reform scotland

The Economic & Behavioural Impacts of Land Value Taxes & Net Wealth Taxes in OECD Countries: A Realist Review

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University of Edinburgh
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About Reform Scotland

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About University of Edinburgh SWAY placement

Students studying selected MSc programmes within the School of Social and Political Science at the University of Edinburgh can apply to undertake a research project in collaboration with an external organisation, as an alternative to a traditional dissertation. The student conducts a 10-week placement with the organisation which forms the basis of the student's MSc dissertation, with their work built around a research question submitted by the host partner. Reform Scotland was delighted to host our first placement in 2024, with Sam Wolstenholme-Britt looking at wealth taxes. As part of the placement, students are able to produce a second piece of work, based on their dissertation, for their host organisation. This report is that second piece of work and is based on the dissertation submitted to the University of Edinburgh on 8 August 2024.

About Sam Wolstenholme-Britt

Sam Wolstenholme-Britt is a student at the University of Edinburgh, completing an MSc in Social Research. Before moving to Scotland, she received her undergraduate degree in American Studies and Economics from Wellesley College.

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Foreword

Part of Reform Scotland's mission is to increase the level of debate about policy reform in Scotland. As well as publishing our own work, we seek ways to work with a broad range of individuals and organisations with expertise in all and any sectors, and of all political affiliations and none, to contribute fresh thinking, debate, challenge, and policy proposals.

As a result, we were delighted to be able to partner with Edinburgh University's SWAY programme for the first time in 2024. Sam Wolstenholme-Britt carried out an MSc dissertation based on our research question on the potential of wealth taxes in Scotland. This report is the piece of work Sam completed for Reform Scotland and is based on her dissertation.

Given the current fiscal outlook it is very difficult to see how Scotland can meet its future commitments without re-examining our tax system, at who and what we tax, and at what the right balance should be. There is scope for experimentation and there has been a growing debate about whether wealth taxes should be introduced, either as part of an addition to the tax basket, or as a replacement to one or more existing taxes.

Sam's comprehensive research outlines the lessons that can be learned from other countries who have implemented net wealth taxes or introduced a Land Value Tax. This includes issues such as the potential for capital flight; regional/ local variation; and the impact on development.

Scotland is facing a perfect storm of a shrinking working age population, increasing demands for public services and growing budgetary pressures. It is clear that the status quo is unsustainable, but there are no easy answers. It is likely some sort of immobile wealth tax will need to be considered as part of a wider review of the tax strategy, but in doing so, it is important we learn the lessons from elsewhere that Sam has articulated in this report.

Chris Deerin
Director
Reform Scotland

Executive Summary

Currently, Scotland does not administer any taxes on the ownership of wealth. However, rising wealth inequality and the growing need for additional revenue in the aftermath of the COVID-19 pandemic have led to increased calls for new forms of wealth taxation in Scotland. My review explores the outcomes of three forms of wealth ownership taxes – land value taxes, recurrent net wealth taxes, and one-off net wealth taxes.

My research finds that the extent to which land value taxes encourage urban development depends on:

(1) whether the tax is replacing an existing property tax; and
(2) the level of demand for new development.

This finding implies that a land value tax in Scotland may have little impact on urban development. Regarding recurrent net wealth taxes, I find that the ability to raise revenue and address wealth inequality depends on several policy specifications, including (1) asset exemptions, (2) tax caps, (3) self-reporting assets, and (4) regional differences in wealth tax rates.

A net wealth tax implemented in Scotland but not the rest of the UK could create tax rate differences that fuel regional migration.

Finally, I find that the ability to raise revenue with one-off net wealth taxes depends on (1) the speed of implementation, (2) access to foreign markets, and (3) the use of capital controls. However, Scotland's ability to implement robust capital controls is limited under devolved powers, which could hamper the one-off net wealth tax. The contextual and policy aspects highlighted in my review are vital for policymakers to consider before implementing wealth ownership taxes.

Introduction

Overview of Wealth Taxation

Income inequality in countries within the Organisation for Economic Co-operation and Development (OECD) is widespread, but wealth inequality is far worse. The OECD reported that in 2021 the top 10% of income earners received a quarter of all income, while the wealthiest 10% of households owned half of all wealth. Despite high wealth inequality, most countries tax wealth more lightly than income. Personal income taxes are levied on labour earnings, but separate taxes are needed to tax wealth.

There are three broad ways of taxing wealth: taxing the transfer of wealth, the income made from wealth, and the ownership of wealth. The first type, known as wealth transfer taxes, includes inheritance, estate, and gift taxes, which tax the exchange of wealth from one person to another. The second type, known as capital income taxes, is levied on returns from wealth. This includes interest on bank deposits, dividends from shares, or gains made from selling assets at a price higher than the purchase price. Finally, wealth ownership taxes are taxes on an individual's wealth stock – the value of one's assets, minus debts. Wealth ownership taxes could be on all assets or a single type of asset. A tax on all of someone's assets, minus debts, is a net wealth tax (NWT). This can be recurrent or one-off. Recurrent NWTs are currently levied in three OECD countries – Spain, Switzerland, and Norway. One-time NWTs, called capital levies, are generally used to raise revenue in extraordinary circumstances, such as after World War I or II.

Alternatively, wealth ownership taxes can be issued on a single type of asset, such as property. Property taxes are levied on the value of the land and whatever improvements or buildings have been added to the land. An alternative option is to tax only the value of the land, not the buildings on the land. This is called a land value tax (LVT). A final hybrid option is to have one tax rate for land and another, usually lower, tax rate for buildings. This is called a split-rate land value tax. The relative benefits of LVT compared to property taxes will be discussed in the section on the economic theory of land value taxes.

Wealth Taxes in Scotland

The UK government administers two types of wealth taxes – inheritance tax and capital gains tax. However, neither the UK nor the Scottish government levy wealth ownership taxes. Scotland funds local government through a council tax based on property values from 1991. However, unlike property taxes, council taxes are paid by the occupant, not the owner. As such, the tax burden is not based on taxpayer wealth.

Growing wealth inequality has renewed calls for wealth ownership taxes in the UK. The COVID pandemic exacerbated strains on the social service system which had already been struggling with funding cuts and the added needs of an ageing population. In response to growing wealth inequality and the need for more revenue, the Scottish Greens have proposed an annual progressive NWT on households with at least £3.4m. Regarding the COVID pandemic, there have been calls for a capital levy to address the debt crisis. Finally, calls for an LVT to efficiently raise revenue have grown in recent

decades. The 2011 Mirrlees Review proposes replacing the UK stamp duty land tax and business rates with an LVT. A similar proposal was made by the Scottish Greens in their 2016 manifesto. Across the board, wealth ownership taxes are growing in popularity, warranting a careful consideration of how they operate in practice.

Economic Theory of Land Value Taxes

LVT is one of the few taxes levied on an inelastic asset, meaning the supply is fixed. With a fixed supply of land, the cost of the tax cannot be shifted to consumers by lowering supply and raising prices, so it will have to be borne by the landowner. Since LVT should not cause market distortions, it is known as a neutral tax.

There are two ways to assess land value – using its market value or the value at its highest and best use (HABU). If land value is assessed at HABU, the landowner will pay the same tax regardless of how their land is currently being used. In other words, someone with a vacant lot will pay the same tax as the landowner next to them with an apartment complex. By assessing at HABU, LVT captures the value created by inputs from the community, rather than the landowner. For example, creating a public transit system will increase land values in the community, even if the owner of a lot has made no improvements to the land. Additionally, since an LVT increases the holding costs of land regardless of how the land is being used, LVT will encourage more efficient land use. Landowners cannot shift the tax costs onto consumers, so the only way to improve their ability to pay the tax is to use their land more efficiently *if they are not already doing so*. A landowner already pursuing the most economically profitable use of their land would not be influenced to change the timing of their development. Encouraging efficient land use by increasing the holding cost of land is known as the liquidity effect.

Although land is inelastic, buildings and improvements are not. A property tax on buildings will cause market distortions that discourage development. Landowners will avoid making improvements that increase property values and raise taxes. Since property taxes disincentivise development, switching from a property tax to a pure LVT or a split-rate LVT has an incentive effect. By reducing the tax on buildings, improvements are penalised less under a split-rate LVT and not penalised at all under a pure LVT. Therefore, switching from a property tax to LVT should incentivise development. Encouraging efficient land use by decreasing the cost of development is known as the incentive effect. Importantly, this incentive effect comes from *decreasing* the tax on buildings. If there is no existing property tax, as in Scotland, there would be no incentive effect. Any encouragement to use land more efficiently could only come from the liquidity effect described in the previous paragraph.

Assuming that there is an increase in development from either the liquidity effect or the incentive effect, it remains unclear how development would affect urban sprawl. If there is an increase in development from a rise in the number of units, known as the density effect, urban density would rise and combat urban sprawl. However, if there is an increase in development from a rise in the size of each unit, known as the dwelling effect, urban density would fall and encourage urban sprawl. An analysis of the evidence in practice is necessary to determine which mechanism drives development.

Despite LVT being better than property taxes in theory, only three OECD countries currently use pure LVT – Australia, Denmark, and Estonia. In addition, parts of the US and Finland use split-rate LVTs. There are several potential explanations for the relatively low number of countries that use LVT. One is the administrative difficulty of separating the value of land from the value of everything built on it. However, this issue has become less concerning as valuation capabilities have improved by integrating Computer Assisted Mass Appraisals with Geographic Information Systems. A second reason is that LVTs can be confusing for taxpayers and the valuation process may seem unfair, decreasing political support for LVTs. Despite these hurdles, the economic promise of LVTs makes their practical implementation worth considering in depth.

Economic Theory of Recurrent Net Wealth Taxes

In contrast to LVTs, which tax an inelastic asset, NWTs are levied on all of one's assets, minus debts. The total of one's net assets, which I refer to as wealth, is elastic and will respond to changes in taxation. The extent to which governments can successfully raise revenue and address wealth inequality using an NWT depends on how responsive wealth is to changes in the tax. If wealth is very elastic, then small increases in the tax could lead to large decreases in wealth stock, thereby shrinking the tax base. If wealth is not very elastic, then small increases in the tax should not lead to significant changes in wealth stock, allowing the tax to be collected effectively. The elasticity of wealth depends on mechanical responses, which are the automatic effects of the tax on wealth stock, and behavioural responses, which are the effects on wealth stock due to changes in taxpayer behaviour. These responses depend on contextual factors and policy design. Policymakers can, in effect, determine wealth elasticity through their policies.

There are two main kinds of mechanical effects on wealth stock from NWTs – savings effect and capitalisation of housing prices. The savings effect is the automatic decrease in savings which will be used to pay the NWT. Alternatively, if the NWT is lowered or abolished, there will be a mechanical increase in savings. The second effect is the capitalisation of an increase in NWTs into lower housing prices. The expectation of future tax liabilities is incorporated into lower housing prices. Although these effects may lower the wealth stock in response to an NWT, they are not a result of behavioural responses by taxpayers.

Behavioural responses to NWT can come in a variety of forms. If there are exemptions for certain kinds of assets, taxpayers may shift their assets into exempt classes to avoid the tax. If there is a wealth threshold under which individuals are not taxed, taxpayers may underreport their assets. Taxpayer's ability to underreport their assets may be impacted by whether assets are self-reported or reported by a third party. If an individual's tax burden is limited to a percentage of their income, known as a tax cap, taxpayers may reduce their income to lower their wealth tax payment. If subnational regions in a country have different wealth tax rates, taxpayers may relocate to take advantage of lower rates or falsely report their residence. The ability of taxpayers to engage in these behaviours impacts the elasticity of wealth and thereby the effectiveness of the tax.

Economic Theory of One-Off Net Wealth Taxes

In theory, one way to avoid the behavioural distortions explained in the previous section is to use an NWT once to raise revenue under extraordinary circumstances. Although one-off NWTs, known as capital levies, are typically levied at higher rates than recurrent NWTs, there should be very little avoidance or evasion if taxpayers believe the tax will only happen once. However, if taxpayers believe that the capital levy will be repeated, the likelihood of evasion increases. Additionally, the longer it takes to implement the levy after it has been announced, the less likely people are to believe the need for the levy is credible, and the more likely they are to try to evade it. Eichengreen's 1989 book contends that in democratic political systems, capital levies will always be unsuccessful because political debates will inevitably cause delays that allow for evasion.[1] In addition to undermining credibility, any delays after a capital levy is announced creates an opportunity to evade the tax that would not have been possible if the levy had been unforeseen.

A particular evasion concern for capital levies is capital flight – when taxpayers move their money or assets out of the country. Capital flight shrinks the tax base, making it difficult to raise revenue. Capital flight can also contribute to inflation. Simply put, one strategy of capital flight is to invest in foreign currency through the foreign exchange market. However, as the demand for foreign exchange rises, it depresses the value of domestic currency. Under normal circumstances, exporters would end up repatriating their profits, allowing for an equilibrium to be reached. However, where individuals are trying to hide their assets outside of the country, they do not repatriate their profits so demand for foreign exchange will continue rising. As domestic currency becomes devalued it raises prices and leads to inflation. This mechanism resulting from capital flight means that the threat of a capital levy may exacerbate inflationary tendencies in post-war economies. However, in a 1959 report, Robson contends that this theory is only valid in the absence of robust capital controls on the outward flow of capital.[2] When capital controls are in place, capital flight should not be debilitating even with a delay in policy implementation.

Research Aims

While the economic theory described in the previous three sections is useful for understanding how wealth ownership taxes *could* work, it does not tell us how these taxes work in practice. By studying the effects of real, albeit often imperfect, tax policies, we can draw insights into which contextual factors and policy aspects create desirable economic and behavioural outcomes. This report does not provide policy recommendations for Scotland or assert that one kind of wealth tax policy is better than another. Rather, it provides an analysis of factors that Scottish policymakers and advocates can consider when discussing the potential for new wealth ownership taxes. In theory, all three forms of wealth taxes could be implemented by the Scottish government. Power over local taxes is devolved to Scotland and LVTs in particular are designed to be administered at the municipal level. Additionally, wealth taxes could be

[1] Eichengreen, B. (1989). *The Capital Levy in Theory and Practice,* National Bureau of Economic Research. Available at: https://doi.org/10.3386/w3096

[2] Robson, P. (1959). 'Capital levies in Western Europe after the Second World War', *Review of Economic Studies*, 27(1), pp. 23–43. Available at: https://doi.org/10.2307/2296048.

levied by the Scottish government, though it would require permission from the UK parliament, since any new taxes brought forward by the Scottish government must receive prior approval. However, Scotland has never exercised this power to create new taxes. Nevertheless, the considerations raised in this report would also be important for Scottish policymakers if the UK were to levy a recurrent NWT with the power to set rates and exemptions devolved to Scotland.

I conduct my analysis of wealth ownership taxes through a realist review of the economic and behavioural outcomes of LVTs and NWTs. There are several existing reviews of LVTs and NWTs, although none are realist reviews. The Scottish Land Commission reviewed research on pure LVTs in Queensland, New Zealand, Estonia, Denmark, South Africa and Namibia.[3] They conclude that existing evidence is not sufficient to draw conclusions about the effect of pure LVTs on urban development and land use. To address this gap, my review focuses on the effect of split-rate LVTs in municipalities in the US. There is a comparatively large amount of robust research on split-rate LVTs in Pennsylvania. This research provides an alternative way to examine the mechanisms driving the effect of LVT on development. In 2009, Anderson conducted a review of studies on split-rate LVTs and concluded that the evidence of the effect of LVT on development was mixed.[4] I build on Anderson's review by including more recent research and by using realist review methodology, which allows me to explore *why* the empirical evidence has mixed results.

The Wealth Tax Commission has conducted comprehensive research on NWTs. In particular, Advani and Tarrant review studies on wealth elasticity in Switzerland, Spain, Netherlands, Sweden, Denmark, Norway, and Colombia.[5] Their study analyses the drivers of differences in wealth elasticity and estimates wealth elasticity for the UK. I also review factors influencing wealth elasticity, but I focus only on Spain and Switzerland. These are the only two OECD countries that implement NWTs at the subnational level. As a result, their context is more like the devolved tax system in the UK than countries which implement NWT at the national level. I build on the work of Advani and Tarrant by analysing how behavioural responses to NWTs are tied to levels of wealth inequality.

Finally, O'Donovan reviewed capital levies for the Wealth Tax Commission.[6] His review focuses primarily on three recent capital levies – the Icelandic capital levy in 2009, the Irish pension levy in 2011 and the Cypriot bank levy in 2013. His review also briefly analyses the French levy in 1945 and the German levy in 1952. I extend O'Donovan's work by reviewing capital levies on net wealth after WWI and WWII, focusing on the

[3] Hughes, D.C. et al. (2018). *Investigation of Potential Land Value Tax Policy Options for Scotland.* Scottish Land Commission. Available at: https://www.landcommission.gov.scot/our-work/tax-fiscal/tax-on-land-and-property.

[4] Anderson, J. (2009). 'A Review of the Evidence', in Dye, R. and England, R., *Land Value Taxation: Theory, Evidence, and Practice.* Cambridge, MA, UNITED STATES: Lincoln Institute of Land Policy, pp. 11–26. Available at: http://ebookcentral.proquest.com/lib/ed/detail.action?docID=3327983.

[5] Advani, A. and Tarrant, H. (2021). 'Behavioural responses to a wealth tax.', *Fiscal Studies*, 42(3), pp. 509–537. Available at: https://doi.org/10.1111/1475-5890.12283.

[6] O'Donovan, N. (2020). One-off wealth taxes: theory and evidence. *CAGE*. Available at: https://doi.org/10.47445/107.

effect of levies on inflation. Due to time limitations, I do not extend my review beyond the WWII capital levies. In addition, both the Irish and Cypriot levies tax one asset class instead of net wealth, so they are beyond the scope of this report.

Split-Rate Land Value Taxes

Urban Development

Split-rate LVTs could affect urban development through two different mechanisms: the increase in the tax on land could create a liquidity effect due to higher holding costs or the decrease in the tax on buildings could create an incentive effect since development is no longer penalised. However, the incentive effect only occurs when switching from a property tax to an LVT. Six of the studies in this review supported the theory that switching from property taxation to split-rate taxation increases urban development (Cord, 1983; Bourassa, 1987; Oates and Schwab, 1997; Plassman and Tideman, 2000; Banzhaf and Lavery, 2010; Yang, 2014). By contrast, only one study found no significant effect on development (Mathis and Zech, 1982) and one study found a significant effect in one city, but not in two others (Bourassa, 1990). To understand these disconfirming findings, it's important to consider the methods used in each study and the context of each municipality.

In 1982, Mathis and Zech released their econometric analysis of the effect of switching to split-rate taxation on construction value, finding no statistically significant effect.[7] Their study employed a multivariate regression model of 27 cities in Pennsylvania, only 3 of which used split-rate LVT. Two papers subsequently pointed out issues in Mathis and Zech's model which may make their findings unreliable.[8] First, Mathis and Zech measured development using per capita construction value, instead of the value of improvements per acre, which is a better measure of the intensity of land use. Additionally, they employed a static model, rather than a time-series model that could better capture the effect of split-rate LVT over time. Finally, a sample of only 3 cities with split-rate LVT is insufficient to reliably control for confounding factors. As a result of these issues, Mathis and Zech's findings should be taken as preliminary findings, which other authors used to develop more robust models in the following decades. As models improved, some were able to distinguish between development driven by the liquidity effect and the incentive effect.

In 1987, Bourassa used time-series data to conduct a multivariate regression on the effect of switching to split-rate LVT on residential development in Pittsburgh.[9] Bourassa employed separate variables for the land tax rate and the improvements tax rate, allowing him to demonstrate that Pittsburgh experienced a significant incentive effect, but no significant liquidity effect. This finding would imply that development comes from switching away from a property tax, not from the land tax itself. Bourassa found that the incentive effect from decreasing the improvements tax led to a

[7] Mathis, E.J. and Zech, C.E. (1982). 'The Economic Effects of Land Value Taxation.', *Growth & Change*, 13(4), pp. 2-5. Available at: https://doi.org/10.1111/j.1468-2257.1982.tb00382.x.

[8] Coffin, D.A. and Nelson, M.A. (1983). 'The Economic Effects of Land Value Taxation--Comment.', *Growth & Change*, 14(3), pp. 44-46. Available at: https://doi.org/10.1111/j.1468-2257.1983.tb00412.x.; Liu, B. (1985). 'Mathis and Zech's "Empirical Test" of Land Value Taxation: A Critique of a Commendable but Unsuccessful Effort to Measure the Effects of a Basic Levy', *American Journal of Economics and Sociology*, 44(2), pp. 137–143. Available at: https://doi.org/10.1111/j.1536-7150.1985.tb02327.x.

[9] Bourassa, S.C. (1987). 'Land Value Taxation and New Housing Development in Pittsburgh', *Growth and Change*, 18(4), pp. 44–56. Available at: https://doi.org/10.1111/j.1468-2257.1987.tb00087.x.

significant increase in the number of construction permits, but the liquidity effect from increasing the land tax had no significant effect on construction. Bourassa expanded his study in 1990 to include McKeesport and New Castle.[10] Again, he found that neither city experienced significant liquidity effects from raising the land tax. This finding indicates that although land taxes should encourage more efficient land use in theory, they may have a limited impact on taxpayer decisions in practice. This could reflect the relatively small increases in land taxes and perhaps a more dramatic increase would lead to a stronger liquidity effect. Additionally, only two studies in this review distinguished between the two effects, so the available evidence is minimal. However, as it stands, the empirical evidence indicates that the liquidity effect is relatively weak.

Bourassa's 1990 study also contributed to our understanding of the incentive effect. He found that McKeesport, a suburban community, and New Castle, an isolated city, did not experience an incentive effect, while Pittsburgh did. His findings indicate that the magnitude of the incentive effect may depend on the level of demand for new construction. This finding was supported by Oates and Schwab's 1997 study of development in Pittsburgh.[11] Using time series data, Oates and Schwab found a statistically significant increase in the value of new construction permits for urban buildings with high levels of excess demand. However, they did not find a statistically significant increase in building permits for the suburbs, which had standard demand levels. These findings indicate that the strength of the incentive effect depends on the existing level of demand for new development.

Urban Density

Three additional studies found that a switch to split-rate LVTs encourages urban density. However, since they did not separate the incentive and liquidity effects, we cannot know whether the development was driven by the increase in land taxes or the decrease in improvements taxes. In 2000, Plassman and Tideman conducted a multivariate regression analysis of 15 Pennsylvania municipalities with split-rate taxation between 1972 and 1994.[12] They found that split-rate LVT increased the rate of construction, with a 1 mill (1/1000th of a dollar) increase in the tax differential (the difference between the tax on land and the tax on improvements), being associated with a 1.58% increase in the total value of construction. Importantly, the increase was driven by a higher construction rate, rather than a higher value per permit, indicating that development increased urban density. Similarly, Banzhaf and Lavery found that switching to split-rate LVT increased development, driven by an increase in urban density rather than an increase in the size of each unit.[13] According to their model, for the first two decades after adopting a split-rate LVT, housing density should increase

[10] Bourassa, S.C. (1990). 'Land Value Taxation and Housing Development: Effects of the Property Tax Reform in Three Types of Cities.', *American Journal of Economics & Sociology*, 49(1), pp. 101–112. Available at: https://doi.org/10.1111/j.1536-7150.1990.tb02264.x.

[11] Oates, W.E. and Schwab, R.M. (1997). 'The impact of urban land taxation: the Pittsburgh experience', National Tax Journal, 50(1), pp. 1–21.

[12] Plassmann, F. and Tideman, T.N. (2000). 'A Markov Chain Monte Carlo Analysis of the Effect of Two-Rate Property Taxes on Construction', *Journal of Urban Economics*, 47(2), pp. 216–247. Available at: https://doi.org/10.1006/juec.1999.2140.

[13] Banzhaf, H.S. and Lavery, N. (2010). 'Can the land tax help curb urban sprawl? Evidence from growth patterns in Pennsylvania', *Journal of Urban Economics*, 67(2), pp. 169–179. Available at: https://doi.org/10.1016/j.jue.2009.08.005.

by 4 to 5 percentage points per decade. In 2014, Yang conducted an expanded version of this study on all county subdivisions in Pennsylvania between 1970 and 2010.[14] Again, the study found that increases in development are caused by an increase in the number of housing units, which increases urban density. The findings of these three studies support the theory that switching to split-rate LVT encourages a denser pattern of urban development, which can help combat urban sprawl.

Summarising the Impact of Land Value Taxes

The evidence from this review demonstrates that if a municipality switches from a property tax to a split-rate LVT, and there is excess demand for more units, the municipality will experience an increase in development. Additionally, this development will be driven by an increase in the number of units, rather than the size of each unit, so urban density will rise. However, if there is no excess demand, there will be little impact on development. This review also provides tentative evidence that increases in development are driven by the incentive effect from decreasing improvements tax, rather than the liquidity effect from increasing land tax. These outcomes are presented in Figure 1.

It is important to note that the Pennsylvania cities that implemented split-rate LVT disproportionately experienced population decline, had high poverty rates, were denser, and had older housing than cities that did not implement split-rate LVT. As such, these findings should not be generalised to cities with very different demographic and contextual features. In particular, none of the studies in this review directly studied a municipality that implemented an LVT without a prior property tax, as would be the case in Scotland. However, evidence that the liquidity effect had a minimal role in urban development in Pennsylvania implies that an LVT in Scotland may not have much impact on development. Regardless of whether an LVT encourages development, it is still a way of raising revenue without any negative effects on the housing market. The neutrality of LVTs makes this form of taxation unique, and the utility of a tax without distortions should not be underestimated.

[14] Yang, Z. (2014). The Effects of the Two-Rate Property Tax: What Can We Learn from the Pennsylvania Experience? *Lincoln Institute of Land Policy*. Available at: http://www.jstor.org.eux.idm.oclc.org/stable/resrep18619

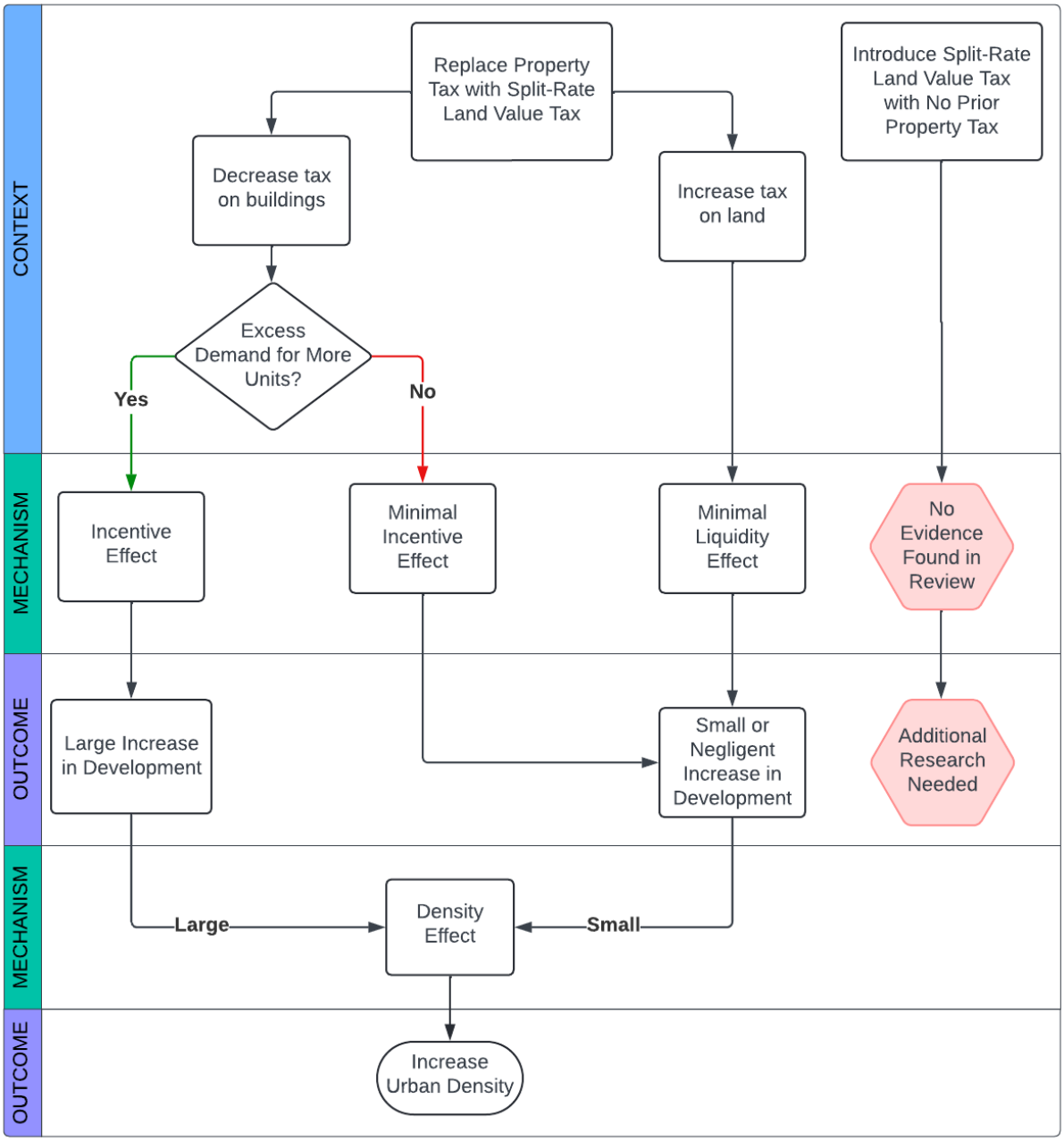

Figure 1: The Effect of Split-Rate Land Value Taxes on Urban Density

Recurrent Net Wealth Taxes

Tax Gaps and Wealth Elasticities

One way of measuring the magnitude of behavioural responses to NWTs is by calculating the tax gap – the share of revenues that the tax raises compared to what could be raised with no evasion or avoidance. Durán-Cabré and Esteller-Moré estimate that in 2014, the Spanish NWT raised 44.6% of the revenue it could have raised.[15] Furthermore, by studying the tax gap in Catalonia, Durán-Cabré et al. found that the richest 10% of taxpayers account for 75% of the gap, indicating that distortions are concentrated among the rich.[16] This shortfall can be explained by a combination of evasion and avoidance techniques, which will be discussed in detail in the next section. None of the studies included in this review calculated the tax gap for Switzerland.

Fortunately, a second way of measuring the potential of wealth taxes is to calculate the responsiveness of wealth to taxation, also known as the elasticity of wealth. Durán-Cabré, Esteller-Moré, and Mas-Montserrat found a high wealth elasticity in Spain, estimating that a 1 percentage point increase in the average tax rate corresponds to a 15.34% decrease in taxable wealth in 1 year and a 32.44% decrease over 4 years.[17] In the inverse case, Agrawal, Foremny, and Martínez-Toledano found in their 2020 study that decreasing the NWT in Madrid increased total wealth in Madrid, with a 1 percentage point decrease in the average tax rate being associated with a 5.8-8.6% increase in total wealth over 4 years.[18] Finally, Jakurti and Süssmuth used survey data to estimate the effect of tax rates on wealth.[19] They find that, on average, having an NWT decreased the declared wealth of Spanish taxpayers whose gross wealth exceeded 2 million by 50.8% over six years. The change in wealth share could be a result of a real decrease in wealth or taxpayers shifting and hiding their wealth.

Authors have calculated similarly high wealth elasticities for Switzerland. Brülhart et al. found that a 1 percentage point increase in wealth tax rates is associated with a 34.5% decrease in declared wealth.[20] Like Spain, the wealth tax rates in Switzerland vary by region (canton). After accounting for cantonal differences, Brülhart et al. found that a 1 percentage point increase in a canton's wealth tax rates is associated with a 43%

[15] Durán-Cabré, J. and Esteller-Moré, A. (2021). 'A Quantitative Assessment of the Net Wealth Tax: The Spanish Experience', *CESIFO ECONOMIC STUDIES*, 67(4), pp. 488–510. Available at: https://doi.org/10.1093/cesifo/ifab004.

[16] Durán-Cabré, J. M. et al. (2019). 'The tax gap as a public management instrument: application to wealth taxes', *Applied economic analysis*, 27(81), pp. 207–225.

[17] Durán-Cabré, J.M., Esteller-Moré, A. and Mas-Montserrat, M. (2019). 'Behavioural responses to the (re)introduction of wealth taxes. Evidence from Spain', *IEB Working Paper 2019/04*. Available at: http://hdl.handle.net/2445/134066.

[18] Agrawal, D.R., Foremny, D. and Martínez-Toledano, C. (2020). 'Paraísos Fiscales, Wealth Taxation, and Mobility', *IEB Working Paper 2020/15*.

[19] Jakurti, E. and Süssmuth, B. (2023). 'Behavioral responses to wealth taxes: Evidence from the Spanish Survey of Household Finances', *Economics Letters*, 223, Article 110976. Available at: https://doi.org/10.1016/j.econlet.2023.110976.

[20] Brülhart et al. (2016). 'Taxing Wealth: Evidence from Switzerland', *NBER Working Paper Series No. 22376*. Available at: https://doi.org/10.3386/w22376.

decrease in declared wealth after 5 years.[21] The authors also compare the effects of a small NWT cut in Bern to a large NWT cut in Lucerne. They found that six years after the tax cuts, wealth in Lucerne had grown 33.7 percentage points higher than Bern. These studies present strong evidence that wealth in both Spain and Switzerland is elastic and therefore very responsive to changes in wealth taxation. The high elasticity of wealth can be explained by a mix of mechanical and behavioural mechanisms that lead to substantial changes in reported taxpayer wealth.

Behavioural Responses to Net Wealth Taxes

Brülhart et al.'s 2022 study of Lucerne and Bern provides a comprehensive look into the breadth of behavioural responses to wealth taxation. The study disaggregates the 33.7 percentage point difference in reported wealth between Lucerne and Bern into mechanical and behavioural effects. They find that 21% of the difference can be explained by rising housing prices, 24% due to a migration response, and the remaining 50% due to changes in taxable financial assets. The increase in housing prices is a mechanical effect of the tax decrease being capitalised into rising real estate prices. On the other hand, the migration influx is a behavioural response by wealthy migrants responding to lower wealth taxes. Only about 7% of the migration response reflects international migration, the rest is individuals moving between regions within Switzerland. Similarly, Agrawal et al.'s study of regional migration in Spain found that the 100% NWT exemption in Madrid encourages migration to the region. Notably, the study did not find significant migration incentives for other Spanish regions with smaller NWT differentials. The findings from both Swiss and Spanish studies confirm the theory that subnational tax variation creates migration incentives to areas of lower wealth taxation, but only between regions with large tax differences.

In Brülhart et al.'s study of Lucerne and Bern, the final 50% of the difference in reported wealth comes from the increase in financial wealth. This could reflect increased earnings, increased savings, or reporting of previously unreported assets. For the change in financial wealth to be due to increased earnings, income would have to increase 10% more in Lucerne than in Bern annually. Instead, the study found that earnings between Lucerne and Bern remained steady. An alternative explanation is that the increase in assets is due to savings effects – both the mechanical effect of a decrease in wealth tax automatically increasing an individual's wealth and the behavioural effect of a tax decrease encouraging more savings. The authors calculate a very small savings effect, accounting for a maximum of 5.7% of the difference, driven almost entirely by the mechanical savings effect. Similarly, Durán-Cabré et al.'s 2019 study of the 2011 reintroduction of the NWT in Spain found that it had no significant effect on savings behaviour. These findings indicate that contrary to economic theory, NWTs have little impact on taxpayers' real savings behaviour.

Since earnings and savings cannot explain most of the increase in financial wealth in Lucerne, much of it is likely explained by taxpayers reporting previously undisclosed financial wealth. Unfortunately, the prevalence of undisclosed wealth is difficult to calculate because it is not reported. Nevertheless, Durán-Cabré et al. attempt to

[21] Brülhart, M. et al. (2022). 'Behavioral Responses to Wealth Taxes: Evidence from Switzerland', *American Economic Journal: Economic Policy*, 14(4), pp. 111–150. Available at: https://doi.org/10.1257/pol.20200258.

quantify the effect of underreporting assets in Catalonia, Spain. They found that half of the tax gap could be explained by underreporting assets held abroad, estimated by averaging net omissions from the Spanish Balance of Payments with offshore asset calculations made by Zucman in 2013 and 2014. One potential contributing factor to such widespread underreporting is that both Spain and Switzerland rely on self-reporting rather than third-party reporting of assets, increasing opportunities for evasion. Additionally, Durán-Cabré and Esteller-Moré study the magnitude of asset undervaluation, which allows taxpayers to pay less than what they would pay if they accurately reported their asset worth.[22] The authors demonstrate that the declared value of equity shares is routinely undervalued compared to the stock exchange value. They also demonstrate that the valuation of housing based on administrative cadastral values is consistently under-assessed by 20% to 30% compared to market values because cadastral values are extremely out of date. These results indicate that there is widespread underassessment and underreporting of wealth in Spain. This also supports the finding that roughly half of the increase in reported wealth in Lucerne is from reporting previously unreported assets, rather than any substantial earnings or savings effect.

I have discussed avoidance responses in the form of migration and underreporting, but taxpayers can also avoid an NWT by taking advantage of asset exemptions. Although the Swiss NWT has relatively few asset exemptions, the Spanish NWT provides several important exemptions, including an exemption for business assets of closely held businesses. The business exemption excludes corporate stocks from the NWT if the taxpayer owns 15% of the shares or earns 50% of their income from running the business. After the exemption was introduced in 1994, the percentage of business assets that qualified for the exemption rose from 21% to 70%. Alvaredo and Saez disaggregated this shifting effect and found that the share of exempt assets jumps from 33% to 66% for the top 1% and from 37% to 80% for the top 0.01%, highlighting the magnitude and the unequal nature of evasion. Looking at other exempt assets, Jakurti and Süssmuth found that in 2017 the value of listed shares increased 210.5%, the value of unlisted shares increased 322.5%, the value of art increased 349.5%, and the value of wealth from self-employed businesses increased 478.3%. These findings indicate a strong tendency to shift assets into exempt classes to avoid taxation.

In addition to asset exemptions, Spain also employs a tax cap. To address situations where someone has a lot of illiquid wealth, but not enough liquid wealth to pay the tax, Spain caps an individual's tax burden at 60% of their income. However, taxpayers can exploit this provision by intentionally lowering their income to decrease their wealth tax burden. One method of doing so is to invest in listed equity and investment funds since they do not generate income through dividends or interest and they generate long-term capital gains. Durán-Cabré, Esteller-Moré, and Mas-Montserrat found that taxpayers shift their assets to reduce their income in response to a tax cap, with a 1 percentage point increase in the average tax rate being associated with an 11.5 percentage point increase in the share of listed equity and investment funds.

[22] Durán-Cabré, J. and Esteller-Moré, A. (2007). 'An empirical analysis of wealth taxation: Equity vs. tax compliance', *IEB Working Paper 2007/01*. Available at: http://hdl.handle.net/2445/119274

These studies on behavioural responses to NWTs in Spain and Switzerland demonstrate how policymakers can make wealth more elastic and encourage evasion or avoidance. In both countries, the large regional differences in NWT rates encourage regional migration and the lack of third-party reporting allows for easy underreporting. Further, the asset exemptions and the tax cap in Spain create opportunities for taxpayers to shift assets and avoid taxation. This section has outlined how these evasion responses can undermine the ability to collect tax revenue. The next section will explore how these responses influence trends in wealth inequality.

Redistributive Potential of Net Wealth Taxes

Although NWTs have the potential to address growing wealth inequality, their ability to do so is undermined by the steady decline of NWT rates over the last few decades and the growing number of exemptions. By examining trends in the wealth share of the wealthiest taxpayers, studies can quantify the impact of wealth taxes on wealth inequality. Marti et al. found that decreasing NWT rates increased wealth inequality in Switzerland, with a 1 percentage point decrease in the NWT rate corresponding to a 9 percentage point increase in the wealth share of the top 1% after 5 years and a 12 percentage point increase in the wealth share of the top 0.1%.[23] The unequal rise in the wealth share of the top 0.1% demonstrates that wealthier individuals disproportionately benefit from decreases in the NWT rate. Decreasing rates can have consequences at the regional level as well. Agrawal et al. found that tax-induced migration in response to the NWT exemption has increased wealth inequality in Madrid. They found the top 1% grew 16% between 2010 and 2015 due to regional migration, indicating that lowering NWT rates in one region but not another increases wealth inequality due to regional migration.

Increasing asset exemptions and introducing a tax cap can also undermine the NWT's ability to decrease wealth inequality. When analysing the Spanish NWT, Durán-Cabré and Esteller-Moré found that it would take 25 years at the current Spanish NWT rates (0.2%-2.5%) to reduce the top 1% wealth share from 19.53% to 18.14%. However, if the Spanish NWT kept the same rate but eliminated the exemptions and tax cap, wealth concentration of the top 1% would decrease to 17.95% after 25 years, while the top 10% wealth share would stay the same. The wealthiest households are often better equipped to take advantage of exemptions, especially when exemptions apply to financial assets that are disproportionately owned by the wealthiest taxpayers. They also often have lower incomes and can take advantage of a tax cap tied to income levels. Therefore, asset exemptions and tax caps are regressive and limit the redistributive potential of the NWT.

These findings indicate that the NWTs in Spain and Switzerland could be used to address wealth inequality, but their current ability to do so has been severely hampered by the decrease in tax rates over the last several decades and the expansion of exemptions in Spain.

[23] Marti, S., Martínez, I.Z. and Scheuer, F. (2023). 'Does a progressive wealth tax reduce top wealth inequality? Evidence from Switzerland', *Oxford Review of Economic Policy*, 39(3), pp. 513–529. Available at: https://doi.org/10.1093/oxrep/grad025.

Summarising the Impact of Recurrent Net Wealth Taxes

The evidence included in this review of NWTs in Spain and Switzerland indicates that the ability to raise revenue and redistribute wealth using recurrent NWTs is hampered by asset exemptions, tax caps, self-reporting, and regional tax rate differences. The evidence shows that if there are large regional differences in NWT rates, it will encourage regional migration. However, this effect does not appear if regional rate differences are small. Additionally, if the NWT policy exempts any assets, it will encourage taxpayers to shift their assets into exempt classes to avoid the tax. Finally, there is widespread underreporting of assets, possibly due to self-reporting. However, neither of the countries in this review use third-party reporting, so the counterfactual could not be tested. Each of these policy decisions factors into the responsiveness of wealth to taxation, thereby determining the level of tax evasion. These outcomes are presented in Figure 2.

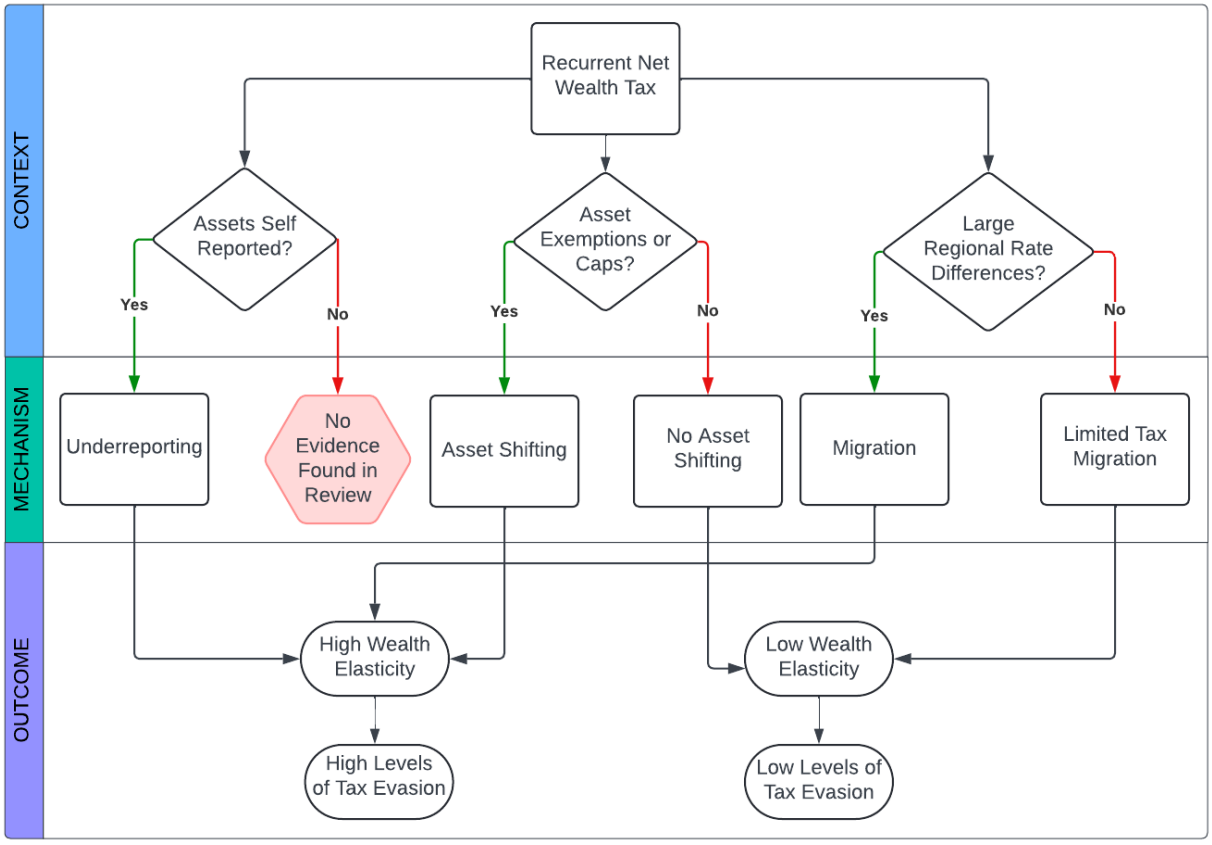

Figure 2: The Effect of Recurrent Net Wealth Tax Policy Specifications on Tax Evasion

This review also demonstrated that NWT policy decisions affect how well NWTs address wealth inequality. If jurisdictions lower their NWT rates it will increase the wealth share of the wealthiest households and increase wealth inequality. Additionally, if a region decreases their NWT rates significantly more than neighbouring jurisdictions, it will encourage migration to the region with lower rates. However, if a jurisdiction decreases its NWT rates, but the tax rate remains higher than its neighbours, the jurisdiction may still experience outward migration of wealthy taxpayers moving to regions with lower rates. The net effect on wealth inequality depends on whether the increase in wealth inequality from lower NWT rates outweighs the decrease in wealth inequality from the emigration of wealthy taxpayers.

Wealth inequality can also rise if countries introduce asset exemptions. If the exemptions are on assets disproportionately held by wealthier households, such as financial assets, the exemption will favour wealthy households. If the exemptions are not on assets held by wealthier households, they will still be able to shift their assets into the exempt classes to exploit the exemption. The outcomes for wealth inequality are shown in Figure 3.

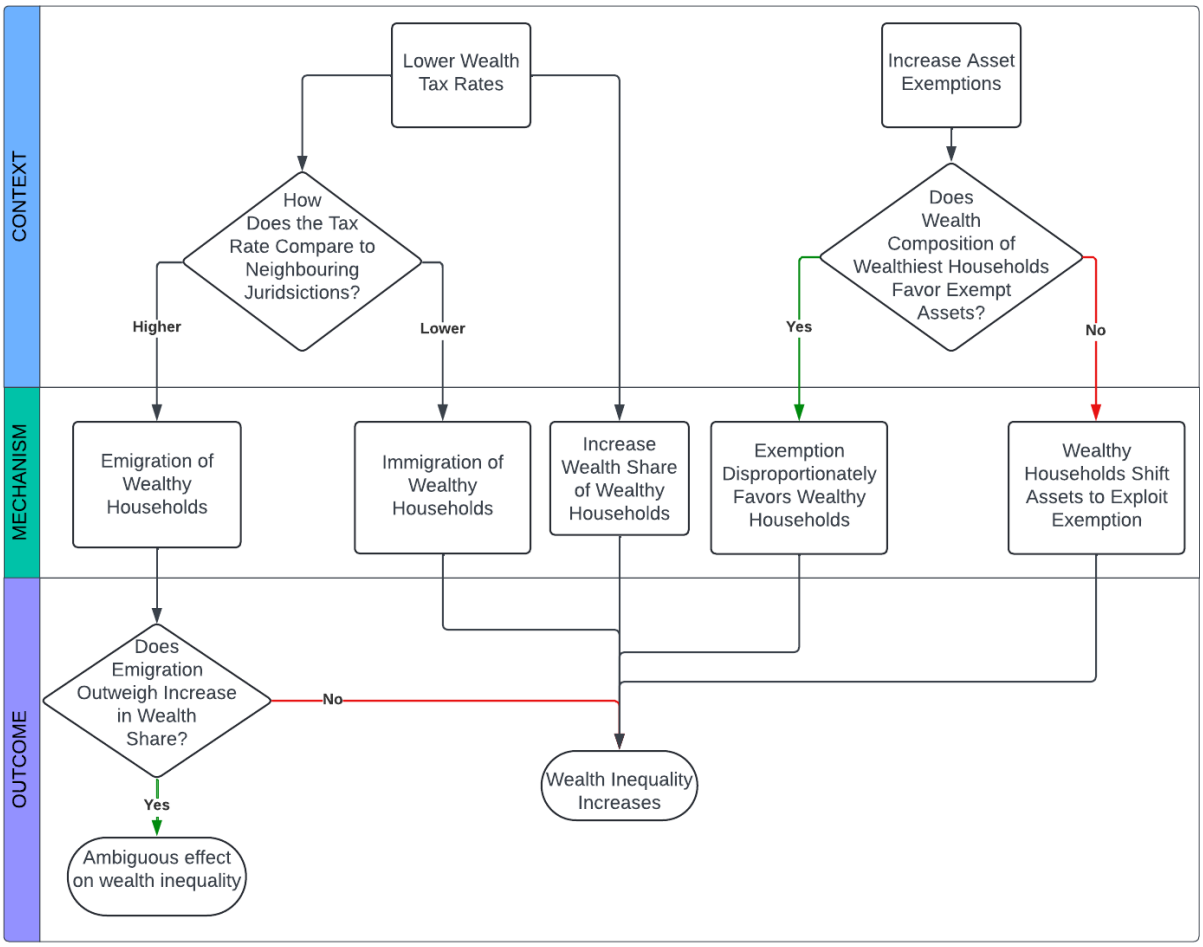

Figure 3: The Effect of Recurrent Net Wealth Taxes on Wealth Inequality

The Effect of Capital Flight on Inflation and Revenues

Although one-off NWTs can raise revenue in extraordinary circumstances, they could also have unintended side effects that undermine their effectiveness. After WWI, capital levies were implemented in Czechoslovakia, Austria, Hungary, Germany, Italy, and Poland. However, none of them raised revenues near the predicted levels needed to pay off war debts. Due to the time limitations, I will focus on three countries – Austria, Hungary, and Czechoslovakia. All three countries were formerly part of Austria-Hungary until its dissolution after WWI. Still, they had very different levels of success with capital levies due to the timing of the implementation. In Austria, the levy raised the equivalent of £3 million, or 1.4% of national income. In Hungary, the levy raised £15 million, or 7.1% of national income. In Czechoslovakia, the levy raised £45 million, or 8.2 % of national income and enough to pay off most of the state note debt.[24] While the levy in Czechoslovakia was marginally successful, Austria and Hungary experienced debilitating hyperinflation, effectively eliminating any revenue raised. The experiences of these three countries support the theory that any delay in implementation allows for capital flight and contributes to inflation.

In Czechoslovakia, preparations were made for a capital levy in the summer of 1919 and the levy was implemented in early 1920. The levy in Czechoslovakia was implemented comparatively quickly because the country was slightly better off after the war, having supported the Allies. Additionally, the levy fell mostly on an unpopular German ethnic minority, which limited the extent of political opposition to the levy. In Austria, discussions of a capital levy began in early 1919 and the levy was not implemented until late 1920, allowing 16 months to pass between the initial assessment and the levy. In Hungary, the implementation of the capital levy was delayed by a communist revolution lasting from March until August 1919. Due to how quickly Czechoslovakia implemented its capital levy, the levy went into effect before transportation and relations with other countries had been reestablished after the war. This important contextual difference made it difficult for taxpayers in Czechoslovakia to access foreign markets and engage in capital flight. In contrast, the delay in Austria and Hungary meant taxpayers had the time and ability to access foreign markets and shift their assets abroad. As a result, both countries experienced widespread capital flight and rampant hyperinflation.

Although Austria attempted to implement anti-evasion legislation, including requiring that taxpayers declare their intention to leave the country 1 month in advance and pay 30-50% of the assessed tax on their property, government authority was so weak that they could not enforce the policy. As a result, capital flight shrunk the tax base and hyperinflation made any revenue that could be raised essentially negligible. Additionally, Czechoslovakia sequestered the funds from the capital levy to pay off the state note debt. Austria did not sequester the funds and Hungary stopped sequestering

[24] Rostas, L. (1940). 'Capital Levies in Central Europe, 1919-1924', *Review of Economic Studies*, 8(1), pp. 20–32. Available at: https://doi.org/10.2307/2967414.

funds when the debt crisis worsened. This policy difference may have undermined the perceived credibility of the levy in Austria and Hungary and worsened evasion.

It is important to note that hyperinflation comes not from the capital levy itself but from capital flight caused by the *threat* of the capital levy. This distinction is supported by France's experience after WWI. Although France did not implement a capital levy in the interwar years, there was widespread political debate on levies. Around the same time, France experienced a surge of inflation and currency depreciation. Hautcoeur and Sicsic found evidence of capital flight fuelling inflation by showing that the difference between the French and British rates of return on capital assets grew from 5.3% in 1923 to 8.6% in 1925.[25] The growing divide between the two countries reflected expectations that the franc would depreciate. The threat of the capital levy was enough to spur capital flight without a capital levy ever being implemented.

The Role of Capital Controls

Despite the discouraging experiences of European countries after WWI, the experience of Western European countries after WWII supports the theory that capital flight and inflation can be mitigated through comprehensive capital controls. The widespread use of capital controls in Europe began in the interwar period and peaked after WWII. The 1944 Bretton Woods Agreement formalised international monetary control by establishing exchange rates controlled by the IMF to prevent currency devaluation. In addition, most of the post-WWII levies in Western Europe were imposed along with monetary reforms that required the comprehensive registration of assets. For example, the Belgian levy temporarily blocked 40% of all money holdings and transformed the remaining 60% into a forced loan which could be used to pay off the levy. Any money left after the levy was paid would be released back to the owner over several years. Blocking was also used in Austria, Germany, the Netherlands, Denmark, Finland, France, and Norway. These controls drastically reduced the opportunity for evasion. In comparison to the WWI levies, the WWII levies were implemented with relative ease and raised much higher revenues. Table 1 lists the revenue from the post-WWII levies in Western Europe.

[25] Hautcoeur, P. and Sicsic, P. (1999). 'Threat of a capital levy, expected devaluation and interest rates in France during the interwar period', *European Review of Economic History*, 3(1), p. 25

Table 1: Revenues from Post-WWII Capital Levies in Western Europe

Country	Receipts from Levies: In National Currencies — Capital Levy	Receipts from Levies: In National Currencies — Increment Levy	Receipts from Levies: In £ mn. sterling all levies	Total Levies as % of: Ordinary Budget Revenue	Total Levies as % of: Money Supply	Total Levies as % of: National Debt	Total Levies as % of: National Income
	(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)
Austria	866 mn. sch.	67 mn. sch.	23·5 (40)	17·1	10·8	10·9	3·4
Belgium	32,144 mn. fr.	—	189·1 (170)	113·2	33·6	23·1	24·9
Denmark	174 mn. kr.	500 mn. kr.	35·5 (19)	53·4	10·8	9·0	7·2
Finland	(i) 8,958 mn. mks. (ii) 29,319 mn. mks.	—	45·7 (196) 97·7 (300)	80·1 41·8	60·1 86·7	32·9 24·9	22·0 18·9
France	121,814 mn. fr.		243·7 (480)	25·3	9·0	5·5	4·7
Germany	70,000 mn. mks.	—	7000·0 (10)	403·6	338·0	805·8	71·4
Italy	285,829 mn. lire	—	142·9 (2000)	88·8	19·5	21·6	5·5
Luxembourg	916,526 mn. fr.	—	5·3 (170)	65·4	25·1	26·0	13·4
Netherlands	1,059 mn. gds.	2,056 mn. gds.	293·9 (10·6)	78·3	44·8	14·4	27·6
Norway	—	490,509 th. kr.	24·5 (20)	38·5	8·3	7·0	5·7

Note : The exchange rates used for converting the values of the levies into sterling are indicated in brackets in column (iii).

Sources :
Austria, Bundesministerium für Finanzen.
Belgium, Ministère des Finances.
Denmark, Stats. Finanserne.
Finland, Statistisk Arsbok and Ministry of Finance.
France, Ministère des Finances and Statistiques et Etudes Financières.
Germany, Allgemeine Vorbemerkungen zum Entwörf des Bundeshaushaltsplans für das Rechnungsjahr 1955.
Luxembourg, Annuaire Statistique and Statistiques economiques luxembourgoises 1949.
Italy, Annuario statistico italiano.
Netherlands, Memorandum on the condition of the Netherlands States Finances 1955.
Norway, Statistical Yearbook and Ministry of Finance.
United Nations Statistical Yearbooks.

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(Source: Robson, 1959:43)

Additionally, post-war inflation remained under control in every country except for Finland, France, and Italy. Importantly, throughout the implementation of the capital levies, there were no adverse effects on capital markets implying that capital flight remained low.

A final example of a successful capital levy after WWII comes from Japan which experienced minimal capital flight or evasion and raised 120% of ordinary revenues. Two important factors come into play in the success of the levy. First, Japan was occupied by Allied forces and democracy in the country had been suspended. As a result, the levy could be implemented quickly with almost no opposition and taxpayers had very little ability to evade the tax through capital flight. Second, the tax was only levied on the 2% to 3% wealthiest households in Japan who had been strong supporters of the war and could put up no political resistance to the tax. Eichengreen uses this example to support his claim that capital levies can only operate successfully under conditions of suspended democracy. However, as the levies in Western European countries demonstrate, democratic nations are capable of implementing capital levies, but they must develop comprehensive capital controls when the levy cannot be implemented rapidly and with no prior warning.

Summarising the Impact of Capital Levies

This review supports Robson's conclusion that capital levies implemented in conjunction with appropriate capital controls can raise substantial revenue to pay off debt. However, in the absence of appropriate controls and with access to foreign

markets, any delay in implementation or doubt about the credibility of the levy creates an opportunity for capital flight. This can lead to severe hyperinflation that effectively eliminates any revenue raised. These outcomes are presented in Figure 4.

In considering the applicability of these lessons in the present day, it is worth considering global capital mobility. Capital controls may be even more necessary today given the ease with which investors can move capital between countries and utilise offshore holdings to hide wealth. However, the capital controls that became widespread under the Bretton Woods Agreement fell out of use during the open-market, neoliberal economic policies of the 1970s and 80s. Nevertheless, capital controls may be coming back into use in some circumstances. After the 2008 financial crisis, Iceland implemented a capital levy and put capital controls in place. The IMF supported the decision if Iceland removed the controls after the levy ended. Any government debating a capital levy should carefully consider the feasibility of such measures necessary to ensure the levy is practical.

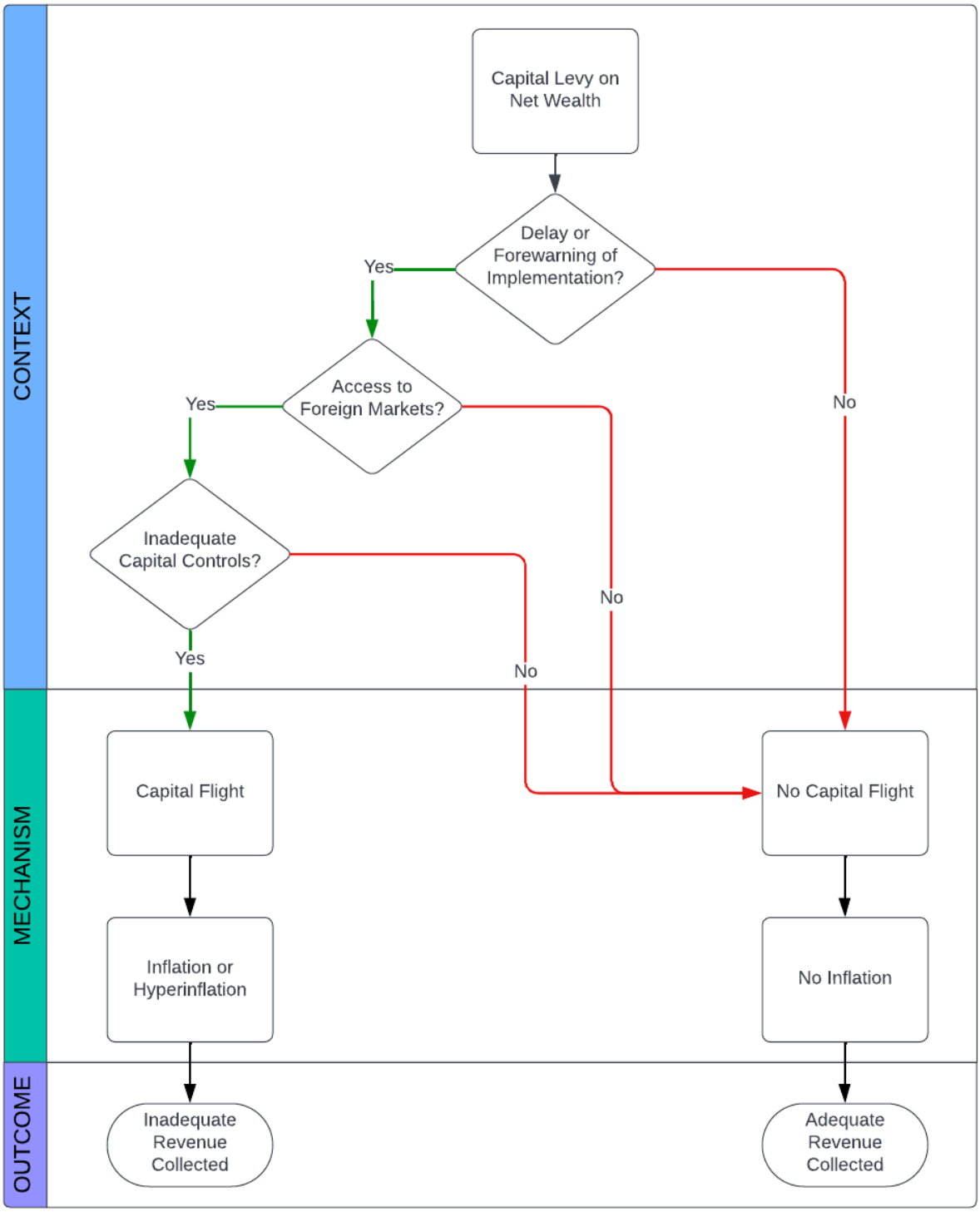

Figure 4: The Effect of Capital Levies on Capital Flight

Conclusion

I have not sought to weigh the benefits and limitations of wealth ownership taxes against alternative options, such as wealth transfer taxes and capital income taxes. As a result, I do not present policy recommendations on implementing new wealth taxes in Scotland. However, I do provide insight into factors that should be taken into consideration if policymakers or advocates are contemplating wealth ownership taxes. I present these considerations as questions that should be asked before implementing LVTs, NWTs, or capital levies.

When considering implementing an LVT, what is the purpose of the tax? Is it to raise revenue without impacting markets? Or is it to encourage urban development? Is it both? If the goal is to raise revenue without affecting housing markets, the neutrality of LVTs makes them an optimal fit. If the goal is to encourage urban development, is there an existing property tax in place? If there is no property tax, alternative options for encouraging development may need to be considered because the effect on development is likely to be small. If there is an existing property tax, is there excess demand? If there is no excess demand, again an alternative option may need to be considered. If there is excess demand, where is the tax being implemented? If the tax is implemented in urban areas, it should encourage development and increase urban density. However, if the tax is implemented in suburban areas, increasing suburban development would worsen urban sprawl. These questions are intended to demonstrate the different outcomes that may stem from important contextual factors.

When considering implementing a recurrent NWT, are there third-party institutions that can report assets rather than relying on self-reporting? If so, underreporting is likely to be limited. Next, will all assets be taxed equally? If so, evasion through asset shifting should be minimal. If not, exemptions are often regressive and will tend to benefit the wealthiest households. In addition, will there be a tax cap that links the tax burden to income? If the tax is only levied on the wealthiest households, a tax cap may not be necessary. This would eliminate evasion from taxpayers intentionally lowering their incomes. However, if the NWT has a broad base, it may be politically infeasible to implement the tax without a cap to address liquidity concerns. Unfortunately, this will increase opportunities for evasion, especially for the wealthiest households with low incomes compared to their wealth holdings. Finally, will the NWT be administered at the regional level with different rates? If so, will there be a required rate range to prevent large regional differences? If there is no required range, the rate differences may be large enough to create regional tax-induced migration that exacerbates wealth inequality. If there is a required range to limit regional differences, migration should be limited. These questions highlight the role that policymakers play in influencing taxpayer responses to taxation.

When considering a one-off NWT, can the levy be implemented without forewarning? If so, capital flight should be limited, making it more likely to successfully raise the intended revenue. If not, are there politically powerful groups that may delay policy implementation? If there are no delays and the levy can be implemented quickly, it should limit concern about capital flight. If there are groups that can cause delays, it

may be necessary to put robust capital controls in place to prevent capital flight. However, the success of the levy at this point will depend on the government's ability to enforce the capital controls. Due to the importance of implementing a levy quickly and efficiently, these factors are important to consider *before* a levy is needed. As this review has demonstrated, the longer you wait, the more likely it is that the levy will lose credibility with the public and allow time for investors to move their assets out of the country.

These considerations can be distilled into specific lessons for Scotland. Although LVTs are a powerful way to raise revenue without causing market distortions, an LVT in Scotland would likely have little impact on urban development because there is no current property tax on property owners. The current council tax is levied on occupants rather than property owners, so it does not tax wealth ownership. Nevertheless, if Scottish policymakers are considering new taxes on land or property, an LVT would be preferable to a property tax since it does not discourage development. If Scottish policymakers want to replace existing regressive taxes, an LVT could replace council tax, non-domestic rates, or land and buildings transaction tax. Regarding an NWT implemented in Scotland but not in other parts of the UK, there is a potential for the tax to prompt regional migration. Although research has shown that international migration in response to NWTs is unlikely, regional migration from Scotland to England, Wales, and Northern Ireland is certainly possible. If an NWT was implemented across the UK, regional migration could be limited by setting a rate range that reduces the incentive to move to areas with lower tax rates. Finally, a capital levy can be a powerful tool to raise revenue under extraordinary circumstances. However, the tax must be implemented quickly to be effective. This is particularly important in Scotland because the ability to implement robust capital controls is limited under current devolved powers. However, if Scotland were to gain full control over fiscal policy, a capital levy could be feasible even with delays in implementation.

Regardless of the type of tax under consideration, this review has highlighted the importance of thinking through the potential outcomes of legislation in one's context, rather than treating policies as a template to be used in any situation. Furthermore, this review has demonstrated that the policy specifications of a tax will determine how successful it can be. The implications of any policy decision must be given careful consideration.

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Appendix: Source Descriptions

Table 2: Description of Sources on Land Value Taxes

Author	Year	Location Studied	Key Findings
Williams	1963	Pittsburgh, PA, USA	Support incentive effect
Mathis and Zech	1982	Pennsylvania, USA	Challenge incentive effect
Coffin and Nelson	1983	Pennsylvania, USA	Critique of Mathis and Zech
Mathis and Zech	1983	Pennsylvania, USA	Response to Coffin and Nelson critique
Liu	1985	Pennsylvania, USA	Critique of Mathis and Zech
Mathis and Zech	1985	Pennsylvania, USA	Response to Liu critique
Cord	1983	Pittsburgh, McKeesport, Duquesne, Clairton, Scranton, Wilkes-Barre	Support incentive effect
Bourassa	1987	Pittsburgh, PA, USA	Challenge liquidity effect, support incentive effect
Bourassa	1990	Pittsburgh, McKeesport, New Castle	Challenge liquidity effect, complicate incentive effect
Oates and Schwab	1997	Pittsburgh, PA, USA	Complicate incentive effect
Plassman and Tideman	2000	Pennsylvania, USA	Support incentive effect
Bourassa	2009	Pennsylvania, New York, USA	Outdated valuation causing repeal
Banzhaf and Lavery	2010	Pennsylvania, USA	Support incentive effect driven by density effect, challenge dwelling effect
Vincent	2012	Clairton, PA, USA	Support incentive effect, contextualise shifting tax burden
Yang	2014	Pennsylvania, USA	Support incentive effect driven by density effect,

			challenge dwelling effect
Yang	2015	Pennsylvania, USA	Contextualise spill-over effects
Yang	2018	Pennsylvania, USA	Support split-rate LVT increasing land values
Hanson	2022	Pennsylvania, USA	Support incentive effect for businesses
Yang and Hawley	2022	Pennsylvania, USA	Support split-rate LVT increasing land values

Table 3: Description of Sources on Recurrent Net Wealth Taxes

Author	Year	Location Studied	Key Findings
Dell et al.	2005	Switzerland	Stable wealth concentration until wealth share fell in 1980s
Durán-Cabré and Esteller-Moré	2007	Spain	Support behavioural distortions from (1) underassessment of housing and (2) underdeclared financial assets
Pablos Escobar	2006	Spain	Support wealth tax is progressive, complicate redistributive potential
Alvaredo and Saez	2009	Spain	Support behavioural distortions from asset shifting
Brülhart et al	2016	Switzerland	Support bunching effect at threshold, challenge mobility effect
Foellmi and Martinez	2017	Switzerland	Wealth share grew since 1980s and exceeded post-WWI levels
Durán-Cabré et al.	2019	Catalonia, Spain	Support distortions from (1) underreporting assets abroad (2) exploiting business exemptions (3) underreporting unproductive assets

Durán-Cabré, Esteller-Moré, and Mas-Montserrat	2019	Catalonia, Spain	Support distortions from (1) asset shifting (2) tax caps
Agrawal et al.	2020	Spain	Support migration effect in response to regional differences
Eckert and Aebi	2020	Switzerland	Context: Description of current tax policy
Romallo	2020	Spain	Context: Description of current tax policy
Durán-Cabré and Esteller-Moré	2021	Spain	Support exemptions and tax cap undermine redistributive power
Lopez-Laborda	2022	Spain	Support mobility effect for wealthiest taxpayers
Brülhart et al.	2022	Lucerne and Bern, Switzerland	Support distortions from (1) housing capitalisation (2) migration effect (3) underreporting
Baselgia and Martinez	2022	Switzerland	Support wealth inequality with higher estimates
Jakurti and Sussmuth	2023	Spain	Support distortions from asset shifting
Marti et al.	2023	Switzerland	Support growing wealth inequality from wealth tax cuts

Table 4: Description of Sources on One-Off Net Wealth Taxes

Author	Year	Location Studied	Key Findings
Van Sickle	1926	Austria	Support threat of levy trigger capital flight & exacerbate inflation
Van Sickle	1931	Czechoslovakia, Austria, Hungary	Support threat of levy trigger capital flight & exacerbate inflation
Rostas	1940	Czechoslovakia, Austria, Hungary	Support delayed timing worsens behavioural response
Hicks et al.	1942	Czechoslovakia, Austria, Hungary, Italy, Germany	Support delayed timing worsens behavioural response
Carroll	1945	France, Belgium, Norway, Denmark	Context: tax policy description
Robson	1959	France, Finland, Belgium, Norway, Denmark, Luxembourg, Netherlands, Italy, Austria, West Germany	Support improved levy revenue once capital controls limit capital flight
Eichengreen	1989	Czechoslovakia, Austria, Hungary, France, Italy, Germany Japan	Support delayed timing from democracy worsens behavioural response
Prati	1991	France	Support threat of levy trigger capital flight & exacerbate inflation
Hautcoeur and Sicsic	1999	France	Support threat of levy trigger capital flight & exacerbate inflation
O'Donovan	2020	France, West Germany, Iceland, Ireland, Cyprus	Support improved levy revenue once capital controls limit capital flight
Rabault-Mazieres	2023	France	Support evasion from underreporting
Wronski	2023	Poland	Severe inflation undermine revenues