

September 30, 2024
Revised version

Discussion Paper, Research Institute of Banking; JKU Linz

CONSUMPTION-FINANCED UBI: TAXES, PRICES AND LABOR MARKET EFFECTS

Florian Wakolbinger¹⁾, Elisabeth Dreer²⁾ and Friedrich Schneider³⁾

¹⁾ Florian Wakolbinger

Gesellschaft für Angewandte Wirtschaftsforschung, Sparkassenplatz 2/1/115, 6020 Innsbruck, T +43 664 638 5993, wakolbinger@gaw.institute; Member of FRIBIS (Freiburg Institute for Basic Income Studies), University of Freiburg, Freiburg, Germany

²⁾ Elisabeth Dreer

Research Institute of Banking, Johannes Kepler University Linz, Altenbergerstraße 69, 4040 Linz, T +43 732 2468 3296, elisabeth.dreer@jku.at; Member of FRIBIS (Freiburg Institute for Basic Income Studies), University of Freiburg, Freiburg, Germany

³⁾ Friedrich Schneider

Research Institute of Banking, Johannes Kepler University Linz, Altenbergerstraße 69, 4040 Linz, T +43 732 2468 7340; friedrich.schneider@jku.at; Member of FRIBIS (Freiburg Institute for Basic Income Studies), University of Freiburg, Freiburg, Deutschland

* Financial support by FRIBIS (Freiburg Institute for Basic Income Studies) is gratefully acknowledged

Abstract

We simulate the introduction of an Unconditional Basic Income (UBI) which is financed exclusively by a consumption tax and an export tax. All other (income) taxes and levies are abolished. We do this simulation exercise for a) a UBI-introduction exclusively in Austria, b) an introduction in Germany and c) an introduction in the EU27-territory. Additional tax revenue needed for financing the UBI varies considerably with the development of wages and pensions after UBI-introduction. Consumer prices are likely to increase drastically, but we show real income changes to be modest almost regardless of the development of wages. Further, we show that price increases are lower for consumer goods with lower import content. By microsimulation, we show that with UBI introduction, labor supply would decrease by around 1.5 percent of total working hours, depending on net labor income and real disposable income changes. Interestingly, the projected decrease in labor supply is almost exclusively in working hours – we find almost no decrease in labor supply per head.

1. Introduction

The idea of an Unconditional Basic Income (UBI) has been discussed for years. A basic income is a monetary transfer, the amount of which secures the existence of the individual and enables her participation in society. The payment is made without means testing (administrative examination of income and assets) and without any compulsion, above all, without compulsion to paid employment. It thus is an unconditionally and regularly granted, individual state transfer payment. After introduction, UBI would replace at least parts of the existing social security system (cf. Neumann, 2008, p.3).¹²

Our study analyses a UBI financed by consumption tax – based on the idea of Götz Werner, a leading German proponent of a UBI until his death in 2022. Our model differs from other concepts of financing (i.e., Negative Income Tax, Social Dividend), in that all currently existing direct and indirect taxes, especially income taxes and social contributions, are abolished and replaced by a comprehensive consumption tax. Government spending, including social benefits and state transfers, spending on education and health, investment etc. will remain at their current level - apart from household transfers such as unemployment benefits, child benefits or social assistance which will be replaced by the UBI.

Overall, there are important starting points for placing UBI financing on a broad consumption tax basis. Above all, the fact that consumption taxes are levied in the territory where consumption takes place seems important. Income taxes, on the contrary, allow shifting the operating surpluses and therefore taxes to territories or countries with lower tax rates. With respect to the calculations, we present below, it must be emphasized that they are largely based on the status quo. While we model the reaction of labor supply with respect to changing wages and consumer prices, we do not model further adjustment reactions, especially reactions of

¹ The scientific discussion on the topic is also well advanced, as evidenced by an article in the renowned Journal of Economic Literature (Calsamiglia and Flamand, 2019) on a comprehensive monograph on UBI by Van Parijs and Vanderborght (2017). Regarding the financial feasibility or possible sources of financing a UBI, there is no uniform picture in the scientific discussion (see, for example, Schupp, 2020, or Conesa et al., 2020). Calsamiglia and Flamand (2019) attribute this to the diversity of the different UBI concepts. Widely discussed aspects are, on the one hand, the advantages of a UBI over "conventional" budget transfers in terms of easier administration and the reduction of "non-take-up", i.e., the problem that social transfers are not received even though there would be entitlement (see i.e., Boccadoro, 2014, Daigneault et al., 2012, UK Department of Work and Pensions, 2017). On the other hand, the literature on the labor market effects of automation / digitization is relevant. It is often postulated that the demand for labor will decline due to increasing automation, and that a UBI would subsequently have to be implemented, as significantly more people than before will be dependent on transfer income. However, the author (2003) and author et al. (2015) doubt that automation will drastically reduce labor demand. Finally, the discussion on the effects of UBI on labor supply takes up a great deal of space. In this context, Haigner et al. (2012a, 2012b) and Jones and Marinescu (2018) show that the number of hours offered decreases due to a UBI, but participation in the labor market remains almost constant. Schneider and Dreer (2017) provide an overview of the UBI concepts developed in the recent past.

² However, since beneficiaries are geographically limited, the term "unconditional" basic income should be replaced by the term "guaranteed" basic income, since the place of residence is at least a condition (see Vobruba, 2017). Restrictions on the right to citizenship, a longer residence period or a legal residence status of entitled group of persons are further weakening of the principle of unconditionality.

demand with respect to consumer prices and – in this course – demand for domestic versus imported goods. Long-term effects, for example in future generations who are already growing up with a basic income, are even more difficult to assess. Theory and empiricism of consumption taxation thus support the concern of the present study in essential points, without all analytical reference points being included in the following assessment.

The aim of our study is both the presentation and the calculation of the financial feasibility of a UBI model via consumption and export taxes, as well as the analysis of its effects on consumer prices, real income and labor supply. It is based on national account data for the EU27-countries, the figures are projected to 2025 by the European Commission's AMECO forecasts (AMECO, 2024). Our analysis of an UBI-introduction in Germany or the whole EU27-territory, however, comes without a treatment of labor supply effects. The paper is structured as follows:

Section 2 specifies the UBI-proposal which we analyze here, Section 3 describes the shifts in the tax and transfer system that occur when switching to consumption and export tax financing. Section 4 presents our results on tax levels, tax rates, reactions of prices and real income as well as consumer reactions differentiated with respect to the import content of the consumer goods. Section 5 presents the labor supply effects, while Section 6 draws some conclusions.

2. Specification of the UBI-proposal

The UBI-proposal discussed here is – as noted above already – based on the ideas of Götz Werner. Notable features are its fully unconditional nature as well as the financing by consumption and export taxes. Specific parameters of the proposal, in particular regarding a possible way of introduction, have been drawn by the Austrian club "Generation Grundeinkommen" (see the webpage www.fuereinander.jetzt in German).

Geographical Scope

All subsequent calculations are based on the assumption that the UBI will be introduced in a domestic territory (Austria, Germany or the EU), while there will be no system change in the countries where import goods and services are purchased from. Thus, we assume that the producer-prices of imported goods will not be affected by the introduction of the UBI together with the switch in the tax system.³ However, the purchaser-prices in the domestic territory or the resale prices after the processing of imported intermediate goods by domestic companies change due to the conversion of the domestic tax and social system to consumption and export-tax financing assumed here. Since the prices of imported final and intermediate goods still

³ The purchaser-prices in the domestic territory or the resale prices after processing by domestic companies change due to the conversion of the domestic tax and social system to consumption tax financing and UBI assumed here. As a rule, this increases the selling prices of imported goods and services.

include the (income and other) taxes levied in the countries of origin, and domestic consumers pay the consumption tax replacing all previous taxes levied in the domestic territory before the introduction of UBI, the selling price of imported consumer goods will rise. More specifically, the higher the import content of consumer goods sold in the domestic territory, the higher will be the price increase with respect to the Status Quo (see Section 4).

The consumption and export tax system

As noted above already, the model analyzed here features no taxes on income - gross income and net income or gross and net wages are therefore identical. The existing value added tax, as well as all other existing taxes, will be replaced by a consumption tax and an export tax. The classic consumption tax applies to products and services sold domestically, while the export tax is added to the net price of the exported goods. In addition to consumption and export tax, a wealth tax, a financial transaction tax or specific consumption taxes (i.e., energy- or CO₂-taxes) may contribute to the financing of the state. However, those alternatives are not discussed here.

Domestic consumption and exports are subject to different tax rates, as the export tax is calibrated such that the selling prices of export goods remain constant on average across all exported products and services despite the switch from income to consumption tax. This is because the competitiveness of domestic companies on the international markets and abroad, in which there are assumed to be no system changes, should be guaranteed at least on average.

Amount and recipients of the UBI

According to the definition by Götz Werner, the amount of the UBI should be the “cultural minimum”, i.e., existence plus participation in cultural life at least to some extent. In the proposal analyzed here, we set the amount for Austria to € 15,000 per year for adults and to € 7,500 for minors below the age of 18. For Germany and the other EU27-countries analyzed here, we adjust the UBI with the ratio of the projected consumer price level in the country relative to the projected Austrian consumer price level as of 2025. Table 1 shows the resulting UBI-Values for all countries included in our simulations.

The UBI is paid monthly by the state to each member of the domestic resident population without further conditions. The resident population is defined as the population with principal residence in the domestic territory.

As noted above already - apart from some household transfers replaced by the UBI (see the next subsection below) - there are no cuts or suspensions of public services or public spending, in particular spending on education and health as well as public investment.

Table 1: UBI-values and total UBI-payments according to our model as of 2025

EU27-country	UBI per year for adults	total UBI payments per year
Austria	€ 15,000	€ 125 bn.
Belgium	€ 15,519	€ 165 bn.
Bulgaria	€ 7,978	€ 46 bn.
Croatia	€ 10,125	€ 35 bn.
Cyprus	€ 11,962	€ 10 bn.
Czechia	€ 11,801	€ 115 bn.
Denmark	€ 18,814	€ 102 bn.
Estonia	€ 13,051	€ 16 bn.
EU27-Average	€ 13,275	€ 5,434 bn.
Finland	€ 16,269	€ 82 bn.
France	€ 14,534	€ 890 bn.
Germany	€ 14,449	€ 1,119 bn.
Greece	€ 11,555	€ 110 bn.
Hungary	€ 10,324	€ 90 bn.
Ireland	€ 18,574	€ 89 bn.
Italy	€ 12,934	€ 702 bn.
Latvia	€ 11,396	€ 19 bn.
Lithuania	€ 10,687	€ 28 bn.
Luxembourg	€ 17,718	€ 11 bn.
Malta	€ 11,848	€ 6 bn.
Netherlands	€ 15,578	€ 255 bn.
Poland	€ 9,061	€ 301 bn.
Portugal	€ 11,514	€ 112 bn.
Romania	€ 8,373	€ 142 bn.
Slovakia	€ 12,004	€ 59 bn.
Slovenia	€ 12,087	€ 23 bn.
Spain	€ 12,359	€ 556 bn.
Sweden	€ 14,882	€ 141 bn.

Source: Eurostat (2024), AMECO (2024), own calculations.

Replacement versus supplementation of household transfers

In our analysis, UBI by assumption replaces household social transfers featured by the social system as of 2025 (figures projected by AMECO, 2024). These include in particular unemployment and child benefits. The treatment of pension payments is relegated to negotiations between the domestic government and pensioner representatives. In this study we do not forecast the (average) height of pension payments after UBI-introduction, just as we do not forecast the development of wages. What we do is to analyze financing requirements and effects on tax rates, real income and consumer prices for different levels of wages and pensions (see the next subsection below).

Type of payout and the way of introduction

In the discussed proposal, the UBI is paid out additively after its implementation and without conditions, i.e., independently of other income (above all, earned income). The big question is how (net) wages and (net) pensions will react to the UBI-introduction, since wage levels will determine the tax rates necessary for financing the UBI. Higher wages lead to higher net prices due to involvement of labor in the production of goods and services. But higher wages also lead to higher government expenditure. The wage-content of state consumption is high (state consumption includes the wages of state employees, and the wages in prices of goods and services purchased by the state). Furthermore, higher pensions lead to higher government expenditure. If – as we assume for the calculations presented below – average wages and average pensions react by the same magnitude, just as average wages in private companies react in the same way as wages paid by the government – we have a twofold effect of wages on (necessary) consumption and export tax rates. The higher the wages are, the higher is the basis for the consumption and export tax, and the lower is the necessary tax rate to finance government expenditure. In addition, however, the higher the wages are, the higher the government expenditure is for the wages included in state consumption and pensions. The latter effect increases the necessary tax rate. In our calculations presented below, we consider both of these effects.

As noted above, we don't forecast the development of wages and pensions after the introduction of UBI. However, we acknowledge that there are both arguments for decreasing as well as increasing wages.

On the one hand, the bargaining position of employees is strengthened by the payment of the UBI (see also Calsamiglia and Flamand, 2019). The absolute necessity of earning income through paid work is no longer so strong or in many cases not existent anymore. On the other hand, however, due to the financial resources provided by the UBI, the willingness to work for low wages increases, above all, in presence of non-monetary incentives to work (social incentives, perceiving the specific type of work as “senseful” in various ways).

The outcome of wage and pension negotiations and thus the level of net earned income after the introductory phase outlined here is therefore uncertain. We thus calculate the effects for various different wage and pension levels. However, two wage/pension levels are of particular interest and therefore specifically featured in our analysis. We call them Scenario 1 (S1) and Scenario 2 (S2).

- S1: Wages/pensions decrease such that together with UBI such that household disposable income remains constant with respect to Status Quo
- S2: Wages/pensions remain on average at the Status Quo level.

Further assumptions made in our analysis

As usual in economics, some assumptions must be made to calculate our model. First, we assume that the production of one unit of goods and services before and after the introduction of a UBI requires labor and capital input of the same amount. This means that potential changes in the efficiency of production or the labor intensity of production are not taken into account. Second, we assume supply on goods markets to be perfectly elastic (horizontal inverse supply curves). The effect of this assumption is that consumer prices are fully determined by the costs of supply, including the consumption tax rate. However, we allow consumption volumes to change and use our estimations of price- and income elasticities of demand to quantify the changes in volumes. We differentiate the projected volume changes with respect to the import-content of consumer goods.

The calculations are differentiated at the level of the NACE Rev. 2 economic sector classifications, the data are taken from the inter-country input output table provided by Eurostat (ICIO, 2024) and national account data (Eurostat, 2024). Our labor supply projections discussed in section 5 are based on EU-SILC (2024).

3. Transition to a consumption- and export tax system

Austrian, German and EU27 nominal GDP will – according to AMECO (2024) amount to 520 bn. (Austria), € 4,406 bn. (Germany) and € 18,409 bn. (EU27) in 2025. The total amount of taxes, duties and fees for the same period will amount to € 225 bn. (Austria), € 1,823 bn. (Germany) € 7,429 bn. (EU27). As noted earlier already, in our model of a tax system conversion to consumption taxation and UBI, all Status-Quo taxes and levies, in particular income taxes and social security contributions are eliminated.

Basis of assessment of a consumption and export tax

In the model discussed here, goods and services offered in the domestic federal territory are subject to a consumption tax. Those goods that are (partly) produced in the domestic territory and sold by domestic suppliers to foreign customers, on the other hand, are subject to an export tax. In both cases, the tax is based on the net prices of the products or services, i.e. the sum of

1. the costs of labor⁴ and operating surpluses (before depreciation) and
2. the prices of imported intermediate products contained in goods manufactured in the domestic territory or the prices of imported end products offered in the domestic territory.

The consumption tax is thus based on "real net prices" – a price completely free of taxes and levies. Note that on the contrary, the VAT currently in force is based on "net" prices including income taxes, social contributions and wage-related levies of the persons involved in the production process.

Investment demand by domestic companies is subject to input tax deduction (which is in the Status Quo possible for VAT), which essentially means that investment goods are after UBI-introduction tax-free, while they are subject to income taxes and social contributions etc. in the current system. From that it follows that investment goods prices are in the proposed consumption and export-tax system on average by roughly one quarter lower (ICIO, 2022) than in the current system.

Additional financing needs

As a matter of fact, when introducing an UBI it is not sufficient to simply yield the Status Quo tax revenue by a comprehensive consumption and an export tax. The tax revenue must be increased, since all public expenditure apart from household transfers being replaced by the UBI must remain. Table 2 below shows by what amount tax revenue will have to rise such that financing the UBI along with the current public expenditure is guaranteed. As noted above already, the amount depends on the development of wages and pensions after UBI-introduction, since a substantial number of people are employed by the government, and pension payments are part of government expenditure too (see the discussion above). The figures in Table 2 refer, just as all other calculations in this study, to the year 2025. We show the respective calculations for Scenarios 1 and 2 developed above. Interestingly, for Scenario 1 in Austria and Germany, the 2025 projected nominal tax revenue would suffice to finance the UBI. This is because of the drastic decline in wages and pensions as well as the shift from income to consumption taxation, which decreases nominal government consumption and pension payments such that the UBI can be financed without a nominal tax increase.

⁴ These costs depend on the development of wages after UBI-introduction. Note however, that after UBI-introduction they do not include income taxes, social contributions and other wage-related levies anymore, since those are abolished.

Table 2: Additional tax revenue needed for UBI-introduction as of 2025

	Scenario 1	Scenario 2
Austria		
Unconditional Basic Income (UBI)	€ 125 bn.	€ 125 bn.
Taxes and SSC included in state consumption incl. wages of state employees	-€ 53 bn.	-€ 53 bn.
Taxes and SSC included in pensions	-€ 20 bn.	-€ 20 bn.
Households' transfers replaced by UBI	-€ 17 bn.	-€ 17 bn.
Sum	€ 35 bn.	€ 35 bn.
+/- Change in net wages of government employees/net-pensions	-€ 53 bn.	€ 0 bn.
Additional revenue needed for UBI-introduction	-€ 17 bn.	€ 35 bn.
Germany		
Unconditional Basic Income (UBI)	€ 1,119 bn.	€ 1,119 bn.
Taxes and SSC included in state consumption incl. wages of state employees	-€ 472 bn.	-€ 472 bn.
Taxes and SSC included in pensions	-€ 217 bn.	-€ 217 bn.
Households' transfers replaced by UBI	-€ 122 bn.	-€ 122 bn.
Sum	€ 307 bn.	€ 307 bn.
+/- Change in net wages of government employees/net-pensions	-€ 428 bn.	€ 0 bn.
Additional revenue needed for UBI-introduction	-€ 121 bn.	€ 307 bn.
EU27		
Unconditional Basic Income (UBI)	€ 5,434 bn.	€ 5,434 bn.
Taxes and SSC included in state consumption incl. wages of state employees	-€ 1,796 bn.	-€ 1,796 bn.
Taxes and SSC included in pensions	-€ 796 bn.	-€ 796 bn.
Households' transfers replaced by UBI	-€ 540 bn.	-€ 540 bn.
Sum	€ 2,303 bn.	€ 2,303 bn.
+/- Change in net wages of government employees/net-pensions	-€ 1,878 bn.	€ 0 bn.
Additional revenue needed for UBI-introduction	€ 425 bn.	€ 2,303 bn.

Note: The figures refer to the year 2025 and a UBI according to Table 1 per year.

Source: Own calculations based on Eurostat (2024) and AMECO (2024).

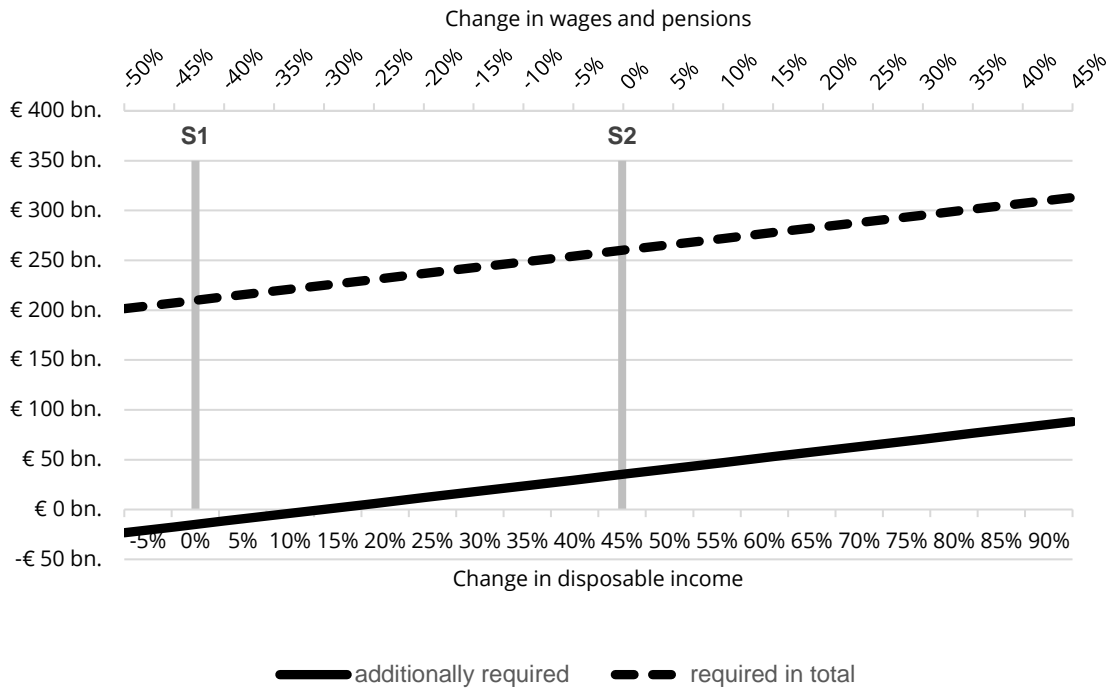
Scenario 1: Wages/pensions adjust such that household disposable income retains at the Status-Quo level

Scenario 2: Wages/pensions retain at the Status Quo level

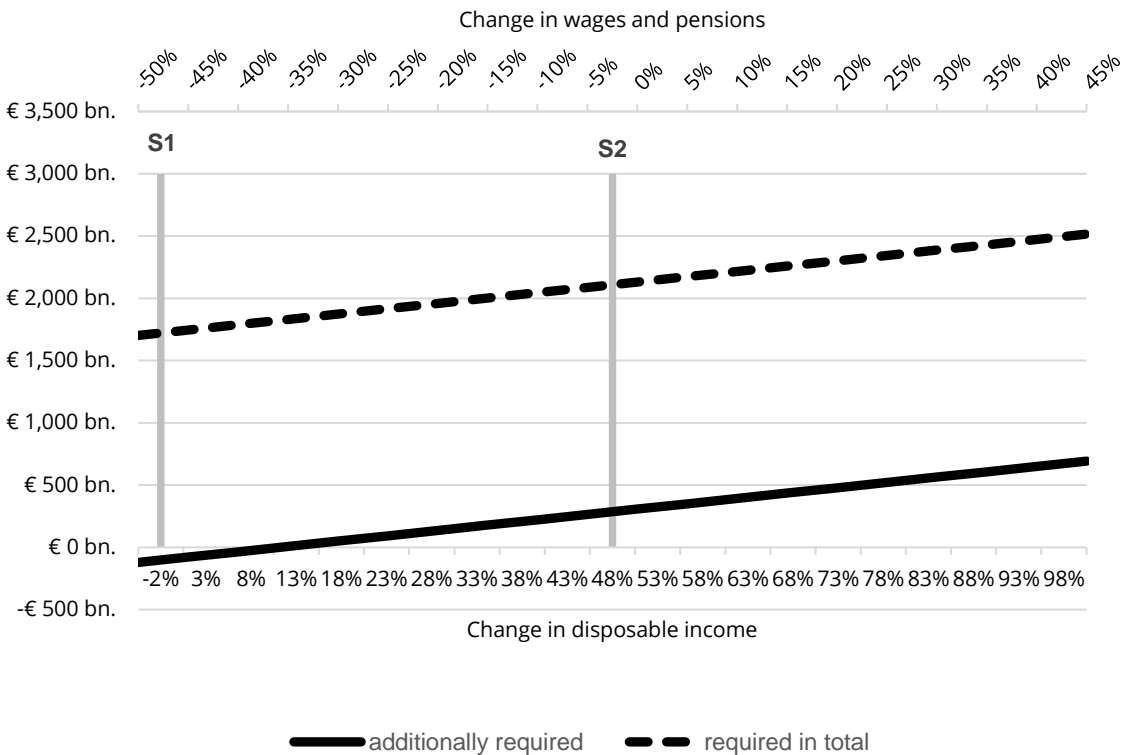
As can be seen from Table 2, an UBI of € 15,000/7,500 per year (Austria) would in total require € 35 bn. of additional tax revenue per year compared to the status quo in Scenario 2. Likewise, an UBI of 14,449/7,225 per year (Germany) would in total require € 307 bn. of additional tax revenue in Scenario 2. In Scenario 1, however, there is as noted above already no further need of additional tax revenue.

Figure 1: Total and additional yearly tax revenue required by UBI-intro as of 2025

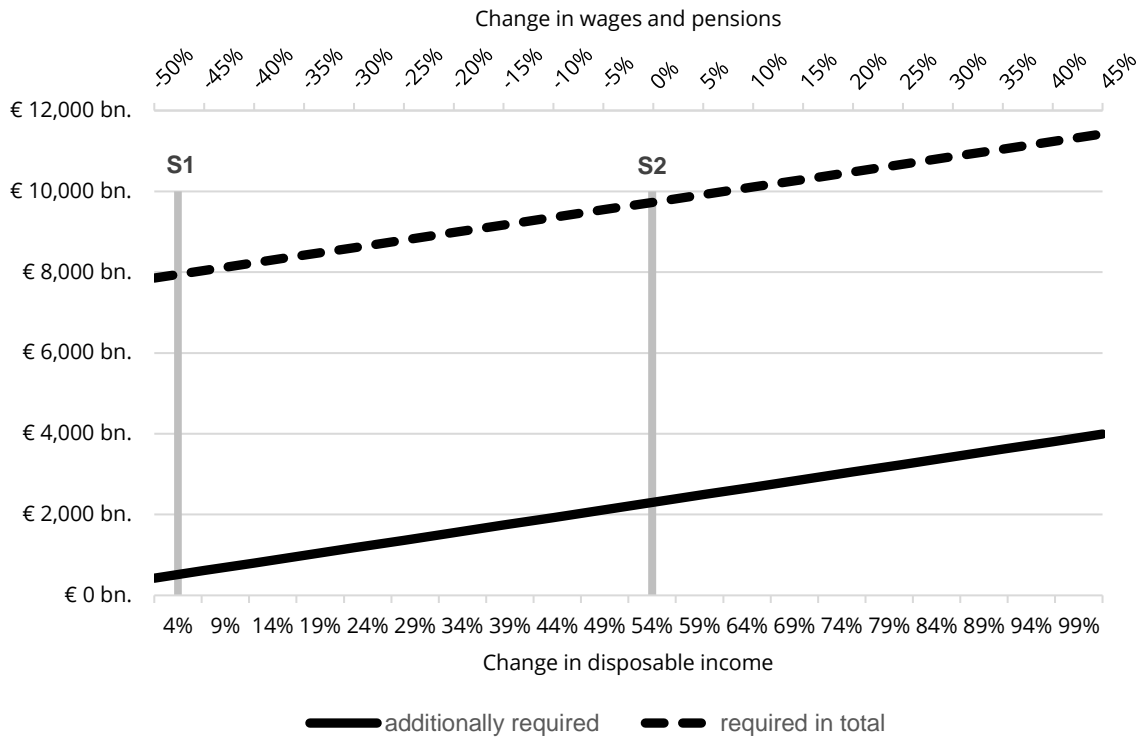
Panel a) Austria



Panel b) Germany



Panel c) EU27



Source: Own calculations based on Eurostat (2024), ICIO (2024) and AMECO (2024).

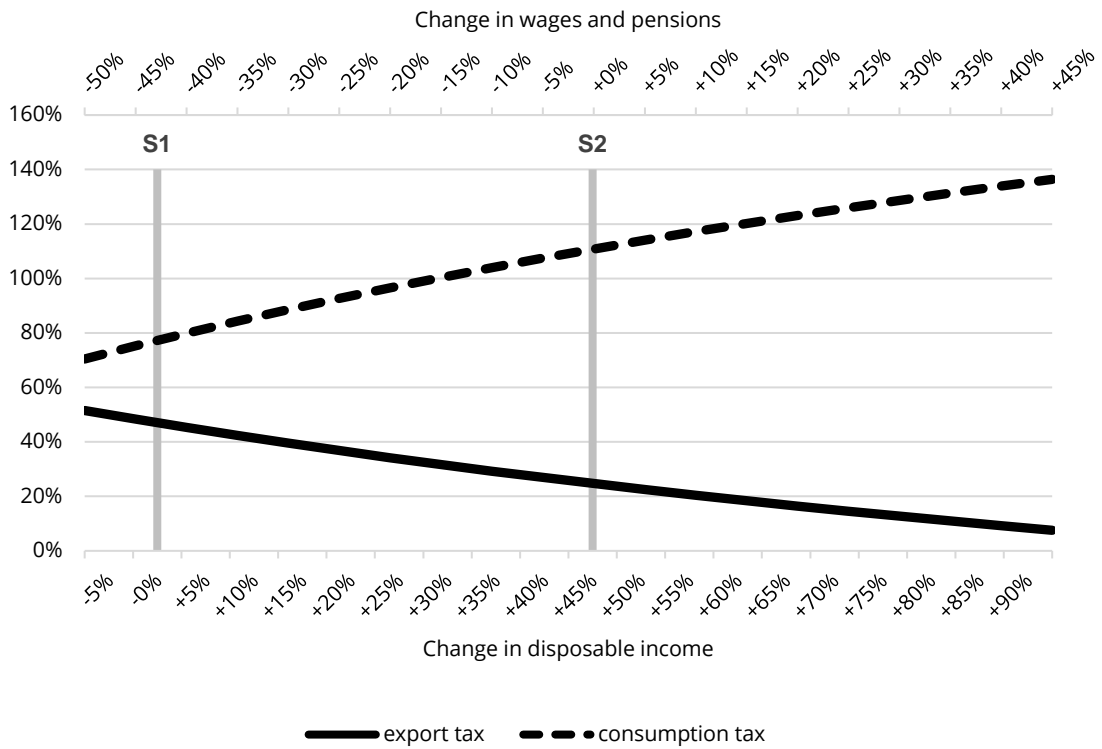
S1: Household disposable income remains at SQ-level. S2: Net-wages/net-pensions retain at SQ-level

Introducing the UBI in the whole EU27-territory with payments listed in Table 1, however, would require an EU27-wide total additional tax revenue of € 425 bn. even in Scenario 1. The amount of household transfers (child payments, unemployment payments, social assistance etc.) replaced by UBI amounted to € 17 bn. in 2025 (Austria), € 122 bn. (Germany) and € 540 bn. (EU27). Further, social security contributions and income taxes in government consumption (including the wages of state employees) and pension payments vanish after shifting the tax system to consumption and export tax financing.

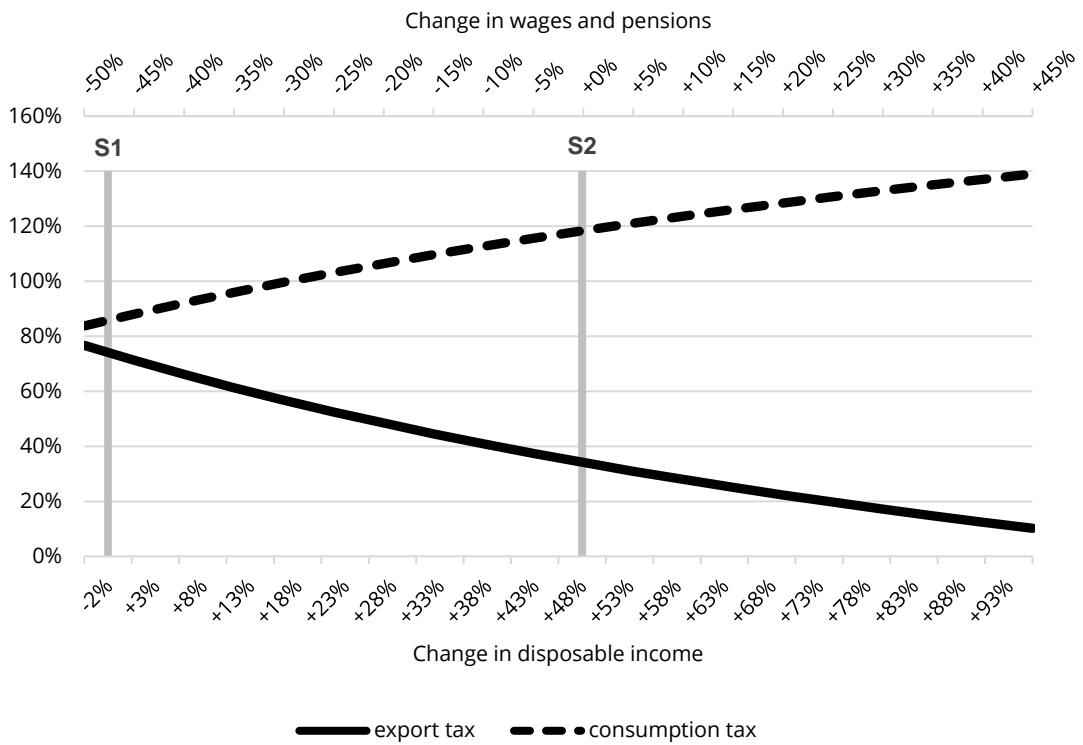
Figure 1 shows the total tax revenue as well as the additional tax revenue compared to Status Quo 2025, which an introduction of UBI would require. As a matter of fact, the higher wages and pensions are after UBI-introduction, the higher are wage and pension payments by the state, and the higher is the required tax revenue after UBI-introduction. The grey bars in Figure 1 show the Scenarios 1 (household disposable income retains at Status-Quo level) and 2 (net-wages/net-pensions retain at Status-Quo level).

Figure 2: Required export and consumption tax rates

Panel a) Austria



Panel b) Germany



Panel c) EU27



Source: Own calculations based on Eurostat (2024), ICIO (2024) and AMECO (2024).

S1: Household disposable income remains at SQ-level. S2: Net-wages/net-pensions retain at SQ-level

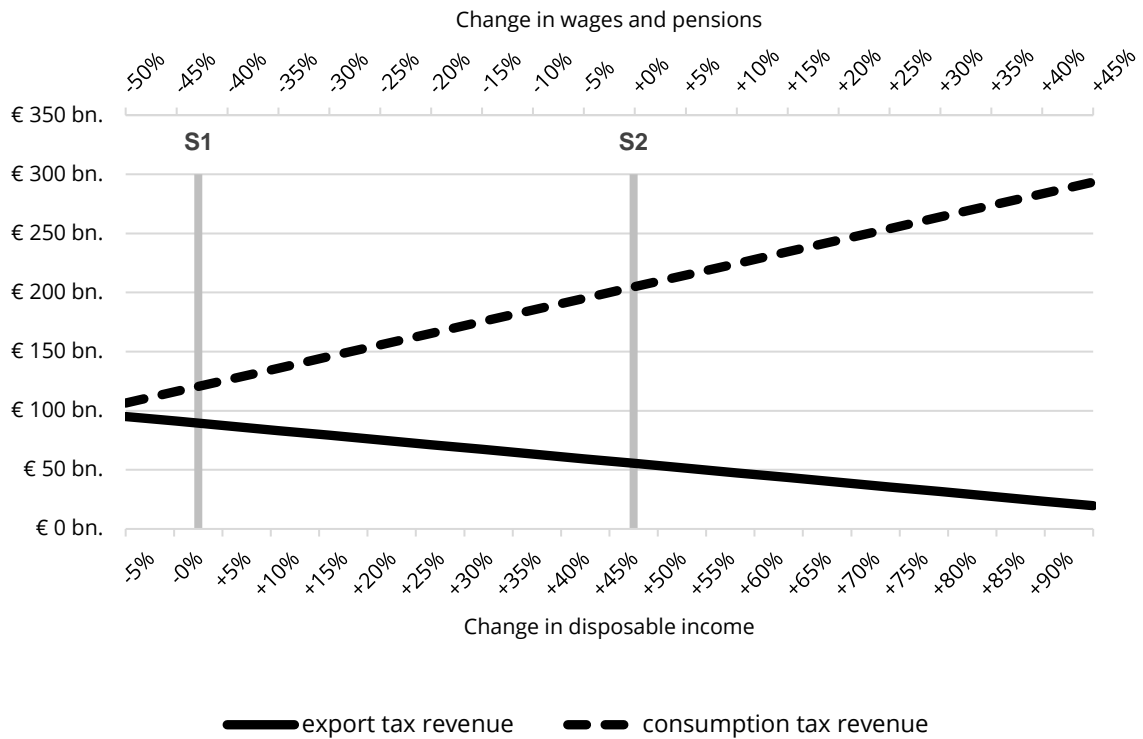
4. Tax rates, tax revenue, prices, real income, volumes

How to yield the total and additional tax revenue displayed in Figure 1 by only a consumption- and an export tax? The necessary tax rates are shown in Figure 2. Note that we restrict the export tax rate such that the average price level of export goods remains at Status-Quo level. This should guarantee the competitiveness of domestic companies operating in export markets. The consumption tax then is set at a rate that guarantees the financing of UBI. The calculations are based on the assumption that export volumes as well as domestic consumption values remain at Status-Quo level.

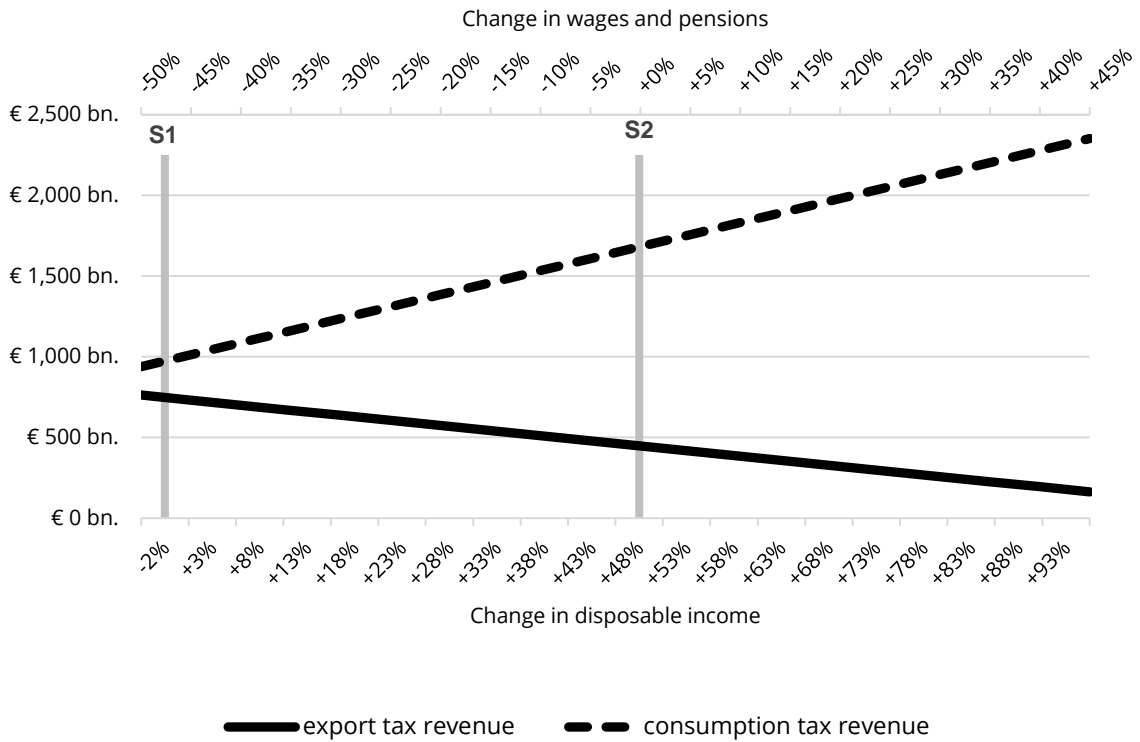
The higher wages and pensions are after UBI-introduction, the lower the export tax rate can be. This is because with increasing wages, the basis of the export tax – the net prices of the export goods – increases since wages are together with imported intermediate goods, as well as corporate income part of the net prices. As can be seen from Figure 1, the necessary consumption tax rate ranges from about 80% to 120% for Austria and Germany. For an UBI-Introduction in the whole EU27-territory, the necessary consumption tax rate is much higher at 130% to 140%. This is because the relative value of exports is lower in the EU27 territory, since exports from one EU-member country to another do not count here.

Figure 3: Export and consumption tax revenue at UBI-intro as of 2025

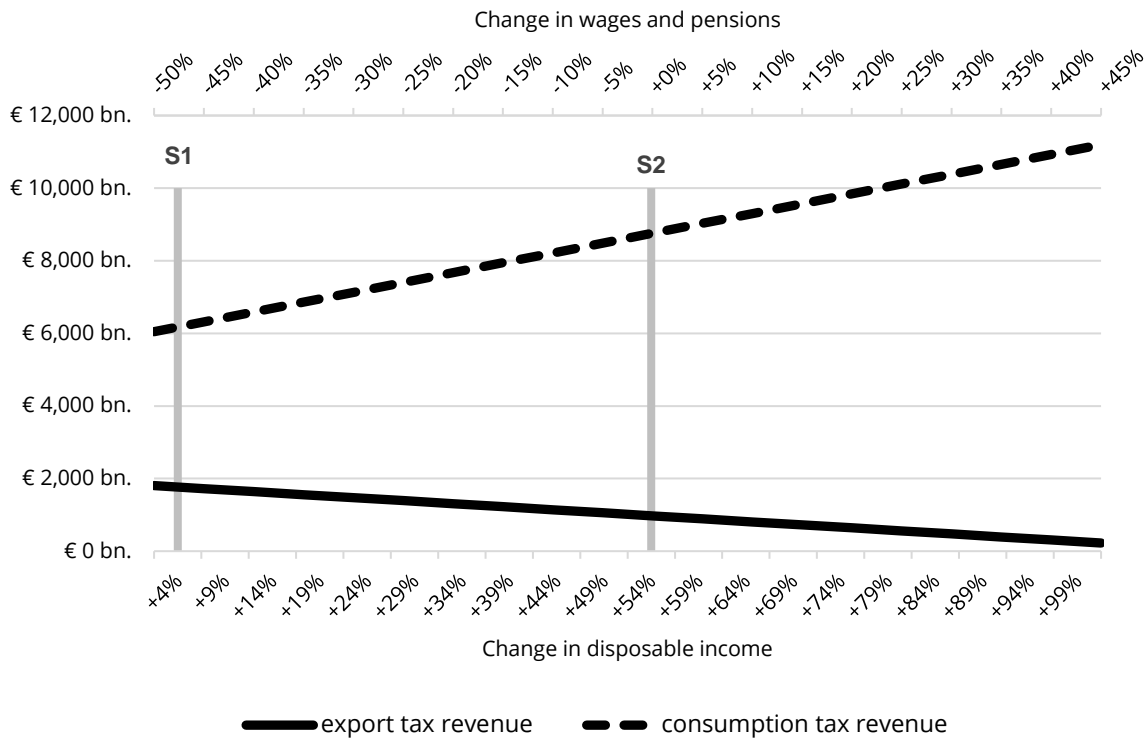
Panel a) Austria



Panel b) Germany



Panel c) EU27



Source: Own calculations based on Eurostat (2024), ICIO (2024) and AMECO (2024).

S1: Household disposable income remains at SQ-level. S2: Net-wages/net-pensions retain at SQ-level

Figure 3 shows the revenue yielded by the consumption and export tax such that for each wage/pension level the financing of an UBI along with government expenditure remaining at the Status-Quo level (apart from household transfers replaced by UBI) is guaranteed.

With increasing wages, the revenue yielded by the export tax must decrease in order to guarantee competitiveness at export markets. Thus, the higher the wages (and pensions) after UBI-introduction, the higher must be the revenue of the consumption tax for two reasons. First, as just explained, the declining export tax revenue must be compensated, and second, the required tax revenue increases with higher wages and pensions (Figure 1).

From the pattern shown in Figure 3 and from the fact that wages are a substantial part of the net prices of consumer goods, it follows that higher wages (and pensions) after UBI-introduction result in higher consumer price levels. This is shown in Figure 4. However, Figure 4 also shows that real income levels (real income being defined as nominal disposable income divided by the price level of consumer goods) remain very stable although consumer prices rise remarkably. This is due to the UBI-payments that – along with labor income – compensate for real income losses due to higher price levels.

Figure 4: Consumer price level and real income changes

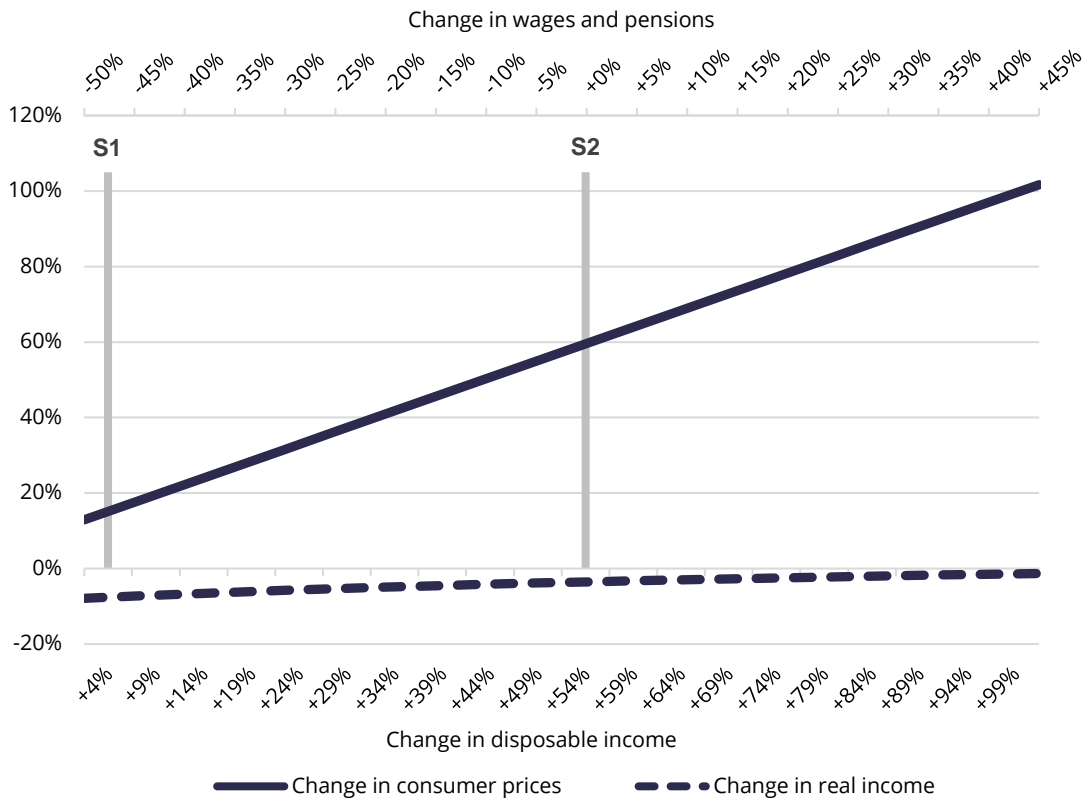
Panel a) Austria



Panel b) Germany



Panel c) EU27



Source: Own calculations based on Eurostat (2024), ICIO (2024) and AMECO (2024).
S1: Household disposable income remains at SQ-level. S2: Net-wages/net-pensions retain at SQ-level

Note that with an UBI-introduction in the whole EU27-territory (Panel c) the price-level increase would be higher than with an UBI-introduction only in Austria or Germany. Likely, this is due to the fact that EU-wide UBI that corresponds to € 15,000 at Austrian consumer price level, accounts for a much higher share of EU-government expenditure than Austrian government expenditure. According to Table 1, in Austria a UBI of € 15,000 per adult and year would amount to € 125 bn. in total, as opposed to € 224 bn. of projected 2025 tax revenue. Thus, UBI accounts for 56% of current tax revenue in Austria. When introducing the EU27-wide-UBI with payments according to Table 1, projected UBI-payments (€ 5,434 bn.) account for 73% of projected EU27-wide government revenue (€ 7,429 bn. in 2025).

While it is good news that real income doesn't change too much with increasing wages/pensions and thus increasing required tax revenue and rates, the bad news – of course – is that the purchasing power of the UBI itself shrinks with increasing consumer price levels. If – as in Scenario 2 – the consumer price level increases to 45% above the Status Quo level, the yearly UBI decreases from € 15,000 to $€ 15,000 / 1,45 = € 10,345$. Thus, people relying solely on the UBI payment after its introduction will suffer severe income losses if wages and pensions remain at the Status Quo level (Scenario 2). The specific effect depends on whether the persons

live together with spouses/children in households, but for single people, for example, the income losses due to consumer price level changes can be most severe.

Note however, that Figure 4 shows how the price of the average consumer good reacts to wage changes after UBI-introduction. If we assume perfectly elastic supply (horizontal inverse supply curves at consumer goods markets), the price level changes substantially differ with respect to the consumer goods' import content. The consumption tax rate is the same for imported as well as domestically produced consumer goods. However, net prices of domestically produced goods shrink in the course of the UBI-introduction because income taxes and social contributions contained in net prices are abolished, while the net price of imported goods remains constant. Thus, the higher the import content of consumer goods, the higher the price increase will be in course of the UBI-introduction. With rising domestic wage levels, the difference in price level changes provoked by different import content levels will decrease. This is because the advantage of domestic goods over imported goods resulting from abolishing income tax and social contributions is compensated by increasing wages.

Table 3: Price changes for different consumer goods and services

COICOP-Category	Austria		Germany		EU27	
	S1	S2	S1	S2	S1	S2
Food	+22%	+68%	+14%	+66%	+22%	+74%
Non-alcoholic beverages	+2%	+41%	-2%	+44%	+5%	+50%
Alcoholic beverages	-38%	-12%	-30%	+6%	-23%	+13%
Tobacco	-29%	-2%	-24%	+14%	-18%	+19%
Clothing	-25%	+17%	-29%	+20%	-14%	+31%
Footwear	+17%	+56%	+11%	+55%	+25%	+64%
Actual rentals for housing	-6%	+44%	-3%	+41%	+29%	+75%
Maintenance and repair of the dwelling	+9%	+57%	+1%	+57%	+12%	+65%
Water supply and miscellaneous services relating to the dwelling	-5%	+44%	-1%	+46%	+28%	+75%
Electricity, gas and other fuels	-15%	+26%	-10%	+40%	+10%	+52%
Furniture and furnishings, carpets and other floor coverings	+21%	+61%	+6%	+57%	+16%	+61%
Household textiles	+47%	+85%	+36%	+81%	+52%	+88%
Household appliances	+30%	+70%	+11%	+63%	+23%	+69%
Glassware, tableware and household utensils	+26%	+69%	+8%	+63%	+18%	+67%
Tools and equipment for house and garden	+37%	+80%	+9%	+65%	+21%	+72%
Goods and services for routine household maintenance	+17%	+57%	-2%	+56%	+8%	+62%

Medical products, appliances and equipment	+25%	+66%	+5%	+58%	+18%	+65%
Out-patient services	-20%	+35%	-21%	+43%	-3%	+57%
Hospital services	-20%	+35%	-22%	+45%	-4%	+57%
Purchase of vehicles	+30%	+65%	+13%	+62%	+22%	+63%
Operation of personal transport equipment	-6%	+31%	-1%	+42%	+8%	+45%
Transport services	+22%	+69%	+25%	+75%	+37%	+79%
Postal services	-5%	+46%	+3%	+58%	+7%	+59%
Telephone and telefax equipment	+24%	+64%	+18%	+65%	+27%	+69%
Telephone and telefax services	+15%	+51%	-4%	+47%	+20%	+64%
Audio-visual, photographic and information processing equipment	+19%	+59%	+12%	+60%	+21%	+64%
Other major durables for recreation and culture	+0%	+41%	-8%	+40%	+1%	+44%
Other recreational items and equipment, gardens and pets	+18%	+60%	+7%	+56%	+18%	+67%
Recreational and cultural services	-15%	+30%	-17%	+31%	-2%	+41%
Newspapers, books and stationery	+21%	+63%	-3%	+50%	+9%	+59%
Package holidays	-10%	+48%	+41%	+87%	+37%	+83%
Pre-primary and primary education	-31%	+18%	-13%	+38%	-0%	+46%
Secondary education	-31%	+18%	-13%	+38%	-0%	+46%
Tertiary education	-25%	+23%	-11%	+41%	+3%	+49%
Education not definable by level	-29%	+20%	-13%	+39%	+1%	+47%
Catering services	-1%	+47%	-0%	+43%	+5%	+51%
Accommodation services	-1%	+47%	-0%	+43%	+5%	+51%
Personal care	+7%	+54%	-4%	+58%	+8%	+63%
Personal effects n.e.c.	+8%	+48%	+3%	+49%	+13%	+55%
Social protection	-25%	+28%	-33%	+30%	-19%	+39%
Insurance	-27%	+17%	-25%	+29%	-15%	+31%
Financial services n.e.c.	-24%	+19%	-4%	+52%	+11%	+64%
Other services n.e.c.	-20%	+31%	-21%	+42%	+2%	+57%
Total household consumption	+1%	+45%	-2%	+48%	+13%	+60%

Source: Own calculations based on Eurostat (2024), ICIO (2024) and AMECO (2024).

S1: Household disposable income remains at SQ-level. S2: Net-wages/net-pensions retain at SQ-level

Abolishing income tax and social contributions in favor of a consumption tax together with imposing the same consumption tax rate on both domestic as well as imported goods thus results in a substantial advantage for domestic goods. Table 3 shows the price changes for

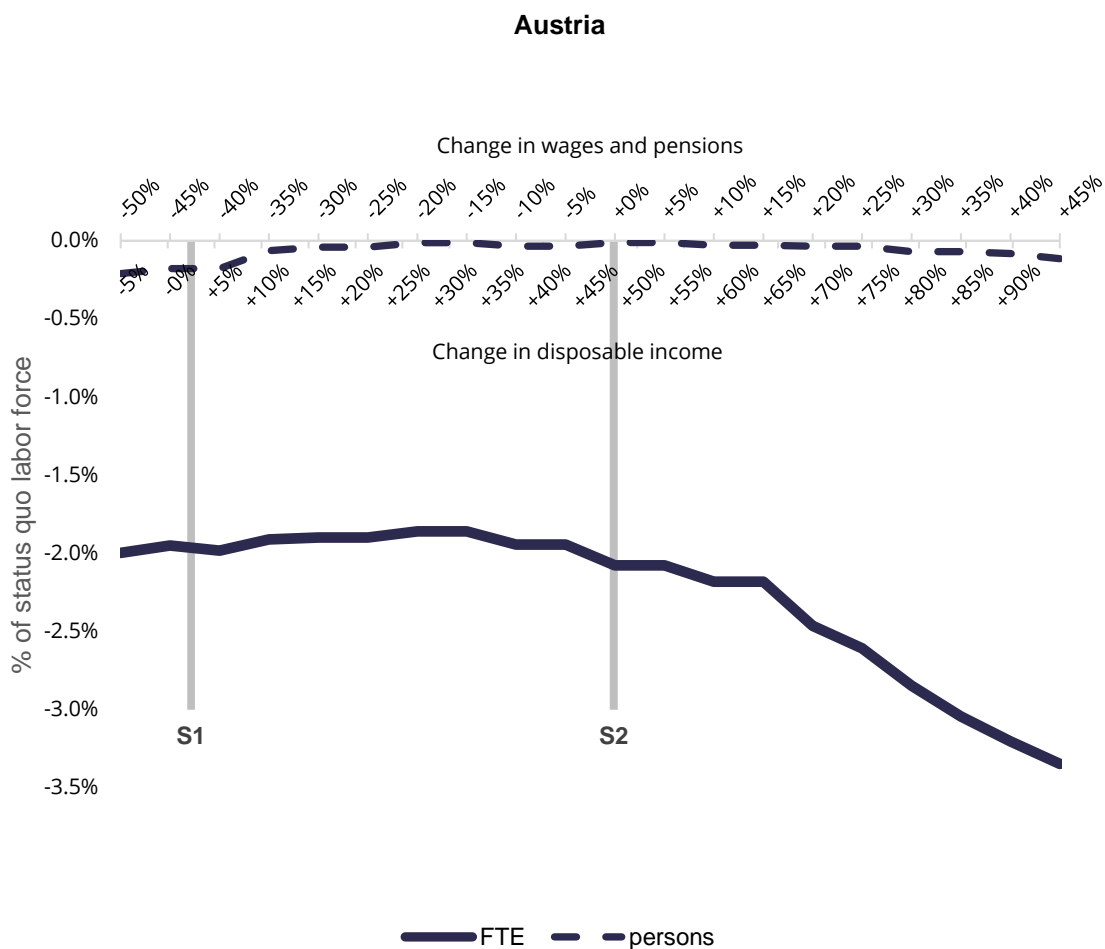
different consumption goods according to the COICOP-classification if a consumption tax as outlined above would be introduced. AS pointed out above, consumer goods with a higher import content (i.e. vehicles, food, footwear, IT-equipment) will show higher price increases than consumer goods with a low import content (i.e. rentals, water supply, services in general). Interestingly, alcoholic beverages, tobacco and energy would – at least in Scenario 1 – become even cheaper. This is because the currently implemented alcohol- and tobacco-taxes as well as energy dues are relatively high – but would be replaced by the consumption tax scheme sketched above.

5. Labor supply effects

Results

We use microsimulation based on EU-SILC (2024) to estimate labor supply as well as distributional effects of UBI-introduction in Austria.

Figure 5: Labor supply effects of UBI introduction in terms of FTE and persons [% of status quo]

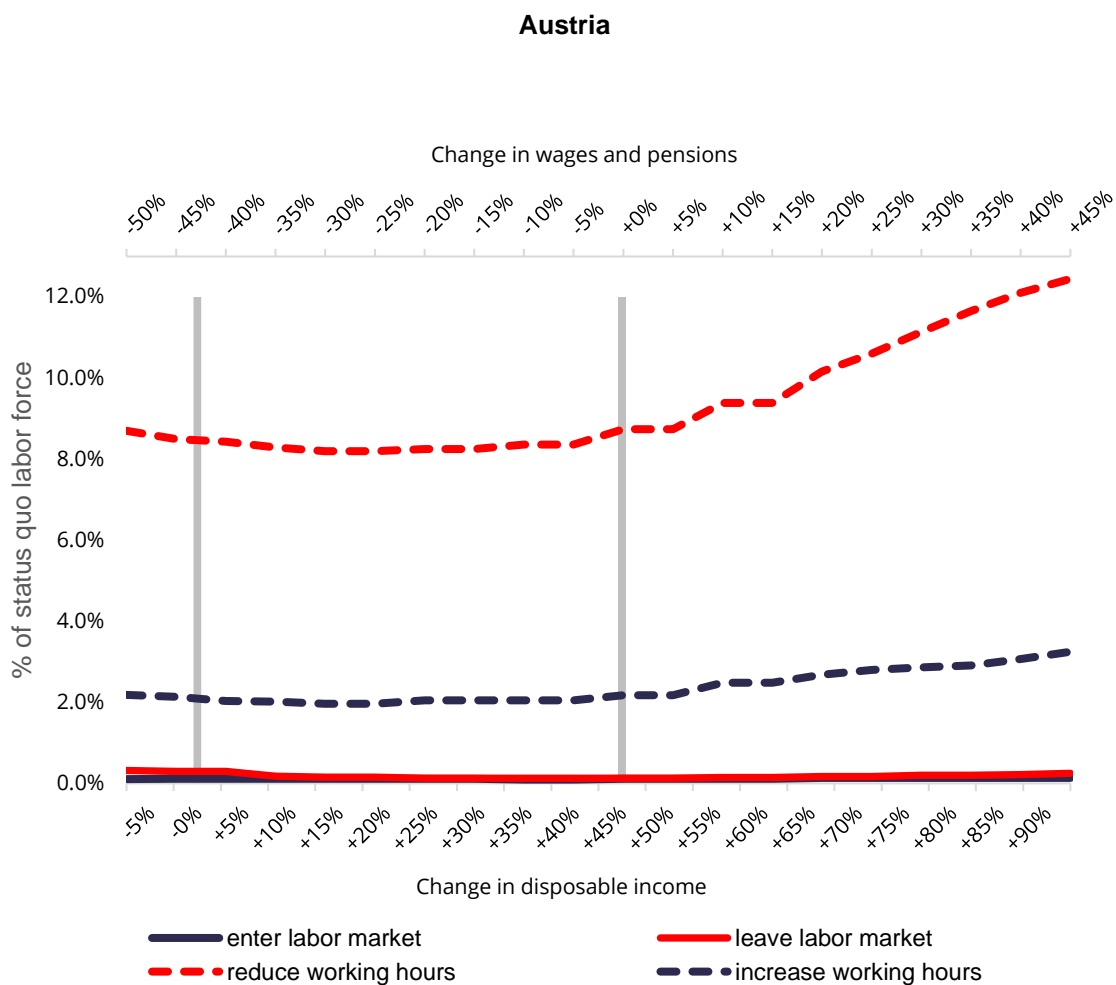


Source: Own calculations based on ATTM (2024).

S1: Household disposable income remains at SQ-level. S2: Net-wages/net-pensions retain at SQ-level

Please see some notes on our methodology in the next subsection below. In doing so, we take account of the wage and real income changes depicted in Figure 4 above. Figure 5 shows the estimated labor supply decline in terms of full-time equivalents (FTE) and people employed. Interestingly, our simulations suggest – after introduction of a consumption-financed UBI as sketched above - almost no decline in the number of persons employed (less than -0,5%) and a modest decline in the number of FTE of 2% - 3% of the current labor force. Thus, our estimations suggest that after UBI-introduction, employees will reduce the number of (weekly) working hours rather than completely leave the labor market.

Figure 6: Decomposed labor supply effects of UBI-introduction in terms of persons [% of status quo labor force]

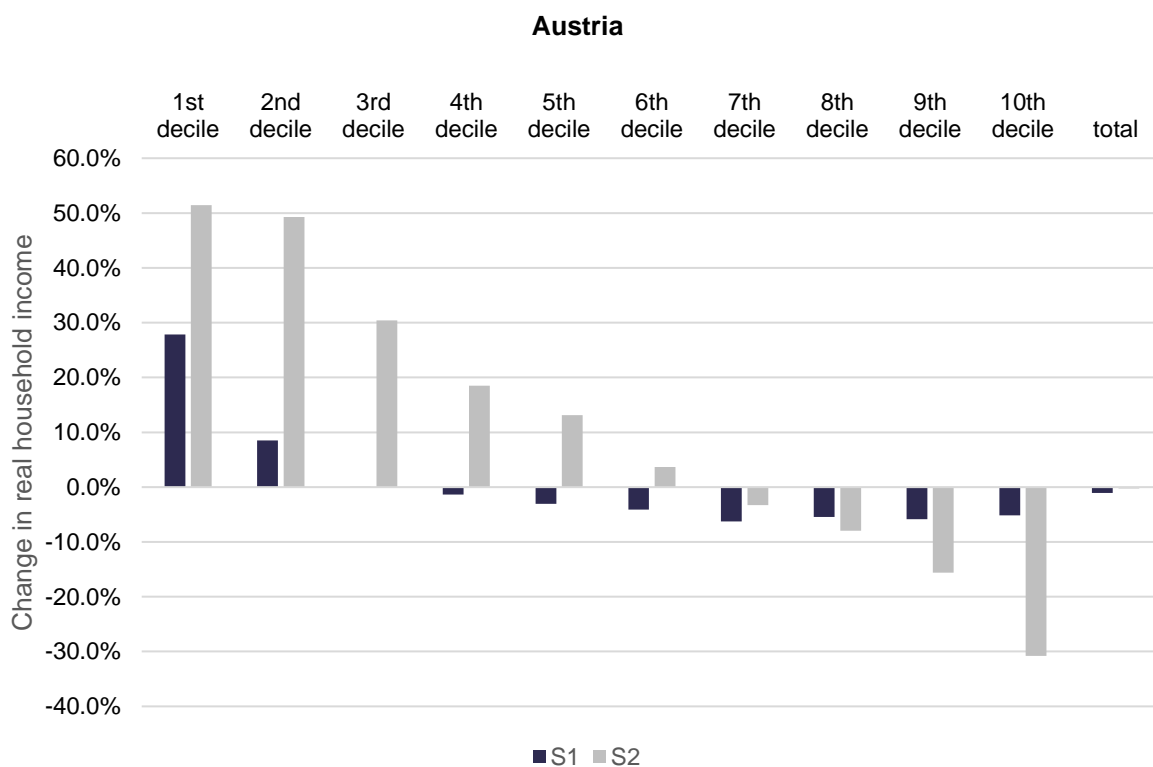


Source: Own calculations based on ATTM (2024).
 S1: Household disposable income remains at SQ-level. S2: Net-wages/net-pensions retain at SQ-level

Figure 6 shows this pattern in more detail. The solid lines represent complete entry and exit to the labor market after UBI-introduction. As can be seen, our results suggest that whatever the development of wages and pensions will be, complete entry and exit to the labor market will

be negligible. However, depending on the development of wages and pension, some 10% of the labor force will reduce weekly working hours, and some 2% of the labor force will increase working hours upon UBI-introduction. This result is in line with our previous studies on this issue (see i.e. Haigner et al., 2010, for results based on a representative survey in Germany). Moreover, our microsimulation exercise reveals that the introduction of a consumption-financed UBI would trigger positive distributional effects. Figure 7 shows the change in real household income differentiated over the income distribution of households.

Figure 7: Distributional effects of UBI-introduction - net income deciles

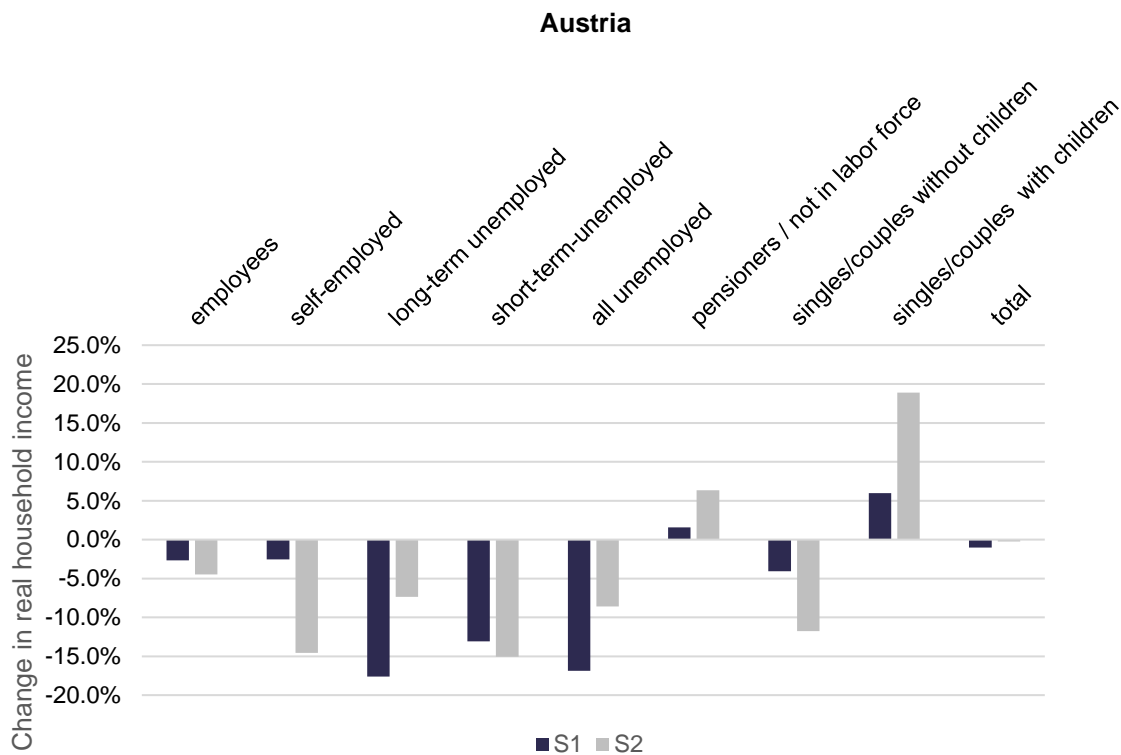


Source: Own calculations based on Eurostat (2024), ICIO (2024) and AMECO (2024).
S1: Household disposable income remains at SQ-level. S2: Net-wages/net-pensions retain at SQ-level

As can be seen, the real income gain in low-income households (1st to 3rd decile) is much higher in relative terms than for medium-income households. High-income-households would, due to increasing consumer prices after UBI-introduction in Scenario 2, even suffer real income losses. In Scenario 1 instead, the real income changes are, apart from the gains in the 1st and 2nd decile, modest and due to labor supply reductions as well as losses due to the shift from household transfers to UBI (i.e. in rare cases, abolished unemployment benefits are higher than UBI). In total, as has already been shown in Figure 4, real income remains stable after UBI-introduction.

In addition, Figure 8 shows the projected distributional effects for different sociodemographic groups. Remarkably, although not surprisingly, households with children will, upon UBI-introduction, incur much higher real income gains than households without children. In Scenario 1, some households receiving unemployment benefits in the Status Quo suffer real income losses after UBI-introduction. This happens if the unemployment benefit which is abolished with UBI-introduction is higher than the UBI-payment. In Scenario 2, real income losses are due to increased consumer prices. The average loss is modest for employees, but quite substantial for the self-employed.

Figure 8: Distributional effects of UBI-introduction – sociodemographic groups



Source: Own calculations based on Eurostat (2024), ICIO (2024) and AMECO (2024).

S1: Household disposable income remains at SQ-level. S2: Net-wages/net-pensions retain at SQ-level

Methodology

For analyzing the impact of the introduction of a consumption-financed UBI on labor supply incentives we use the microsimulation model ATTM (Austrian-Tax-Transfer-Model) based on EU-SILC (European Survey on Income and Living Conditions), i.e. representative household microdata observing about 12,500 persons in Austrian households each year. We carry out the analysis for Austria. To determine labor supply effects, ATTM uses a static structural discrete-choice labour supply model as suggested by van Soest (1995) and applied by Steiner et al. (2008), among others. A great advantage of discrete-choice models is that non-linearities in household budget constraints can be modelled much easier than using more traditional

specifications of continuous labour supply models. Another important advantage is that they allow, in combination with a microsimulation model, to account for the endogeneity of net household income in a consistent way. Furthermore, the empirical hours distribution is characterized by a strong concentration on certain threshold values usually associated with marginal employment not covered by social security, part-time employment, full-time employment, and overtime.

The discrete-choice labour supply model implemented in ATTM assumes that the observed households can choose between J working hour categories (for a thorough documentation, please see Steiner and Wakolbinger, 2023). One of these categories typically represents unemployment, i.e., zero working hours. The ranges of the other categories can be flexibly determined in the ATTM parameter file. The choice of hours-categories is motivated by both economic considerations as well as the distribution of working hours in the data. In this context, ATTM faces, as other microsimulation-models (see, e.g., Steiner et al., 2008) the problem that for some ranges of working hours there are too few observations in the dataset, which makes fine-tuning of categories problematic and restricts J to a small number. This is typically the case for men who most probably work close to 40 hours a week, work overtime, or work not at all, while only a few have part-time jobs or are marginally employed. This restricts the number of male hour-categories to three or four.

6. Summary

In the UBI-proposal discussed here, the UBI and other government expenditure is financed by a comprehensive consumption tax and an export tax, while all other taxes, in particular income taxes and social contributions, are abolished. With a comprehensive consumption tax and higher tax revenue requirements, the prices of consumer goods are likely to rise. Depending on the development of wages after UBI-introduction, consumer prices are likely to increase by about 45%. However, household disposable income is also likely to increase, such that we find only minor changes in real income, regardless of whether household disposable income remains constant or increases in comparison to its Status-Quo level in nominal terms.

Moreover, we show that price increases after UBI-introduction are higher for consumer goods with higher import content. This is because imported intermediate and final goods lack the advantage of abolishing income taxes and social contributions. In their “net” prices, the income taxes and social contributions of the persons involved in the production processes are included, while net prices of domestic products are completely free of taxes and levies. By employing our estimations of own-price and income elasticities of consumer demand, we show that consumption is likely to shift towards domestic products, a positive side-effect of which is that it limits overall consumer price level increases.

Our microsimulation studies address the effects of UBI-introduction on labor supply as well as distributional effects. With respect to labor supply, we expect – after introduction of a consumption-financed UBI as sketched above - almost no decline in the number of persons employed (less than -0,5%) and a modest decline in the number of FTE of 2% - 3% of the current labor force. Thus, our estimations suggest that after UBI-introduction, employees will reduce the number of (weekly) working hours rather than completely leave the labor market.

With respect to distributional effects, our microsimulation reveals that the introduction of a consumption-financed UBI would trigger positive distributional effects. We project real income gains as high as 60% for low-income households, but also real income losses in high-income households.

Our analysis could be the starting point for insightful future research. For example, the price-level increases we project upon the introduction of a consumption-financed UBI are driven by our assumption of an elasticity of demand of zero. Relaxing this assumption would most probably yield a shift from imports towards domestic production. This, in turn, would provoke further changes in prices and (domestic) wages, but we think that the overall consumer price-level increase would be lower than outlined here. We suggest further simulation studies in this respect be carried out in the future.

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