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The social consequences of changes in VAT

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Final report

On behalf of Directorate General for Research of the European Parliament

Department Market Strategy and Industry Analysis

Rotterdam, April 1998

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Executive Summary

Concepts

Value Added is the difference between the value of the production and the value of the goods and services used in the production process. EU Member States levy a Value Added Tax (VAT), as do most other OECD countries. In the EU, VAT is calculated separately on every invoice. To determine the amount of VAT to be transferred, an entrepreneur is allowed to deduct the VAT paid on the purchase of inputs from the VAT received on sales. Only the final consumer has no means of getting paid VAT back. So, the VAT burden ultimately rests on the final consumer. Because Europe applies the destination principle only the domestic residents pay VAT. The destination principle means that exports are exempt from VAT and that VAT is imposed on imports.

A uniform VAT rate is proportional and therefore regressive when related to income. For a similar basket of goods and services someone with a high income pays less VAT as percentage of income, than someone from a lower income group. This is an important reason for introducing a multiple rate structure. Reduced rates apply to products that are/were relatively important in the consumption pattern of lower income groups. In this way re-distributional goals are pursued and VAT is made less regressive. Multiple rate structures increase the administrative burden and compliance costs of VAT for the business sector. For two main categories of reasons all Member States also exempt certain goods and services from VAT.

First, political reasons. National governments are unwilling to tax goods and services that are for the public benefit (for example medical care, charitable work and education). Furthermore, governments provide concessions to small businesses to prevent disproportionate administrative burdens suffocating entrepreneurship.

A second category of reasons for exemption is the inapplicability of the VAT system to certain services. The value added in, for example, the financial services sector is extremely difficult to establish, making a VAT impossible to levy.

The Netherlands, lessons learned

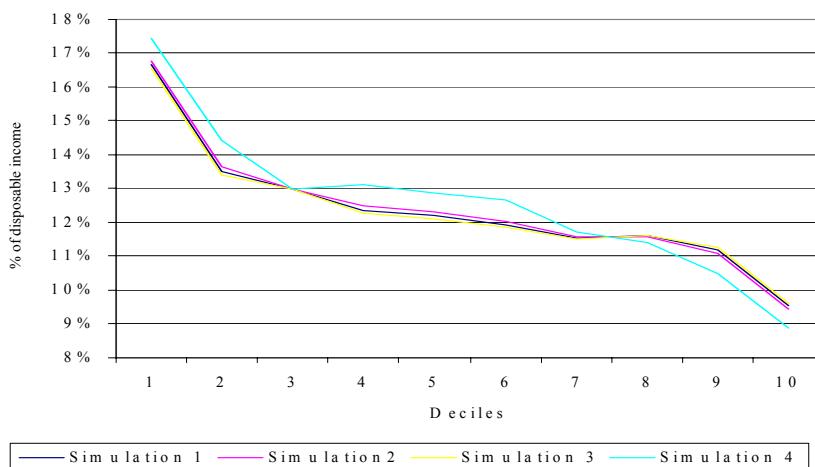
In the Netherlands different income groups are increasingly buying the same goods and services, making it harder to identify products and services that are especially important for low income groups. A reduced VAT rate for these products or services has therefore lost most of its redistributional capacity. As a result the incidence of VAT on the different income groups only slightly changes when the reduced and standard VAT rates are varied under the assumption that total VAT revenue remains constant (Figure A).

Employment is a crucial issue for all EU Member States. The employment effects of changes in VAT can be estimated in several ways. In more sophisticated methods, using economic

modelling, a 1% increase in the average VAT rate in the Netherlands leads to a loss of 20,000 jobs. When the 1% increase in VAT is offset by a decrease of other taxes (wage and income taxation), job loss would be reduced significantly. It can therefore be concluded that changes in VAT rates have a limited impact on employment in the Netherlands.

The government of the Netherlands wants to stimulate employment by introducing value added tax cuts on certain labour intensive services. The VAT rate on for instance tailors, barbers, shoe repair and bicycle shops could be reduced from 17.5% to 6%. The current agreements within the EU prohibit such a rate reduction. However, the EU is interested in methods that might reduce unemployment and experiments have started in the Netherlands. So far, the employment effects of these experiments are questionable.

Figure A: VAT incidence on 10% income groups of 4 simulations with different VAT rates



The European Union

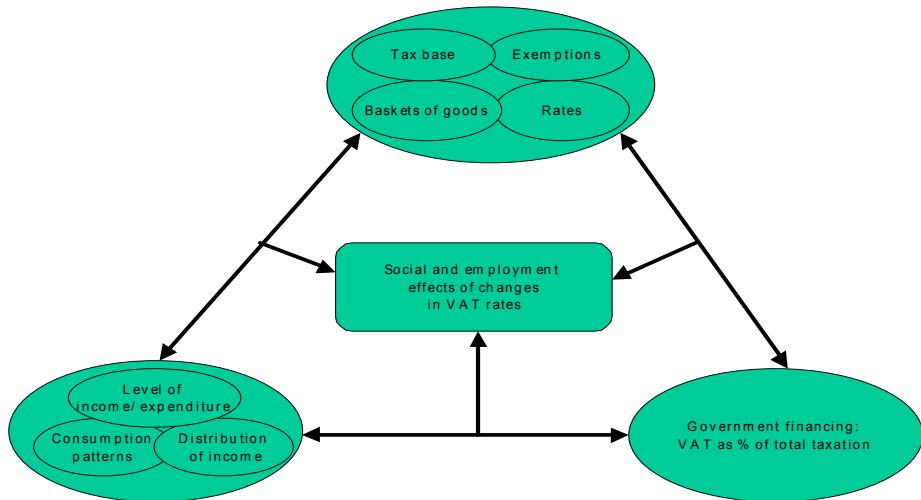
In the European Union indirect taxation has been a source of ongoing discussion and conflict. Since 1967, the EU has striven after a gradual harmonisation of turnover taxes. A common Value Added Tax was implemented by 1973. The chosen destination principle left EU Member States considerable freedom to set their VAT rates. This has resulted in an elaborate system of standard rates, reduced rates and exemptions.

The various VAT rates used by Member States allow for a distinction between domestic transactions and intra-community transactions. This is not in accordance with a truly competitive single market. In 1996 the Commission's programme for the introduction of a new VAT system was adopted. If the proposals are accepted (not before 2000), more or less common VAT rates will be introduced and the EU will be moving towards an origin-based VAT system. "Origin-based" means that VAT is collected in the country where goods and services originate.

Social Consequences of VAT

The social and employment effects of changes in VAT rates are influenced by many factors, which are also interdependent (figure B). The specific circumstances in each Member State will determine the final impact of these factors.

Figure B



Tariffs and tax base

To avoid economic distortions, all economic activity in a Member State should be subject to VAT. In reality the tax base is smaller, as a lot of goods and services are exempt from VAT. But even goods and services that are subject to VAT are not treated in a similar way. Almost all Member States have set up dual-rate structures. Within the EU a wide variety of baskets of goods and services exist, on which different VAT rates are applied. Comparing these baskets is difficult, as the relative weight of each product or service cannot be determined. This does not change the fact that the baskets influence the social and employment consequences within Member States when VAT rates are changed.

Income, expenditure and consumption patterns

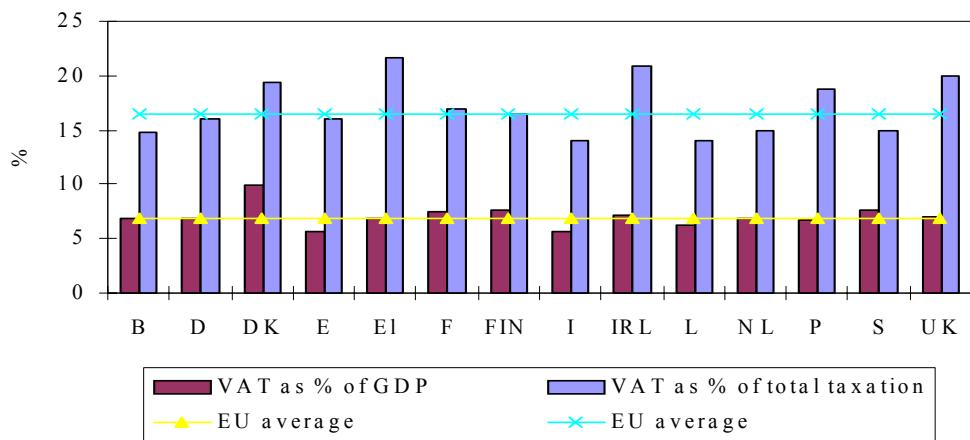
When countries have a similar tax base and similar VAT rates that apply to the same goods and services, VAT pressure can still differentiate at a national level and at the level of income groups. Consumption patterns determine part of the VAT pressure. VAT decreases in a country that, for example, spends a lot on food, as food is subjected to a lower VAT rate. Expenditure on food and other basic necessities decreases as a proportion of total expenditure with a rising standard of living or GDP. Not just the level of income (expenditure) is relevant, but also the distribution of income. With rising GDP and a more equal income distribution, people start to buy variations of similar products and services. The high income groups buy more expensive varieties, but VAT is applied to categories of goods and services and not dependent on price levels within these

categories. Hence the social and employment effects of changes in VAT rates will differ between Member States, not only as a result of the tax base and the tax rates, but also because of changes in the distribution and the level of income and expenditure and the patterns of consumption.

Government financing

VAT is an instrument to raise revenue. Differences between Member States are substantial (see figure C). These differences can be explained by the level of aggregate taxation, the tax base and the level of the rates. The importance of VAT as a revenue-raising instrument influences the impact of VAT changes.

Figure C: VAT revenue in Member States (1996)



Source: Eurostat, 1997

To determine possible employment consequences of changes in VAT for the Member States, country specific models should be used.

Conclusions

In the Netherlands converging consumption patterns have rendered the dual-rate VAT structure obsolete as a re-distributional instrument. The impact on the regressive character of VAT is very small. The argument for abolishing the dual-rate structure is further strengthened by the facts that:

- ◆ re-distributional goals can be achieved in more efficient and effective ways;
- ◆ the dual rate structure gives rise to economic distortions; and

- ♦ the dual rate increases administrative and compliance costs.

Various country-specific models were used to estimate the employment effects of VAT changes in the Netherlands. Depending on the model used, a 1% increase of the Dutch VAT rate would lead to a reduction in jobs of 20,000 to 35,000 (0.3%-0.5% of employment). When the change in VAT rates is budget neutral, the decrease in employment will be much lower.

Hence changes in VAT lead to limited changes in employment in the Netherlands. To determine the full social and employment effects of changes in VAT rates in EU Member States detailed country-specific research is required.

The EU is aiming for the harmonisation of both VAT rates and the VAT base. However, social and employment effects are not just determined by the present deviation of individual Member States from the still-to-be-determined EU targets. Other determinants are the relative importance of certain goods and services in the national economies; levels of expenditure/income; consumption rates; and government financing.

It is impossible to say beforehand how each element will influence the social and employment position of an individual Member State. The present research has only permitted rough indications for three other countries: the UK, Portugal and Spain.

In order to be able to indicate the overall impact of a VAT harmonisation, further detailed research at Member State level is required.

1. Introduction

In this study the social effects of changes in value-added tax (VAT) are analysed. In paragraph 1.1 some relevant concepts are introduced. The effects of VAT changes are analysed in depth for the Netherlands (chapter 2). The Dutch case study is used to analyse the impact of changes in VAT on the regressive character of the tax (paragraph 2.2) and on employment (paragraph 2.3). Possible employment effects of VAT changes are also described with respect to the “Polder Model”, the economic policy currently used in the Netherlands to fight unemployment (paragraph 2.4). Conclusions for the situation in The Netherlands are presented in paragraph 2.5.

In chapter 3, implications of the case ‘The Netherlands’ for other EU Member States are discussed. After a short review of the developments of VAT in the EU (paragraph 3.1), the determinants of social and employment effects of changes in VAT are discussed (paragraph 3.2). Possible employment effects are roughly estimated for some Member States in paragraph 3.3. However, to get a realistic picture of the effects of VAT changes, country specific studies are necessary. A study framework is presented and discussed in paragraph 3.4. Concluding remarks are made in chapter 4.

1.1 Concepts

‘Value-added’ is the difference between the value of the production and the value of the goods and services used in the production process. Another way to define value added is as the sum of wages and salaries, interest payments and profits before tax. A value-added tax is quite common. All OECD members, except Australia and the United States levy a VAT in some form or another.

A value added tax works as follows: using a 15% VAT rate. Service Firm A hires labour and sells it with a profit of 60. So it adds a value of 60 and has to pay a value added tax of 9. Firm B buys all of A’s output and produces output worth 120. Firm B’s value added is 60 and VAT equals 9. Firm B sells all its output to Firm C. Firm C produces for the consumer market and sales are 240. VAT is 18. The total amount of VAT revenue in this example equals 36, which will be reflected in the final consumer price.

The term VAT is misleading. A value-added tax is not necessarily a tax on value-added. Three types of value added taxes can be distinguished:

- ◆ the *consumption type*, which is used within the EU,
- ◆ the *income type* and
- ◆ the *gross product type*.

With a **consumption VAT**, firms calculate the amount of VAT they have to pay by deducting total purchases of input from sales. Investments are treated like regular inputs and may be deducted from sales. The tax-base on which the VAT is levied, equals aggregate consumption. The consumer ultimately pays for VAT, as it increases the price of consumer products.

A VAT system where only depreciation is allowed to be deducted from sales, is called a **net income system**. The tax base is the national product or aggregate net value-added.

With a **gross product** type of VAT not even depreciation may be deducted.

The consumption VAT used in the European Union is basically a straightforward tax. A certain tax rate is levied on value-added minus the purchase of investment goods, in all stages of production.

In reality, VAT is not straightforward at all. An elaborate system of standard rates, reduced rates and exemptions exists in almost every member state. One reason for this differentiation in rates is national historical development. When VAT was introduced, it often replaced an existing sales tax. Exceptions already in place were built into the new system. More important however, was the wish to reduce the regressive character of VAT. A uniform VAT rate is proportional: of every unit money spent on a product, the same percentage goes to VAT. Related to income VAT is therefore regressive. When someone with an income of 100 buys a basket of goods on which a VAT of 20 is levied, 20% of his/her income goes to VAT. If someone with an income of 1000 buys the same basket the percentage of income going to VAT is only 2%. Reduced rates were introduced to decrease the regressive effect of VAT on income. These rates apply to products that are relatively important in the consumption pattern of the low-income categories (for example food). Furthermore, these rates are often applied to products and services that are deemed important for the public benefit (for example medication, transport, books). Sometimes also luxury rates were introduced. Goods that were mostly consumed by people in the higher income groups (automobiles, furs etc.) were subjected to higher than standard rates. Additional complications arise from numerous special arrangements and exemptions introduced for certain product groups or products.

To get the VAT revenues to the proper authorities several methods can be used:

- ◆ The invoice or credit method (used in European Union)
- ◆ The addition method
- ◆ The subtraction method

With the **invoice method**, VAT is separately calculated on every invoice. An entrepreneur does not have to transfer the VAT amounts as charged. Any VAT charged on the purchase of inputs or investment goods can be deducted. The turnover of Firm C from the earlier mentioned example was 240. On C's invoices VAT amounts to a total of 36. C is allowed to deduct the

VAT it paid when buying its inputs from Firm B: 18.

When using **the addition method**, the tax rate is simply levied on value-added of firms.

With the **subtraction method**, inputs are subtracted from sales and the tax is levied on the difference.

As noted by H. Fehr, C. Rosenberg, and W. Wiegard (1995) all three methods give the same results when a single rate is used. With a dual rate structure differences occur. Firms are subjected to different rates. The addition and subtraction methods levy the tax on the value-added of firms. These firms will try to minimize their costs by shifting value-added to low taxed sectors. A credit method uses a tax on final consumption, so no shifting to low taxed sectors is necessary. "Hence, it is no wonder that the credit method is the preferred method of calculating tax liabilities whenever tax rates are differentiated." (Fehr et all.,1995).

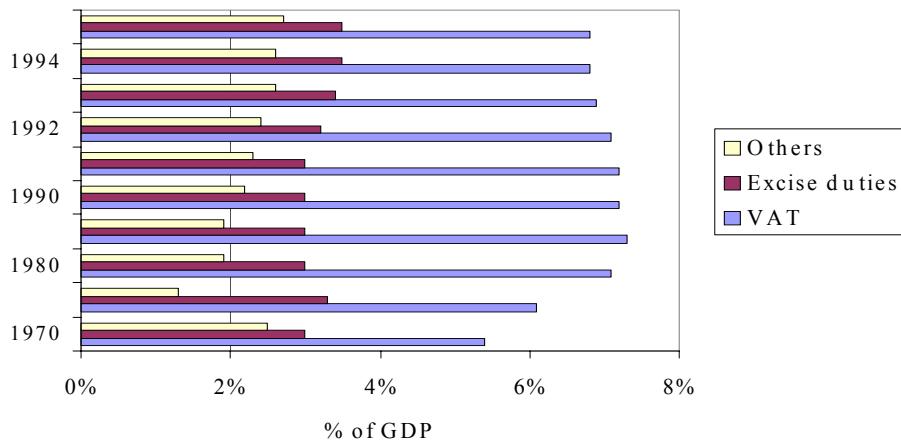
Additional measures have to be taken to deal with imports and exports. When the destination principle is applied, VAT is only a burden on domestic residents. Exports are exempted from VAT and VAT is imposed on imports. VAT is collected in the country where the goods or services are consumed. With an origin-based VAT system the tax is collected in the country where goods and services originate.

The Netherlands: a case study

2.1 Introduction

Total taxation in the Netherlands equalled 45,5%¹ of GDP in 1995. This tax revenue can be divided in three main categories: direct taxes (personal income tax, corporate income tax), indirect taxes (VAT, excise duties) and social contributions (employers', employees', self-employed). In 1995 these sources contributed respectively 29,3%, 28,5% and 42,2% to total taxation. Indirect taxes were 13% of GDP and 28,5% of total taxation. Since its (EU) introduction, VAT has been an important source of revenue and the main contributor of indirect taxation in The Netherlands, as shown in figure 2.1.1.

Figure 2.1.1: Indirect taxation in The Netherlands (% of GDP)



Source: Eurostat, *Structures of the taxation systems in the European Union 1970-95*, Luxembourg, 1997

As early as 1571, sales taxation was a known phenomenon in the Netherlands. At that time the Duke of Alva introduced a turnover tax to help finance his army². As a member of EU-6 the Netherlands introduced a dual rate system that became effective in 1968. From 1968 onwards the rates, especially the standard rate, have been adjusted several times. At present the standard rate is 17.5% and the reduced rate is 6%. A 0% rate exists mainly for technical reasons and is related to the international trade in products and services. Most products and services are subjected to a 17.5% rate. Annex 3 shows which products and services are subjected to a 6% rate and which are exempted.

¹ Eurostat, 1997

² Cnossen, 1981

2.2 Regressivity of VAT

As explained in the introduction (paragraph 1.1), a uniform VAT rate on all goods and services is regressive when related to income. To reduce this regressivity the dual rate system was introduced in the Netherlands. Goods and services that are relatively important for the lower income categories are subjected to a reduced VAT rate. So, there is a certain basket of goods and services subjected to a standard VAT rate and a basket subjected to a reduced rate. In this paragraph the regressivity of the present VAT system in the Netherlands is measured. Although our primary interest is the proportion of disposable income spent on VAT by households, we also look at expenditure. Furthermore, a sensitivity analysis is performed to establish the consequences on regressivity of changes in rates.

Micro-data from budget studies of the Central Bureau of Statistics are used to establish who contributes to VAT. Households that write down income and expenditure, gather data for these surveys. In this way detailed information about purchases of goods and services is available. Using the relevant VAT rates for these purchases allows us to calculate the amount of money spent on VAT by these households. When VAT is expressed as percentage of income (or expenditure), the incidence of VAT on income (expenditure) is measured. Doing this per decile (10% income groups) illustrates what percent of income (expenditure) is spent on VAT by the different income groups.

High income groups spend a smaller percentage of their free disposable income than low income groups, because they save part of their income. Lower income groups consume most of their income. The proportion of income spent on VAT by higher income groups will be lower than by lower income groups. Therefore, VAT related to disposable income has the features of a regressive tax. When expressing VAT as percentage of expenditure, this changes. In theory lower income groups spend a relatively large part on goods and services subjected to a reduced rate. A progressive VAT is to be expected.

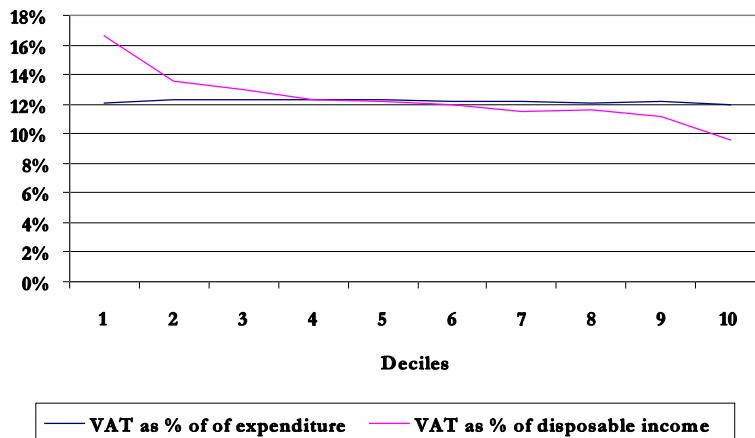
Table 2.2.1 shows a slightly regressive VAT pressure on free disposable income. When expressed as percentage of expenditure, VAT is almost proportional. According to Cnossen (1995) this can be explained by converging consumption patterns between income groups. The different income groups are purchasing more and more the same goods and services. Higher income groups buy more expensive varieties of products in comparison with lower income groups. VAT rates however, do not differentiate according to product prices. Figure 2.2.1 gives a graphical presentation of the findings.

Table 2.2.1: Incidence of VAT on free disposable income and expenditure

Decile	Total disposable Income ¹	VAT as % of free disposable income	Total expenditure ¹	VAT as % of expenditure
1	14,785.95	16.65%	20,398.00	12.07%
2	21,805.41	13.52%	24,064.46	12.25%
3	26,889.83	12.97%	28,280.39	12.33%
4	32,425.69	12.36%	32,646.78	12.27%
5	38,629.78	12.20%	38,451.71	12.25%
6	45,165.59	11.93%	44,327.39	12.15%
7	51,777.02	11.54%	49,143.19	12.15%
8	60,122.34	11.61%	57,740.68	12.09%
9	71,023.04	11.19%	65,339.93	12.17%
10	100,689.30	9.53%	80,225.77	11.97%

¹Average income per household in 1995, in Dutch guilders

Source: CBS and NEI calculations

Figure 2.2.1: VAT pressure on 10% income groups


Source: CBS and NEI calculations

The total amount of VAT revenue consists of a part paid for products and services that are subject to a 6% rate, and a part subjected to a rate of 17.5%. As explained, the budget survey allows us to differentiate between the revenues from these two rates. Per decile the amount of VAT generated by the reduced rate and the standard rate are known.

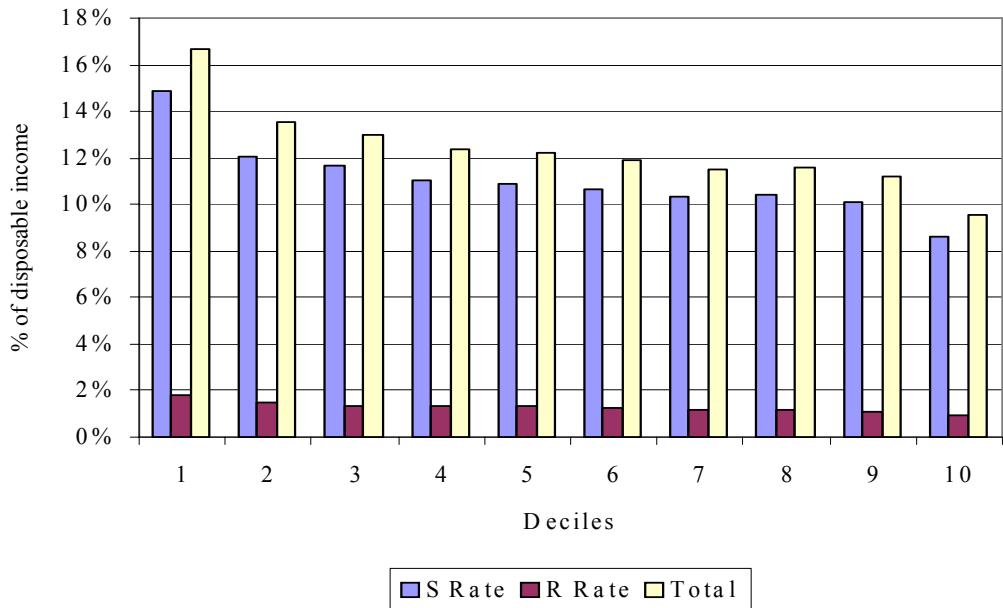
Using these findings we can measure the effect of changes in reduced and/or standard VAT rates on the regressivity of the tax. Starting from the present situation, three simulations are made, under the assumption that total VAT revenue and final demand remain constant:

- ◆ The present situation as described above. The high VAT rate is 17.5% and the low rate 6%.
- ◆ The low and high VAT rates are both 14.64%.
- ◆ The low rate is 0%. To keep total VAT revenue constant the high VAT rate has to be increased to 19.48%
- ◆ The high VAT rate is 0%. A dramatic increase of the low rate, to 58.96%, is necessary to keep total VAT revenue constant. The need for such a large increase is caused by the fact that only 25% of the tax base is subjected to a low VAT rate.

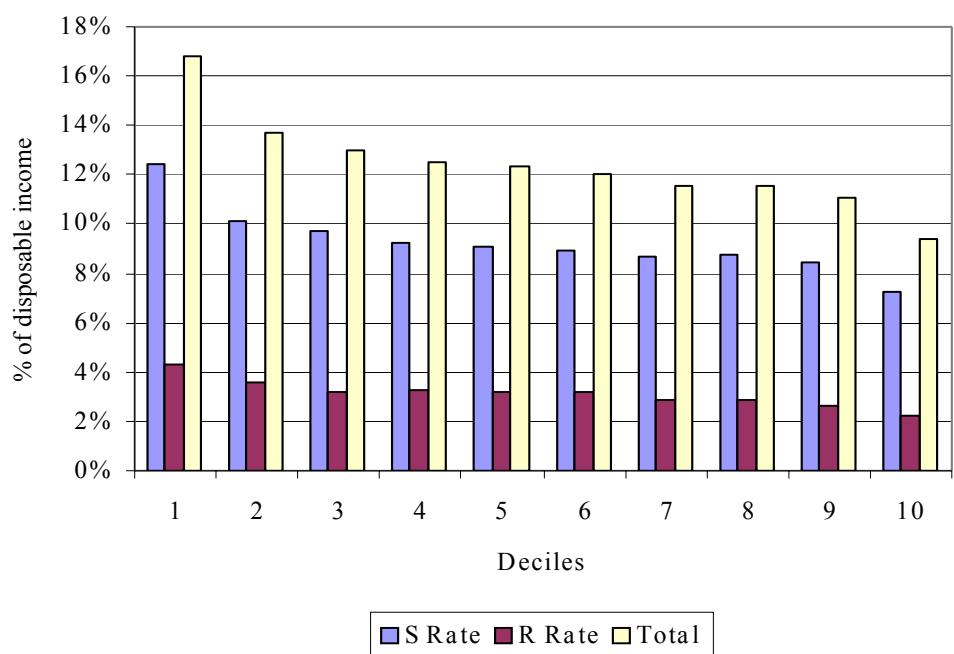
In figure 2.2.2 the results of all four simulations are presented.

Figure 2.2.2: Incidence of standard VAT rate (S-Rate), reduced VAT rate (R Rate) and Total VAT on deciles of disposable income

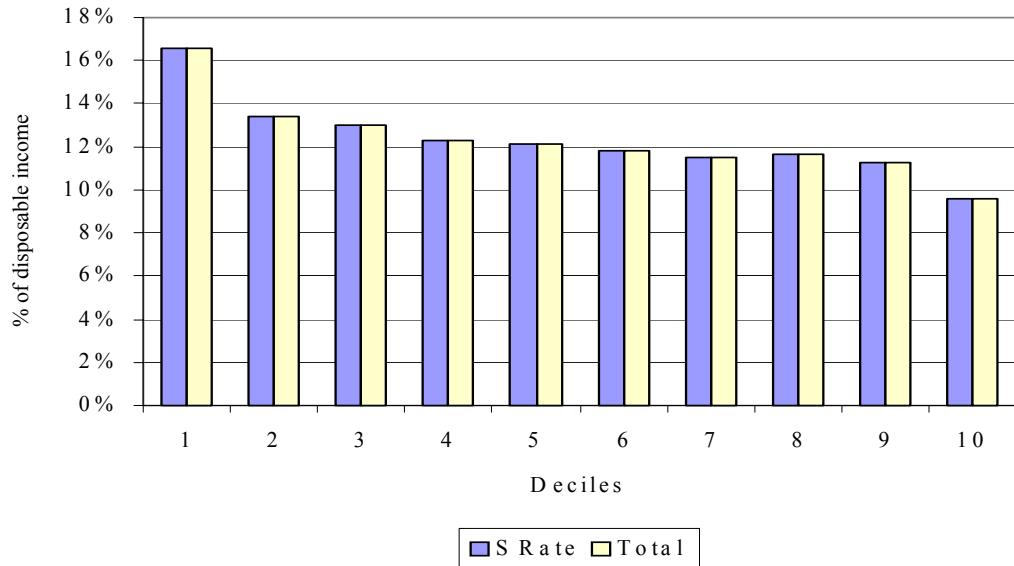
Simulation 1: standard VAT rate 17.50%, reduced VAT rate 6.00%



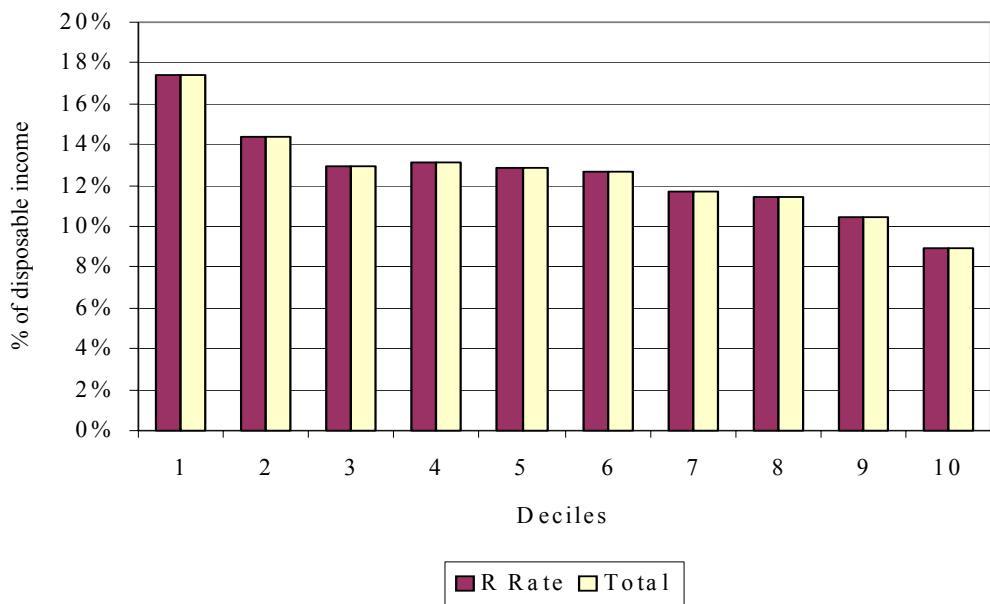
Simulation 2: standard VAT rate 14.64%, reduced VAT rate 14.64%



Simulation 3: standard VAT rate 19.48%, reduced VAT rate 0%



Simulation 4: standard VAT rate 0%, reduced VAT rate 58.96%

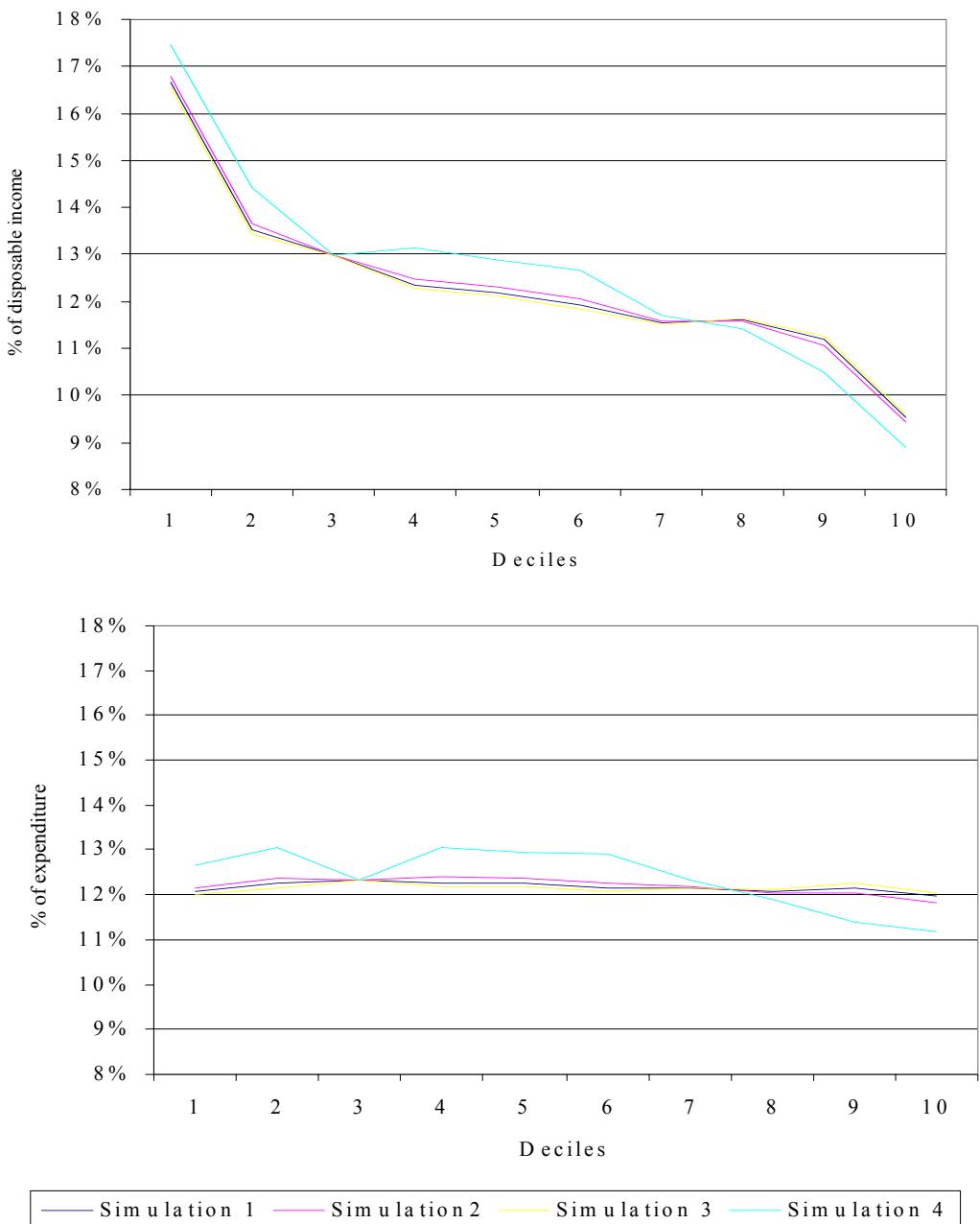


Source: NEI calculations

In figure 2.2.3 the incidence of total VAT of both disposable income and expenditure for all four situations is presented. Only the unrealistic simulation 4 deviates considerably from the other simulations. Simulation 1,2 and 3 lead to almost the same VAT incidence. Regressivity is marginally affected by changes in VAT rates under the assumption of constant revenue. This

analysis leads to the conclusion that the dual rate structure of VAT has little influence on regressivity. For re-distribution purposes the dual rate is an inadequate instrument. It has little impact on regressivity, but it does add considerably to the administrative and compliance costs³.

Figure 2.2.3: VAT incidence on 10% income groups of all four simulations



³ Cnossen, 1996

Social Consequences of VAT

Source: NEI calculations

2.3 Employment effects of changes in VAT

Changes in VAT are expected to have employment effects. In this paragraph possible employment effects are measured in various ways. A top-down approach is used in which a change of the current VAT-rate has a direct impact on total Value Added. Using the average value added per employee, the impact of any changes in value added is expressed in changes in employment (scenario 1). Athena, a sector model of the Central Planning Bureau (CPB) is used in scenario 2. In this model fourteen branches of industry, the public sector and the social security system are described. The model is used to calculate the employment consequences of a 1% decrease in both the standard and the reduced rate. In scenario 3 another sector model is used, PRISMA, to calculate a 1% increase in both the standard and the reduced rate.

2.3.1 *Scenario 1*

In this top down scenario we assume that a change in the current VAT rate has a direct impact on total value-added. We also assume that consumer prices and final demand remain unchanged, when the average VAT rate changes. When, for example, the VAT rate is reduced, producers will increase value-added by employing additional people. The number of additional people hired is calculated by dividing total additional value added by the average value added contributed per person in the present situation. The weighted average VAT rate for households has been calculated for the present situation in paragraph 2.2 (simulation 2). We assume that this average equals the overall average VAT rate in The Netherlands. In the second column of table 2.3.1.1 the situation is presented for The Netherlands in 1995.

In 1995 total gross value-added was 276,277.14 million ECU. Every person working contributed 0.0407 million ECU to total value-added. In simulation 1, a weighted average VAT rate of 15.64% is used, which corresponds with a 1% increase. The total tax base, the amount on which the tax is levied, does not change and VAT revenues increase. Gross value-added decreases to 274,830.39 million ECU. In this scenario a decrease in value added is accompanied by a reduction in the number of people working. A total of 35,515 people will lose their jobs, in simulation 1.

In simulation 2 the weighted VAT rate is 17.50%. Just as in simulation 1, the increase in VAT revenues leads to a decrease in net value added. More than 100,000 people will lose their jobs. The estimated employment effects can be viewed as maximum estimates. In the following paragraphs, models will be used that are based on more realistic assumptions. The expected employment effects of VAT changes will be subdued.

2.3.2 *Scenario 2*

ATHENA is a sector model for The Netherlands, developed by the Central Planning Bureau

(CBP). The private sector is divided into fourteen branches of industry. The public sector and the

Table 2.3.1.1

Weighted average VAT rate	present situation 14.64%	simulation 1 15.64%	simulation 2 17.50%
Economic indicators:			
GDP*	302,381.90	302,381.90	302,381.90
VAT (-)*	21,185.71	22,632.47	25,318.23
Import duties*	4,557.14	4,557.14	4,557.14
Other adjustments*	361.90	361.90	361.90
Gross value added*	276,277.14	274,830.39	272,144.63
Number of people working	6,782,000	6,746,485	6,680,556
Value added by one person (in ECU)	40,700	40,700	40,700
Additional people working		-35,515	-101,444
As percentage of total working force		-0.52%	-1.50%

* at market prices (1995), in million ECU

Source: OECD, *National Accounts*, 1997

social security system are also described. Exogenous variables at a national level are structural labour supply and variables that are directly determined by the government. At an international level foreign trade and foreign prices are among the most important exogenous variables. Aggregating the developments within sectors and the interaction between sectors gives macroeconomic implications. Differences between demand and supply have a direct effect on volumes and on corresponding prices. Pressures in prices also have volume implications. The interaction between demand and production is mainly taking place via such variables as the labour market surplus and the degree of capacity utilisation and profitability per branch of industry. These variables affect prices and wages and thus some feedback in the system is achieved.

A 1% decrease of both the standard rate and the reduced rate of VAT results in a reduction of tax pressure. A direct effect of the rate reduction is a decrease in consumption prices. The volume of private consumption will increase. In the ATHENA model, price reduction leads to a lower wage level. The resulting improvement of the competitive position of The Netherlands increases exports. Ultimately, this will lead to a growth in production and employment. The budget deficit grows. The increase of tax revenue caused by the growth in domestic expenditure is smaller than the revenue loss from the rate reduction. Selections of the results of the simulation with the most recent version of Athena are presented in table 2.3.2.1.

Total employment increases with 22,130 people. These people were previously unemployed (reduction of 12,000 people), or did not participate in the working force (labour supply increases with 10,000 people).

Table 2.3.2.1: Effects of a 1% decrease of both the standard and the reduced VAT rate

	Year								
		1	2	3	4	5	6	7	8
Wage rate firms	%	-0.68	-0.93	-0.81	-0.65	-0.58	-0.56	-0.54	-0.52
Contract wage private firms	%	-0.64	-0.89	-0.77	-0.62	-0.56	-0.54	-0.52	-0.50
Price private consumption	%	-0.81	-1.19	-0.77	-0.62	-0.56	-0.54	-0.52	-0.50
Price exports excl. energy	%	-0.18	-0.29	-0.26	-0.21	-0.19	-0.19	-0.19	-0.19
Price production firms*	%	-0.38	-0.66	-0.60	-0.49	-0.46	-0.47	-0.48	-0.49
Real labour costs*	%	-0.31	-0.29	-0.21	-0.17	-0.14	-0.11	-0.08	-0.05
Vol. private consumption	%	0.19	0.29	0.39	0.49	0.58	0.62	0.65	0.67
Vol. investments (ex. Housing)	%	0.30	0.66	0.89	1.00	1.05	1.01	0.90	0.75
Vol. investment in housing	%	0.05	0.37	0.60	0.69	0.71	0.74	0.76	0.78
Vol. exports excl. energy	%	0.07	0.15	0.19	0.19	0.18	0.19	0.19	0.20
Vol. imports	%	0.13	0.23	0.31	0.38	0.41	0.41	0.39	0.36
Vol. GDP (factor costs)	%	0.14	0.25	0.30	0.33	0.35	0.37	0.38	0.39
Real net national income	%	0.03	0.08	0.17	0.24	0.28	0.29	0.30	0.30
Vol. production firms*	%	0.19	0.34	0.41	0.45	0.49	0.51	0.52	0.52
Labour productivity*	%	0.04	0.04	0.03	0.04	0.06	0.07	0.08	0.09
Employment firms	dly**	6.93	13.93	17.95	19.53	20.22	20.54	20.69	20.68
Total employment	dp***	7.42	14.84	19.15	20.86	21.59	21.92	22.10	22.13
Labour supply	dp***	1.23	4.03	7.00	8.55	9.09	9.34	9.62	9.89
Unemployed looking for work	dp***	-6.19	-	-	-	-	-	-	-
			10.81	12.15	12.31	12.50	12.58	12.48	12.25
Utilisation ratio industry	% point	0.13	0.2	0.16	0.08	0.02	-0.01	-0.04	-0.05
Labour-income ratio*	% point	-0.29	-0.26	-0.20	-0.18	-0.17	-0.14	-0.12	-0.11
Balance current account	% GDP	-0.11	-0.17	0.19	-0.21	-0.23	-0.23	-0.22	-0.21
Receivables public sector (EMU)	% GDP	-0.44	-0.41	-0.35	-0.34	-0.34	-0.35	-0.36	-0.37
Tax pressure	% GDP	-0.39	-0.34	-0.28	-0.26	-0.26	-0.25	-0.25	-0.25
Of which pressure on families	% GDP	-0.02	-0.02	0.03	0.05	0.05	0.05	0.06	0.06
Of which pressure indirect	% GDP	-0.41	-0.37	-0.36	-0.36	-0.35	-0.35	-0.34	-0.34
Pressure social contributions	% GDP	-0.01	-0.02	-0.02	-0.01	-0.01	-0.01	-0.01	-0.01
Value GDP (market prices)	%	-0.69	-0.93	-0.83	-0.68	-0.61	-0.59	-0.59	-0.58

* excluding mining, construction of houses, public services

**thousand labour years

***thousand people

Source: *Centraal Planbureau*

2.3.3 *Scenario 3*

Another sector model for The Netherlands called PRISMA, is used for medium-term forecasting, policy analysis and scenario-building. The disaggregation in sectors is based on a classification according to the main activity of firms. PRISMA focuses on the development in the Dutch enterprise sector taking into account economic policy and trends in final demand and the labour market. In the enterprise block PRISMA calculates the developments of sales of the enterprise sector, the developments of costs and price setting process and the entry and exit of enterprises. In the final demand block the model calculates developments of consumption and investment. The labour demand block calculates employment and the development of wages. In the economic policy block, the relations between government and the rest of the economy are described. These four interrelating blocks are influenced by two exogenous variables: international and monetary developments.

Using PRISMA the effects of a 1% increase in both the standard and the reduced VAT rate are calculated. The increase of VAT leads to an increase of government income and therefore to a decrease in budget deficit. Wage and income taxation can be reduced to undo the budgetary consequences of the VAT change. This reduction is also calculated. Table 2.3.3.1 shows the results of both calculations and the total effects.

Table 2.3.3.1: 1% VAT increase, combined with reduction of wage and income taxation

	Effects of VAT	Effects of reduction	Total effects
cumulative effects in the eighth year, in % base projection			
volume			
private consumption	-1.0	1.0	0.0
investments firms	-0.6	0.3	-0.3
exports firms	-0.6	0.0	-0.6
production firms	-0.7	0.5	-0.3
Prices			
private consumption	1.2	-0.1	1.1
exports firms	0.2	0.0	0.2
wage costs per employee	0.3	0.0	0.3
real wage base	-0.1	0.1	0.0
Labour market			
labour productivity firms	-0.3	0.2	-0.1
employment firms	-0.4	0.2	-0.2
working population	-0.1	-0.2	-0.3
unemployment*	0.3	-0.4	-0.1
Additional data (% GDP)			
Labour-income ratio	0.1	-0.1	0.0
• Budget deficit government	-0.6	0.6	0.0

* in % working population

Source: EIM

Increase in VAT

An increase in VAT raises prices. Real disposable income declines, which leads to a decline in demand. Because of the accelerator effect investments will also decrease. Although the direct effect on prices of the VAT increase does not influence the export prices, the indirect effect does. Additional price raises resulting from an increase in wages influence exports negatively. The total production loss of firms is 0.7%.

As already mentioned, price increases lead to higher wage demands and therefore to higher wage costs for firms. These effects strengthen the initial price increase. There are however, also effects working in the opposite direction. Lower labour productivity and growing unemployment put downward pressure on wages.

The decrease in real wage base and the resulting reduction of labour productivity partly compensate the employment effects of the production decrease. As a result of a 1% VAT increase, employment within firms decreases with 0.4% and unemployment increases with 0.3%. In 1995 an increase in unemployment with 0.3% of the working population corresponded with more than 20,000 people.

The labour-income ratio, wages divided by value-added, slightly increases because the decrease in labour productivity is larger than the decrease in real wage base. The budget deficit is reduced by 0.6% of Gross Domestic Product (GDP).

Decrease of income and wage taxation

The positive budgetary effects of an increase in VAT rates can be undone by a decrease of wage and income taxation. Such a decrease leads to an increase in real disposable income. Private consumption increases and so do investments. Production increases with 0.5%.

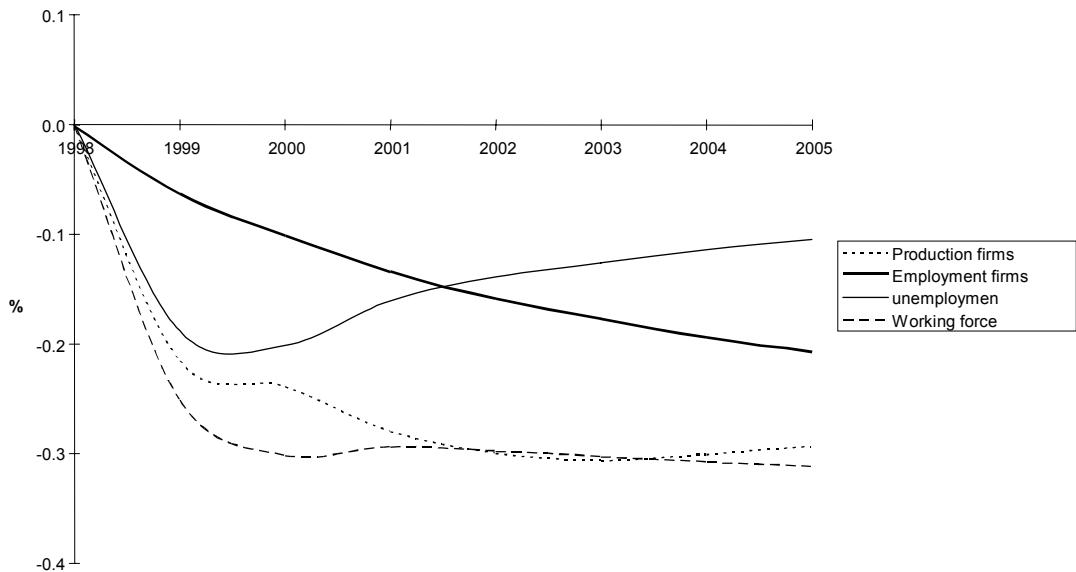
In flexible labour markets two factors put downward pressure on wages. In the first place, price decreases lead to a reduction in wages. In the second place, the lower rates of income and wage tax reduce wages. This can most easily be understood when looking at an increase of wage and income taxation. Such an increase is passed on and wages will rise. It is assumed that the opposite will happen when wage and income taxation are reduced. The increase in labour productivity and decrease in unemployment however, have a positive impact on wages. These effects cancel each other out and wages remain the same. As labour productivity increases, prices can slightly decrease which leads to an increase in the real wage base. Employment within firms grows with 0.2% as a result of growth in production and only a slight increase in labour productivity. Unemployment decreases with 0.4%, mainly as a result of a reduction in working force. The labour-income ratio decreases and the budget-deficit increases.

Total effects

The decrease in income and wage taxation is chosen in a way that it has exactly the opposite effect on the budget deficit as the increase in VAT rates. In total the changes are budget-deficit neutral. Private consumption remains the same. Total investment decreases, as the rise in investment, caused by reduction of wage and income taxes, is too small to offset the decrease in investments caused by the higher VAT rates. Exports also decrease. As a result, total production of firms is reduced. Prices slightly increase, as do wage costs per employee. The real wage base however remains the same.

Under these circumstances labour productivity hardly changes. Employment within firms decreases with 0.2%. The working force decreases also. Therefore, overall unemployment decreases with 0.1% of the working force, corresponding with 6500 people in 1995.

The calculations also have a dynamic aspect, as presented in figure 2.3.3.1. Almost the complete production decline of 0.3%, takes place in the first four years. Employment reacts with a delay, as firms are only able to reduce employment gradually. The working force decreases quickly, because labour supply decreases as a result of reduced tax pressure. This reduction takes place in the first year. As a result, unemployment decreases considerably in the first few years. The gradual decrease in employment however, causes unemployment to rise between 2000 and 2005.

Figure 2.3.3.1: Reaction in time

Source: EIM

As PRISMA identifies sectors within the enterprise block, further disaggregation of the above shown calculations is possible. Table 2.3.3.2 shows the total effects of the change in VAT and income and wage taxation for eight sectors in the Dutch economy. Production declines most in sectors that are heavily influenced by the reduction of exports as a result of the increase in VAT (industry and transport). More domestically oriented sectors (wholesale and retail, personal services, construction) experience only a small decline in production. For agriculture this can be explained by the fact that the reduction of exports in this sector is marginal. Price rises depend on the exposure of the sectors. Less exposed sectors as agriculture, wholesale and retail, construction and personal services have more possibilities to raise their prices.

These possibilities are only limited for industry. It is assumed that the increase in the costs of wages per employee is uniform across sectors. Mutations in the wage rate are mainly influencing developments in labour productivity. Production and labour productivity determine final employment effects within the sectors.

Table 2.3.3.2 1 % point VAT increase, combined with compensatory reduction of wage and income taxation: effects by sector

	Agriculture	Energy*	Industry**	Construction	Wholesale and retail industry	Personal services***	Transport	Business and financial services	Total firms
Cumulative effects in Eighth year, in % base projection									
Volume sales									
- domestic	-0.2	-0.3	-0.3	-0.2	-0.2	-0.2	-0.4	-0.3	-0.3
- exports	-0.2	-0.5	-0.6	-0.2	-0.9	-0.4	-0.5	-0.3	-0.6
- total	-0.2	-0.3	-0.5	-0.2	-0.3	-0.2	-0.5	-0.3	-0.4
Production****	-0.2	-0.3	-0.5	-0.2	-0.1	-0.2	-0.5	-0.3	-0.3
Price sales	0.3	0.4	0.1	0.4	0.3	0.3	0.2	0.2	0.2
Wage costs per employee	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Real wage base	0.2	-0.1	0.2	-0.5	0.1	-0.1	0.1	0.2	0.0
Labour productivity*****	-0.1	-0.3	-0.1	-0.2	0.0	-0.1	0.0	0.0	-0.1
Employment*****	-0.1	0.0	-0.4	0.0	-0.1	-0.1	-0.5	-0.3	-0.2

* mining, oil industry, public utilities

** excluding oil industry

*** hotel and catering industry, car and repair industry, tertiary services, housing, some other services

**** gross value added (factor costs)

***** production per working year

***** in working years

Source: EIM

2.4 The Dutch Model

In recent years The Netherlands have attracted great attention by their ability to slash unemployment. At the end of 1997 unemployment was 5.2%, compared to 10.7% for the European Union. Policy makers, to show that a reduction in unemployment can be achieved in a social secure society, use the Dutch “Polder Model” as an example. In this paragraph the “Polder Model” is analysed and commented upon. Furthermore, a link with VAT will be established. The general implications of the model for other European counties are studied.

After World War II, the economic recovery in the Netherlands took place at a tremendous pace. Wage moderation was used to increase economic growth and employment. In the mid-sixties various elements contributed to a rise in costs of labour. The centrally co-ordinated wage policy was abandoned, automatic price compensation was introduced, as was the social security system. The immediate effect of these changes on employment was small, but in the seventies and eighties the price was paid. In the seventies labour costs rose with 15% yearly and inflation was 8%⁴. In the early eighties the economic situation deteriorated and unemployment rose quickly from 1% in the early sixties to almost 12% in 1983/1984⁵. To reverse this situation the “Akkoord van Wassenaar” was signed in 1982. The agreement of Wassenaar, a small town near The Hague, was the beginning of a new period of wage moderation. Employers agreed to a reduction of the average workweek, unions to moderate wage demands and the government to not intervene. Wage moderation stimulates employment growth in three ways (see de Vries, 1994):

- it allows for production that would not be feasible with higher wage costs;
- it slows down labour–capital substitution;
- it reduces costs of labour, thereby freeing resources for investments.

The consensus about wage moderation between union leaders and employers is a core element of the Polder Model. More flexible product and labour markets are another element. Deregulation, increased competition and labour market reforms are all expected to generate jobs. Improved flexibility on labour markets has definitely had impact on employment (see below) and although the direct link between deregulation and economic activity is hard to establish⁶, a recent study of McKinsey Global Institute⁷ confirms the positive impact of this kind of measures on economic growth. The monetary and budgetary policies of the Dutch Government have also created conditions for economic recovery. The guilder was linked to the D-mark, resulting in a strong currency and low inflation. The budget deficit was reduced significantly. Public debt, although still high, is slowly decreasing.

⁴ de Vries, 1994

⁵ van Zanden, 1997

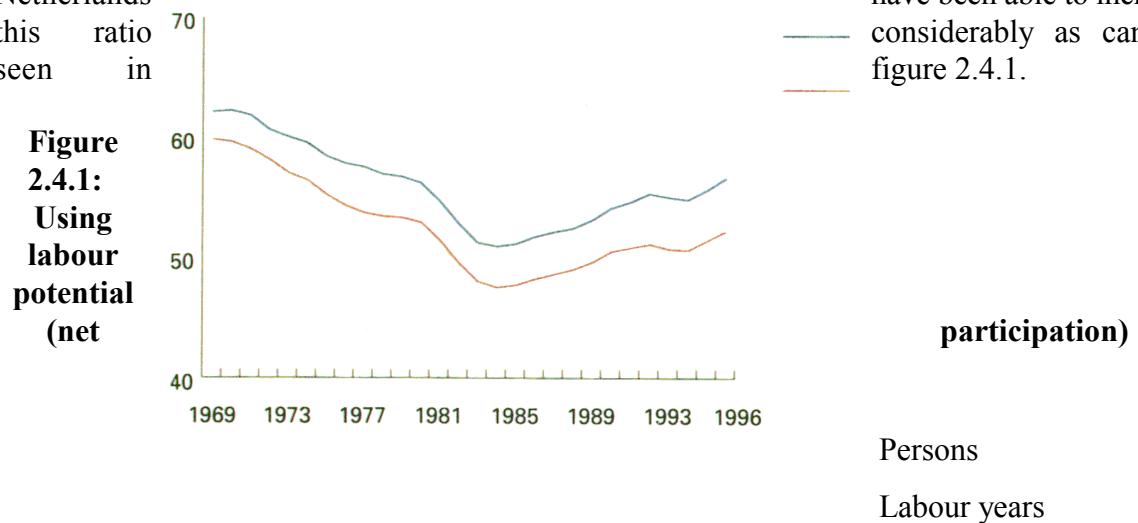
⁶ Delsen, de Jong, 1997

⁷ McKinsey Global Institute, 1997

Together with external factors like a favourable specialisation and reunification of Germany, these policies have made The Netherlands the envy of many countries: unemployment is low (5-6%); many jobs are created, labour costs have remained constant in the last fifteen years, while they rose with 40% in Germany and with 60% in the EU⁸ and inflation is low. Is this envy justified? We will analyse employment achievements of the Polder Model to answer this question.

Employment has risen yearly with 1,5% since 1984⁹. In the last fifteen years, 16% more people found work compared to 3% for Germany and 4% for the European Union¹⁰. The increase in employment had its effect on the unemployment rate. After the high levels in the early eighties, employment declined to 5.2% at the end of 1997. The Netherlands have been able to improve the use of labour potential. People between the ages of 15 and 65, are seen as potential labourers. The people that actually work can be expressed as a percentage of this total group. In recent years The Netherlands

this ratio have been able to increase seen in considerably as can be figure 2.4.1.



Source: Ministry of Economic Affairs, *Toets op het concurrentievermogen 1997*,

However, two remarks should be made with respect to the labour participation ratio. In the first

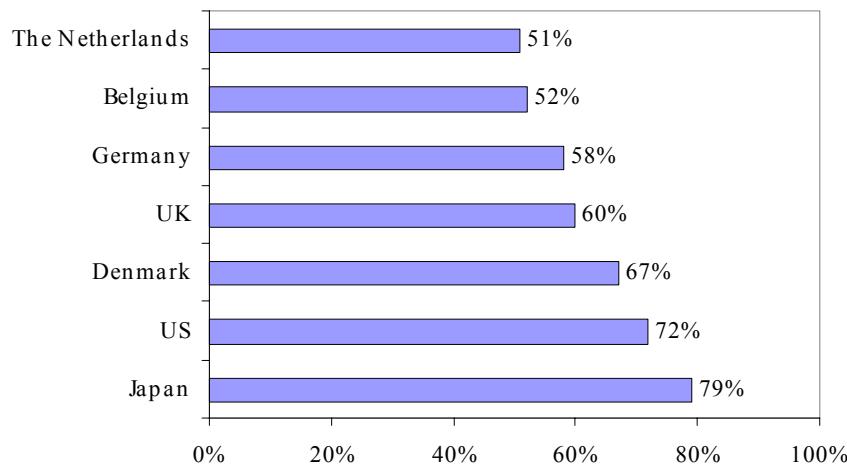
⁸ Baartman, Kerkhof, 1997

⁹ Ministry of Economic Affairs, 1997

¹⁰ See footnote 10

Social Consequences of VAT

place levels are still far below the levels of the early seventies. Secondly, compared to other countries, The Netherlands are still not performing well, especially not when labour years are considered, see figure 2.4.2.

Figure 2.4.2: Use of labour potential (% in labour years)

Source: Ministry of Economic Affairs, *Toets op het concurrentievermogen*, 1997

Labour participation in the Netherlands is low compared to other EU Member States, because of:

- **The small number of hours worked by Dutch employees**
Hours worked decreased with 10% since 1983 to 1372 hours yearly per employee in 1996, compared to 1578 in Germany, 1732 in the UK, 1919 in Japan and 1951 in the US¹¹.
- **The definition of unemployment**
The Netherlands seem to have low unemployment. This does not hold when a broader definition of unemployment is used. The OECD definition includes disability benefits, early retirements and all sorts of hidden unemployment. Using this definition the unemployment rate remained fairly constant since mid eighties at a rate of 25%¹².
- **Education of young people**
The labour potential of young people is not fully used because of ongoing education. The age at which young people conclude their education has risen in the last decades.

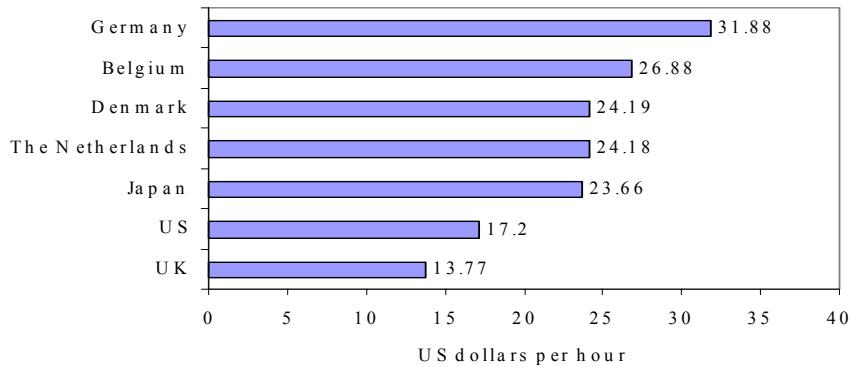
Wage moderation worked, see figure 2.4.3. Between 1987 and 1996 937.000 jobs were created. Three quarters of this growth was in part time work and flex work. Increased flexibility can be explained by the substantial increase of women on the labour market and the demand for flexibility by employers. Compared to other EU countries the participation of women has historically been low in The Netherlands. In the sixties only 26% of the women participated,

¹¹ See footnote 11

¹² OECD, 1997

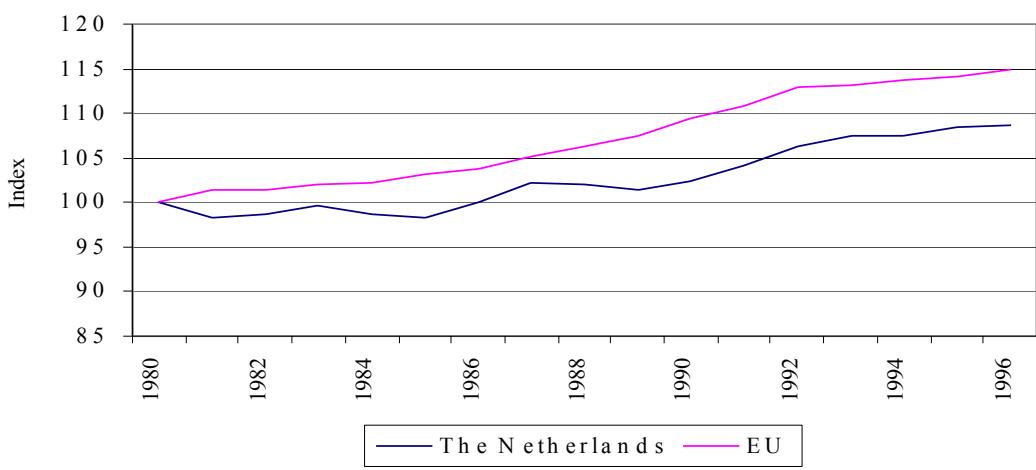
while this percentage has been over 50% in the nineties. Wage moderation was effective not in the least place because it was combined with reductions in taxes and social contributions by the government. This prevented a loss in purchasing power as a result of the wage moderation. Wage costs per hour have declined in The Netherlands to an average height compared to other western countries, see figure 2.4.4.

Figure 2.4.3: Real wage development per employee (1980=100)



Source: European Economy, no.62, 1996

Figure 2.4.4: Wage costs in industry (1995)



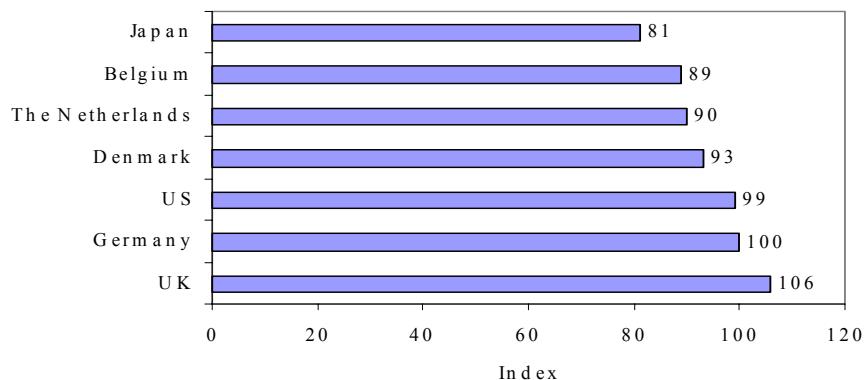
Source: Ministry of Economic Affairs, Toets op het concurrentievermogen, 1997

Wage costs should be studied in combination with labour productivity, as high levels of one of

them can be offset by low levels of the other. The Netherlands do well when wage costs are adapted for productivity differences, see figure 2.4.5. This is the result of the high Dutch productivity rate caused by the recession. During the economic downturn in the eighties mostly low productivity workers were laid off, increasing overall productivity of the rest. Excluding a large number of low productivity workers created the high Dutch productivity rates. In recent years we have seen a movement in the opposite direction. Because of wage moderation labour becomes relatively less expensive compared to capital, reducing capital intensity and labour productivity. Low productivity jobs, that were not feasible before, were created.

The growth in low labour productivity jobs has caused the overall growth in labour productivity in the Netherlands to slow down. Job creation seems to go hand in hand with a reduction of productivity.

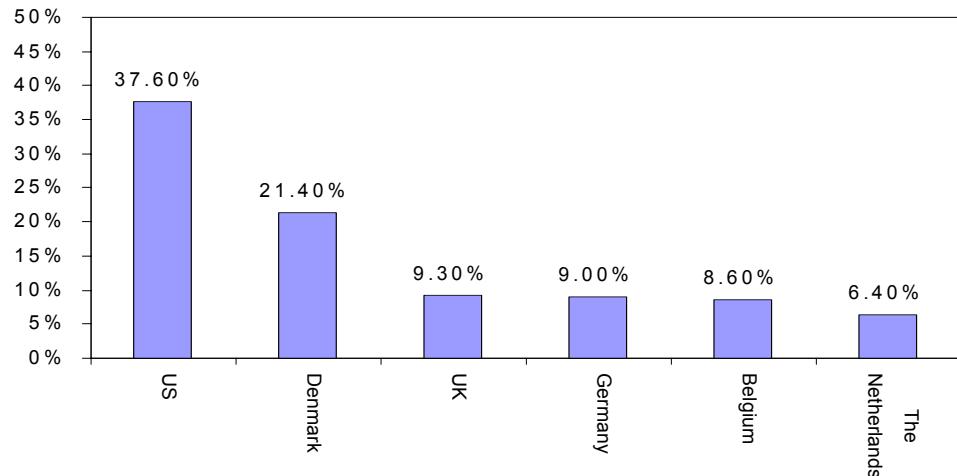
Figure 2.4.5: Wage costs per unit product (1994)



Wage costs per unit product is a combination between wage costs per hours in dollars and productivity measured as value added per hour (US=100)

Source: Ministry of Economic Affairs, Toets op het concurrentievermogen, 1997

The Polder Model has successfully reduced the flow of people into unemployment. The outflow however, has not improved and is low compared to other countries, see figure 2.4.6. The share of people that are unemployed for more than one year relative to total unemployment is high: around 50%, compared to 10% in the US. A self-reinforcing mechanism of unemployment called “hysteresis” aggravates this situation. An individual who is unemployed for a longer time loses skills and confidence, which makes it even harder to find a new job. This is both a social and an economic problem, that the Polder Model has not be able to solve.

Figure 2.4.6: Monthly outflow from unemployment to work (1993)

Source: *OECD, Economic Outlook, no. 61, 1997*

GDP is a widely used measure of relative success when economies are compared. A relative decline in labour productivity and the reduction of hours worked per capita will have a negative impact on the development of GDP. In the Netherlands this effect was offset by the increased labour participation. The deteriorating relative GDP position of the Netherlands during the seventies has been reversed. Wage moderation has lead to impressive job creation in The Netherlands. Partly these jobs are the result of the division of labour instead of an increase in employment, as the participation rate in labour years increased at a slower pace than when expressed in persons. Furthermore, the new jobs are primarily created in shielded parts of the economy and have low productivity. With an economic downturn these jobs are probably the first to go. With sound economic policy some of the damage done by the recession in the seventies and early eighties has been repaired. However, The Netherlands are still scoring only average with respect to labour costs, labour participation, rate of employment and GDP growth.

Real long term growth can not be achieved by wage moderation, it requires labour productivity improvements. Wage moderation is not a good instrument to increase productivity because it makes capital intensive sectors (high labour productivity) less attractive than labour intensive sectors¹³.

Considering the high unemployment rates in Europe the international interest for the Polder Model is understandable. However, simply introducing wage moderation EU-wide would surely have a negative impact. Wage moderation reduces income and expenditures and will lead to

¹³ See footnote 10

economic decline. In The Netherlands favourable external circumstances and increased labour participation neutralised these effects. The positive external effects will not occur EU-wide, as they can be contributed to the specific situation in The Netherlands and the timeframe. The increased labour participation was achieved from a very low percentage when compared internationally. The reduction of slack in the labour market contributed to increased labour participation. It is not to be expected that other EU-countries will have the same results in increasing labour participation, because they already have less slack in their labour markets.

2.4.1 VAT in the Polder Model

The Dutch government has reduced the tax and social security burdens for the citizens to compensate for the reduction of purchasing power caused by wage moderation. This is one of the reasons why wage moderation has been acceptable for a long period. Commitment to further improve the economic situation in the Netherlands has lead to several extensions of the Polder Model. Reducing the high tax burden on employment could create an additional employment boost. Room for such reductions is limited because compensation should be found for the decrease in revenues and labour is the most important not-mobile production factor. Recently the government presented a plan for a new tax system. A change from direct to indirect taxation was proposed.

At first sight this looks like a shift away from labour taxation. However, price raises resulting from additional higher VAT rates compensate for the net salary increase of employees. According to Don¹⁴, positive employment effects are not to be expected. Positive employment effects will only occur when the tax burden is shifted away from workers to people outside the working force. This would lead to an unwanted change in income distribution. Although a general shift from direct to indirect taxation may not promote employment, under the assumption of budget neutrality, some specific proposals might. The government of the Netherlands wants to stimulate employment growth, thereby strengthening the achievements of the Polder Model, by introducing value added tax cuts on certain labour intensive services. The VAT rate on for instance tailors, barbers, shoe repair and bicycle shops could be reduced from 17.5% to 6%. The current agreements within the EU prohibit such a rate reduction. However, the EU is interested in methods that might reduce unemployment and experiments have started in the Netherlands. The employment effects of the measures are questionable according to The Economist¹⁵. The demand for these services is relatively inelastic. It is not to be expected that people will have their bike repaired more often or visit the barber more frequently when prices drop. Even if this would happen employment effect will be minimal. When shoes and clothing are mended and bikes repaired more often, purchases of these items are likely to decline. Turnover of clothing, shoe and bicycle shops will drop and employees will be laid off. If all four groups are included government revenue is expected to decrease with 100-140 million guilders. When this amount is compensated for, additional jobs will be lost in other sectors of the economy.

¹⁴ Don, 1997

¹⁵ The Economist, 1998

2.5 Conclusions

In the Netherlands the dual rate structure only marginally affects the regressive character of VAT. Converging consumption patterns are the most likely reason for this fact. Employment effects, resulting from changes in VAT, vary. Depending on the scenario, the estimated employment effects of a 1% increase in the Dutch VAT rate range between 20,000 and 35,000 jobs lost. As could be expected scenario 1 leads to the highest employment changes. When using more sophisticated models, results are less extreme, as was illustrated with scenario 2 and 3. Tax revenues are affected by changes in VAT rates. Adjusting other forms of taxation, when VAT rates are changed, can compensate for these changes. In scenario 3 this compensation reduces the original impact on employment by more than 60%. Under the assumption of budget neutrality employment effects as a result of VAT changes are small. The analysis of the Polder Model confirms these findings. In The Netherlands significant employment effects are only to be expected when taxes are shifted away to people outside the working force. Because of the consequences on income distribution, such a policy is not feasible in The Netherlands at this moment.

3. The EU: lessons from the case of the Netherlands

3.1 VAT in the European Union

Soon after the foundation of the European Coal and Steel Community (1951) the first quarrel between the participants arose concerning border tax adjustments. The Germans regarded a 19% border tax on import by the French as discrimination, as Germany only had a 4% import tax. A report on this problem by a commission chaired by Tinbergen, triggered a debate on taxation in the European Union. With the signing of the Treaty of Rome (1957) further integration between the Member States was a fact. The articles referring to the harmonisation of indirect taxation had little impact due to vague formulations. The problem with cross border trade was not dealt with at all. To end the constant quarrel over turnover taxation the Neumark Commission was appointed in the late fifties. A gradual harmonisation of turnover taxes in the European Union was proposed. In 1967 the Council of Ministers and the Parliament adopted two directives stipulating a gradual shift to a common value-added tax, utilising the credit method and the destination principle. By 1973 all Member States had introduced a VAT. This common VAT left EU Member States considerable freedom to set their VAT rates, because of the chosen destination principle. The Sixth VAT directive of 1977 was another effort for closer harmonisation. The various VAT rates used by Member States allow for a distinction between domestic transactions and intra-community transactions. This is not into accordance with a truly competitive single market. Harmonisation of value-added taxes became a key issue again in the discussions concerning the formation of the Single Market. Agreement could only be reached on transitional measures (Council Directive 91/680/EEC), effective from 1 January 1993. In 1996 the Commission's program for the introduction of a new VAT system was adopted. It is expected that proposals will be presented to the Council and the European Parliament in 1999. The objectives of the new system are:

- to treat all transactions in the same way, whether domestic or within the EU;
- to maintain national tax receipts at current levels, without a loss;
- to underpin the system with greater legal certainty and effective control;
- to establish simple rules to be applied uniformly.

This means, amongst other things, that more or less common VAT rates are introduced and that the EU is moving towards an origin-based VAT system.

3.2 VAT social and employment effects

Using micro-data from the budget survey, the incidence of VAT on 10% income groups has been measured for The Netherlands. VAT, expressed as percentage of expenditure, was almost proportional. Variations in VAT rates, under the assumption of constant VAT revenue, showed the lack of sensitivity of the incidence of VAT on income groups.

Without having comparable data material available for other EU Member States, it is still possible to make qualitative remarks. The social and employment effects that result from changes in VAT rates are influenced by the tax base, the VAT rates used, the basket of goods and services to which the different rates apply, the consumption patterns and the importance of VAT as revenue raising instrument for government finance.

3.2.1 Rates and tax base

To avoid economic distortions, all economic activity in a Member State should be subjected to VAT (figure 3.2.1.1 A). However, this is not the case. In all Member States certain goods and services are exempt from VAT (figure 3.2.1.1 B). There are two main reasons to do so. In the first place a political reason. National governments are unwilling to tax certain goods and services which are for the public benefit, for example medical care, charitable work and education. Furthermore, governments provide concessions to small businesses to prevent that disproportional administrative burdens suffocate entrepreneurship. A second reason for exemptions is the inapplicability of the VAT system for certain services. The value added in, for example, the financial services sector is extremely difficult to establish, making a VAT impossible to levy. Not in all Member States the same goods and services are exempt from VAT and not all exemptions are of similar importance for Member States. The total VAT tax base of the individual Member States is significantly reduced by exemptions.

But even goods and services that are subjected to a VAT are not treated in a similar way. Almost all Member States have set up dual rate structures, allowing for a standard rate and one or more reduced rates. Reduced rates are introduced to achieve social and political goals. Products and services that are/were relative important for lower income households, are subjected to a reduced rate. In this way the proportional character of VAT, expressed as percentage of expenditure, was made progressive. Economists agree that redistribution can be achieved more effectively and with fewer distortions. This can be illustrated with food, which is subjected to a reduced rate in all Member States. Low income group spend a higher percentage of their income on food. However, high income groups spend much more on food in absolute terms. Because of the reduced rate, high income groups obtain their purchases more cheaply. For re-distributional purposes it would be more effective to have food subjected to the standard VAT rate and redistribute the additional revenue to lower income groups. Although the present method may not be an effective and efficient way to redistribute income, it still does. In the UK for example, VAT is progressive when expressed as a percentage of consumer expenditure. “This progressivity is entirely due to the base upon which VAT is levied”¹⁶. When the product and services subjected to the reduced rate are chosen well, it is to be expected that some re-distributional effects will occur. This re-distributional effect will be more pronounced in Member States which have a relatively large gap between the standard and the reduced VAT rate.

¹⁶ The costs-of-living with the RPI

Figure 3.2.1.1

Obviously the level of both the standard rate and the reduced rates are important when analysing the incidence of VAT on income groups. In the EU the standard rates vary between 15% and 25% and the reduced rate between 0% and 17%. According to EU regulation, Member States must apply a minimum standard VAT rate of 15% and are allowed to apply one or two reduced rates of minimal 5%. Member States that had a reduced rate of less than 5% before 1 January 1991 are allowed to maintain these rates.

Member States may subject only a limited supply of goods and services to reduced rates of VAT, see table 3.2.1.1. In the period up to the final EU VAT arrangement, Member States are allowed to maintain reduced rates on other goods and services than mentioned in table 3.2.1.1, when these goods and services were already subjected to this rate before 1 January 1991. The proportion of the tax base subjected to a standard VAT rate and the proportion subjected to the reduced rate(s) (figure 3.2.1, C) fluctuate per Member State.

Table 3.2.1.1: Goods and services with may be subjected to a reduced VAT rate

Category	Description
1	Foodstuffs (including beverages but excluding alcoholic beverages) for human and animal consumption; live animals, seeds, plants and ingredients normally intended for use in preparation of foodstuffs; products normally intended to be used to supplement or substitute foodstuffs
2	Water supplies
3	Pharmaceutical products of a kind normally used for health care, prevention of diseases and treatment for medical and veterinary purposes, including products used for contraception and sanitary protection
4	Medical equipment, aids and other appliances normally intended to alleviate or treat disability, for the exclusive personal use of the disabled, including the repair of such goods, and children's car seats
5	Transport of passengers and their accompanying luggage
6	Supply, including on loan by libraries, of books (including brochures, leaflets and similar printed matter, children's picture, drawing or colouring books, music printed or in manuscript, maps and hydrographic or similar charts), newspapers and periodicals, other than material wholly or substantially devoted to advertising matter
7	Admissions to shows, theatres, circuses, fairs, amusement parks, concerts, museums, zoos, cinemas, exhibitions and similar cultural events and facilities
8	Reception of broadcasting services
9	Services supplied by or royalties due to writers, composers and performing artists
10	Supply, construction, renovation and alteration of housing provided as part of a social policy
11	Supplies of goods and services of a kind normally intended for use in agricultural production but excluding capital goods such as machinery or buildings
12	Accommodation provided by hotels and similar establishments including the provision of holiday accommodation and the letting of camping sites and caravan parks
13	Admission to sporting events
14	Use of sporting facilities
15	Supply of goods and services by organisations recognised as charities by Member States and engaged in welfare or social security work, insofar as these supplies are not exempt under Article 13
16	Services supplied by undertakers and cremation services, together with the supply of goods related thereto
17	Provision of medical and dental care as well as thermal treatment in so far as these services are not exempt under Article 13
	Services supplied in connection with street cleaning, refuse collection and waste treatment, other than the supply of such services by bodies referred to in Article 4(5).

Source: Aujean, 1995

Annex 3 presents the different rates, the goods and services to which they are applied and the exemptions. With respect to the rates, the 0% reduced rate of the UK and Ireland is remarkable, just as the absence of a reduced rate in Denmark. The 0% reduced rate causes a large gap between reduced and standard rate and shall therefore increase the progressive effect of the dual rate structure. Denmark is an example of a country that uses other ways to achieve goals of redistribution (social assistance schemes). This keeps the VAT system simple and straightforward (transparency argument). It is difficult to comment upon the baskets of goods and services subjected to the various rates within each Member State. Although regulation requires ever increasing harmonisation, a wide variety of baskets can still be found. Comparing these baskets is rather difficult, as the relative weight of each product or service cannot be determined. Even a country like Denmark, which does not have a reduced rate, still applies a zero rate to newspapers and has several exemptions. The difficulties with comparing baskets of goods and services, doesn't change the fact that the baskets influence the social and employment consequences within Member States when changing VAT rates.

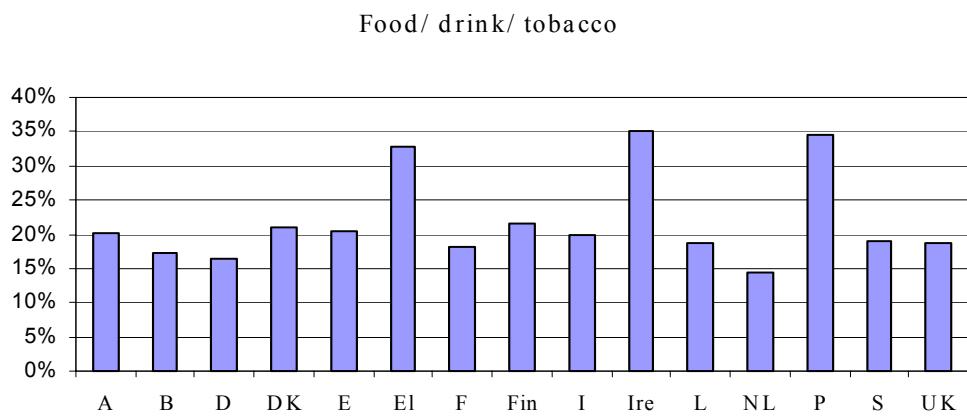
3.2.2 Consumption patterns and income (distribution)

When countries have a similar tax base and similar VAT rates that apply to the same goods and services, VAT pressure can still differentiate on a national level and on the level of income groups. Consumption patterns determine part of the VAT pressure. VAT decreases in a country that, for example, spends a lot on food, as food is subjected to a lower VAT rate. In figure 3.2.2 the expenditure on food/drink/tobacco is presented for EU Member States, other categories are presented in annex 2.3. Ireland, Greece and Portugal, spend almost 35% of their consumer expenditure on food/drink/tobacco. Therefore, the reduced VAT rate, which applies to most of the products in this category, has a larger impact for these three countries. So, consumption patterns influence total VAT raised and with it VAT pressure on income. Although the VAT rates applied in Greece and Portugal are comparable to the rates in The Netherlands, the consumption pattern will probably give VAT a more progressive character when expressed as percentage of expenditure. For Ireland this progressiveness is increased further by the 0% reduced rate.

In the last decades expenditure on food as percentage of total expenditure has steadily declined in EU Member States. Not just the level of income (expenditure) is relevant, but also the distribution of income. With rising GDP and a more equal income distribution, people start to buy variations of the similar products and services. Of course, the high income groups buy more expensive varieties. However, VAT is applied to categories of goods and services and does not depend on price levels within these categories. The Dutch case study illustrated the results of these converging consumption patterns. The re-distributional effect of the dual rate structure was almost eliminated by converging consumption patterns. When consumption patterns converge it becomes increasingly difficult to select categories that are relatively more important for low income groups than for high income groups. The re-distributional capacity of the dual rate structure decreases, leaving only the distortions and the high compliance and administrative costs. So, the social and employment effects of changes in VAT rates will differ between Member States as a result of not only the tax base and the tax rates, but also because of changes

in the distribution and the level of income and expenditure and the patterns of consumption.

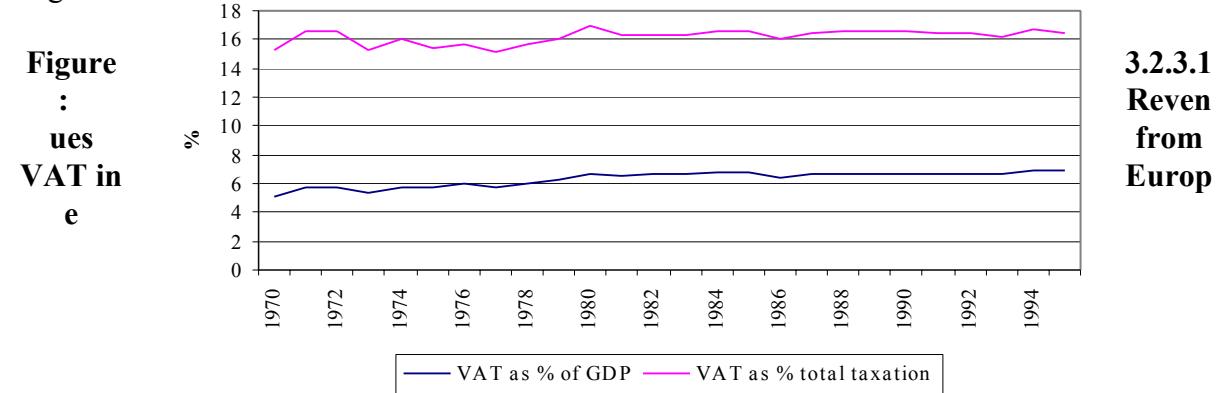
Figure 3.2.2: Consumer expenditure on food/drink/tobacco (as % of total, 1996)



Source: Euromonitor, 1997

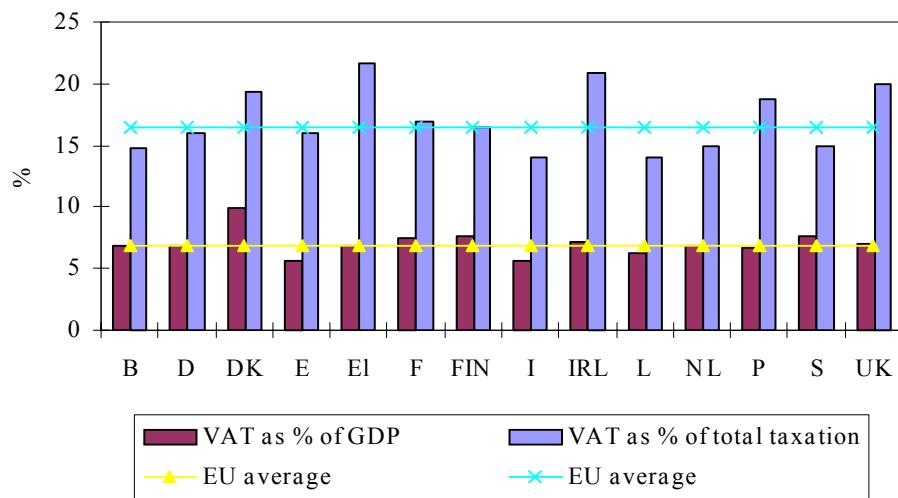
3.2.3 Government financing

VAT is an instrument to raise revenue and within the EU it has done so at a fairly constant rate (see figure 3.2.3.1). When looking at a national level the differences between Member States are substantial, see figure 3.2.3.2.



Source: Eurostat, 1997

Figure 3.2.3.2: VAT revenue in Member States (1996)



Source: Eurostat, 1997

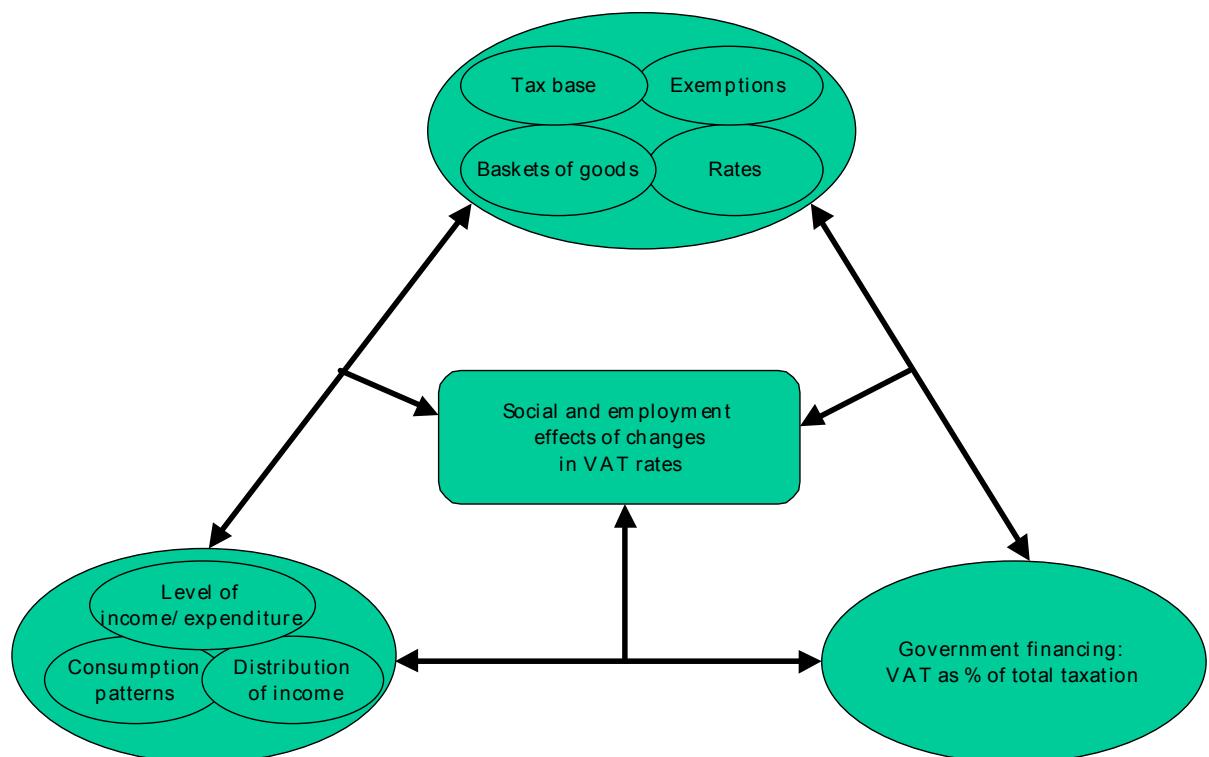
In Greece, Ireland and the UK, VAT revenue covers 20% or more of total taxation. For all three countries the low level of aggregate taxation can explain the relative importance of VAT. In 1995, Greece has the lowest level of aggregate taxation of 31,8% of GDP, Ireland the second lowest of 34,5% of GDP. The position of the UK is remarkable, considering the 0% reduced rate it applies. However, the UK has had a lower level of overall taxation from the moment they entered the EU. This gap widened as many Member States increased their tax burden, while it was reduced in the UK. The overall level of taxation was 34,9% of GDP. To a lesser extent this also applies to Portugal and Spain. For Denmark, VAT covers almost 20% of total taxation, despite the fact that Denmark has the highest level of taxation in the EU (51,3% of GDP). The large tax base and the absence of a reduced rate explain this. The situation in Finland is similar, although less extreme. In Belgium, The Netherlands and Sweden, VAT revenue covers 15% of less of total taxation. Relatively high levels of overall taxation reduce the importance of VAT in total taxation. The importance of VAT as revenue raising instrument influences the impact of VAT changes.

3.2.4 Concluding remarks

From the last three subparagraphs it can be concluded that the social and employment effects of changes in VAT rates are influenced by many factors. A further complication is that these factors are also interdependent (figure 3.2.4.1.). Therefore, the social and employment consequences of changing VAT rates are hard to foresee and calculate. The case of the Netherlands and qualitative material indicate that the results of a harmonisation of VAT rates can be huge for individual Member States. Country specific studies are required to determine possible effects on:

- employment;
- demand and supply of goods and services;
- levels and distribution of income/expenditure;
- consumption patterns;
- government financing (EU financing, EMU criteria).

Figure 3.2.4.1



3.3 Employment effects of changes in VAT

In scenario 1, paragraph 2.3.1, a top down approach was used to measure employment effects of VAT changes in The Netherlands. For other Member States employment effects can be measured in the same way. However, one additional assumption has to be made concerning the average VAT rate. In the case of The Netherlands micro data supplied information to calculate the average VAT rate (for households). For other Member States the necessary information to calculate the average VAT rate is not available. To overcome this limitation we assume that the tax base is subjected to the standard and reduced rate in the same proportion as in the case of The Netherlands. Two remarks regarding this assumption. First, the products and services that are subjected to the reduced rate can differ between countries. However, the list of supplies of goods and services which may be subjected to the reduced rates of VAT is limited (see table 3.2.1). Table 3.3.1 shows some of the goods/services that fall into a different category in one or more of the four countries.

Table 3.3.1: Different rates on goods and services

Goods and services	NL	UK	P	E
Wine	S	S	R	S
Mineral Water	R	S	S	R
Soft drink	R	S	S	S
Fruit juice	R	S	S	R
Clothing children	S	R	S	S
Shoes children	S	R	S	S
Electricity	S	S	R	S
Diesel	S	S	R	S
Domestic fuel	S	S	R	S
Domestic transport	R/EX	R/S	R	R/S
Hotel	R	S	R	R/S
Restaurant	R	S	S	R/S
Real estate				
Construction land	EX/S	EX/S	EX	S
New buildings	S	R/S	EX	R/S
• Renovation & reparation	S	R/S	R/S	R/S
Construction works for new buildings	S	R/S	R/S	R/S
Cultural services and entertainment (admission)	S	S	EX/R	EX/R
Sports events (admission)	S	S	R	R/S

S = standard rate

R = reduced rate

Source: adapted from Aujean, 1995

Secondly, the consumption pattern between countries can differ. Consumer expenditure can be more focussed on certain goods and services subjected to a reduced rate (see figure 3.2.1).

For each country two situations are simulated. Simulation 1 calculates the employment effects on the basis of an average VAT rate of 15% and simulation 2 on the basis of a rate of 18%. The results are presented in table 3.3.2. As to be expected employment effects are larger in countries with a relatively low average VAT rate. These countries have to adjust more. The UK for example, is faced with substantial employment effects as a result of the low average rate of 13,1%, caused by the 0% reduced rate that the UK applies. In the case of Portugal the employment effect are probably underestimated. A much larger part of consumer expenditure in Portugal goes to food, drink and tobacco, compared to the other countries. Therefore, it is very well possible that the distribution of expenditure subjected to the reduced rate is larger than 25%.

Table 3.3.2: Employment effects of VAT changes

	The Netherlands (1995)			UK (1994)		
	Average	Sim. 1	Sim. 2	Average	Sim. 1	Sim. 2
	14.64%	15.00%	18.00%	13.10%	15.00%	18.00%
GDP (mil. ECU)	302381.90	302381.90	302381.90	854078.21	854078.21	854078.21
VAT (-) (mil. ECU)	21185.71	21701.34	26041.61	60678.21	69478.86	83374.63
Import duties (mil. ECU)	4557.14	4557.14	4557.14	51091.03	51091.03	51091.03
Other adjustments (mil. ECU)	361.90	361.90	361.90	-1019.23	-1019.23	-1019.23
Gross value added (mil. ECU)	276277.14	275761.52	271421.25	743328.21	734527.55	720631.78
Number of people working	6782000	6769343	6662798	25657000	25353233	24873601
VA per person (mil. ECU)	0.0407	0.0407	0.0407	0.0290	0.0290	0.0290
Additional number of people working		-12657	-119202		-303767	-783399
As percentage of total		-0.19%	-1.76%		-1.18%	-3.05%
Portugal (1993)						
	EU-average	Sim. 1	Sim. 2	EU-average	Sim. 1	Sim. 2
	14.00%	15.00%	18.00%	13.40%	15.00%	18.00%
	70125.82	70125.82	70125.82	427802.71	427802.71	427802.71
GDP (mil. ECU)	4671.13	5004.78	6005.73	24010.18	26877.06	32252.48
VAT (-) (mil. ECU)	353.56	353.56	353.56	865.06	865.06	865.06
Import duties (mil. ECU)	0.00	0.00	0.00	0.00	0.00	0.00
Other adjustments (mil. ECU)	65101.13	64767.48	63766.52	402927.47	400060.59	394685.17
Gross value added (mil. ECU)	4464000	4441121	4372486	12027000	11941426	11780975
Number of people working	0.0146	0.0146	0.0146	0.0335	0.0335	0.0335
VA per person (mil. ECU)		-22879	-91514		-85574	-246025
Additional number of people working		-0.51%	-2.05%		-0.71%	-2.05%
As percentage of total						

Data: OECD, 1997; Eurostat 1996

Calculations NEI

3.4 A study framework

In future studies on the same topic it is interesting to analyse VAT pressure on free disposable income (or expenditure) for two main reasons. Firstly, to analyse the present progressivity, regressivity or proportionality of VAT. Secondly, to analyse the sensitivity of the present situation for changes in VAT. The method for analysing VAT pressure on free disposable income (or expenditure) for 10% income groups in The Netherlands can be used in other EU Member States too. The basis for such an analysis is micro-data from budget surveys. These surveys give household income and expenditure on a detailed level. Goods and services subjected to VAT can be filtered out of these micro-data. Subsequently, VAT and the different VAT levels can be calculated.

Detailed budget surveys are done in various European countries. However, the data from these surveys are not freely available. The range of VAT rates used and the exemption of certain goods and services, make the process of selecting and filtering the necessary data difficult and time consuming. At a detailed level, products and services subjected to other VAT rates have to be separated. Data from budget surveys cannot be used to calculate private expenditure at a national level. For The Netherlands a 19% difference for 1990 and 1991 existed between the budget survey data and National Account data. These differences can be largely explained by population, definition and classification differences. If these differences result in such a large gap within a country, this indicates that problems may arise when making country comparisons.

Employment effects of VAT changes should be measured using country specific economic models. The models describe the economic relations within a particular country and are therefore by definition not suitable for other countries. Furthermore, these country specific relations are particularly important when giving estimates of changes in employment. Most countries have sophisticated models suitable for simulating VAT changes.

4. Concluding remarks

Most EU Member States have a dual rate structure for levying VAT. The re-distributional goals that are pursued with the dual rate structure can be achieved in more efficient and effective ways. Furthermore, a dual rate structure creates economic distortions and increases the administrative burden and the compliance costs for the business sector. In The Netherlands, changing income, expenditure and consumption patterns have diminished the re-distributional capacity of the dual VAT structure even further.

The case study of The Netherlands gave insight into the elements that determine the social and employment effects of changes in VAT rates. The VAT rates, the tax base, consumption patterns, income/expenditure levels, and government finance are the most important. Converging consumption patterns have resulted in an almost proportional VAT pressure on income groups when expressed as percentage of expenditure. The dual rate structure seems no longer a suitable instrument for realising re-distributional goals. This is illustrated with the changes in the standard and reduced VAT rate under the assumption that total revenue remains equal. The incidence of VAT on income groups changes only marginally. Various country specific models were used to estimate the employment effects of VAT changes in The Netherlands. Depending on the model used a 1% increase of the Dutch VAT rate would lead to a reduction in jobs of 20,000 to 35,000 (0.3%-0.5% of employment). Employment effects from VAT changes will be small when they are compensated by reducing the income tax rate (i.e. budget neutral) and unwanted changes in income distribution are avoided.

To determine social and employment effects of changes in VAT rates in EU Member States requires country specific research. The EU efforts are aimed at harmonisation of both rates and tax base and rightly so. However, social and employment effects are not just determined by the present deviation of individual Member States from the still to be determined EU targets. Other determinants are: the relative importance of certain goods and services in the national economies; levels of expenditure/income; consumption rates; and government financing. It is impossible to say beforehand, how each element will influence the social and employment position of an individual Member State. In order to be able to indicate the overall impact of a VAT harmonisation, further research on a Member State level is required.

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Annex 2 Statistical material

Annex 2.1 Statistical material of paragraph 2.2

Table 2.1.1 Total VAT as percentage of disposable income and expenditure

Decile	VAT high 17.5%*	VAT low 6.0%*	VAT total*	Total disposable income*	VAT, % of disposable income	Total expenditure*	VAT, % expenditure
1	2199.36	262.49	2461.85	14785.95	16.65%	20398.00	12.07%
2	2627.71	319.96	2947.67	21805.41	13.52%	24064.46	12.25%
3	3132.23	355.12	3487.35	26889.83	12.97%	28280.39	12.33%
4	3572.93	433.54	4006.47	32425.69	12.36%	32646.78	12.27%
5	4205.00	506.70	4711.70	38629.78	12.20%	38451.71	12.25%
6	4804.30	582.61	5386.91	45165.59	11.93%	44327.39	12.15%
7	5356.39	616.70	5973.09	51777.02	11.54%	49143.19	12.15%
8	6280.97	698.61	6979.58	60122.34	11.61%	57740.68	12.09%
9	7192.45	758.14	7950.60	71023.04	11.19%	65339.93	12.17%
10	8688.40	911.38	9599.78	100689.30	9.53%	80225.77	11.97%

*Average per decile in guilders (1995)

Source: Centraal Bureau voor de Statistiek, NEI calculations

Table 2.1.2 Simulations, incidence of VAT as percentage of disposable income

Simulation 1

high VAT rate = 17.5%

low VAT rate = 6%

Deciles	Tax-base	Tax-base	Tax-base	VAT high*	VAT low*	VAT total*	VAT high	VAT low	VAT total
1	12567.77	4374.83	16942.60	2199.36	262.49	2461.85	14.87%	1.78%	16.65%
2	15015.49	5332.67	20348.15	2627.71	319.96	2947.67	12.05%	1.47%	13.52%
3	17898.46	5918.67	23817.12	3132.23	355.12	3487.35	11.65%	1.32%	12.97%
4	20416.74	7225.67	27642.41	3572.93	433.54	4006.47	11.02%	1.34%	12.36%
5	24028.57	8445.00	32473.57	4205.00	506.70	4711.70	10.89%	1.31%	12.20%
6	27453.14	9710.17	37163.31	4804.30	582.61	5386.91	10.64%	1.29%	11.93%
7	30607.94	10278.33	40886.28	5356.39	616.70	5973.09	10.35%	1.19%	11.54%
8	35891.26	11643.50	47534.76	6280.97	698.61	6979.58	10.45%	1.16%	11.61%
9	41099.71	12635.67	53735.38	7192.45	758.14	7950.59	10.13%	1.07%	11.19%
10	49648.00	15189.67	64837.67	8688.40	911.38	9599.78	8.63%	0.91%	9.53%

Social Consequences of VAT

Simulation 2

high VAT rate = 14.64%

low VAT rate = 14.64%

Deciles	Tax-base	Tax-base	Tax-base total	VAT high*	VAT low*	VAT total*	VAT high	VAT low	VAT total
1	12567.77	4374.83	16942.60	1840.38	640.63	2481.01	12.45%	4.33%	16.78%
2	15015.49	5332.67	20348.15	2198.81	780.89	2979.70	10.08%	3.58%	13.66%
3	17898.46	5918.67	23817.12	2620.98	866.71	3487.68	9.75%	3.22%	12.97%
4	20416.74	7225.67	27642.41	2989.75	1058.10	4047.84	9.22%	3.26%	12.48%
5	24028.57	8445.00	32473.57	3518.65	1236.65	4755.30	9.11%	3.20%	12.31%
6	27453.14	9710.17	37163.31	4020.13	1421.92	5442.05	8.90%	3.15%	12.05%
7	30607.94	10278.33	40886.28	4482.11	1505.12	5987.22	8.66%	2.91%	11.56%
8	35891.26	11643.50	47534.76	5255.78	1705.03	6960.80	8.74%	2.84%	11.58%
9	41099.71	12635.67	53735.38	6018.48	1850.32	7868.79	8.47%	2.61%	11.08%
10	49648.00	15189.67	64837.67	7270.26	2224.31	9494.57	7.22%	2.21%	9.43%

Simulation 3

high VAT rate = 19.48%

low VAT rate = 0%

Deciles	Tax-base	Tax-base	Tax-base total*	VAT high*	VAT low*	VAT	VAT high	VAT low	VAT total
1	12567.77	4374.83	16942.60	2448.55	0	2448.55	16.56%	0.00%	16.56%
2	15015.49	5332.67	20348.15	2925.43	0	2925.43	13.42%	0.00%	13.42%
3	17898.46	5918.67	23817.12	3487.12	0	3487.12	12.97%	0.00%	12.97%
4	20416.74	7225.67	27642.41	3977.75	0	3977.75	12.27%	0.00%	12.27%
5	24028.57	8445.00	32473.57	4681.43	0	4681.43	12.12%	0.00%	12.12%
6	27453.14	9710.17	37163.31	5348.64	0	5348.64	11.84%	0.00%	11.84%
7	30607.94	10278.33	40886.28	5963.28	0	5963.28	11.52%	0.00%	11.52%
8	35891.26	11643.50	47534.76	6992.62	0	6992.62	11.63%	0.00%	11.63%
9	41099.71	12635.67	53735.38	8007.37	0	8007.37	11.27%	0.00%	11.27%
10	49648.00	15189.67	64837.67	9672.81	0	9672.81	9.61%	0.00%	9.61%

Simulation 4

high VAT rate = 0%

low VAT rate = 58.96%

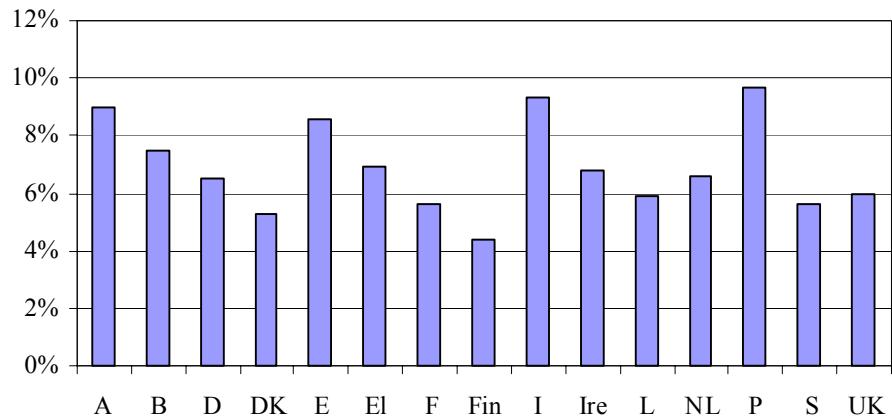
Deciles	Tax-base	Tax-base	Tax-base total	VAT high*	VAT low*	VAT total*	VAT high	VAT low	VAT total
1	12567.77	4374.83	16942.60	0.00	2579.23	2579.23	0.00%	17.44%	17.44%
2	15015.49	5332.67	20348.15	0.00	3143.93	3143.93	0.00%	14.42%	14.42%
3	17898.46	5918.67	23817.12	0.00	3489.41	3489.41	0.00%	12.98%	12.98%
4	20416.74	7225.67	27642.41	0.00	4259.96	4259.96	0.00%	13.14%	13.14%
5	24028.57	8445.00	32473.57	0.00	4978.83	4978.83	0.00%	12.89%	12.89%
6	27453.14	9710.17	37163.31	0.00	5724.72	5724.72	0.00%	12.67%	12.67%
7	30607.94	10278.33	40886.28	0.00	6059.69	6059.69	0.00%	11.70%	11.70%
8	35891.26	11643.50	47534.76	0.00	6864.54	6864.54	0.00%	11.42%	11.42%
9	41099.71	12635.67	53735.38	0.00	7449.48	7449.48	0.00%	10.49%	10.49%
10	49648.00	15189.67	64837.67	0.00	8955.22	8955.22	0.00%	8.89%	8.89%

*Average per decile in guilders (1995)

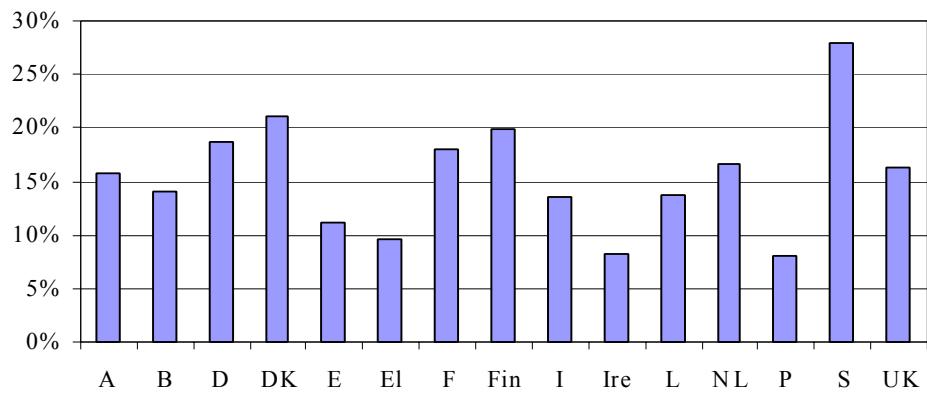
Source: Centraal Bureau voor de Statistiek, NEI calculations

Annex 2.2 Statistical and graphical material of paragraph 3.2

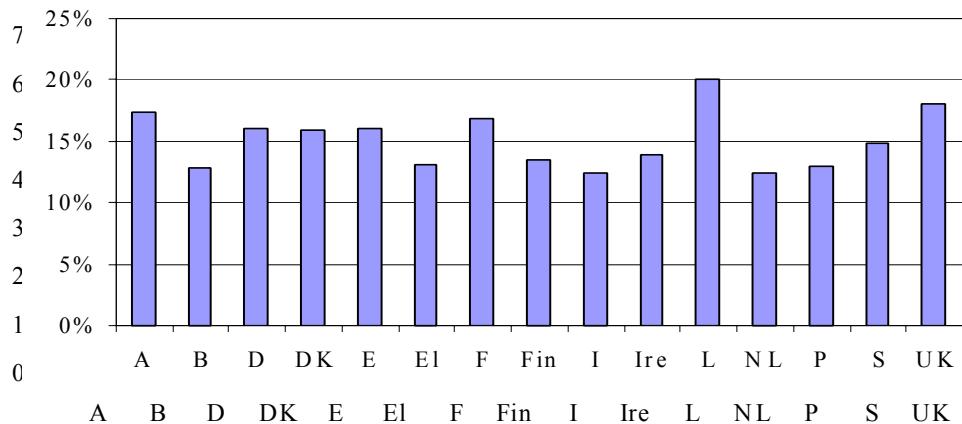
Clothing/ footwear



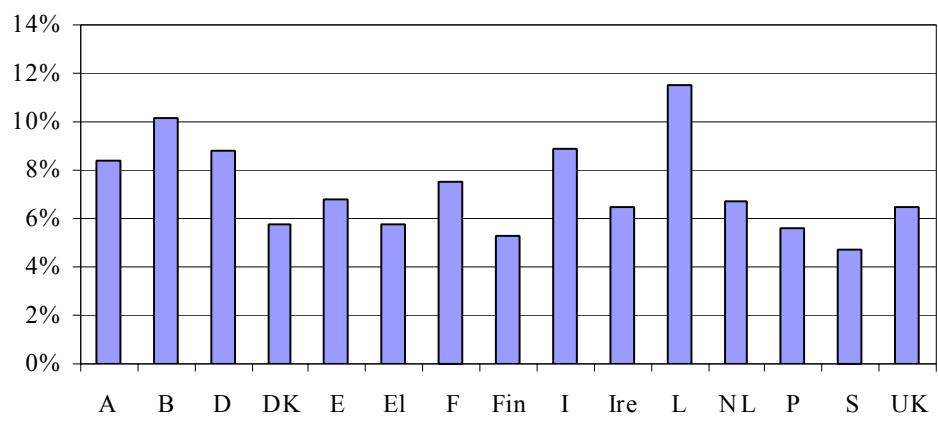
Housing



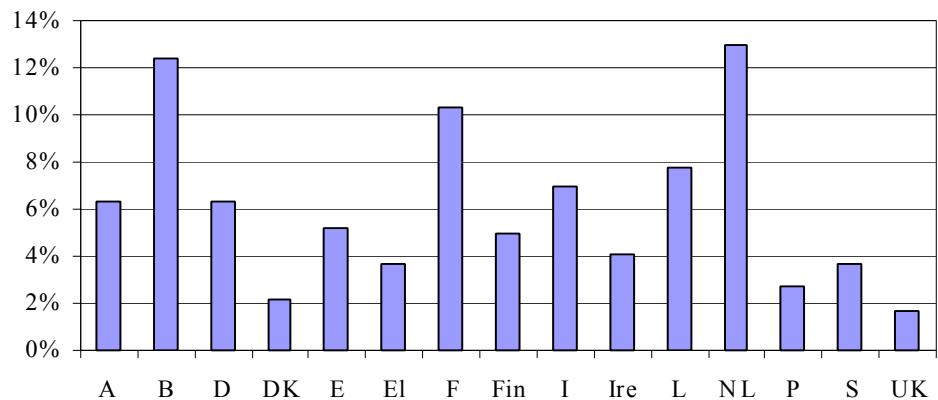
Transport/ communication



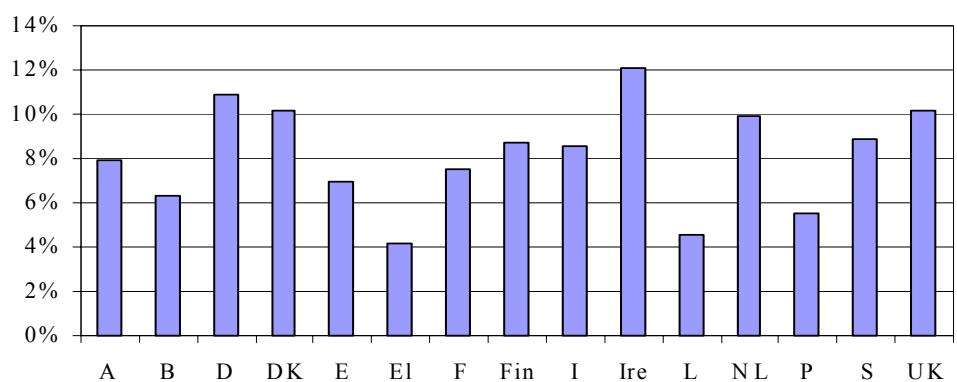
Household goods services



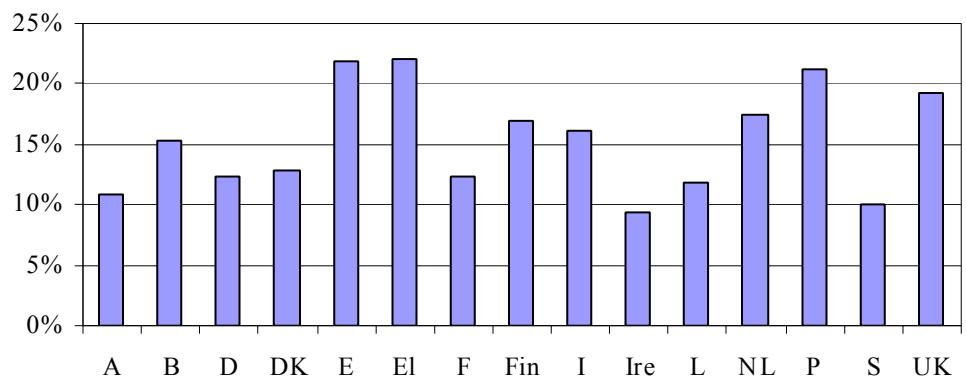
Health



Leisure/ education



Others



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Annex 3 Rates, exemptions and coverage in the EU

	Reduced	Standard	Zero rate	Reduced rate	Exemptions other than “standard exemptions” ¹	Taxation “standard exemptions”
Austria ²	10/12	20		Agriculture, books, food, forestry, hospitals, newspapers, art, culture, letting transport, supply of wine by farmers (12%)	Telecoms	Letting (private housing), hospitals (all at lower rate)
Belgium	0/1/6/12	21	Cars for handicapped Newspapers and certain weeklies	Agriculture, original art, clothing, food, coal and coke, gold	Legal services	
Denmark		25	Newspapers		Passenger transport, sports, burials, sale of newly constructed buildings, travel agents	Radio and television broadcasting, theatre, cinema
Finland	0/6/12/17	22	Subscribed newspapers, periodicals Printing services for certain membership publications Vessels and international transport	Food, non-alcoholic drinks, animal feed, medicine, books, passenger transport, accommodation, TV licence, admission to cultural entertainment, sporting events, cinema performances	Services of performers, copyright to literature and artistic works, products of visual art sold by artist, certain transactions by blind people, public cemetery services, self-picked natural berries	Postal services, cultural services
France	2.1/5.5	20.6		Medicine, handicap equipment, books, hotels, entertainment, author's rights, museums, transport, travels, passenger travel, accommodation, agriculture, books, catering, food, newspaper, water	Non (legal services have been taxed since 1991)	Sale of building sites and new buildings, renting of fitted premises
Germany ³	7	15		Books, food, newspapers, transport		
Greece ⁴	4/8	18		Books, culture, food, medicine, newspapers		Culture (lower rate)
Ireland	0/2.5/10/12.5	21	Books, children's clothing and footwear, oral medicine, certain medical equipment, certain foods, seeds, fertilisers	Newspapers and certain periodicals, fuel for certain purposes, electricity, works of art, veterinary services, agricultural services, car and boat hire, driving instruction, photographs, concrete, holiday accommodation, restaurant/hotel meals, building services, immovable goods, repair services, waste disposal, certain foods, tour guide services, admission to cinemas/certain musical performances and sporting facilities	Passenger transport, broadcasting, supply of water by public authorities, admission to sporting events, funeral undertaking, travel agents/tour operators	Long-term letting of commercial immovable property, supply of land and buildings
Italy ⁵	4/10/16	19	Books, newspapers, scrap iron, recycled paper	Food, medicines, telecom, weekly publications, accommodation	Municipal passenger transport, burials	Supply and letting of commercial land and buildings (standard rate)
Luxembourg	3/6/12	15		Agriculture, books, food, fuel, medicine, newspapers		

Netherlands	6	17.5		Accommodation, agriculture, books, catering, food, handicapped, medicine, newspapers, passenger transport, water, entrance fees for sports, arts and antiques	Burials, cremations, public broadcasting, sports (nor entrance fees)	Cultural services (most at lower rate)
Portugal ⁶	5/12	17		Books, food, handicapped, medicines, entertainment, newspapers, transport, electricity, accommodation and restaurant services	Agriculture	
Spain ⁷	4/7	16		Books, social lodgement, catering certain cultural and entertainment services, food, hotels, restaurants, supplies to the handicapped, medicines, transport, newspapers, public amenities, burial services, agriculture and forestry, domestic passenger transport	Copyright to literature and works of art	Some cultural services provided consumers pay for them
Sweden	6/12	25	Commercial aircrafts and ships, aircraft fuel, prescribed medicine, printing of certain membership publications	Accommodation, food, passenger transport, ski-lifts, newspapers, works of art owned by the originator, import of antiques, collectors items and works of art	Public television and radio, authors' rights, certain membership publications, public cemetery services	Postal services
UK ⁸	0/2.5/8	17.5	Children's clothing, food, passenger transport, books, newspapers, domestic sewage and water, prescribed drugs, medicine, certain aids for disabled	Fuel and power for domestic and charity use (8%)	Burials and cremations, sports competitions	An option to tax supplies of commercial land and buildings has not existed since 1 August 1989. Supplies of new commercial buildings are standard rate for tow years from completion date.

¹Standard exemptions are: postal services, medical care, dental care, charitable work, education, non-commercial activities of non-profit organisations, cultural services, letting of immovable property, financial services, lotteries and gambling, supply of land and buildings

²16% applies to Austrian tax enclaves Mittelberg and Jungholz.

³Only applies to passenger transport by ship and local public passenger transport

⁴Tax rates are reduced by 30% in some remote areas

⁵Residential housing taxed only when let by building enterprises (at lower rate of 4%)

⁶A reduced rate of 12% applies to restaurant services and certain food stuffs from 1 July 1996 (from 1stOctober 1996 extends to other foodstuffs).

⁷Books, newspapers, medicines, essential foods, certain supplies for handicapped and social housing are taxed at 4%

⁸The standard rate is applied to a reduced value on imports of certain works of art, antiques and collectors items, resulting in an effective rate of 2.5%.

Source: adapted from OECD, 1997, *Consumption Tax Trends*

