (2004).

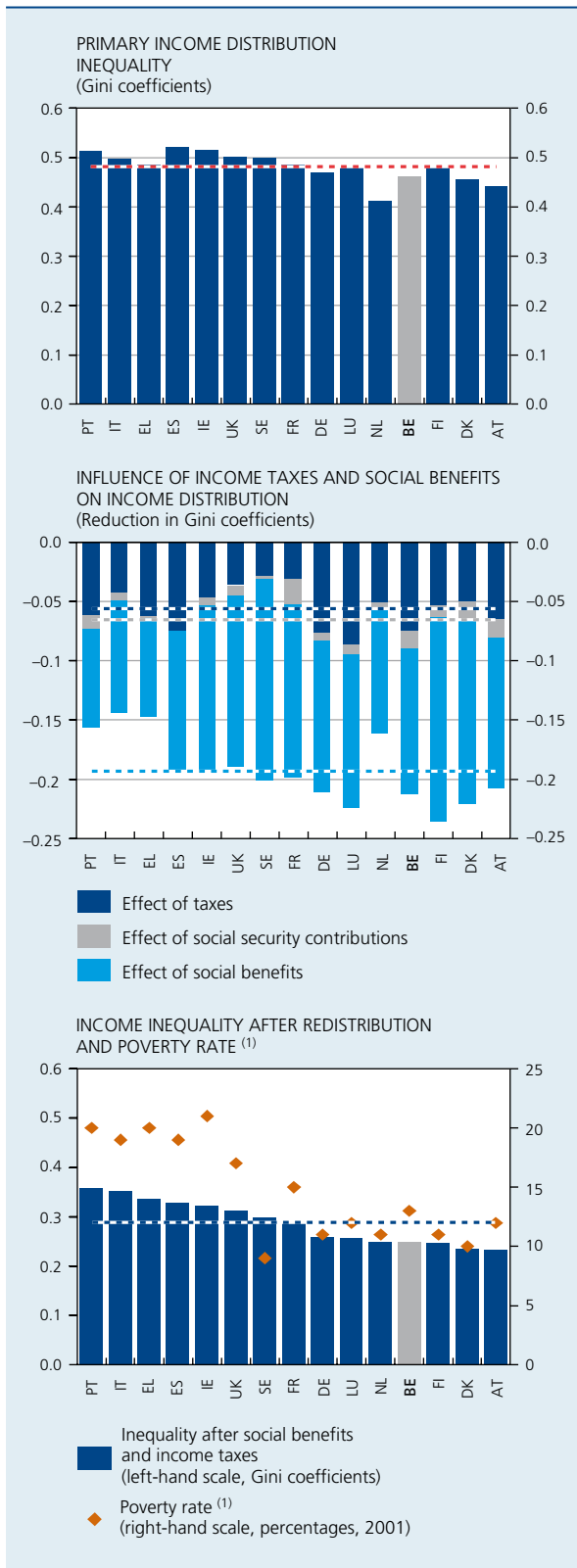
(4) The government also exerts influence on primary income distribution, notably by imposing minimum wages and by public sector employment.

(5) EUROMOD was developed under the direction of Professor H. Sutherland at Essex University (United Kingdom). It is a microsimulation model which, on the basis of income data taken from socioeconomic surveys, simulates the impact of income taxes and social benefits on income distribution. In the case of Belgium, EUROMOD is based on the Panel Survey on Belgian Households which relates to incomes in 1998. The advantage of the microsimulation model is that the methods are harmonised – permitting comparisons between the various EU-15 countries - and it also takes account of the impact of taxes and social benefits. However, such simulation models do have their limitations, owing to the reliability of the sample and the absence of information on the tax allowances granted for certain expenditure.

(6) Immervoll (2005) defined these as personal income tax, other taxes on capital incomes and local taxes.

(7) Immervoll (2005) rightly demonstrated that a breakdown of the overall redistribution according to the various instruments cannot be accurate. In order to illustrate the importance of the different factors, an approximative division is made, by which the reduction of each instrument separately is applied in proportion to the total redistribution.

CHART 2 INCOME INEQUALITY AND REDISTRIBUTION IN THE EU-15
(1998, unless otherwise stated)



Sources : EC, Immervoll (2005).

(1) Percentage of the population whose income equivalent is less than 60 p.c. of the median income.

it is essentially the progressiveness of social security contributions that accounts for this outcome. Except in Belgium, the United Kingdom, Ireland and Finland, social security contributions in the EU-15 are practically proportional, or even degressive in some cases. In Belgium the main reason is that no social security contributions are payable on social benefits, or only limited contributions on benefits beyond a certain level⁽¹⁾.

As a result of the relatively low level of primary income inequality and the high degree of redistribution due to social benefits and taxes on income, the inequality of the secondary distribution of income in Belgium is relatively low in comparison with the majority of the EU-15 countries. Only Finland, Denmark and Austria have a lower level of secondary income inequality. After social benefits and taxes on income, the southern European countries and the Anglo-Saxon countries still record the highest level of inequality. The countries with the greatest inequality generally record the highest poverty rate. That is not surprising since that rate is often measured by the percentage of the population whose income is less than 60 p.c. of the standardised median income (Atkinson, 2002). The more unequal the distribution of incomes, the greater the risk of a larger number of persons falling below this 60 p.c. mark.

3. The redistributive character of personal income tax

This chapter deals with the redistributive character of personal income tax in Belgium, explaining the main mechanisms involved in that redistribution. Two particular points will be discussed in more detail, namely the redistributive aspects of the various personal income tax allowances and the personal income tax reform passed in 2001.

The analysis is based on the statistics relating to personal income tax returns. In addition, a number of data were obtained from the SIRE microsimulation model developed by the Research and Documentation Department of the FPS Finance. The data taken from the tax returns have the advantage of being very detailed and very accurate; on the other hand, they only concern people who submit a tax return. It is estimated that between 10 and 15 p.c. of the population do not submit a tax return because their income is too low (Pittevils and Timmermans, 1995).

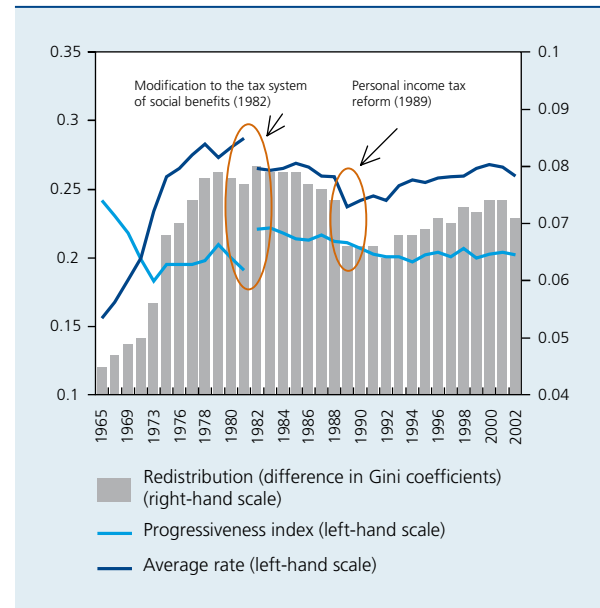
(1) In the United Kingdom and Ireland, there are maximum and minimum income thresholds for social security contributions, and the progressive effect of the minimum thresholds is greater than the degressive effect of the maximum thresholds. In Finland, there is a supplementary social security contribution in the case of high incomes.

3.1 Overall view of the redistributive effect of personal income tax

After social security contributions, personal income tax is the principal source of government revenue. The tax is concentrated primarily on the highest income deciles. On their 2002 income (2003 tax year), the 20 p.c. of households with the lowest incomes paid 0.4 p.c. of the total personal income tax, whereas they received 5 p.c. of the total amount of that income. The 20 p.c. of households with the highest net disposable incomes paid 61.7 p.c. of the total personal income tax, while receiving 46.5 p.c. of the total income before tax. Personal income tax is clearly distributed more unevenly between the income groups than the pre-tax incomes, so that the after tax incomes are distributed more equally. While the 50 p.c. of households with the lowest net disposable incomes receive altogether 22.8 p.c. of those pre-tax incomes, they receive 27.8 p.c. of the total incomes after tax.

The redistributive character of personal income tax increased between 1965 and 2002, primarily during the first part of that period. This was due to divergent trends in the average rate and progressiveness. Up to 1975, the redistributive effect of personal income tax became much stronger as a result of tax rises which greatly increased the average rate, while at the same time exerting a negative effect on the progressiveness of personal income tax. The personal income tax reform implemented from the 1983 tax year, modifying the fiscal treatment of replacement incomes, caused a break in the series. The

CHART 3 REDISTRIBUTIVE EFFECT OF PERSONAL INCOME TAX ⁽¹⁾



Sources: FPS Economy, FPS Finance.
(1) Until 1975, the data are only available every two years.

abatements (deductions from taxable income) for replacement incomes were replaced by tax credits (tax deductions) so that replacement incomes were henceforward included in taxable income without any increase in the

TABLE 1 PERSONAL INCOME TAX IN BELGIUM PER INCOME DECILE
(2002 incomes, 2003 tax year; percentages, unless otherwise stated)

Income decile	Upper income threshold ⁽¹⁾ (in euro)	Share of pre-tax incomes	Share of personal income tax	Share of incomes after tax	Average tax rate
1	7,188	1.3	0.0	1.8	0.6
2	10,738	3.7	0.4	4.9	2.7
3	13,080	4.8	1.1	6.1	5.8
4	15,863	5.9	2.6	7.0	11.7
5	18,914	7.1	4.6	7.9	17.0
6	22,292	8.3	7.0	8.8	21.7
7	26,958	9.9	9.4	10.1	24.7
8	34,460	12.4	13.1	12.1	27.7
9	47,485	16.3	19.4	15.3	30.9
10	–	30.2	42.4	25.9	36.6

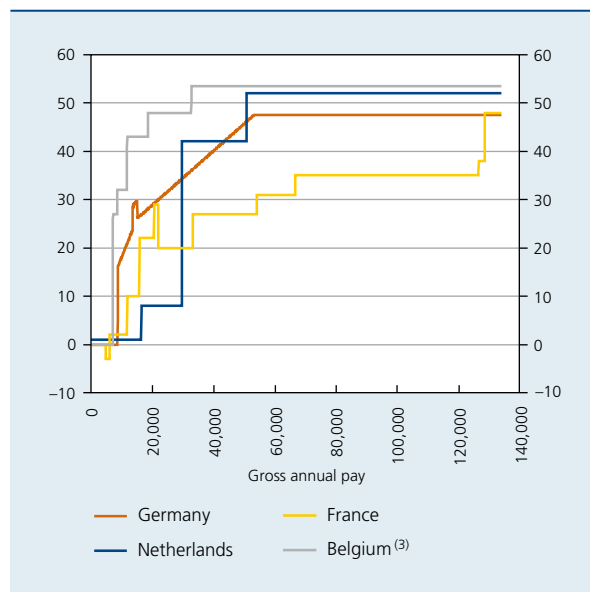
Source: FPS Economy.
(1) Net taxable income (i.e. after allowances for professional expenses), per tax return.

tax on those incomes⁽¹⁾. The main effect of the personal income tax reform of 7 December 1988, which came into force in 1989, was to sharply reduce the levies on earned income⁽²⁾. The average rate of personal income tax thus declined. Since the progressiveness also declined slightly, that reform reduced the redistributive character of personal income tax.

During the 1990s the progressiveness of personal income tax remained fairly stable, but as a result of the rise in the average rate – brought about in particular by the introduction of the complementary crisis contribution, the non-indexation of the tax scales and the automatic increase in the tax burden resulting from the real increase in incomes – the redistributive character of personal income tax increased. Between 2000 and 2002, the phasing out of the complementary crisis contribution resulted in a further fall in the average rate.

- (1) Until the introduction of the law of 5 January 1976, unemployment benefits, sickness and disability benefits and the compensation paid for occupational diseases and industrial accidents were totally tax free, while old age pensions and survivors' pensions were only taxable in certain cases. From the 1977 tax year onwards, all replacement incomes were, in principle, included in the tax base. This measure was accompanied by the introduction of abatements.
- (2) The changes introduced by this reform included the total abandonment of the aggregation of earned incomes (previously, the earned incomes of spouses had been added together and were jointly subject to the progressive rates of personal income tax), the introduction of the dependent spouse allowance for single income households, and the tax-free allowance (increased for dependent adults and children), and it adjusted the marginal rates of tax, cutting the highest rate from 70.8 p.c. to 55 p.c.

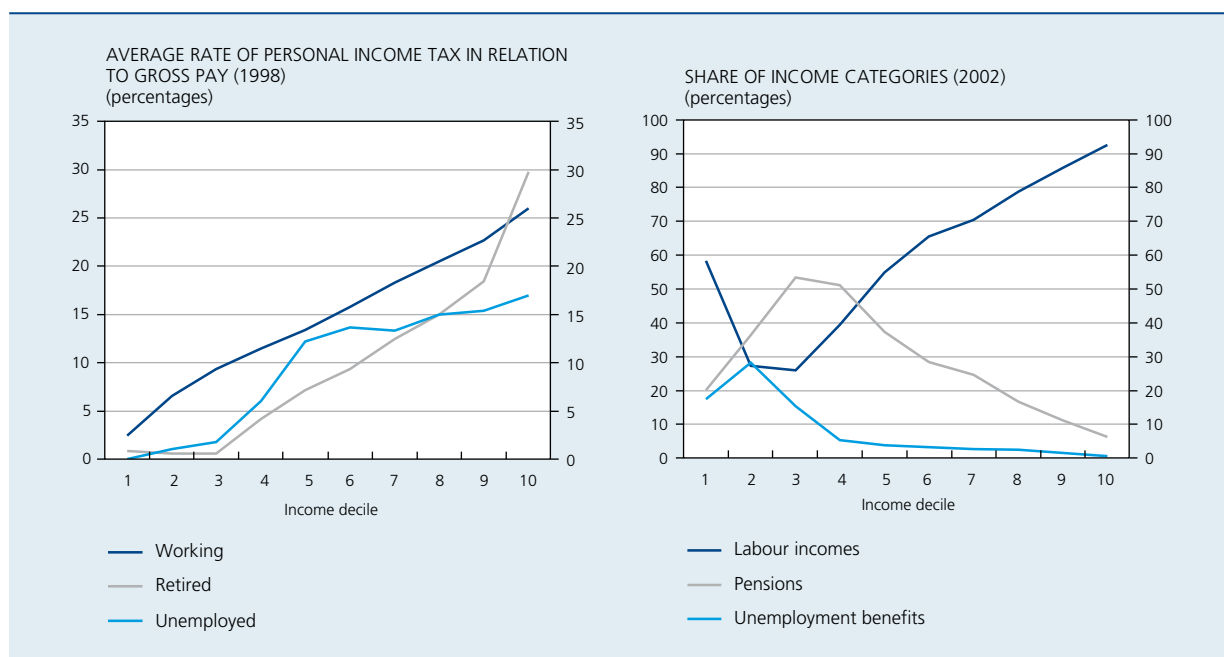
CHART 4 MARGINAL RATES OF PERSONAL INCOME TAX^{(1) (2)}
(2004, percentages)



Sources: OECD, NBB.

- (1) For single persons with no children, having earned income only.
- (2) The standard allowances for professional expenses and various tax credits are taken into account; the tax-free allowance is regarded as a zero rate of tax.
- (3) Including local additional centimes on personal income tax, assumed to be levied at the rate of 7 p.c.

CHART 5 COMPARISON OF PERSONAL INCOME TAX BETWEEN LABOUR INCOMES AND REPLACEMENT INCOMES



Sources: FPS Economy, Verbist (2005).

3.2 The average rate and progressiveness of personal income tax

The average rate of personal income tax was 26 p.c. in the 2003 tax year. The average rate per income decile clearly shows that personal income tax is highly progressive in Belgium. While the average rate of tax on the first income decile is 0.6 p.c., it increases to 36.6 p.c. for the tenth decile. Up to and including the seventh income decile, the average rate is below the average for all tax returns.

There are three main factors responsible for the sharp increase in the tax rate per decile. First, there are the marginal rates of tax applicable to the income brackets.

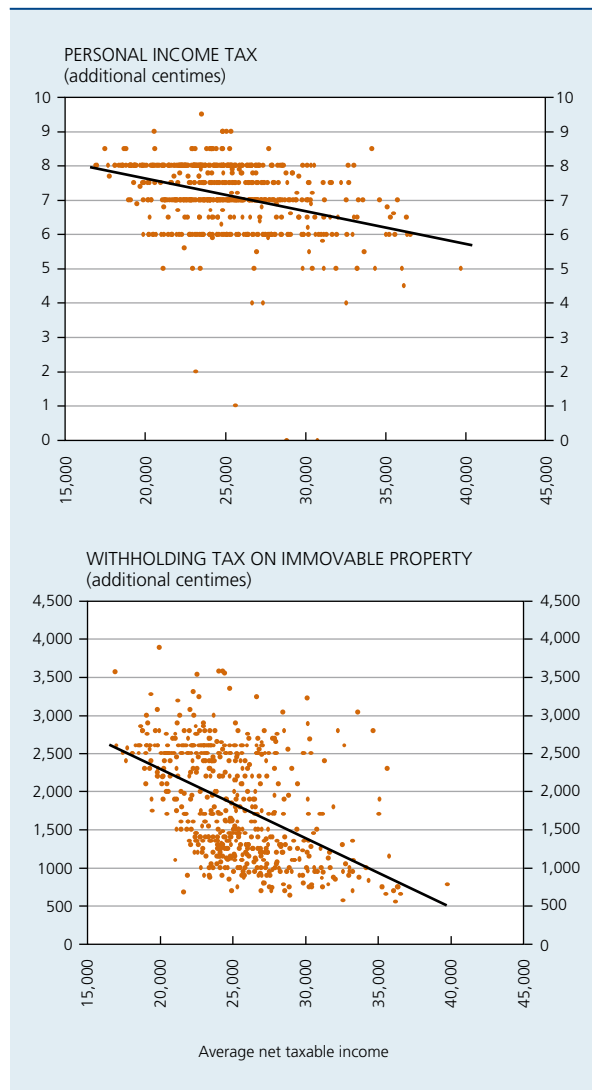
These rise from 25 p.c. for the lowest income bracket to 50 p.c. for the highest (excluding supplementary local income taxes). Next, owing to the tax-free allowance, taxable income is entirely exempt from personal income tax up to a certain threshold. The tax-free allowance therefore in fact corresponds to a zero rate on the first part of incomes. Finally, the tax credits granted on replacement incomes such as pensions, sickness and invalidity benefits and unemployment benefits augment the progressiveness of personal income tax. The tax credits are subject to various restrictions, and are reduced as incomes increase. If a household is living entirely on social benefits, the tax reductions often mean that no personal income tax is payable.

Around three-quarters of the progressiveness of personal income tax is due to the tax scales associated with the tax-free allowance. The tax credits for replacement incomes contributes about a quarter to the progressiveness index. A number of other factors, such as the additional centimes on personal income tax levied by local authorities, exert a weak negative effect overall on the progressiveness of personal income tax (Valenduc, 2005).

Comparison of the rates of personal income tax charged in Belgium on 2004 incomes (including the tax-free allowance and the supplementary local income taxes) with those applicable in neighbouring countries reveals that, owing to the tax-free allowance, the situation for the lowest income bracket in Belgium is more or less the same. As income increases, however, the marginal rate is significantly higher in Belgium. The 50 p.c. rate, applicable to the highest tax bracket, is similar to that charged in neighbouring countries; however, it is higher if the local additional centimes on personal income tax are taken into account.

For the various income deciles, the tax reduction for replacement incomes leads to a wide variation in the tax rate according to whether the income is obtained solely from labour or also includes pensions or unemployment benefits (Verbist, 2005). In the case of the higher income deciles, this difference disappears, if all or part of the income consists of pensions⁽¹⁾. The tax reductions for replacement incomes make a major contribution to progressiveness, not only because the tax rate on the benefits increases with each income decile, but also because the percentage of total income represented by benefits is highest for the lowest income deciles.

CHART 6 DEGRESSIVITY OF LOCAL INCOME TAXES
(2002 incomes, 2003 tax year)



Sources: FPS Economy, FPS Finance.

(1) The implicit average rate of tax for pensioners in the highest decile is actually higher, among other things because these pensioners have fewer dependent children.

As already stated, the additional tax levied by local authorities has a negative influence on the progressiveness of the personal income tax. The wealthiest municipalities – on the basis of the average net taxable incomes stated in the personal income tax returns per municipality – charge a lower supplementary rate than the municipalities where the average income of the population is lower. This degressivity of personal income tax at local level also appears to apply in respect of the additional centimes on the withholding tax on immovable property.

3.3 The redistributive aspects of the tax allowances

Certain types of household spending give rise to a tax advantage in regard to personal income tax. In 2002, these tax allowances totalled 6 p.c. of the personal income tax collected, or 0.7 p.c. of GDP. From the point of view of the budget, the most important ones concern support for the construction, renovation or purchase of a house. The tax allowance for capital repayments on mortgage loans and the associated tax allowance for life insurance covering these mortgage debts in themselves already account for 3.2 p.c. of personal income tax.

The primary concern in introducing tax allowances is not so much the redistribution of income as the provision of incentives encouraging a particular type of behaviour or spending. That emerges clearly from a comparison between the inequality of tax allowances and the

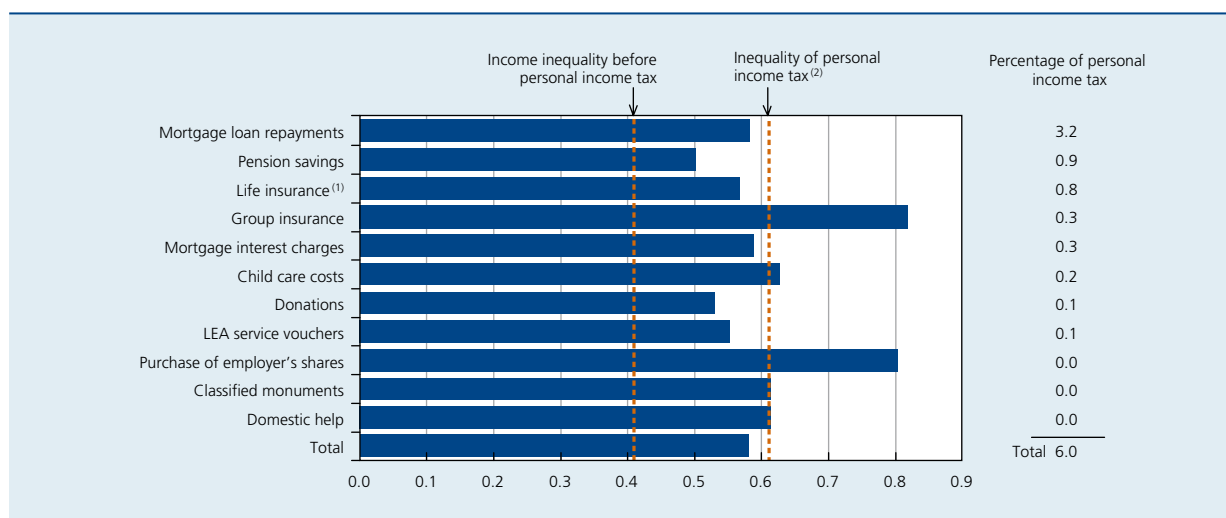
inequality of incomes before personal income tax. In all cases, the inequality of tax allowances is greater than the inequality of pre-tax incomes. This means that, in relative terms, it is the higher incomes that benefit most from the tax reductions.

There are substantial variations in inequality between the different tax allowances. The allowance granted for group insurance and that granted for the purchase of employer's shares are particularly unequal in their distribution⁽¹⁾. The two highest income deciles represent around 85 p.c. of the budgetary cost of these measures. Conversely, however, the inequality of other tax expenditures, such as those associated with owner-occupied housing, pension savings, life insurance, donations and LEA service vouchers is less than that of personal income tax. This means that if these tax reductions were abolished and offset by an equivalent proportional reduction in the rates of personal income tax – and the average rate therefore remained constant – that would diminish the redistributive character of personal income tax.

The inequality of the distribution of tax allowances is influenced by the number of households per income decile claiming these allowances. The average amount claimed per household may also vary from one decile to another. In this context, potential restrictions on the amount of the

(1) The allowance granted for the purchase of employer's shares is incompatible with the tax reduction granted on pension savings.

CHART 7 INEQUALITY OF TAX ALLOWANCES
(2002 incomes, 2003 tax year, Gini coefficients)

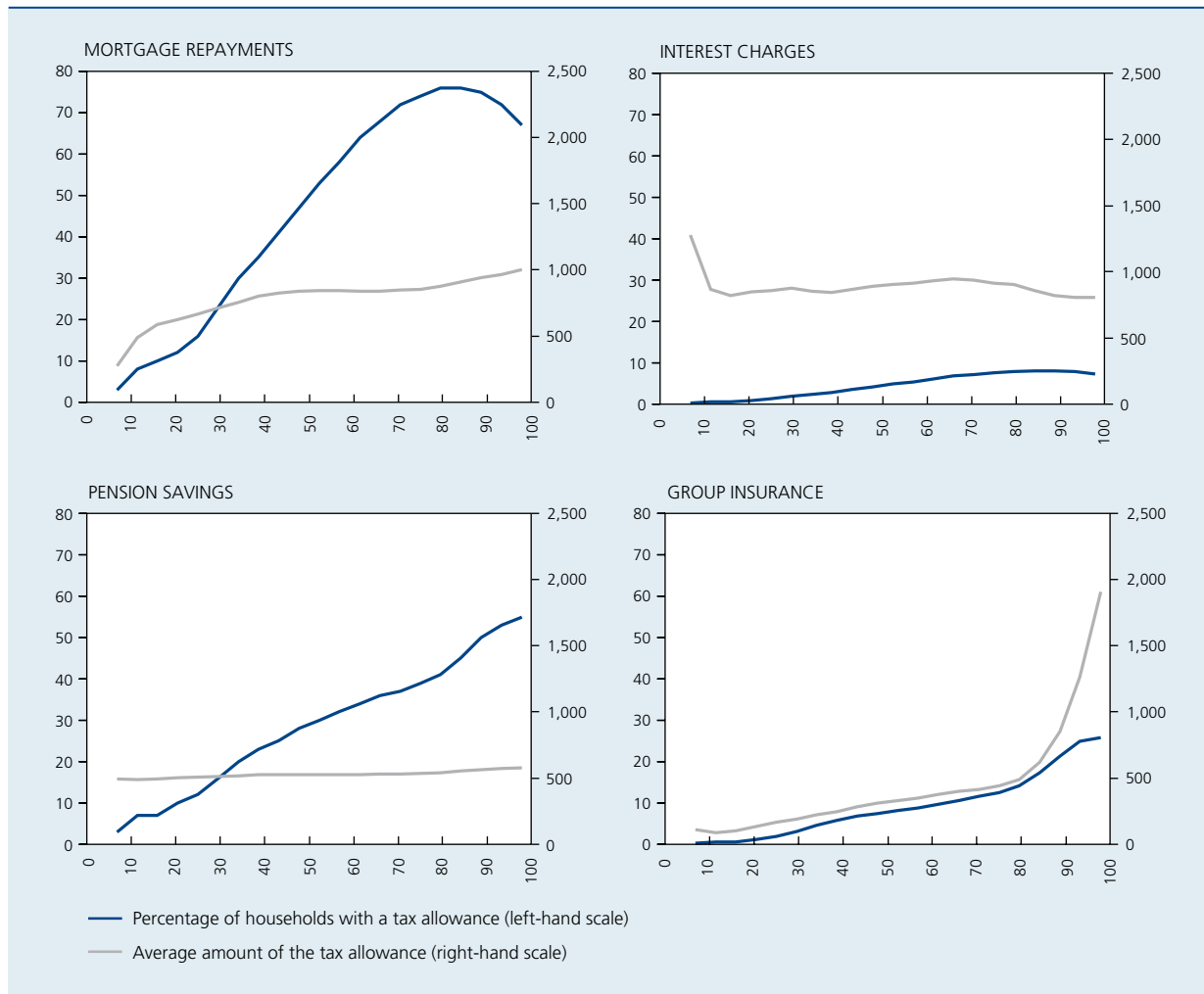


Source: FPS Finance.

(1) Other than linked to mortgage loans.

(2) Inequality of personal income tax taking into account the tax allowances.

CHART 8 DISTRIBUTION OF TAX ALLOWANCES PER INCOME PERCENTILE ⁽¹⁾
(2002 incomes, 2003 tax year)



Source : FPS Finance.
(1) Net taxable income.

tax allowances are, of course, important. Moreover, the tax advantage gained also depends on the rate of tax applicable to the amount deducted. As many of the deductions are subject to the marginal rate or what is known as the improved average rate, that also increases the inequality in the distribution of tax allowances, although this last effect is significantly less than the two effects mentioned earlier. However, the importance of these factors varies widely between the various tax allowances.

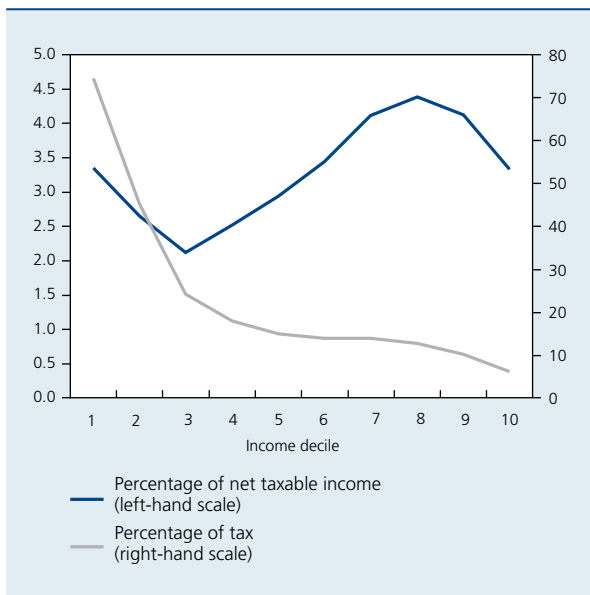
The proportion of households claiming the allowances for mortgage repayments, mortgage interest charges, pension savings and group insurance increases the higher the net disposable income. Thus, over two-thirds of the highest income groups make use of the tax allowance for mortgage repayments, whereas very few in the lowest income groups

do so. As regards the average amount deducted, there are noticeable differences between the tax allowances. In the case of mortgage interest charges, almost everyone claims the maximum allowance. Conversely, where mortgage repayments are concerned, the average amount increases slightly as income rises⁽¹⁾. The amount deductible for pension savings is limited, and the average allowance claimed is in the region of the maximum for all income groups. Conversely, there is virtually no limit on the average amount claimed in respect of group insurance⁽²⁾, and it is significantly more in the highest income groups than in the lower ones.

(1) Under the new tax allowance for home owners which came into effect in 2005 and will gradually become more important, the average amount per income decile will be more uniform.

(2) The only restriction is that the annuity provided by the group insurance must not exceed 80 p.c. of gross annual pay.

CHART 9 AVERAGE ADVANTAGE OF THE 2001 PERSONAL INCOME TAX REFORM
(simulation based on 2002 incomes, 2003 tax year)



Sources : FPS Finance, NBB.

3.4 The redistributive aspects of the 2001 personal income tax reform

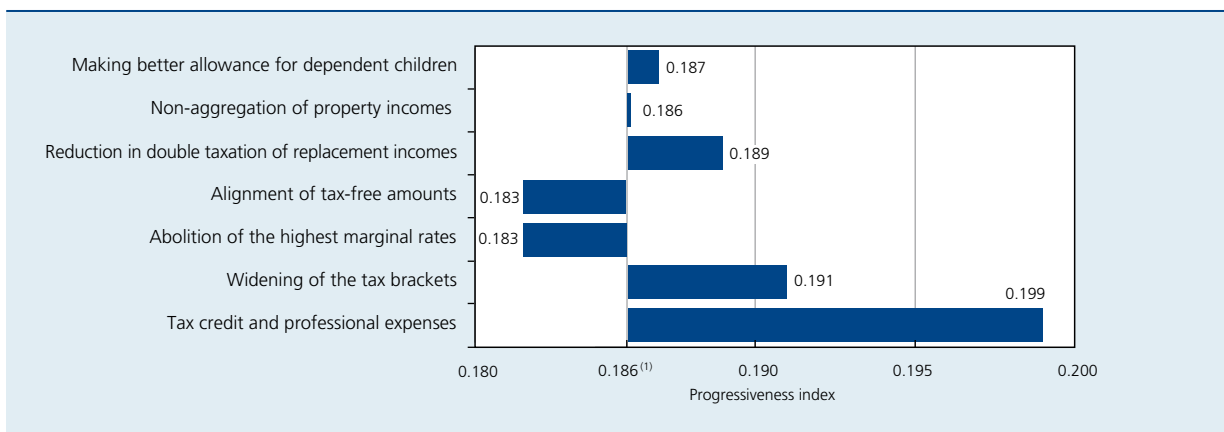
The personal income tax reform introduced by the law of 10 August 2001 and phased in over several years was based on four aims. The first aim was to reduce the tax

burden on labour incomes. The second concerned neutrality vis-à-vis forms of cohabitation. The third and fourth aims, far less important for the budget than the first two, concerned taking greater account of dependent children and encouraging environment-friendly behaviour.

Overall, this tax reform had hardly any impact on the redistributive character of personal income tax. The reform lowered the average tax rate from 26 to 23 p.c., but this was offset by increased progressiveness. Even if the households which do not submit any tax return – and therefore do not benefit from the tax reform – are taken into account, the personal income tax reform caused only a negligible reduction in the redistributive character of personal income tax (Cantillon, 2003).

The tax advantage in relation to disposable income varies between income deciles. In the first income decile, the tax advantage represents just under 3.5 p.c. of net taxable income. After the first income decile, the tax advantage declines as a result of the reduced size of the tax credit for low earned incomes, without the other measures having any significant effects for these income groups. From the fourth decile onwards, the widening of the tax brackets and the measures in favour of neutrality regarding forms of cohabitation increase the tax advantage. The lowering of the top marginal rates primarily improves the situation for the upper deciles. However, these income groups have largely reached the maximum absolute advantage conferred by the other reform measures, so that the overall relative advantage declines with income.

CHART 10 EFFECT OF THE 2001 PERSONAL INCOME TAX REFORM ON THE PROGRESSIVENESS OF THE TAX
(2002 incomes, 2003 tax year)



Source : FPS Finance.

(1) This is the value of the personal income tax progressiveness index before the 2001 reform.

If the effect of this personal income tax reform is viewed in relation to the taxes paid, it is evident that the reform is making the tax significantly more progressive. The tax reform particularly reduces the taxes paid by the lowest income groups. The average reduction in tax is 74 p.c. for the first decile, dropping to around 6 p.c. for the highest income decile.

As already mentioned, this tax reform increased the progressiveness of personal income tax. However, that is the overall outcome of all the measures. Examination of each measure's impact on progressiveness reveals that the main factors increasing progressiveness were the introduction of the tax credit for low earned incomes and the increase in the rates of the standard allowances for professional expenses. The widening of the intermediate tax brackets, individualisation of the tax credits for replacement incomes, and the measures aimed at taking greater account of the cost of children also increase that progressiveness. Conversely, the abolition of the highest marginal rates is clearly a measure favouring individuals or households with a high income. The alignment of the tax-free allowance for married persons with that for cohabitants exerts also a negative effect on the progressiveness of personal income tax, since there are relatively more married couples in the higher income groups.

It should be noted that the tax credit granted to taxpayers on low earned incomes in 2004 was abolished for employees but retained for self-employed persons. In the case of employees, this tax credit was replaced from 2005 onwards by extending the reduced rate of personal social security contributions in the form of the so-called work bonus. While this measure reduces the redistributive character of personal income tax, it augments it of personal social security contributions.

4. The redistributive character of social security contributions

In Belgium as in the other EU-15 Member States, income redistribution under the social security system takes place mainly via social benefits. Social contributions are not generally regarded as levies contributing to redistribution. However, the international comparison presented earlier shows that, in Belgium, the personal social contributions⁽¹⁾ do increase redistribution to a limited extent.

Although the personal contributions are, in principle, proportional to wages, since a uniform rate of 13.07 p.c.⁽²⁾ is applied to all income levels (since the abolition of the wage ceilings in 1982), there are mechanisms which cause social contributions to be progressive. These include

the special social security contribution and the reductions in contributions for low wage earners, that were reformed and extended in 2005 by the introduction of the work bonus.

The fact that only low contributions, if any, are levied on various social benefits also contributes to the progressiveness of the contributions. Thus, pensions are subject to a solidarity contribution of up to 2 p.c. on the highest pensions, while there is a contribution of 3.55 p.c. levied for health care. A 3.5 p.c. pension contribution is also levied on incapacity benefits and on collectively agreed early retirement allowances. In addition, these social contributions apply only if the benefits exceed a certain amount. No social contributions are levied on unemployment benefits. As already mentioned, the recipients of social benefits belong to the lower income deciles. The share of earned incomes – on which contributions are higher than on benefits – increases according to the income decile. The highest deciles therefore pay, on average, the highest social contributions, and that augments the redistributive effect.

In the case of self-employed workers, the social contributions are degressive, moderating somewhat the progressiveness of social contributions overall.

4.1 The special social security contribution

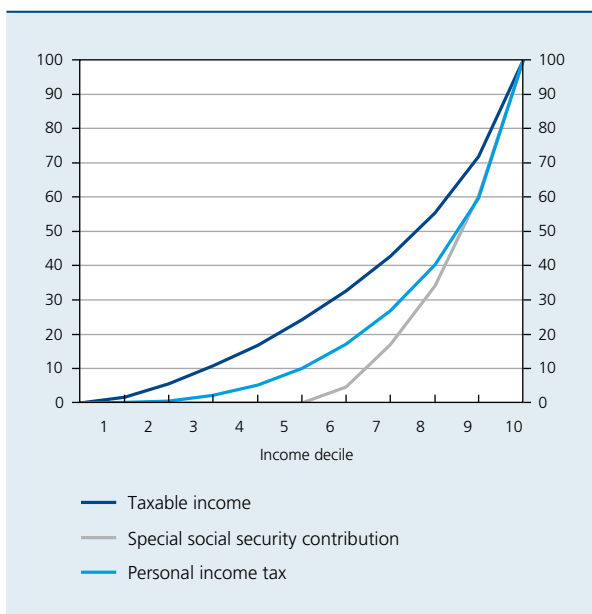
The special social security contribution was introduced in 1994 and applies to all employed persons, whether employees or civil servants. Households whose members are entirely self-employed do not pay this contribution. This contribution is unique in being levied on the basis of the net taxable income of the household.

No special contribution is payable if the household's net taxable income is less than 18,592 euro per annum. For incomes between 18,592 and 21,071 euro, the rate increases to 9 p.c. It then drops to 1.3 p.c. for incomes between 21,071 and 60,162 euros. There is a zero marginal rate applicable to incomes of over 60,162 euro, so that the maximum contribution is 731 euro. Despite this limit and the fact that the marginal rates decline as income increases, this contribution is more progressive than personal income tax. The reason is that low incomes are exempt because of the lower limit already mentioned. No special social security contribution is payable up to the fifth income decile. This contribution

(1) This analysis takes no account of employers' contributions.

(2) For statutory civil servants, who are not employed in a local public service, the personal social contributions amount to 11.05 p.c.

CHART 11 THE SPECIAL SOCIAL SECURITY CONTRIBUTION BY INCOME DECILE
(2002 incomes, 2003 tax year)



Source : FPS Finance.

becomes particularly significant from the seventh to the ninth income decile, while the ceiling applies to the tenth decile.

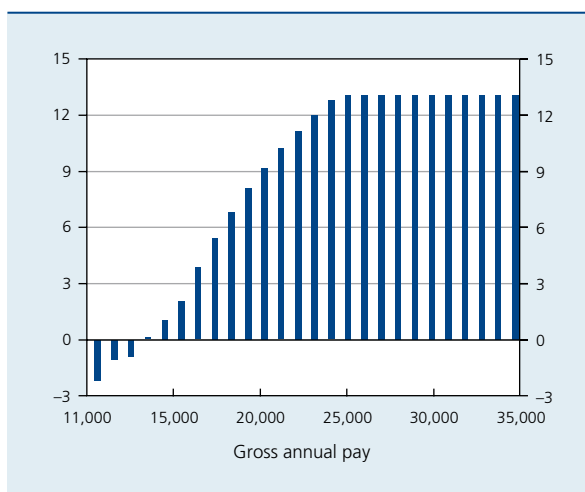
4.2 Work bonus

The work bonus is a reduction in personal social security contributions granted to low wage earners and certain workers affected by corporate restructuring. For the year 2006, the maximum reduction in personal contributions granted by means of the work bonus was increased to 140 euro per month⁽¹⁾. This maximum is granted to workers earning a gross monthly income of up to 1,234 euro. For incomes in excess of that figure, the work bonus gradually declines to zero at the point where monthly income equals 2,036 euro. For part-time workers, the maximum amount and the wage ceilings are adjusted proportionately according to their working hours.

As a result of the work bonus, employees receiving the minimum wage do not in practice pay any personal contributions. In the case of slightly higher incomes, the work bonus causes the average rates of personal contributions

(1) This figure applies to non-manual workers; for manual workers, the maximum reduction is 151 euro per month.

CHART 12 AVERAGE RATE OF PERSONAL SOCIAL SECURITY CONTRIBUTIONS AFTER APPLICATION OF THE WORK BONUS
(percentages)



Source : NBB.

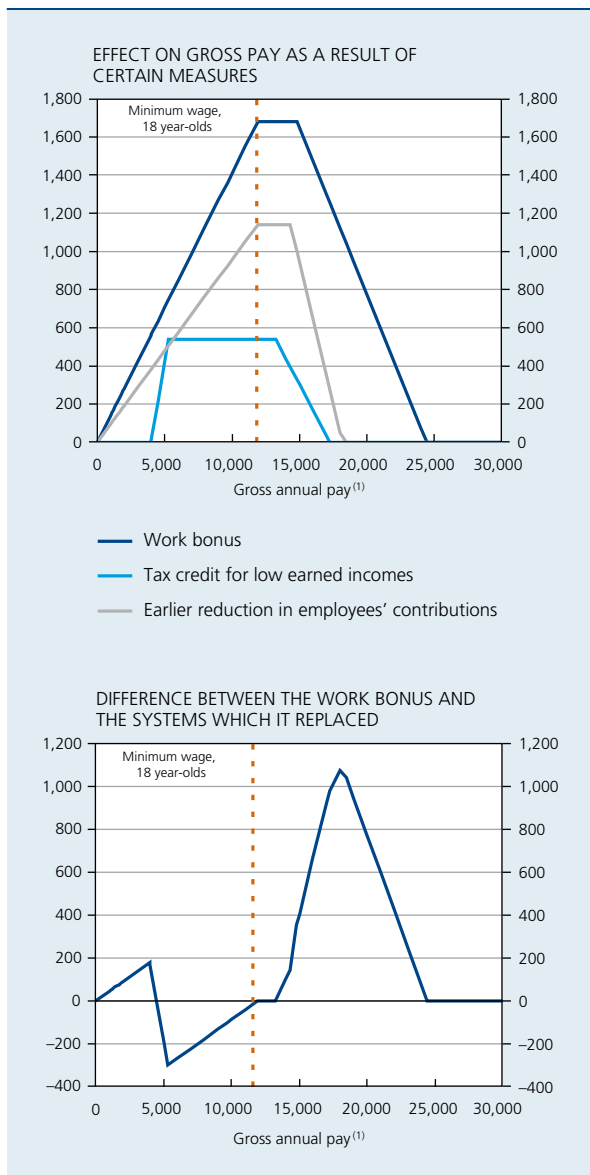
to rise gradually to 13.07 p.c., up to the pay level at which the work bonus ceases to apply.

The redistribution implications of the work bonus are different from those of the systems which it replaced, such as the reductions in personal contributions introduced on 1 January 2000 and the tax credit for low earned incomes. This last measure was aimed almost exclusively at employees being paid an amount close to the minimum wage, but part-timers were often also eligible. In contrast, the work bonus is aimed at both full-time and part-time workers receiving wages which – though low – are significantly higher than the minimum wage. For incomes close to the minimum wage, the change is neutral and has no effect on net income. Employees being paid less than the minimum wage – mainly part-time workers – incur a loss. The main advantage of the change is conferred on employees receiving an income in excess of the minimum wage.

4.3 Social contributions payable by self-employed workers

In contrast to the system for employees, the social contributions payable by self-employed workers are clearly degressive. In 2006, the rate of 19.65 p.c. applies to incomes up to 47,203 euro, with a minimum of 475 euro per quarter. On incomes between 47,203 and 69,568 euro, the rate of social contributions is 14.16 p.c., while no

CHART 13 REDISTRIBUTIVE EFFECTS OF THE WORK BONUS
(in euro)



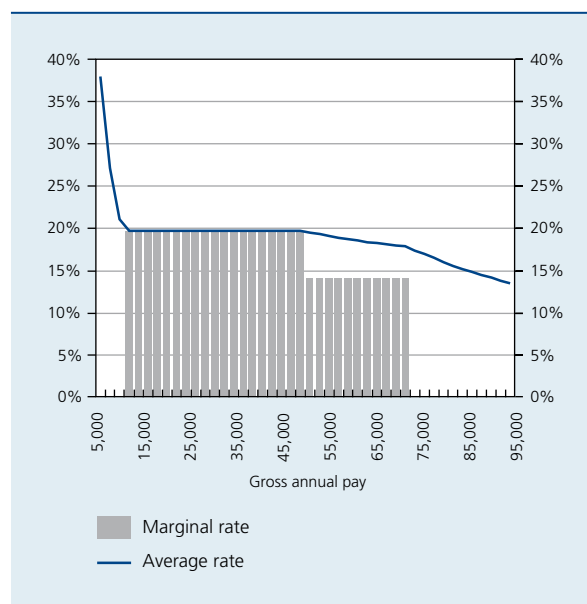
Source : NBB.
(1) On the basis of twelve equal monthly wage payments.

contributions are payable on incomes above that level. Owing to the structure of self-employed workers' contributions, the average rate is high initially, on account of the minimum contributions, before equalling the marginal rate of 19.65 p.c. Beyond the income levels subject to the marginal rates of 14.16 p.c. and 0 p.c., there is a gradual decline in the average rate.

(1) The data were adjusted for household size on the basis of the equivalence scales used by the OECD.

(2) In the case of excise duties, this analysis was only possible for mineral oils and tobacco, which make up 87 p.c. of excise revenues.

CHART 14 AVERAGE AND MARGINAL RATES OF SOCIAL CONTRIBUTIONS PAYABLE BY SELF-EMPLOYED WORKERS



Source : INASTI.

5. The redistributive character of indirect taxes

The redistributive character of indirect taxes is examined on the basis of the household budget survey conducted in 2001 by the Directorate-general Statistics of FPS Economy. That survey gives average household spending figures⁽¹⁾, for the various expenditure categories, per income decile. There are over 800 expenditure categories altogether. The redistributive effects of VAT and excise duties are examined on the basis of both the expenditure profile of the various income deciles and the percentage represented by VAT or excise duty in the average price for each expenditure category in 2001⁽²⁾.

5.1 VAT and excise duties in Belgium

Belgium applies various rates of VAT. Thus, certain goods and services, such as daily papers, rents and school fees, are de facto subject to a zero rate. A reduced rate of VAT – 6 p.c. – generally applies to basic products such as most food products, water consumption, magazines and books, hotel or camp site accommodation, sporting and cultural activities, passenger transport and renovation work on residential property which is at least fifteen years old (temporarily applicable to residential property which is at least five years old). Next, there is an intermediate rate

of 12 p.c. which applies only to margarine, coal and cable television. The standard rate of 21 p.c. applies to all other product categories. Products not explicitly specified as attracting a lower rate are subject to this 21 p.c. rate⁽¹⁾.

The rates of excise duties levied on mineral oils, tobacco products and beverages vary widely. Thus, in 2001 the excise duty on one thousand litres of petrol was over 200 euro more than the amount charged on the same quantity of diesel. Excise duties represented 47 p.c. and 35 p.c. respectively of the selling price of petrol and diesel. In Belgium, unlike in most EU-15 countries, only a small amount of duty is levied on heating oil; in 2001, excise duty represented only 4 p.c. of the selling price. Conversely, the excise duty on a packet of cigarettes averaged 2 euro in 2004, corresponding to 57 p.c. of the average selling price of 3.5 euro.

5.2 Value added tax

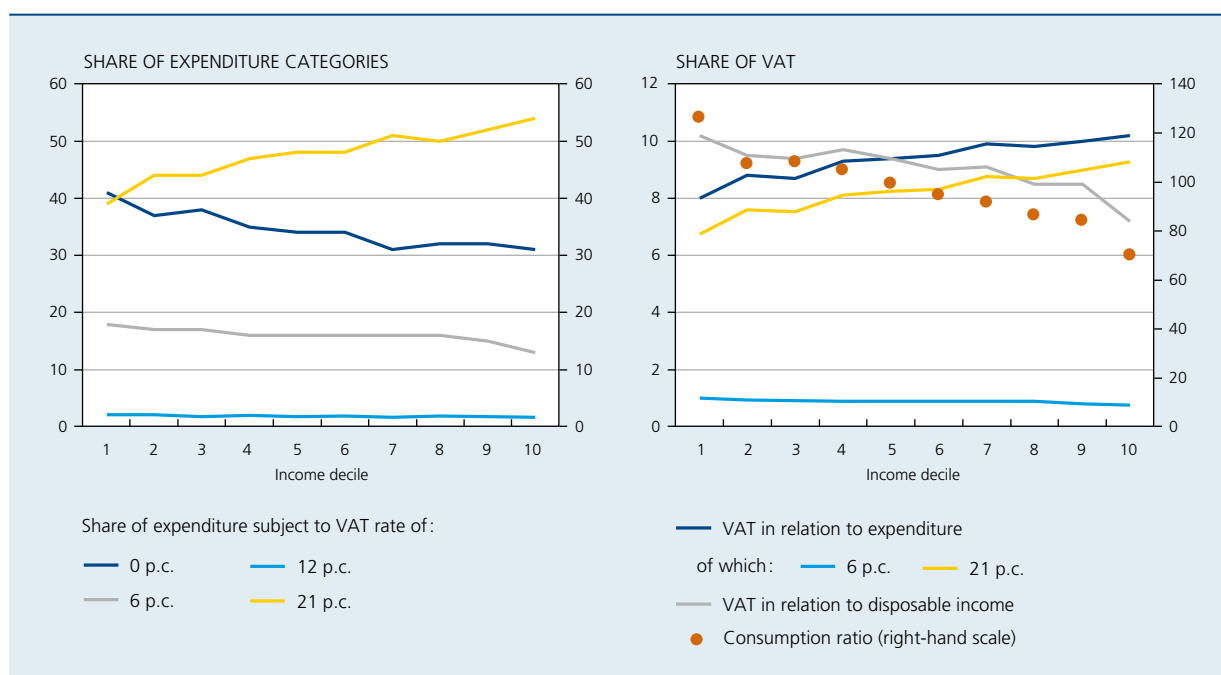
The most significant indirect tax from the point of view of the budget is VAT, which raised the equivalent of 7 p.c. of GDP in 2005. The breakdown of VAT between households was simulated on the basis of the expenditure categories in the household budget survey and the rates of VAT. The total simulated VAT corresponds to around 70 p.c. of the actual VAT received by general government in 2001.

The difference in relation to actual VAT revenues is due mainly to certain firms, the liberal professions and certain bodies such as local authorities being unable to recover any VAT, and to the expenditure effected in Belgium by non-residents. The simulated VAT totals 9.6 p.c. in relation to household expenditure and 8.6 p.c. of total disposable income.

The pattern of household consumption varies according to the income decile. In proportion to their expenditure, the lower income groups consume relatively more of the products which are subject to the reduced rate of 6 p.c. or those which are exempt from VAT⁽²⁾. The level of consumption of products subject to the 6 p.c. reduced rate falls from 19 p.c. in the first income decile to 13 p.c. in the last income decile. The expenditure to which the zero rate applies – particularly rental charges⁽³⁾ – drops from 41 p.c. in the first decile to 31 p.c. in the tenth decile. The proportion represented by the 12 p.c. rate is negligible, at 2 p.c., and remains constant across all income deciles. The proportion of expenditure subject to the residual rate of 21 p.c. increases sharply across the income deciles, rising from 39 p.c. in the first decile to 54 p.c. in the tenth decile.

- (1) Apart from the rates mentioned above, there is also a 1 p.c. rate applicable to transactions in non-monetary gold.
- (2) In the literature, this aspect is known as "Engel's law". As income increases, the relative importance of expenditure on basic essentials such as food declines.
- (3) For home owners, the household budget survey also takes account of imputed rents, which are included as income.

CHART 15 REDISTRIBUTIVE CHARACTER OF VAT



Sources: FPS Economy, NBB.

Owing to the pattern of household consumption and the diversity of tax rates, the simulated VAT is progressive in relation to household expenditure. It rises steadily from 8 p.c. in the lowest income decile to 10.2 p.c. in the tenth income decile.

In proportion to disposable income, VAT is decidedly regressive. It declines from 10.2 p.c. in the first decile to 7.2 p.c. in the tenth decile. However, its regressive character is particularly marked in the first and tenth deciles, since there is only a gradual decline in the proportion of VAT between the second and ninth deciles, down from 9.5 to 8.5 p.c.

The regressivity of indirect taxes in relation to income is due to the fact that indirect taxes are levied only on household consumption and not on income saved. The consumption of households with the lowest disposable income is about 27 p.c. greater than their income. In the fifth income decile, consumption and disposable income are in overall balance. In contrast, the highest decile spends on average only 70 p.c. of its income on consumption, saving the remainder⁽¹⁾.

(1) The choice between the two measures – in relation to the expenditure of the disposable income of households – is not straightforward. Expenditure may in fact be regarded as a better indicator of household prosperity than income, which is volatile (De Coster, 1995).

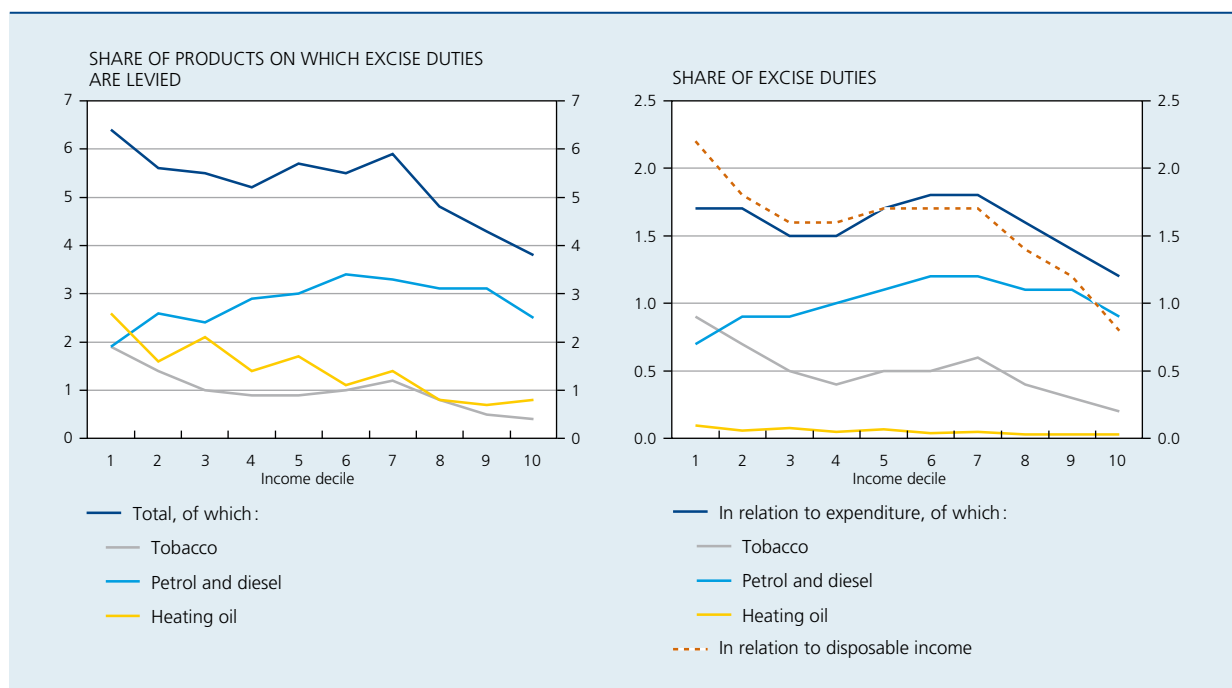
5.3 Excise duties

Simulated excise duties represent 1.4 p.c. of disposable income. In 2001, these simulated excise duties totalled only 40 p.c. of the excise duties actually collected. This small proportion is due to the large amount of excise duty on diesel, petrol and heating oil, paid to general government by firms. Also, the simulation could not include the excise duty on (alcoholic) beverages, since the rates applicable vary greatly and the information obtained from the household budget survey is not sufficiently specific.

There are wide variations in the relative importance of the various expenditure categories on which excise duties are levied. Expenditure on petrol and diesel is proportionally more significant in the intermediate income deciles, where it represents just over 3 p.c. of expenditure. The share of expenditure on heating oil declines considerably between the first and tenth deciles, dropping from 2.5 p.c. to 0.8 p.c. The proportion of expenditure on tobacco products falls sharply across the income deciles, dropping from 1.9 p.c. in the first decile to 0.4 p.c. in the tenth.

Unlike VAT payments, for which the relative importance increases in proportion of consumption, excise duties do not present a clear pattern. In relation to income, excise duties are regressive, but this finding is due essentially to

CHART 16 REDISTRIBUTIVE CHARACTER OF EXCISE DUTIES



Sources: FPS Economy, NBB.

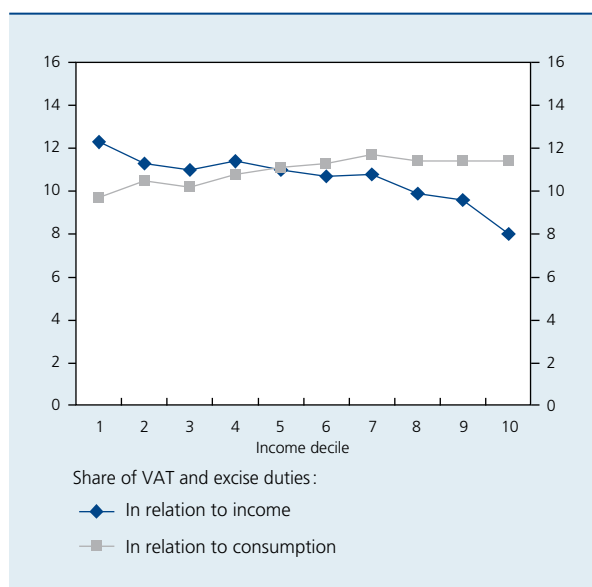
the first and last deciles. The profile is similar in relation to household expenditure, but is less marked. In terms of consumption, the excise duties on petrol and diesel are progressive up to the seventh decile and then become regressive. Since heating oil is subject to only a very low level of excise duty in Belgium, that duty has little influence on the household budget⁽¹⁾, even though the percentage of expenditure devoted to heating oil falls sharply across the income deciles. The excise duty on tobacco is the main reason for the regressive character of excise duties as a whole in proportion to income. The recent increases in the excise duty on tobacco reinforced that regressivity.

Excise duties are levied on products whose consumption the government aims to discourage because they are harmful either to health, such as tobacco and alcohol, or to the environment as in the case of petrol and diesel. The government therefore considers the redistributive character of excise duties to be less important than their dissuasive effect.

5.4 The redistributive character of VAT and excise duties

Overall, VAT and excise duties are therefore neutral or even slightly progressive in relation to household expenditure. However, in relation to household incomes they are clearly regressive.

CHART 17 REDISTRIBUTIVE CHARACTER OF VAT AND EXCISE DUTIES



Sources: FPS Economy, NBB.

Conclusions

Compared to the other EU-15 countries, Belgium has less primary income inequality. Moreover, there is a relatively high degree of redistribution in Belgium, so that – after taxes, social benefits and social security contributions – the disparities are among the smallest in Europe. As in other countries, this income redistribution is effected primarily via social benefits. However, redistribution via taxation also plays a very important role.

The most strongly redistributive tax in Belgium is personal income tax, which is highly progressive. That is due principally to the structure of the tax scales and the amount of the tax-free allowance, and to the reduction in taxes on replacement incomes. The influence of social security contributions on the redistribution of income is relatively limited, although it is greater than in the majority of the EU-15 countries.

VAT, which accounts for the bulk of indirect taxes, is slightly progressive in relation to expenditure, owing to the rate structure whereby the reduced rate and the zero rate apply to goods and services which are consumed to a proportionally greater extent by low-income households. Conversely, in relation to disposable income, VAT is regressive. That is because the savings ratio increases with each income decile. Excise duties are rather regressive, in relation to both household spending and household income.

This study also illustrates the fact that tax measures are seldom neutral in their effect on income redistribution. However, this effect is clearly dependent on the practical arrangements of these measures. The personal income tax reform approved in 2001 and the introduction of the work bonus increased the progressive effect of the compulsory levies on earned income and reduced the average rate of the levy. While the impact of increases in excise duties on fuel is more mixed in terms of redistribution, the recent increases in excise duty on tobacco have accentuated their regressive character. However, it is clear that the government also uses excise duties as an instrument to discourage unhealthy or ecologically unsound consumption behaviour.

(1) However, it should be noted that heating oil is subject to 21 p.c. VAT.

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