Public support for wealth tax policies in Covid-19 times: Evidence from Luxembourg*

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Abstract

In the context of the current debate over how to finance the cost of the Covid-19 pandemic, we study the public support for the introduction of wealth taxes. We rely on data drawn from the Socio-Economic Impact Survey of Luxembourg taken in July 2020. The survey asks for the agreement of the individual over a one-time net wealth tax and an inheritance tax. For comparative reasons, the survey also inquires about the public support for a temporal solidarity income tax and a temporal increase in the VAT. All tax questions include different attributes randomly assigned to the individual. We find a clear divide about a favourable support for new wealth and inheritance taxes on the one hand and a low support for increases in VAT and earnings taxes on the other hand. For example, while 57.2% of individuals agree or strongly agree with a one-time tax levied on net worth, only 22.8% were in favor of a small increase in the VAT. We also present the expected revenues for each of these taxes and scenarios. Our results indicate that a one-time wealth tax could raise substantial revenues and still show public support.

Key words: Covid-19, wealth tax, income tax, vat tax, preferences for redistribution

JEL-classification: H2, D31, E62, I38

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1 Introduction

Several countries have undertaken unprecedented fiscal measures to cope with the economic effects of the pandemic, shifting massive expenditures to the health and social security system, cutting on taxes and contributions, providing direct financial help for the most vulnerable and giving or backing large amount of credits to keep business running (Alberola et al. (2020); IMF (2020b); OECD (2020); Eurofound (2020)). All these fiscal efforts may continue in the aftermath of the second waves of the pandemic, and even beyond. They could be financed through acquiring credit in the international market, but this has its own limits given the already high public debt ratios in the advanced economies or the difficult and costly access to credit in weaker economies. Another financing source is increasing taxation revenues, but how politically feasible could it be?

Rising taxes or creating new ones to pay the bills of the Pandemic may be perceived by the population as unfair if the burden is uneven, i.e. whether taxation is too heavy among the ones who were more affected and too light among the ones who fared relatively well. The first group includes, for example, individuals whose jobs were lost or put on hold and small businesses that had to close down or experienced large drops in revenues, whilst the second group includes individuals who could continuing working by means of teleworking and even were able to increase their savings via a reduction of leisure and work related consumption. Furthermore, there are important differences in the impact of the pandemic across the sectors that could operate without restrictions during national lock-downs (e.g. financial services and groceries business) and those that closed temporally or reduced the scale of their business such as personal services and leisure activities (Adams-Prassl et al. (2020)).

The introduction of temporal taxes levied on net wealth stands up as one of the solutions suggested to finance the extraordinary costs of the pandemic. For example, Piketty (2020) mentions that after the second world war, exceptional taxes were charged on the richer to pay the public debt. Landais et al. (2020) also revise the post-war experience (particularly Germany) and propose the introduction of a progressive and temporal wealth tax, which should be European-wide and applied to the net worth of the top 1% richest persons. Furthermore, the International Monetary Fund proposes that governments could finance the pandemic costs by applying progressive taxes on the better-off individuals and those who were less affected by the crisis, including higher taxes on higher income brackets, exclusive property, capital gains, and wealth (IMF (2020b)), and even a 'solidarity surcharge' (IMF (2020a)), as well as changing corporate taxation to tax firms according to their profitability. Moreover, the UK established in 2020 the Wealth Tax Commission to assess proposals for a wealth tax in the country (Advani et al. (2020); Rowlingson et al. (2020)). One of the goals of such initiative is trying to find alternative revenues to face increasing expenditures in areas like health and social care, and to ease fiscal deficits. In the US, leading politicians has already proposed wealth taxes, which is part of larger and ongoing debate on how to tackle rising economic inequality in that country

(Scheuer and Slemrod (2020)).

A key element for the success of the introduction of new taxes or increases in tax rates is the support it can gather among the public. Without political feasibility, government tax proposals may fail, particularly in the extraordinary circumstances of the crisis generated by the pandemic, with some people and economic sectors much more affected than others. For this reason, we examine the public support for wealth taxes and other tax policies in Luxembourg by exploiting an online survey specifically designed to study the impact of the pandemic and various individual attitudes. We find a clear divide about a favourable support for new wealth and inheritance taxes on the one hand and a low support for increases in VAT and earnings taxes on the other hand. For example, while 57.2% of individuals agree or strongly agree with a one-time tax levied on net worth, only 22.8% were in favor of a small increase in the VAT. We also randomly manipulate the information of the attributes for each policy tax in the survey and find results that are consistent with self-interest.

Our findings contribute to the literature investigating preferences for redistribution Alesina and Giuliano (2011); Andreoli and Olivera (2020); Olivera (2015), particularly to the studies assessing attitudes to tax policy (Stantcheva (2020); Rowlingson et al. (2020)) and feasibility of wealth taxation (Scheuer and Slemrod (2020); Saez and Zucman (2019)). Closer to our study is the report made by Rowlingson et al. (2020) to measure the attitudes towards the introduction of a wealth tax in the UK. The authors find that among 5 different types of taxes, 41% of respondent indicated the wealth tax as their preferred option, while 75% of individuals support this tax either as first, second or third option. Moreover, people from Latin American countries -a region badly hit by the Pandemic- also express an important support for introducing a tax on large wealth. Public opinion surveys fielded along 2020 in Argentina, Bolivia, Chile, Ecuador, Mexico and Peru reveal that between 64% and 76% of citizens support the implementation of special taxes on large wealth (CELAG (2020)).

2 Data and methods

We use the COVID-19 Socio-Economic Impact Survey of Luxembourg (the SEI survey), which is an online voluntary survey taken between May 27 to July 5 2020. Respondents were invited to participate mostly by communication in social media, notably by academic institutions (LISER and the University of Luxembourg) and government institutions (the Luxembourg National Research Fund). The survey targeted two specific populations, namely residents of Luxembourg aged 16 and above, and people aged 16 and above working or studying in Luxembourg but residing outside of the country. Although this is not a wide-population survey, there are available calibration weights to approximate the distributions of sex and age groups of Luxembourg residents as of November 2019.

We focus on the residents of Luxembourg and those individuals who were randomly assigned to take the questions of the section block *work and living conditions*, which contains our

variables of interest. The initial sample size consists of 943 individuals, while 743-746 individuals respond the specific questions about their attitudes towards the introduction or rise of four types of taxes. The framing for these questions is about how acceptable is raising taxes to collect revenues to finance measures supporting the economy and protecting households who have faced income losses. The survey asks for the agreement of the individual for i) a one-time net wealth tax; ii) an inheritance tax; iii) a temporal solidarity tax in labour income; and iv) a temporal increase in the VAT. All tax questions include different attributes randomly assigned to the individual. For the wealth tax, these are the combinations of marginal rates 0.5%, 1.0%, 1.5% or 2.0% applied to net worth in excess of 2 or 4 EUR millions (8 scenarios). The inheritance tax includes 9 scenarios formed by the combinations of marginal rates 5.0%, 7.5% or 10.0% applied to inheritances in excess of 1, 2 or 5 EUR millions. The labour income tax includes 9 scenarios formed by the combination of tax rates 1.0%, 2.0% or 3.0% levied during 1, 2 or 3 years. The increase of the VAT (currently is 17%) include 9 scenarios formed by the combinations of increases of 0.25, 0.5 or 1.0 percentage points levied during 1, 2 or 3 years.

The individual indicates her acceptance for the tax policy in a 1-5 Likert scale: strongly disagree, disagree, neither agree nor disagree, agree, and strongly agree. To facilitate the analysis, we re-code the answers into a categorical variable that takes value 1 if the individual agrees or strongly agrees with the tax policy, and it takes value zero otherwise. We run probit regressions for the following equation:

$$y_i^* = \beta_0 + \beta_1 Z_i + \beta_2 T_g + \varepsilon_i \tag{1}$$

where y_i^* is a latent variable indicating the support for the tax policy ($y_i = 1 | y_i^* > 0$) expressed by individual i, Z_i is a vector of individual characteristics and T_g are dummy variables representing the scenario g of the policy that was presented to the respondent. Most of the covariates of the regressions are self-explanatory, though we must detail three cases.The survey asks the individual to indicate her total monthly household net income by showing 7 income brackets. We replace these categories with the corresponding median income within each bracket, which is obtained from the Luxembourg's EU-SILC survey carried out in 2018. Then, we divide the income values by the number of household members and apply logs. The variable Luxembourgish indicates that this is the most common language spoken at home, which is a proxy for being a citizen of Luxembourg. Recall that 48% of residents in Luxembourg are foreigners. The variable for lower education indicate primary or lower secondary education, while the variable for higher education indicate any level of tertiary education.

Though the survey asks for the self-position of the individual in a 0-10 scale for political preferences (from left to right views), we do not use it in the regressions due to the substantial number of individuals with missing information (causing a 13% of sample loss). Furthermore, we detect that the missing condition is correlated with the tax support, meaning that individuals who do not answer the question on politics tend to show less support for tax policies.

We also ran a pooled regression model of the form

$$y_{ij} = \theta_i + J_j\gamma + X_i J_j \delta + Z_j \beta + \varepsilon_{ij} \tag{2}$$

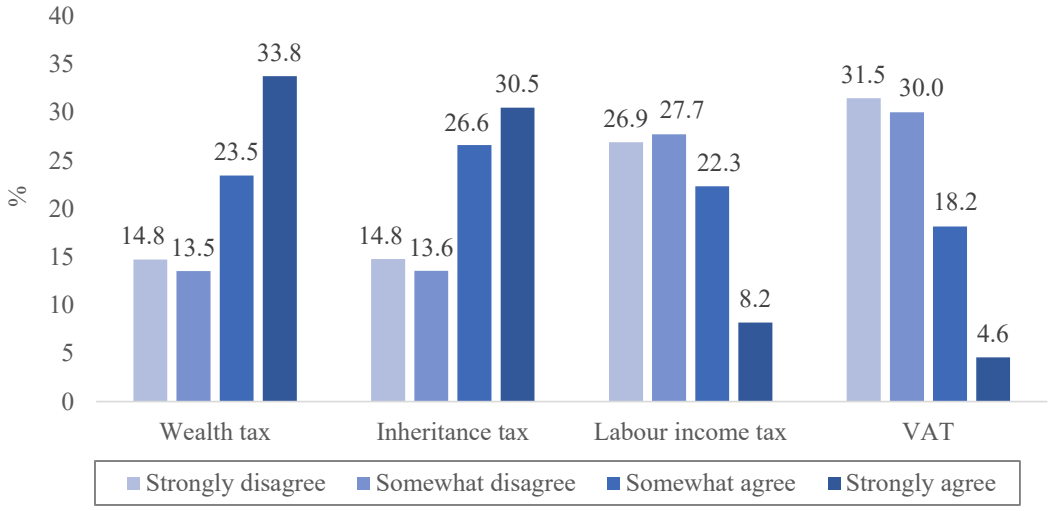
where y_{ij} is the support of respondent i for the tax scheme j where j is one of the XX possible alternatives; θ_i is a respondent fixed effect (random effect if we do RE probit) —each respondent is presented with XX alternative scenarii—, γ is the coefficient vector on a set of indicator variables J_j distinguishing the four types of taxes considered (wealth tax, inheritance tax, income tax or consumption tax), Z_j is a vector of characteristics of the specific tax scheme j, the expected total tax revenue from scheme j and the expected share of the population affected by the tax.

3 Results

3.1 Descriptives

Figure 1 reports the overall support for each tax policy regardless the specific attributes of the policy. To facilitate comparisons, the figure does not plot the category "neither agree nor disagree", yet about 15% of the respondents chose this answer for each policy. There is a clear divide between supporting a one-time wealth tax (57.2% agree or strongly agree and 28.3% disagree or strongly disagree) and an inheritance tax (57.1% vs 28.4%) on the one hand, and not supporting an increase neither in income taxes (54.7% disagree or strongly disagree and 30.6% agree or strongly agree) nor in VAT (61.5% vs 22.8%) on the other hand. This is not totally unexpected as earnings and consumption taxes are levied on practically all individuals, while taxes over the excess of large amounts of wealth and inheritances are levied on the richer part of the population.

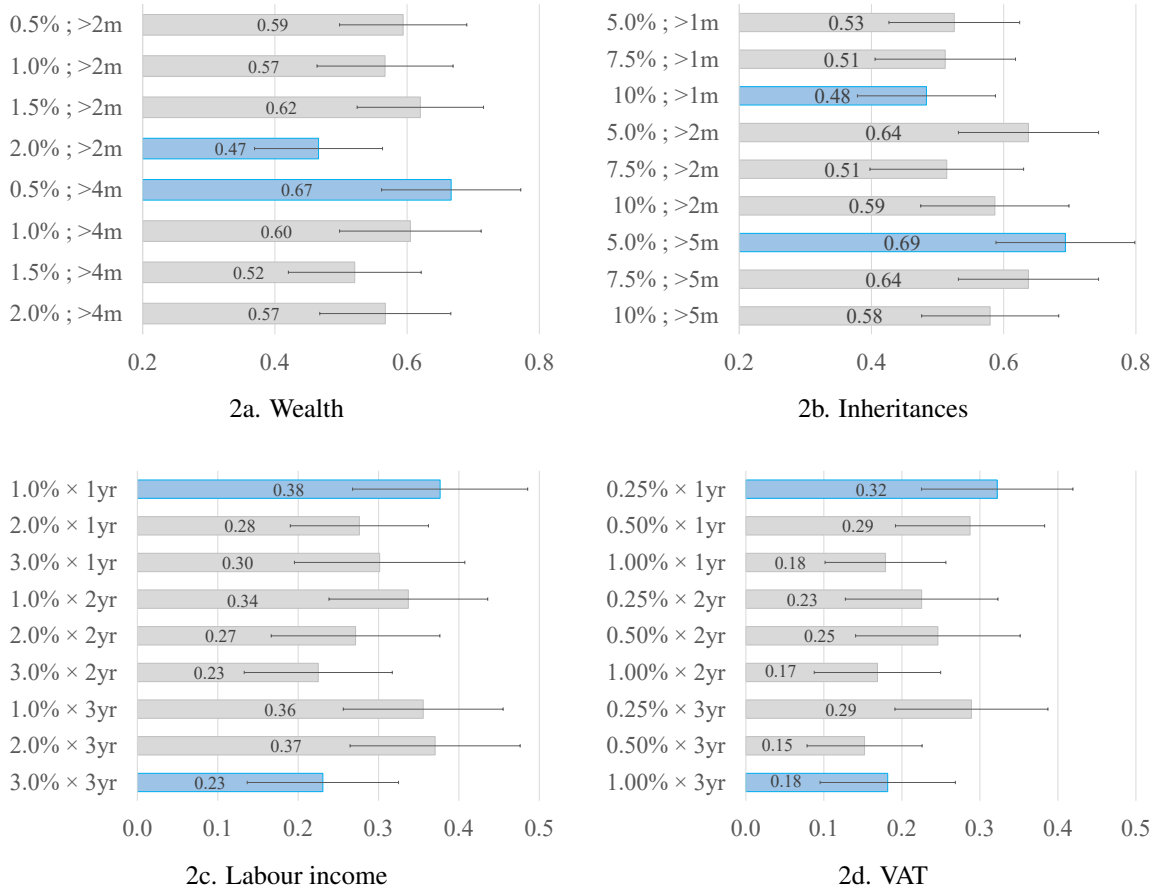
Figure 1: Support for new or increases on taxes



Notes: The graph does not plot the category "Neither agree nor disagree", which is roughly chosen by 15% of individuals.

Figure 2 reports the support for each policy tax taking into account their attributes showed to the respondent. The bars displaying a darker colour indicate the policy scenarios that could potentially raise the highest and lowest revenues, regardless of any behavioural response. For example, the scenario for the wealth tax (in the upper left panel) reporting more revenues is the one involving a 2% tax rate applied to net worth in excess of 2 EUR million, while the scenario delivering the lowest revenues is the one involving a 0.5% tax rate applied to net worth in excess of 4 EUR million. For inheritance taxation, the corresponding scenarios are a rate of 10% and 5% tax rate applied to inheritances in excess of 1 and 5 EUR millions, respectively. For the other tax policies, the scenarios producing the highest and lowest revenues are evident. We can observe that differences between extreme tax scenarios are significant for wealth and inheritance taxation, but not for the other types of taxes. Although these differences are just based on unconditional means, it is interesting observing some patters in the support for tax policies to finance the Covid-19 crisis.

Figure 2: Support for new or increases on taxes



2a. Wealth

2b. Inheritances

2c. Labour income

2d. VAT

Notes: The graphs plot the share of individuals who answer 'Stronlgy agree' or 'Agree' in each type of tax policy. The tax policies have specific attributes (tax rate, exemption amount and duration) that were randomized among the respondents. The confidence intervals use 95% confidence level. The bars in darker colour indicate the tax policies that potentially could raise the highest and lowest revenues.

3.2 Regression analysis

Table 1 reports the marginal effects of a probit regression applied to equation 1. We find that income is positively related with the public support for a new temporal labour income tax and a temporal increase in VAT. This result may be expected because richer individuals have other sources of incomes apart from earnings, so that they would bear fully a new tax on labour earnings. Moreover, the rich have a lower propensity to consume and therefore the burden of an increase in VAT would not be so high as it would be for poorer individuals. There is not a statistically significant relationship between income and public support for wealth and inheritance taxes.

The negative relationship found between being aged under 40 and support for inheritance taxation may be explained by the fact that these individuals are generally more credit constrained or have low or negative wealth (due to mortgages for instance). Expecting an inheritance may ease these credit constraints, and hence these individuals may oppose to inheritance tax. Indeed, the coefficient for home ownership (that can capture the existence of a mortgage)

in the inheritance tax regression is negative. Interestingly, when we replace the variable home ownership with the interaction between a dummy variable indicating the existence of a mortgage and the dummy variables for the group age under 40 in the inheritance tax regression, the coefficient is negative and significant (p-value=0.087). Thus, there is some support for the mechanism of credit constraint and support for inheritance taxation.

The variable capturing Luxembourgish nationality is negatively related to the support for a wealth tax. A possible reason for this result is that natives tend to be richer than foreign residents in Luxembourg (Girshina et al. (2019)), and therefore they could oppose wealth taxation.

Table 1: Probit (marginal effects) estimates of public support for tax policies

Variable	Wealth tax		Inheritance tax		Labour income tax		VAT	
age <40		-0.014		-0.088**		-0.046		0.020
		(0.042)		(0.042)		(0.040)		(0.036)
age 60+		0.039		-0.002		0.144**		0.099*
		(0.071)		(0.071)		(0.063)		(0.058)
male		0.059		0.012		-0.027		0.000
		(0.043)		(0.043)		(0.039)		(0.036)
married		-0.021		0.036		0.045		0.025
		(0.040)		(0.041)		(0.039)		(0.034)
lower education		0.077		0.130*		-0.096		0.109*
		(0.070)		(0.072)		(0.067)		(0.058)
higher education		0.090**		0.019		-0.022		0.024
		(0.044)		(0.046)		(0.043)		(0.040)
working		-0.014		-0.029		0.007		0.024
		(0.048)		(0.047)		(0.046)		(0.042)
log income		0.031		0.039		0.126***		0.076**
		(0.037)		(0.038)		(0.038)		(0.031)
home ownership		-0.045		-0.135***		0.045		-0.004
		(0.048)		(0.049)		(0.047)		(0.041)
Luxembourgish		-0.134***		-0.023		0.056		-0.056
		(0.041)		(0.042)		(0.039)		(0.035)
	0.5%×2m	0.150**	5.0%×1m	0.049	1.0%×1yr	0.208***	0.25%×1yr	0.164**
		(0.071)		(0.074)		(0.077)		(0.069)
	1.0%×2m	0.108	5.0%×2m	0.161**	1.0%×2yr	0.136*	0.25%×2yr	0.069
		(0.071)		(0.078)		(0.076)		(0.075)
	1.5%×2m	0.170**	5.0%×5m	0.227***	1.0%×3yr	0.148**	0.25%×3yr	0.119*
		(0.068)		(0.080)		(0.073)		(0.072)
	0.5%×4m	0.211***	7.5%×1m	0.043	2.0%×1yr	0.083	0.50%×1yr	0.128*
		(0.075)		(0.078)		(0.075)		(0.072)
	1.0%×4m	0.176**	7.5%×2m	0.071	2.0%×2yr	0.076	0.50%×2yr	0.136*
		(0.076)		(0.080)		(0.081)		(0.076)
	1.5%×4m	0.064	7.5%×5m	0.138*	2.0%×3yr	0.172**	0.50%×3yr	-0.029
		(0.072)		(0.078)		(0.077)		(0.075)
	2.0%×4m	0.098	10%×2m	0.101	3.0%×1yr	0.122	1.0%×1yr	0.034
		(0.070)		(0.079)		(0.081)		(0.073)
			10%×5m	0.080	3.0%×2yr	0.074	1.0%×2yr	0.001
				(0.077)		(0.079)		(0.074)
obs		646		645		644		645
pseudo R2		0.046		0.035		0.065		0.049

Notes: Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Each dependent variable takes value 1 if the individual answers strongly agree or somewhat agree, and it takes value 0 otherwise. The reference variable for the tax attributes is the combination of marginal tax rate and exemption amount or period leading to the highest potential tax revenue. For the wealth tax is 2.0% and 2 million; for the inheritance tax is 10% and 5 million; for the labour income tax is 3.0% and 3 years; and for the VAT is 1.0% and 3 years.

4 Policy implications

In Luxembourg there are no wealth taxes for individuals, nor inheritance taxes applied to direct line heirs, i.e. between parents, grandparents and children (ascending or descending line), and between spouses. However, the portion of the state that deviates from the legal inheritance shares corresponding to the heirs (at the will of the donor) is taxed. Other relationships between donors and heirs are taxed at different rates and are increasing in the amount of the inheritance. All in all, inheritance tax revenues are low in Luxembourg, they represented 115 EUR millions in 2019, i.e. about 0.5% of total tax revenues or 0.18% of GDP. Regarding to other types of taxes, we observe that taxes on wage and salaries collected in 2019 amounted to 4,146 EUR millions, while VAT revenues were 3,872 EUR millions, i.e. representing 16.6% and 15.5% of total tax revenues (or 6.5% and 6.1% of GDP) respectively.

As each of the tax policies showed to the individuals imply different levels of tax incidence for them, they also involve different potential amounts of tax revenues. For the government may be important to know how much tax collection may be raised in each tax policy scenario in order to find and adequate balance between the political feasibility of the policy and obtaining relevant resources to cope with the Covid-19 crisis. We perform some simple back-of-the-envelope calculations to arrive to these estimates (Table 2).

For the taxes on wealth and inheritances we utilize the Eurosystem Household, Finance and Consumption Survey (HFCS) fielded in Luxembourg in 2018. The HFCS is a harmonized household survey initiated and coordinated by the European Central Bank. The survey has been implemented in all Eurozone countries and is nationally representative of the resident household population in each participating country. The HFCS resembles the US Survey of Consumer Finances, which is considered the gold standard for household surveys on wealth.

The case of wealth taxes is straightforward. We use the variable for net worth available in HFCS, which is the value of total assets (excluding public and private occupational pension entitlements) minus household's total liabilities and compute the potential revenue. The taxable net wealth is determined for each household according to the alternative exemption amounts of 2 and 4 EUR, and them we apply the alternative rates of 0.5%, 1.%, 1.5% and 2.0% to the taxable part. Once we sum up the tax revenues across all households and apply their corresponding population-wide weights, we update the amount by a factor of 1.174. This factor indicates how much would increase total wealth in Luxembourg from 2018 to 2021. This is based on a simple 5.51% annual growth rate observed between the Luxembourg's HFCS surveys of 2010 and 2018.

The computation of revenues from inheritance taxes involves more assumptions and an additional data source. We need to use the probability of dying in one-year time to obtain the expected amount of inheritances that could be left the following year. These probabilities are specific by sex and age of the resident population of Luxembourg and are drawn from EUROSTAT's 2017-2019 life tables. We match the corresponding probability of death to both the

HFCS's reference person and his/her spouse. These individuals are generally the head of the household and her/his spouse. When there is a couple in the household, we assume that each household can potentially leave inheritances to the spouse of the reference person and two children if the reference person dies, and to the reference person and two children if the spouse dies.[1] If the reference person is single, we assume that there are two children who are the only heirs. Thus, for each household we divide the net worth by three or two if the reference person lives with the spouse or if he/she is single, respectively. This means that the wealth of each household can be transformed into two or three inheritance amounts over one year. The exemption thresholds and tax rates of the policies are applied on those inheritance amounts because inheritance taxation in Luxembourg (and in our survey questions) occurs over the inheritance received by the heirs and not over the estate.

To clarify the procedure, assume that the net worth w_i of each household i can be transformed into inheritance amounts $h_i = {}^{w_i}/_{3}$ or $h_i = {}^{w_i}/_{2}$ for the households where the reference person (r) has an spouse (s) or the reference person is single, respectively. Then, for a given inheritance tax policy j (with exemption amount E_j and tax rate r_j), the taxable inheritance $\bar{h}_i$ can be defined as $\bar{h}_i = Max\left\{0, h_j - E_j\right\}$. These amounts must be multiply by death probabilities in order to obtain the expected taxable inheritances according to following relationships:

$$inh_i = \begin{cases} 2\bar{h}_i q_r & if\ r\ has\ no\ spouse \\ 3\bar{h}_i q_r (1-q_s)\pi_a + 3\bar{h}_i q_s (1-q_r)\pi_b + 2\bar{h}_i q_r q_s \pi_c & if\ r\ has\ spouse \end{cases} \tag{3}$$

$$\pi_a = \frac{3\bar{h}_i q_r (1-q_s)}{3\bar{h}_i q_r (1-q_s) + 3\bar{h}_i q_s (1-q_r) + 2\bar{h}_i q_r q_s} \tag{4}$$

$$\pi_b = \frac{3\bar{h}_i q_s (1-q_r)}{3\bar{h}_i q_r (1-q_s) + 3\bar{h}_i q_s (1-q_r) + 2\bar{h}_i q_r q_s} \tag{5}$$

$$\pi_c = \frac{2\bar{h}_i q_r q_s}{3\bar{h}_i q_r (1-q_s) + 3\bar{h}_i q_s (1-q_r) + 2\bar{h}_i q_r q_s} \tag{6}$$

Where q_r and q_s are the probabilities of dying in one year for the reference person and the spouse, respectively. The first row of equation 3 shows that a household headed by a reference person with no spouse produces two taxable expected inheritance amounts. The second row shows that there are three possible events in households with spouses: i) r dies and s survives, ii) r survives and s dies, iii) both r and s may die. The probability of the spouse surviving the reference person is $q_r(1-q_s)$, whilst the probability of the reference person surviving the spouse is $q_s(1-q_r)$. The joint probability of dying is $q_r q_s$. When either the reference person

[1] The assumption of having two children resembles the information from the Survey of Health, Ageing and Retirement in Europe (SHARE) of Luxembourg. In this survey, that is applied to people aged 50 and over, the average number of alive children of the respondents is 1.97.

or the spouse dies, the household produces three inheritance amounts; but when both die the household produces two inheritance amounts. This is why equation 3 include 2 or 3 multiplying the expected taxable inheritance amounts. The expressions for π indicate the weight for each of the outcomes arising from the three possible events occurring in households with spouses. If we do not include these weights, we could artificially increase the number of inheritances left by the household and therefore overestimate the size of the tax revenues. Finally, the amount collected under inheritance tax policy j is:

$$revenue_j = r_j \sum inh_i \tag{7}$$

Equation 7 expresses the sum of expected taxable inheritance amounts across all households multiplied by the tax rate, which will be equal to the total expected tax revenues raised by a given inheritance tax policy j.

The above outlined strategy is a sort of the reverse of the so-called estate multiplier method utilized to study wealth inequality in countries where there are not wealth taxes but there are inheritances or estate taxes (e.g. used in Alvaredo et al. (2018); Zucman (2019)). In such a method, wealth distribution of the living population is computed by applying the inverse of the mortality rates to wealth at death. In our strategy, we apply expected mortality rates to the wealth holdings of the living population.

For the computation of tax revenues for labour income taxes, we use data from the account *D11 salaries and wages* drawn from the National Accounts of Luxembourg for 2010-2018. We apply the alternative rates of 1%, 2% and 3% to the salary mass of 2018 (25,704 EUR millions) and update the amount by a factor of 1.166. This factor indicates how much would increase the total salary mass in Luxembourg from 2018 to 2021. This is based on a simple 5.24% annual growth rate of the account *D11* observed between 2010 and 2018. To make consistent comparisons with other policies, we only report the expected tax revenues for 2021 in Table 2.

Regarding the proposed increases in VAT, we use tax revenue data from OECD Statistics. Note that Luxembourg has a general VAT rate of 17% since 2015 (it was 15% until 2014), although some goods and services have different tax rates. We obtain the additional revenue implied by the increase of the VAT for each alternative scenario (i.e. VAT increasing in 0.25, 0.50 and 1.0 percentage points) considering the amount of value added taxes collected in 2019 (3,872 EUR millions). We update this amount by a factor of 1.071, which indicates how much would increase VAT revenues in Luxembourg from 2019 to 2021. This is based on a simple 3.50% annual growth rate of VAT revenues observed between 2015 and 2019.

Table 2: Back-of-the-envelope calculations for expected tax revenues in 2021 under each policy (EUR millions)

Wealth tax	Exemption \ tax rate	0.50%	1.00%	1.50%	2.00%
	2 million	574	1,147	1,721	2,295
	4 million	357	714	1,072	1,429
Inheritance tax	Exemption \ tax rate	5.00%	7.50%	10.00%	
	1 million	83	125	167	
	2 million	52	79	105	
	5 million	35	52	70	
Labour income tax	Duration \ tax rate	1.00%	2.00%	3.00%	
	1 year	300	599	899	
VAT	Duration \ tax rate	0.25%	0.50%	1.00%	
	1 year	61	122	244	

Table 2 reports the potential tax revenues for 2021 for each tax policy. The policy delivering the highest revenues is the introduction of a 2% tax applied to net worth in excess of 2 EUR million. By implementing this policy, the government could collect about 2,295 EUR million (3.6% of GDP), although this tax will only exists for one year.[2] If the exemption amount and tax rate were 4 EUR millions and 2%, the government could raise 1,429 EUR millions (2.3% of GDP). According to the HFCS 2018, about 9% of households hold net worth larger than 2 EUR millions, and about 2.7% have net worth larger than 4 EUR millions (the median and mean were EUR 498,500 and EUR 897,900). Even a less stringent wealth tax policy can produce substantial revenues. For example, a mere tax rate of 0.5% may raise 574 or 357 EUR millions if applied to net worth in excess of 2 or 4 EUR millions, respectively. The upper panel of Figure 3 shows the relationship between the conditional support for the wealth tax policy and the potential tax revenues. We observe an anticipated negative relationship between support and revenues. Even though there is not unanimity in determining the dominant policy - meaning finding the policy with more support and expected revenues - it is interesting to note that the policy $1.5\% \times 2m$ dominates four other policies ($0.5\% \times 2m$; $1.0\% \times 2m$; $1.5\% \times 4m$ and $2.0\% \times 4m$). Given this policy shows a very similar public support as the policy $1.0\% \times 4m$ and a much larger revenue (1,721 against 714 EUR millions), the government may prefer $1.5\% \times 2m$ to $1.0\% \times 4m$. It seems a workable compromise for the government may be a policy closer to $1.0\% \times 2m$, which could raise 1.8% of GDP.

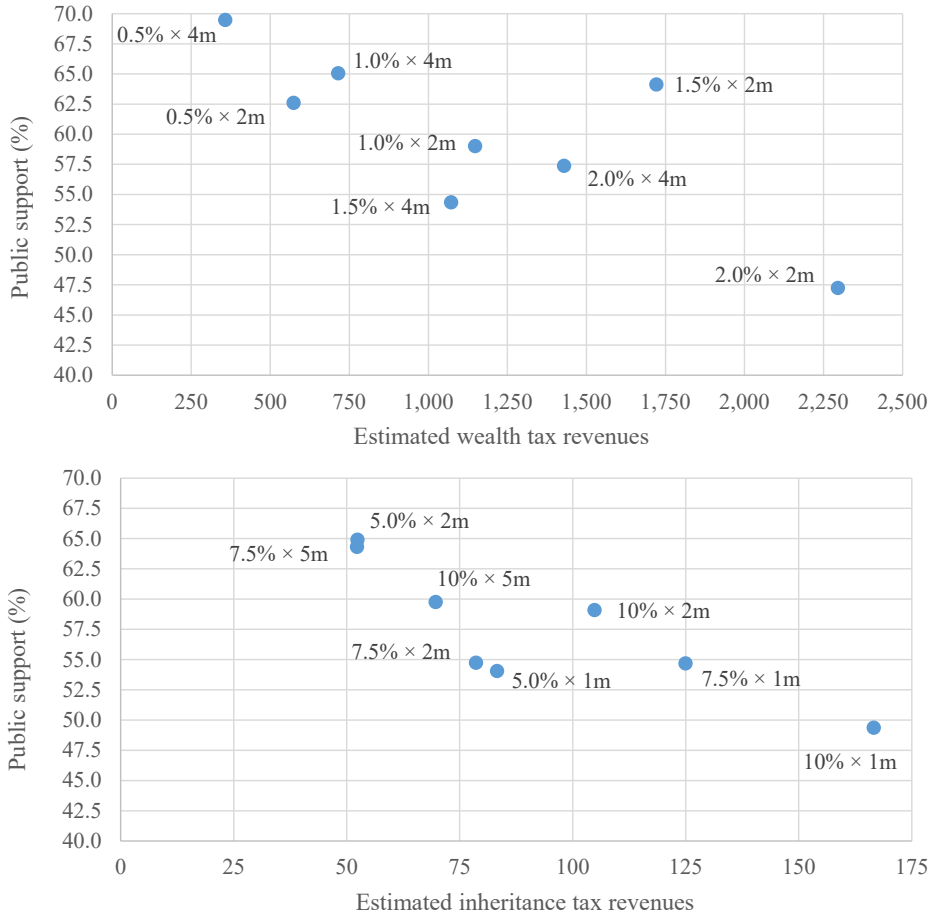
Different from the one-time wealth tax, the inheritance tax policy has not temporal limit. Like in other tax systems in Europe, the expected revenues from inheritance taxation tend to be small (REF here). The policy raising the largest level of revenues is the one applying a tax rate of 10% to the inheritance amounts in excess of 1 EUR million.[3] This implies a revenue of

[2] We use data about GDP forecast in Luxembourg from European Comission (2020).

[3] The exemption amount of 1 million has previously been advocated in the country by Caritas (2016) in its analysis of the last comprehensive fiscal reform of Luxembourg (that kicked off in 2018).

167 EUR (0.26% of GDP), which is larger than the 114 EUR millions collected in 2019 under the concept of *estate, inheritance and gift taxes*. Thus, introducing the taxation of inheritances above 1 EUR million received in direct line together with a 10% tax rate may more than double the current inheritance tax revenues. Keeping the same tax rate of 10% but applying it to inheritances larger than 2 millions may raise 105 EUR millions. The advantage of this last policy over the previous one is that this has higher public support (59.1% vs 49.4% according to conditional estimates). The bottom panel of Figure 3 plots the expected tax revenues and the conditional public support for each policy scenario. As with the case of wealth taxation, we find an expected negative relationship. There is not a dominant inheritance tax policy, but we find that policy $10\% \times 2m$ clearly dominates two policies ($7.5\% \times 2m$ and $5.0\% \times 1m$); whilst policies $7.5\% \times 2m$, $5.0\% \times 1m$ and $7.5\% \times 1m$ are very similar regarding their public approval, so that the government may prefer the policy raising more revenues, i.e. policy $7.5\% \times 1m$. It seems the government could chose between policies $10.0\% \times 2m$ and $7.5\% \times 1m$.

Figure 3: Public support (conditional estimates) for wealth and inheritance taxes and estimated revenues

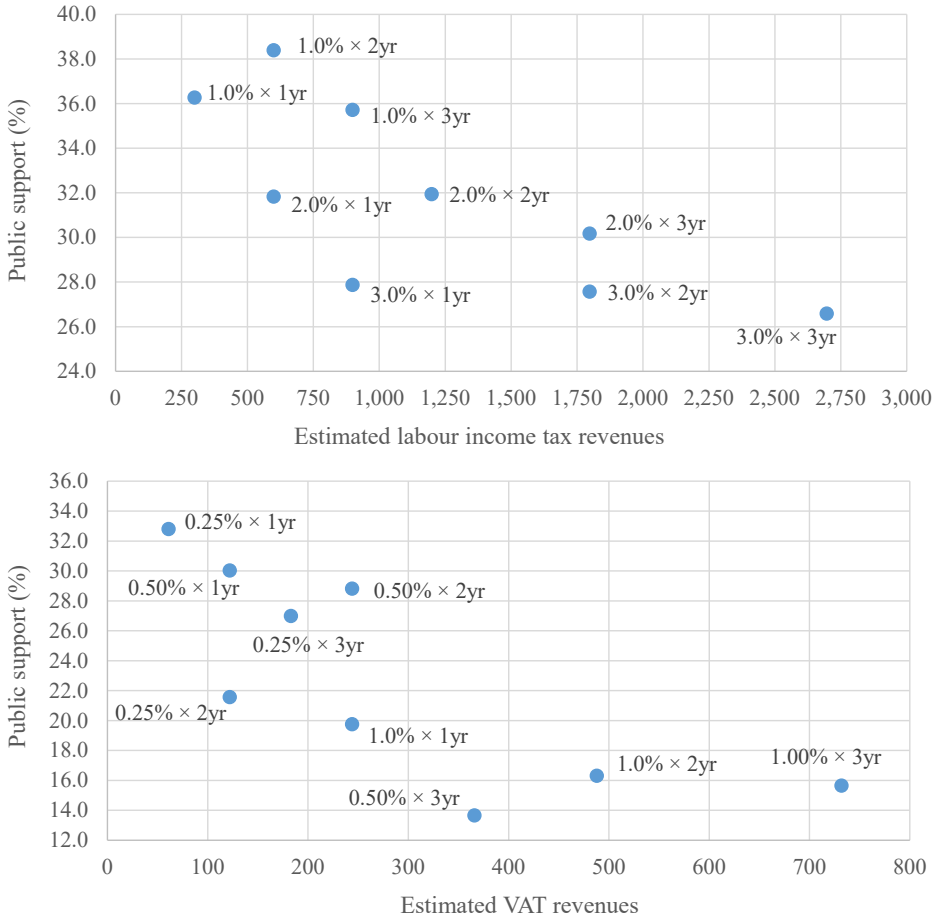


Notes: The graphs plot the predicted percentage of individuals who support each type of tax policy against the estimated tax revenue implied by the policy. These values are computed with the regressions of table 1. The upper panel shows the results for the 8 scenarios of the wealth tax policy, and the bottom panel shows the results for the 9 scenarios of the inheritance tax policy.

Table 2 also includes the expected revenues from a temporal flat tax levied on labour incomes and a temporal increase in the VAT, although we only report the estimations performed for 2021 in order to compare the revenues across all the tax policies. Yet, we plot in Figure 4 the expected revenues of all the alternatives of the income tax and VAT policy and their (conditional) public support.[4] As already mentioned in our descriptive analysis, individuals express low support both for labour income taxes and for increases in VAT rates. Across all the alternatives for the income tax, only an average of 31.8% of individuals support such a tax, whilst an average of 22.8% of individuals support an increase in the VAT. Given these results, the government may find difficult to introduce temporal labour income taxes or increases in VAT.

[4]For this, we simply multiply by 2 o 3 the estimations done for the corresponding one-year tax revenues.

Figure 4: Public support (conditional estimates) for income and value added taxes and estimated revenues



Notes: The graphs plot the predicted percentage of individuals who support each type of tax policy against the estimated tax revenue implied by the policy. These values are computed with the regressions of table 1. The upper panel shows the results for the 9 scenarios of the labour income tax policy, and the bottom panel shows the results for the 9 scenarios of the VAT policy.

5 Conclusions

To be done.

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