



SCHOOL OF  
ECONOMICS AND  
MANAGEMENT

## **Property Taxes, Property Prices and Wealth Inequality**

*– the role of recurrent property tax in the interaction between wealth inequality, property prices and homeownership rate with a special focus on Sweden.*

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## Abstract

This paper examines the effect of the recurrent tax on immovable property on wealth distribution. It also investigates how the wealth distributive effect of property prices is affected by the homeownership rate in a country. Data on the mean to median wealth ratio, tax sizes, property prices, homeownership rate, and economic freedom of 36 OECD member countries over the years 2000-2021 are used to execute various panel regressions with two-way fixed effects. Although not finding a significant relationship between the sizes of different taxes and wealth inequality, the results show that changes in property prices have a statistically significant effect on wealth distribution. Moreover, this effect varies depending on the homeownership rate of a country. In countries with a homeownership rate of more than 75.8 percent, increasing property prices seems to have a wealth equalising effect while the effect is the opposite for countries with lower homeownership rates. Hence, national policy decisions regarding property prices and wealth inequality should take homeownership rate into consideration. Assuming that low wealth inequality and a fair tax design is desirable, a policy recommendation is made for Sweden. Based on previous research and theory, we suggest reimplementing a progressive or proportional recurrent tax on immovable property. Based on the results of this paper we suggest removing tax deductions for interest rates and centralising decision making on housing construction. Due to the lack of empirical evidence, the validity of the policy suggestion for a reintroduction of recurrent tax on immovable property is weakened. Thus, further research is needed to examine if there is a relationship between recurrent property tax and wealth distribution.

Keywords: Recurrent property tax, wealth inequality, homeownership rate, property prices

## Resumen

Este ensayo examina el efecto del impuesto recurrente sobre propiedad inmobiliaria en la distribución de la riqueza. También, investiga cómo el efecto distributivo de los precios de las propiedades se ve afectado por la tasa de propiedad de vivienda en un país. El ensayo utiliza información sobre la relación entre la riqueza promedio y mediana, la magnitud de los impuestos, los precios de las propiedades, la tasa de propiedad de vivienda y la libertad económica de 36 países miembros de la OCDE durante los años 2000-21 para realizar diversos análisis de regresión panel con efectos fijos bidireccionales. Aunque no se alcanza encontrar una relación significativa entre el tamaño de diferentes impuestos y la desigualdad de la riqueza, los resultados muestran que los cambios en los precios de la propiedad tienen un efecto estadísticamente significativo en la distribución de la riqueza. Además, este efecto varía según la tasa de propiedad de vivienda de un país. En países con una tasa de propiedad de vivienda de más del 75.8 por ciento, el aumento de los precios de la propiedad parece tener un efecto ecualizador en la riqueza, mientras que se muestra el efecto contrario en países con tasas de propiedad de vivienda más bajas. Por lo tanto, las políticas nacionales sobre los precios de la propiedad y la desigualdad de la riqueza deben tener en cuenta la tasa de propiedad de vivienda. Basándonos en investigaciones y teorías previas, sugerimos que Suecia vuelva a implementar un impuesto recurrente progresivo o proporcional sobre la propiedad inmobiliaria. Basándonos en los resultados de este estudio, sugerimos eliminar las deducciones fiscales para las tasas de interés y centralizar la toma de decisiones sobre la construcción de viviendas. Debido a la falta de evidencia empírica, la validez de la sugerencia respecto a la reintroducción del impuesto recurrente sobre bienes inmuebles se debilita. Por lo tanto, es preciso ampliar la investigación para averiguar si hay una relación entre el impuesto recurrente sobre bienes inmuebles y la distribución de la riqueza.

Palabras clave: Impuesto recurrente sobre propiedad, la desigualdad de la riqueza, la tasa de propiedad de vivienda, precios de la propiedad

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# 1 Introduction & Background

## 1.1 Introduction

Wealth inequality in Sweden, a nation long renowned for its commitment to social equality, has witnessed an unprecedented trend in the 21st century. According to Credit Suisse's latest data from 2023, the gap between the wealthiest and the rest of the population has been steadily widening. Following the release of Andreas Cervenka's book *Girig-Sverige* (translated as *Greedy Sweden*) in 2022, the question of rising wealth inequality also started gaining traction in the public debate. The amplified debate has forced society to confront uncomfortable truths about economic inequality that has previously been overlooked. Adding to the discussion of how to close the widening wealth gap in Sweden, this paper aims to answer the question: What are the effects of a recurrent (i.e. annual) tax on immovable property and changes in property prices on wealth inequality, and can such a tax help decrease wealth inequality in Sweden?

As of 2021, Sweden places itself below the mean amongst OECD member countries regarding the size of capital taxes (such as tax on capital transfers, recurrent wealth tax and recurrent property tax); all the while being part of the countries with largest income taxes and having by far the highest tax on payroll (OECD, 2023). This discrepancy violates horizontal fairness which suggests that individuals with the same financial situation should be taxed equally. The Swedish recurrent tax on immovable property was abolished in 2008 after a government's bill from the centre-right Alliance coalition government. As a result of the tax reform, the former annual tax was replaced by the municipal property fee (den kommunala fastighetsavgiften). In 2023, this fee was 0.75 percent of the taxation value of the property but never more than 9 287 SEK (Swedish Tax Agency, 2023). Thus, the property tax is regressive for properties with a taxation value of more than the relatively low value 1 238 267 SEK. In 2022, more than 80 percent of single family houses in Sweden had a taxation value of more than 1 500 000 SEK (Statistics Sweden, 2022).

During the last two decades, property prices have increased more in Sweden than in most other OECD countries (OECD, 2023). During the same period of time (2000-21) the mean to median wealth ratio increased from 3.14 to 4.02 (Credit Suisse, 2023). As a large share of

Sweden's wealth lies in property, this increase in wealth inequality can be partly attributed to increases in property prices (Hansson et al., 2020). Furthermore, rising property prices may entail macroeconomic risks. As property prices increase ever more, the risk of a bubble increases. The burst of such a bubble will likely have major consequences on the real economy and was one of the underlying causes of the 2008 financial crisis (Baily, 2008).

This paper investigates the relationships between wealth inequality, property prices and different forms of property tax in Sweden. To explore the subject, several econometric models have been implemented. The models use data for 36 OECD member countries over the years 2000-21. First, the paper explores how property prices and different forms of property taxes affect wealth distribution. Furthermore, an interaction term containing property prices and homeownership rate is included, which allows for a more nuanced analysis of the effect of property prices on wealth distribution. Later, the regression models explore different forms of property tax and their effects on property prices. As all models use different forms of property tax as independent variables rather than the aggregate, it allows for a more comprehensive analysis and subsequent policy recommendations.

The results of the regression analyses show a significant relationship between property prices and wealth inequality measured as mean to median wealth ratio. However, the effect of property prices is dependent on the homeownership rate in a country. We have found that the relationship remains positive when the homeownership rate is less than 75.8 percent after which it turns negative. In addition to this, we find few significant results regarding the effect of sizes of different taxes on wealth distribution or property prices. In spite of the results of the models, a policy recommendation is made. It concludes that the Swedish government should reimplement the recurrent tax on immovable property on the grounds that the tax has many advantages despite not having a significant effect on wealth equalisation. Furthermore, it recommends measures to decrease property prices and increase homeownership rate. A proportional or progressive recurrent tax on immovable property tax should be implemented while a recurrent wealth tax and taxes on estate, inheritance and gifts are not recommended, due to having too distortive economic effects.

## 1.2 Background

Growing wealth inequality is a phenomenon seen all throughout the developed world since the 1970's (Piketty, 2017). While the reasons for this trend are many and multifaceted, Piketty (2017) provides valuable insight regarding the trend towards growing wealth inequality. Firstly, it comes down to the fundamental characteristic of capitalism; that return on capital is larger than production. This will mean that capital grows faster than the economy as a whole. The relationship is expressed as  $r > g$  (where  $r$  is return on capital and  $g$  is growth) (Piketty, 2017). In an attempt to limit this development, it seems necessary either to decrease the return on capital or increase the level of growth. Historically, return on capital has been around 4-5 percent while growth has hovered around 1-1.5 percent per year (Piketty, 2017). It is deemed unlikely that interventionist measures will increase growth to levels around 4-5 percent. The option left is therefore implementing policy to decrease  $r$ . It seems natural that taxes on capital will achieve this since the real rate of return on capital will decrease, subsequently causing  $r$  to decrease. One such tax is the one on immovable property. However, a recent study has questioned Piketty and shown that the increased wealth inequality at the higher end of the wealth distribution is caused by lower levels of  $r$  rather than higher, due to entrepreneurs benefiting from lower levels of interest rates (i.e. lower levels of  $r$ ) (Gomez & Gouin-Bonenfant, 2023).

Tax on immovable property is often viewed as a good tax among economists, meanwhile it is rather unpopular among the voters (i.e. the house owners). The latter likely depends on the fact that paying a property tax in most countries is a noticeable action, in comparison with for instance an income tax that is deducted from the payroll before the wage is paid out (Fox, 2017; Dowding, 2008). Furthermore, the taxation value of a property can increase independently of the behaviour of the property owner, which taxable income or private consumption will not. Additionally, the taxation value of a property does not necessarily mirror the wealth of a person in terms of liquid assets and easily accessible money. Especially when the taxation value increases (which it most often does over time), it is possible that the difference between capital wealth and asset wealth is large, leading to liquidity problems for some taxpayers (Slack & Bird, 2014).



In spite of being unpopular among the voters (and thus hard to implement for political reasons), tax on immovable property is generally regarded as a good tax by economists. Since the tax base is immovable, the tax revenue is predictable and a tax might also decrease the inflation of housing prices (Norregaard, 2013), which as explained later in this paper, will have a positive effect on wealth equality in most countries. Moreover, putting a tax on inelastic goods (e.g. food and living) has less distortive effect than taxing elastic goods since the consumed quantity does not change as much. It is to say that people cannot choose to not live anywhere even if a property tax would be raised (even if they can choose not to own their home). Furthermore, a study of the case of Sweden shows that abolishing the recurrent property tax in 2008 with few exceptions did not affect the property price levels in the country (Elinder & Persson, 2014). An investment in property should also be taxed accordingly to the taxation of other capital investments (Hansson et al., 2020), or else it will be more advantageous to invest in property than other types of capital, leading to housing prices increasing more than the value of other kinds of capital. The different taxation of capital with the same value would also be problematic according to the idea of horizontal fairness.

## 2 Theory

### 2.1 Theory and Previous Research

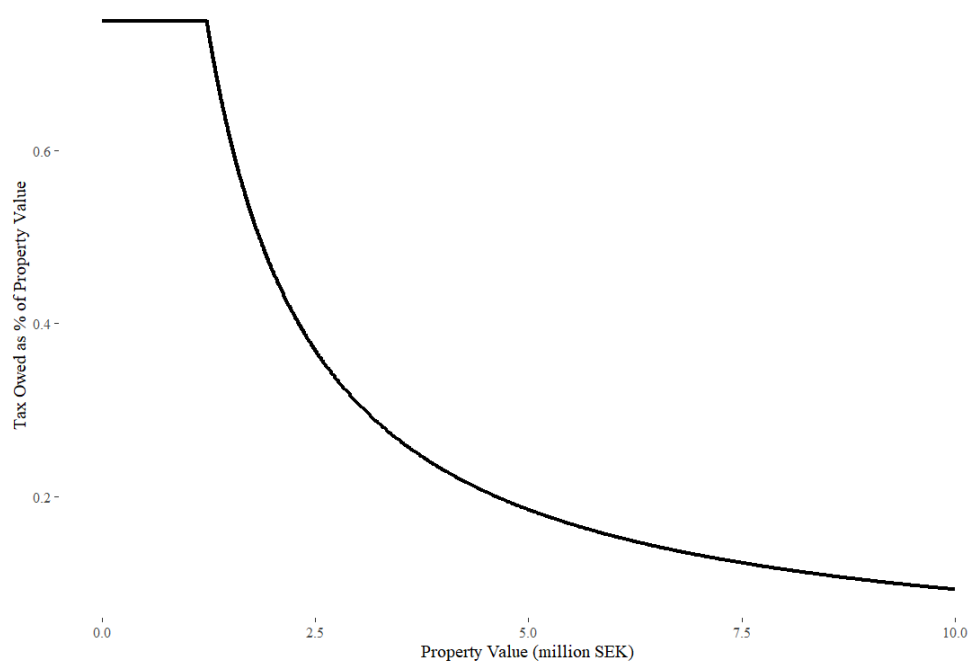
Earlier studies have investigated the effect of the Swedish property tax reform on wealth distribution in Sweden. One example is Åsa Hansson et al., (2020) that propose that the removal of the recurrent property tax is likely to have had an effect on the increasing housing prices in Sweden, which is counter argued empirically by Elinder and Persson (2014). If leading to lower property prices, it has contributed to the increased inequality in terms of wealth distribution in Sweden. Ann Öberg (2008) discusses how the tax reform complies with the idea of taxes being horizontally fair (meaning that equals should be taxed equally). The author arrives at the conclusion that the new tax system (after the reform in 2008) does not comply with this idea and that this incentivises people to invest in property rather than other types of capital. Johansson and Knutsson (2017) write that introducing a property tax similar to the one that Sweden had before would lead to a decreased wealth inequality, even if reducing the municipal income tax at the same time. More studies have been made on the Swedish case, but these have in common that they (from what we have found) do not include any comparison with other countries similar to Sweden. Similarly, various studies have compared property tax among OECD countries. Akgun et al., (2017) study how the mix between different taxes affects the income distribution in OECD countries. Slack and Bird (2014) look at five OECD countries that have carried out a property tax reform and explain why property tax (from the perspective of political economy) is hard to either keep or implement. However, Sweden is not one of the countries that the authors discuss. Hence, no one (that we have seen) has used the results from OECD countries to make an analysis on the specific case of the tax on immovable property tax in Sweden. Furthermore, the effect of homeownership rate has often been overlooked when discussing the effect of property prices on wealth inequality.

## 2.2 Theoretical Background of Wealth Inequality and Recurrent Tax on Immovable Property and Wealth

### 2.2.1 Recurrent Tax on Immovable Property

In section 1.2, we have established the recurrent property tax as being a generally “good” tax. We will therefore explore how such a tax could be implemented, independently of the empirical study of this thesis. As a starting point we will look at problems with the current recurrent property tax design in Sweden. We will then move on to discussing different solutions to said problems. Property tax in Sweden is currently 0.75 percent of the property’s taxation value<sup>1</sup> (Swedish Tax Agency, n.d-a). The tax is then capped at 9 237 kr (Swedish Tax Agency, n.d-a). The cap makes the tax regressive after a certain property value with respect to the value of the property. *Figure 2.1* clearly illustrates the regressive nature of the property tax. The regressive feature violates vertical fairness as higher valued properties are taxed more favourably than lower valued. Making the assumption that high-income earners tend to own higher value properties, this will mean that low-income households are taxed relatively higher than high-income households.

*Figure 2.1: Current Swedish recurrent property tax as a function of property value*



<sup>1</sup> Taxation value represents 75 percent of the market value two years before the year of the assessment (Swedish Tax Agency, n.d-a).

The fairness problems can be observed further through looking at the implicit dividends of property ownership. Implicit dividends of property ownership represent the dividends from a financial asset with the same risk level as the property and is regarded as a measure for profitability of owning property (Swedish Government Official Reports, 2019). Although varying between cities and regions, the implicit dividend of property ownership differs greatly amongst income groups, where the highest quintile is significantly higher than those below (Swedish Government Official Reports, 2019). This, together with the regressive nature of the recurrent property tax, strengthens the argument for lack of vertical fairness in the recurrent property tax.

The capital gains tax on property sales is 22 percent of profits (Swedish Tax Agency, n.d-b). With this tax being significantly higher than the recurrent property tax, a situation is created in which it is cheaper to remain in a house rather than moving. This creates a stagnant housing market with low mobility (Eklund, 2020). Low mobility will impede the ability for young people to enter the housing market which will likely lead to further age differences between buyers and renters where young people will tend to rent rather than purchase their home. This may have negative effects on the homeownership rate, which as will later be argued for, leads to increased wealth inequality. The property tax and capital gains tax on sales of property can thus be said to favour those who are established in the housing market and disfavour those outside it. This risks leading to larger wealth inequality. Nevertheless, the old recurrent property tax in Sweden, with a proportional tax based on the taxation value, was not without its problems. Through the taxation value, the tax paid by the property owner was essentially based on the market value of the property. This caused problems with unpredictability and uncertainty which is cited as one of the primary reasons for its unpopularity (Norrman, 2020). This unpredictability puts property owners at risk of being forced to unwillingly sell their property in the face of a drastic property price increase due to lack of liquid wealth.

One way to combat this, is through using a predictable template on which the tax is levied (Norrman, 2020). Norrman suggests constructing the taxation value using the acquisition value and then counting up the value with a factor supposed to represent the long-term value increase over time. While solving the problem of unpredictability this will likely introduce problems of horizontal fairness as the value upon which the tax is levied no longer reflects the real value of the property, making the tax unfair towards other forms of capital and

owners of similar property bought at another point in time. Another alternative is to calculate the taxation value using rolling averages of a set time period where a larger time period will lead to a lower volatility in taxation values (Eklund, 2020). Although limiting volatility and sharp price changes affects taxpayers, this method does not mitigate the problem in the long run as it will on average follow the market value of the property. On the other hand, a taxation value which follows the real prices in the property market may prove beneficial in a housing crisis as property tax will then become relatively lower. This pattern of the tax being higher when prices increase and lower when prices decrease will mean that a property tax levied on an taxation value based on the market price will act as an automatic stabiliser. However, this requires that the taxation value is reassessed frequently. If there is a large lag between the taxation value and the market price, the stabilisation elements may end up having the opposite effects. Keeping taxation values up to date with real time market prices is likely to involve large administrative costs and difficulties. It is therefore more likely that there will be a lag in the relationship between taxation value and market price. A standardised template may therefore be a more efficient method of calculating the base on which property tax is levied.

A proportional or progressive recurrent property tax will be helpful in solving the lack of vertical fairness in the current tax design. A progressive tax is however likely more efficient from a redistribution perspective. There is an argument to be made that taxes on immovable property are amongst the taxes with the lowest efficiency losses. This means that a progressive property tax can be considered a highly efficient tax (Bastani & Selin, 2019). Bastani and Selin suggests a progressive tax design with 4 different tax brackets<sup>2</sup>. However, a move from a largely regressive property tax to a strictly progressive one is deemed politically impossible due to its unpopularity among the voters (Eklund, 2020). For political reasons, a more reasonable solution to the problem of vertical unfairness is to implement a proportional tax structure.

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<sup>2</sup> 0 percent tax rate for values under 1 000 000 SEK, 0.75 percent for values between 1 000 000 SEK and 2 000 000 SEK, 1.25 percent for values between 2 000 000 SEK and 5 000 000 SEK, and 1.75 percent for values above 5 000 000 SEK.

### 2.2.2 Tax on Wealth (Excluding Immovable Property)

A wealth tax forces the government to take many administrative decisions and further measures are necessary in order to avoid companies and capital leaving the country. Before Sweden abolished their wealth tax in 2007, the rules regarding how different kinds of wealth should be taxed were complicated (Eklund, 2020). For example, a painting bought as an investment was included in the taxable wealth meanwhile it was not if the purpose of the purchase was to let it hang on the living room wall. Questions related to this are hard to avoid when investigating a re-implementation of the wealth tax and examples similar to the one of paintings insinuate that there were many loopholes in the Swedish system. This is supported by empirical results that the behavioural changes in Sweden after abolishing the wealth tax were small (Seim, 2017). Furthermore, during the last years before abolishing the tax, net wealths of more than 1 500 000 SEK were taxed at 1.5 percent but the revenue from this tax corresponded to only a few per mille of the total tax revenue (Eklund, 2020). Hence, this leads back to the previous discussion regarding political gains of abolishing a tax in comparison with the cost in terms of lost revenue. The recurrent wealth tax was not one of the most disliked taxes (Hammar et al., 2008) in Sweden at the time but it is likely that it was more disliked by the right-wing parties' voters than it was on average. This could explain why prime minister Fredrik Reinfeldt's centre-right government chose to abolish the recurrent wealth tax.

The administrative difficulties of having a recurrent wealth tax could even be so big that they are used as the main argument against implementing the tax. One example is the previous mentioned risk of wealth leaving the country. Another one is the difficulty of valuing certain assets, e.g. unlisted shares (Waldenström et al., 2018). One solution to this kind of problem has been that countries choose to make various exceptions regarding the taxation of different types of assets, e.g. unlisted shares. Partly, this violates the idea of horizontal fairness; partly this becomes a big problem since unlisted shares are the largest asset in many of the richest households in Sweden (Waldenström et al., 2018). The previously mentioned example of how the purpose of owning a piece of art affects the taxation of the asset, also violates the idea of horizontal fairness and ought to be hard for a tax agency to control for. Furthermore, the problem of being wealthy but lacking in liquid assets could appear in relation to a wealth tax just as it was discussed in relation to a recurrent property tax. Another administrative barrier

of a re-implementation is the fact that information about individual wealth no longer is collected as it was when Sweden had a recurrent wealth tax (Eklund, 2020). In summary, a recurrent property tax – despite the possibility of having a high redistribution effect in the perfect case – could possibly entail too many disadvantages and question marks in reality to be a good measure.

### 2.2.3 Should We Care About Wealth Inequality?

This thesis discusses how different types of taxes affect the wealth inequality in a country but yet the question if inequality is good, bad or even matters has not been discussed. The question does obviously have a normative element that in this text will be avoided. The relationship between income inequality and growth has been thoroughly discussed and have often been found to correlate negatively. Nevertheless, the opposite relationship has been proposed, at least in the short run, explaining previous results as biased due to other factors (e.g. level of corruption) being positively correlated with inequality but negatively correlated with growth or vice versa (e.g. government spending on basic healthcare as a share of the total spending) (Forbes, 2000). Modern research tends to support the idea of wealth inequality and economic growth having a positive relationship in the short run but a negative relationship in the long run (Halter et al., 2013) but a consensus remains to be found (Baselgia & Foellmi, 2022; Mdingi & Ho, 2021). Hence, it is hard to use economic growth as an argument for taking measures against wealth inequality.

An empirically supported relationship is the one between wealth inequality and crime. The relationship seems to be that societies with higher wealth inequality have higher crime rates (De Courson & Nettle, 2021). Higher crime rates lead to a decrease in the citizens' trust in political institutions. This leads to people being less likely to report crime, which creates a vicious circle where crime rates increase even more meanwhile trust rates decrease (Blanco & Ruiz, 2013). Furthermore, distrust in political institutions diminishes the society's will to pay their taxes, increasing the level of tax avoidance and tax evasion, as well as complying with other policy decisions, making it harder to govern the country (Levi, 1988). Hence, trust in the political institutions increases the tax compliance, facilitating the government ruling, which in itself is likely to have a positive effect on the trust in societies. The safety net of the Swedish welfare state is likely to diminish the effects of economic inequality since all

citizens, in an international comparison, are guaranteed a relatively high standard in terms of basic needs. Nevertheless, studies of commuting and travelling patterns in Sweden show that segregation in the country has increased during the last years (Statistics Sweden, 2023), and economic inequality could diminish the possibilities of reversing this development. Residential segregation increases the perceived insecurity across all groups in society (Eriksson, 2009) and in an American context, it has also been shown to have an increasing effect of serious crime (Cox et al., 2022). This could be used as an argument for why it is important to decrease wealth inequality.

#### 2.2.4 Estate, Inheritance and Gift Tax

Estate, inheritance and gift taxes share various traits with the wealth tax that make them hard to implement. Firstly, there are various taxes that should be implemented together in order to avoid transfers of property with the purpose of avoiding tax (e.g. gifts to future inheritors). Secondly, these taxes are in general unpopular among the voters, possibly for the reason that the tax payments are made from taxpayers' bank accounts rather than from the payroll (Fox, 2017; Dowding, 2008). This might form an explanation of why the revenue from these taxes in general corresponds to a relatively small share of the GDP, as can be seen in *Table 3.4*. In Sweden this share successively decreased during the second half of the 20th century (Ohlsson, 2011) and during the years 2000-04, the share was never higher than 0.11 percent of the GDP (OECD, 2023). Hence, the political gains of phasing out the tax came at a low price in terms of lost tax revenue, incentivising these decisions while making it hard to reverse the process. This is further supported by the fact that it was a social democratic government that abolished the Swedish inheritance and gift taxes in 2004-05 (Elinder & Erixson, 2021).

Empirical examples show that it can be hard to re-implement taxes on estate, inheritance and gifts. High wealth taxes lead to movable property leaving the country. Moreover, the safety net of the Swedish welfare state diminishes the need for having high wealth when becoming older (Elinder & Erixson, 2021). Thus, individuals are allowed to adapt their consumption behaviour according to the current taxes on inheritance at the time, before getting old, which would decrease the revenue of the taxes. This has also been measured through comparisons between the wealth of living people and dead people, where the difference in wealth has been



significant, indicating some form of either legal or illegal tax planning/evasion (Elinder & Erixson, 2021). Hence, using this type of taxes as a tool to decrease the level of wealth inequality could prove itself to be hard and moreover costly in terms of companies and capital leaving the country in order to avoid taxation. The government re-implementing the tax would also risk taking a political blow, with survey results from 2004, showing that only the tax on immovable property was more disliked than the inheritance tax and the gift tax among inhabitants of Sweden (Hammar et al., 2008).

### 2.2.5 Homeownership Rate

Homeownership rates vary significantly amongst OECD-member countries and has been shown to be a driver of wealth inequality (OECD, 2021). This likely comes from the fact that housing tends to be the largest asset in a household and more equally distributed across the population than other financial assets (OECD, 2021). These characteristics provide a rationale for why homeownership rate should be taken into account when discussing wealth inequality. It is deemed likely that homeownership rate will play a role in the relationship between property prices, property taxes and wealth inequality. Low or decreasing homeownership rate is often cited as an effect of an increasing price to income ratio (Čermáková et al., 2022). This entails that effort to lower property prices in relation to income will lead to a higher homeownership rate. However, there is evidence that lifestyle factors such as job mobility, family formation and urbanisation also play an equally large part in determining homeownership rate (Čermáková et al., 2022). Homeownership rate is particularly static in that it is relatively insensitive to policy change (Layton, 2022). The effect of lifestyle factors on homeownership can be an explanation for this. However, previous attempts to increase homeownership rate have been narrow and limited (Layton, 2022), opening up for the possibility that large and targeted efforts may prove successful.

A fundamental issue arises from homeownership increasing policy, such policies aim to increase purchasing of owner-occupied housing. This will inevitably drive up demand and subsequently house prices (Layton, 2022). Policies must therefore be constructed in a way that minimises this effect. Strongly targeted policy and policy focusing on increased agility on the supply side have been suggested as tools which minimise the house-price inflationary effect (Layton, 2022), the latter of which, likely run a larger risk of inflating property prices

especially if applied broadly and not in combination with increased supply. A primary focus will therefore be put on supply side policies and increasing property building. Such policy often comes down to easier allowing the supply side to quickly adapt to changes in demand. Centralising planning decisions has been shown to allow for increased building and lower property prices (OECD, 2021). Such a shift will prevent regional governments from protecting their own interests against the ones of greater society, such as stopping new projects in an effort to keep local property prices high. Another policy measure which has been suggested is to remove tax deduction for interest rate payments (OECD, 2021). The aforementioned has been shown to reduce property prices and more significantly for homeownership rates reduce price to income ratio through making prices less sensitive to income (OECD, 2021). However, it is important to note that in the short run such a policy change may negatively income middle-class households even though the effect is negated over time (OECD, 2021)

## 2.3 Explanation of Variables and Concepts

### **Mean to Median Wealth Ratio:**

Ratio between the mean wealth per adult and the median wealth per adult in a country (Credit Suisse, 2023).

### **Property Prices:**

An indexation of real property prices in different countries with 2000 as the base year (OECD, 2023).

### **Recurrent Property Tax:**

Taxes on immovable property that are paid regularly, often annually. Regarding tax on immovable property, the tax is often calculated as a percentage of either the real market value or a different taxation value. A recurrent property tax should be interpreted as a tax on the ownership and/or the usage of property. The tax revenue is measured as a percentage of the GDP (OECD, 2023).

**Non-recurrent Property Tax:**

Taxes on immovable property that are not paid regularly. This could for example be tax on transfers of immovable property or tax on capital gains when selling immovable property. The tax revenue is measured as a percentage of the GDP (OECD, 2023).

**Recurrent Wealth Tax:**

Taxes on net wealth that are paid regularly, often annually, on property and capital that does not belong to the category immovable property. The tax revenue is measured as a percentage of the GDP (OECD, 2023).

**Estate, Inheritance and Gift Tax:**

Taxes on movable and immovable property and wealth that is transferred either as a gift or as an inheritance. The tax revenue is measured as a percentage of the GDP (OECD, 2023).

**Capital Tax:**

Taxes on purchases and sales of movable and immovable property that are not included in income tax or non-recurrent property tax, e.g. the stamp duty. The tax revenue is measured as a percentage of the GDP (OECD, 2023).

**Income Tax:**

Taxes on income from labour or capital gains of individuals. Payroll taxes have also been included in this variable. The tax revenue is measured as a percentage of the GDP (OECD, 2023).

**Homeownership Rate**

The percentage of homes in a country that is owner-occupied (Eurostat, 2023).

**Goods and Services Tax:**

Taxes on the use, production, sale, transfer or delivery of goods and services. The tax revenue is measured as a percentage of GDP (OECD, 2023).

**Social Security Contributions:**

Payments to the government which are contingent on receiving social benefits in the future. The heading does not include payroll taxes earmarked with social benefits as those are covered in income tax. The tax revenue is measured as a percentage of GDP (OECD, 2023).

**Corporation Tax:**

Taxes paid on net income or profit by corporations. The tax revenue is measured as a percentage of GDP (OECD, 2023).

**Economic Freedom:**

Index measuring economic freedom. It is measured as an average of the following four categories: Rule of law, government size, regulatory efficiency and market openness, where 100 represents the highest economic freedom and 0 the lowest (The Heritage Foundation, 2023).

## 3 Method

In order to investigate the wealth distributional effects of property tax, we have conducted an econometric study. The study investigates the size of different taxes across 36 OECD member countries<sup>3</sup> over the period 2000-21 and its effects on wealth distribution. To achieve a more nuanced understanding, the study examines various constituencies of property tax as opposed to the aggregate. Furthermore, we investigate the size of property tax and its relation to property prices. This allows for capturing more effects stemming from the property tax. The tax sizes are measured as a percentage of the GDP of a country.

### 3.1 Data

The analysis uses a panel data set, with data collected from various sources. For measuring wealth distribution, a mean to median wealth ratio is created using the Credit Suisse Wealth Report data (2023), i.e. an annually published report on wealth development worldwide. This variable serves as a measure of wealth inequality with a higher value indicating a larger difference between mean and median wealth and thus a higher wealth inequality. Data containing tax sizes and property prices is collected from OECD (2023). Furthermore, homeownership statistics is collected from Eurostat (2023) for EU member states. For non-EU member states, homeownership data is collected from FRED (2023), Trading Economics (2023), and Statista (2023; 2021). The data contains missing values for some countries and years. In order to utilise all data points gathered we have opted for interpolation and the use of unbalanced data when performing the regressions.

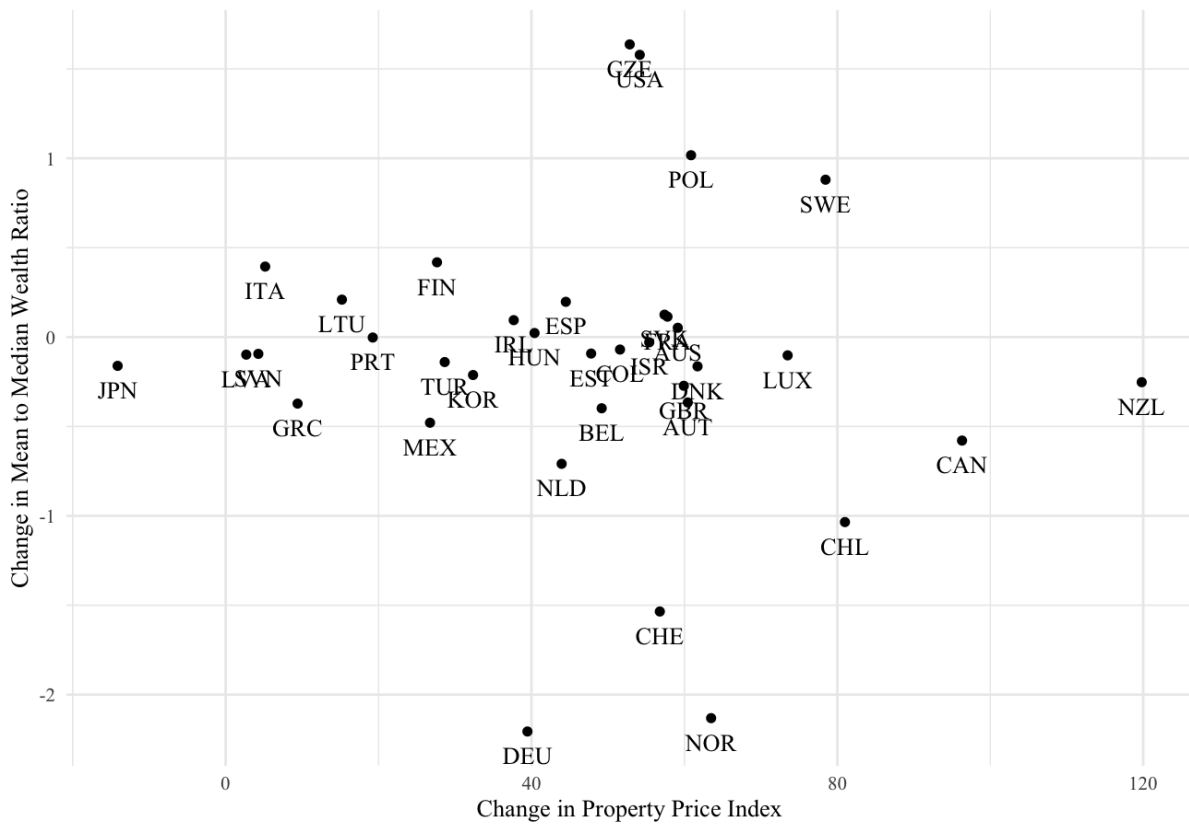
*Table 3.4* shows the descriptive statistics of all dependent and independent variables which have been aggregated to include all countries and the whole time period. The descriptive statistics prove valuable when interpreting the results of the regression. Moreover, it shows that the recurrent wealth tax and the non-recurrent property tax are used in fewer than half of the countries. The table shows that the most prominent property taxes used, i.e. accounting

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<sup>3</sup> AUS, AUT, BEL, CAN, CHE, CHL, COL, CZE, DEU, DNK, ESP, EST, FIN, FRA, GBR, GRC, HUN, IRL, ISR, ITA, JPN, KOR, LTU, LUX, LVA, MEX, NLD, NOR, NZL, POL, PRT, SVK, SVN, SWE, TUR, USA.

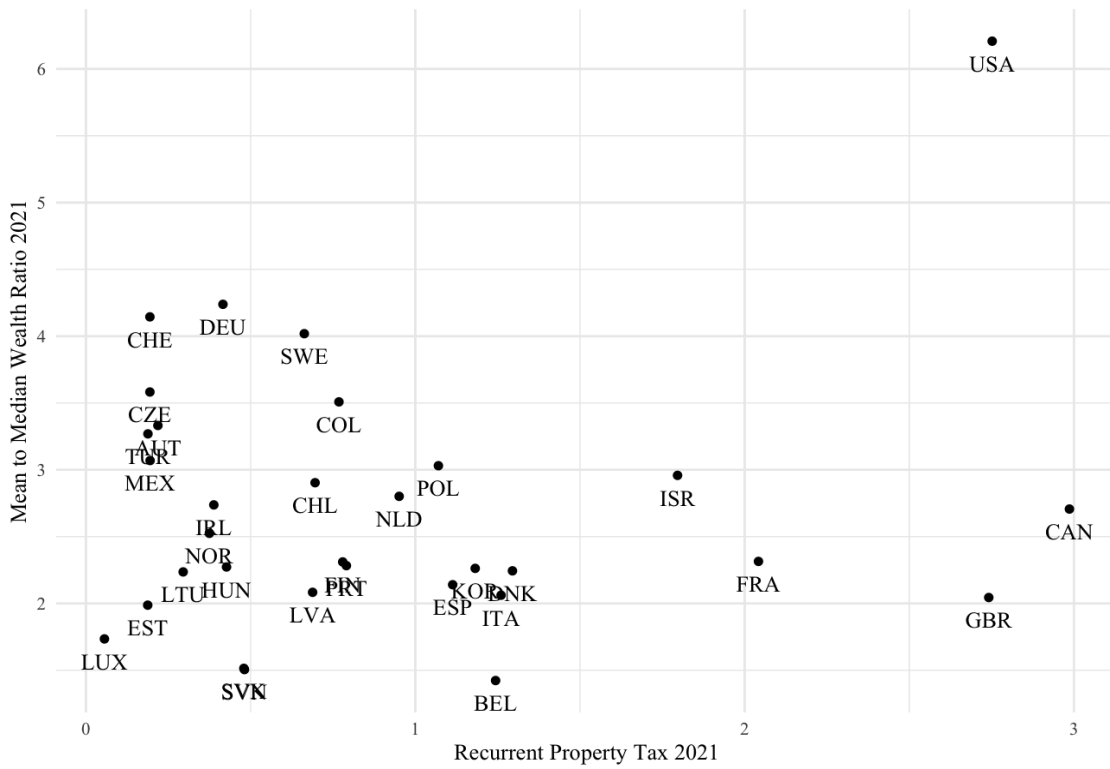
for the largest amount of tax revenue as percentage of the GDP, are income taxes and taxes on goods and services.

Figure 3.1: Cross-country correlation of the differences between the first and last observations of mean to median wealth ratio and property prices



Data Source: Credit Suisse (2023) and OECD (2023)

Figure 3.2: Cross-country correlation of mean to median wealth ratio and recurrent property tax in 2021



Data Source: Credit Suisse (2023) and OECD (2023)

Figure 3.3: Cross-country correlation of mean to median wealth ratio and recurrent property tax in 2000



Data Source: Credit Suisse (2023) and OECD (2023)

Table 3.4: Descriptive statistics of independent variables

Variable	Mean	Median	Min	Max	Standard deviation	Obs	Source
Property Prices (Index 2015=100)	100.72	100.00	43.49	169.24	22.82	718	OECD, 2023
Mean to Median Wealth Ratio	2.66	2.28	1.31	6.99	1.05	792	Credit Suisse, 2023
Recurrent Property Tax (% of GDP)	.93	.63	.06	3.27	0.82	767	OECD, 2023
Recurrent Wealth Tax (% of GDP)	.17	0	0	2.96	0.44	767	OECD, 2023
Estate, Inheritance And Gift Tax (% of GDP)	.12	.05	0	.79	0.15	767	OECD, 2023
Capital Tax (% of GDP)	.48	.34	0	2.60	0.42	767	OECD, 2023
Income Tax (% of GDP)	8.08	7.36	.96	26.50	4.60	765	OECD, 2023
Non-Recurrent Property Tax (% of GDP)	.05	0	0	1.28	0.26	767	OECD, 2023
Homeownership Rate	.72	.73	.41	.94	0.11	481	Various Sources <sup>4</sup>
Goods and Services Tax (% of GDP)	10.63	11.11	4.14	17.05	2.79	768	OECD, 2023
Social Security Contributions (% of GDP)	7.68	10.20	0	16.91	4.58	768	OECD, 2023
Corporation Tax (% of GDP)	3.03	2.76	.16	12.54	1.50	790	OECD, 2023
Economic Freedom Index	79.20	70.65	50.60	84.40	6.68	792	The Heritage Foundation, 2023

<sup>4</sup> Statista, 2021; Statista, 2023; Eurostat, 2023; Trading Economics, 2023; FRED, 2023



## 3.2 Method for Regression Analysis

### 3.2.1 Mean to Median Wealth Ratio as the Dependent Variable

To begin with, the mean to median wealth ratio is used as the dependent variable. The independent variables are added step by step in order to see how the coefficients change. The interaction term (i.e. the product of the homeownership rate and property prices) is added in the *OLS(3)-model* and the *IV(3)-model*. The rationale behind the interaction term is that the wealth distribution effects of changes in property prices may differ depending on the homeownership rate. Previous studies have shown that countries with a high homeownership rate tend to have lower wealth inequality but do not relate this effect to changes in property prices. Countries with a high homeownership rate tend to have lower wealth inequality but do not relate this effect to changes in property prices (Causa et al., 2019). Thus, this relationship should be taken into account when making a policy recommendation for a specific country. The OLS-estimators are generally insignificant. However, the variables property prices and estate, inheritance and gift tax show traces of endogeneity when running the residuals as an explanatory variable with the mean to median wealth ratio as the dependent variable. This means that the OLS-estimators could be biased and inconsistent (Shepherd, 2008). Biased and inconsistent estimators could be an explanation of why some of the OLS-estimators are statistically insignificant while the estimators of the 2SLS-model for the same variables are not. Thus, a 2SLS-model with instrumental variables is also used and the estimators are shown alongside the OLS-estimators in *Table 4.1*. The error terms are assumed to be normally distributed due to a large sample, in accordance with the central limit theorem.

Other potential problems in the model are heteroskedasticity and autocorrelation, potentially leading to invalid inference. As some of the explanatory variables show signs of endogeneity, the assumption of exogeneity, under which traditional tests for heteroskedasticity and autocorrelation are conducted, is violated. Due to not being able to test for heteroskedasticity and autocorrelation, the assumption is made that the error terms suffer from this. Hence, robust standard errors have been used. Variance inflation factors (VIF) are low before adding the interaction term (see *Table 3.5*) which for natural reasons introduce a higher rate of multicollinearity due to correlating with the property prices. Nominal property prices are used as an instrument for property prices (i.e. real property prices). This could correct for endogeneity if both real property prices and wealth inequality is affected by the inflation rate.

After adding all control variables, variance inflation factors for all variables remains relatively low, suggesting that there are no problems with multicollinearity. Property tax (i.e. the sum of recurrent and non-recurrent property tax) is used as an instrument for estate, inheritance and gift tax. This might entail multicollinearity due to the instrument correlating with the explanatory variable recurrent property tax (correlation coefficient of 0.76). Nevertheless, the IV-estimators will still be unbiased and consistent, though having larger standard errors, making findings of statistical significance less likely (Allen, 1997). The rationale behind choosing property tax as an instrument for estate, inheritance and gift tax is that they are both assessments of how non-liquid assets are taxed in a country. The instruments show no sign of endogeneity when running the residuals as an explanatory variable with the dependent variable mean to median wealth ratio. The instruments are also correlated with the endogenous variables that they are meant to be instruments for.

### 3.2.2 Property Prices as the Dependent Variable

The second regression analysis uses property prices as the dependent variable and recurrent property tax; recurrent wealth tax; estate, inheritance and gift tax; non-recurrent property tax; and long-term interest rate as independent variables which are added in two steps. Since the models with mean to median wealth ratio include property prices as an independent model (which seems to have a significant effect), this model aims to capture any effects that the tax structure may have on property prices. This will allow for capturing indirect effects from property tax structure on wealth inequality. The independent variable recurrent property tax shows signs of endogeneity when running the residuals as an explanatory variable with the dependent variable property prices. Hence, the coefficients are also estimated using a 2SLS-model with instrumental variables. Due to not finding any adequate instrument for the variable capital tax, the variable is left out from the regression. Robust standard errors were used to correct for potential heteroskedasticity and autocorrelation. The error terms are assumed to be normally distributed due to a large sample, in line with the central limit theorem. Property tax, comprising both recurrent and non-recurrent property taxes, is used as an instrument for the estate inheritance and gift tax. The correlation between the variable and the instrument is strong (0.88) but there is a risk of introducing multicollinearity to the model due to the instrument correlating with the variable non-recurrent property tax. The instrument

shows no signs of endogeneity when running the residuals as an explanatory variable with the dependent variable property prices.

*Table 3.5: Variance inflation factors for the independent variables in the OLS-models*

	<b>VIF - Mean to Median ratio as dependant variable</b>	<b>VIF – Property Prices as dependant variable</b>
Interaction	6.50	
Property Prices	4.89	
Recurrent Property Tax	2.13	1.33
Tax on Income	2.86	
Estate, Inheritance and Gift Tax	1.84	1.17
Capital Tax	1.47	
Non-Recurrent Property Tax	1.26	1.20
Recurrent Wealth Tax	1.30	1.09
Goods and Services Tax	2.99	
Social Security Contributions	2.98	
Corporation Tax	1.41	
Economic Freedom Index	2.29	
Long-Term Interest Rate		1.06
<b>Mean VIF</b>	2.66	1.17

## 4 Results and Discussion of Results

### 4.1 Results

#### 4.1.1 Mean to Median Wealth Ratio as Dependent Variable

Table 4.1: Regression result with mean to median wealth ratio as dependent variable

	OLS(1)	OLS(2)	OLS(3)	IV(1)	IV(2)	IV(3)
Constant	2.816 (.357)	2.866 (.333)	3.930 (1.576)	2.580 (.412)	2.67 (.352)	3.286 (1.76)
Property Prices	-.003 (.002)	-.003 (.003)	.002 (.008)	-.001 (.003)	-.001 (.003)	.025* (.015)
Recurrent Property Tax	.017 (.142)	.076 (.165)	-.029 (.212)	.066 (.153)	.110 (.175)	-.070 (.211)
Recurrent Wealth Tax		-.149 (.147)	-.167 (.196)		-.159 (.129)	-.287 (.250)
Estate, Inheritance and Gift Tax		-.980 (1.411)	-1.131 (1.233)		-1.024 (1.430)	-1.384 (1.300)
Capital Tax		.121 (.156)	-.018 (.212)		.041 (.146)	-.023 (.217)
Non-Recurrent Property Tax		.456* (.238)	.400* (.196)		.452* (.239)	.332* (.188)
Income Tax			.012 (.048)			.006 (.045)
Corporate Tax			.038 (.038)			.041 (.043)
Goods and Services Tax			.055 (.046)			.081* (.048)
Social Security Contributions			-.017 (.031)			-.014 (.033)
Interaction			-.004 (.010)			-.033* (.019)
Economic Freedom			-.024 (.020)			-.020 (.022)
N	472	472	472	472	472	472

\*\*\*/\*\*/\* represents the significance levels 1/5/10 percent. Robust standard errors inside parentheses.

In *Table 4.1*, the effect of different variables on the mean to median wealth ratio is estimated. Using OLS-estimators, property prices have an effect that is statistically significant on a 10 percent significance level in the *OLS(1)* and the *OLS(2)* with a negative coefficient. The non-recurrent property tax is also significant on a 10 percent significance level (see *OLS(3)*). As discussed in section 3.2.1, signs of endogeneity were found in the model, making it probable that the OLS-estimators are biased and inconsistent. Using IV-estimators, the coefficient of property prices is negative in the *IV(1)* and the *IV(2)* but positive in the *IV(3)*, i.e. when adding the interaction term. The same shift is seen in the OLS-models. It is probable that the variance in homeownership rate is captured by the property price variable before adding the interaction term, thus giving a negative estimation of the coefficient. Hence, it is probable that a positive coefficient is a better estimation of the effect of property prices on wealth ratio while the negative coefficient of the interaction term (see *OLS(3)* and *IV(3)*). The non-recurrent property tax has an effect that is statistically significant on a 10 percent significance level for all estimations. However, the positive coefficient of the variable is hard to theoretically justify. It is worth mentioning that most countries do not have a tax of this kind (see *Table 3.4*). The variable property tax (i.e. the sum of recurrent and non-recurrent property tax) is used as an instrument for estate, inheritance and gift tax, although having a relatively weak correlation coefficient of (0.51). This could cause bias towards the OLS even if it is not as severe when the sample is as large as it is in this case (Pischke, 2018). The robust standard errors are larger than the non-robust standard errors which make the models less efficient (i.e. harder to reject the null hypothesis).

The explanatory variable property prices has a statistically significant effect on the mean to median wealth ratio when using IV-estimators and adding all explanatory variables to the model. The coefficient 0.025 (in the *IV(3)*) is significant on a 10 percent significance level which should be interpreted as if property prices would increase with one percentage unit (i.e. the value of the variable increases with 1), the mean to median wealth ratio should increase with 0.025, all else being equal. The coefficient of the interaction term (homeownership rate \* property prices) in the *IV(3)* is -0.033 and is also significant on a 10 percent significance level. This means that for high values of homeownership rate, an increase in the property price will result in a lower mean to median wealth ratio. The following calculation has been made using the *IV(3)*-estimations in order to find the value for homeownership rate where an increase in property prices results in a lower mean to median wealth ratio instead of a higher, all else being equal:

$$\text{Total effect of property prices} = \frac{\delta_{\text{mean to median}}}{\delta_{\text{property prices}}} = \beta_{\text{property prices}} + \beta_{\text{interaction}} \times \text{homeownership}$$

$$\text{Turning point: } \beta_{\text{property prices}} + \beta_{\text{interaction}} \times \text{homeownership} = 0 \Rightarrow$$

$$\Rightarrow 0.025 + (-0.033) \times \text{homeownership} = 0$$

$$\text{homeownership} \approx 0.758$$

The total effect of the property prices on the mean to median wealth ratio in the regression model is found by differentiating mean to median wealth rate with respect to property prices. The coefficients  $\beta_{\text{property prices}}$  and  $\beta_{\text{interaction term}}$  are substituted for the estimators found in the regression analysis. Since the effect of the property prices is positive at lower values of the homeownership rate but negative for higher values of homeownership rate, the assumption is made that a value exists for the homeownership rate where the effect changes from positive to negative. The point is found where the total effect of property prices equals 0. The value 0.758 is an estimation of this point. In reality, there is rather an interval where the effect is insignificant than a specific turning point.

#### 4.1.2 Property Prices as Dependent Variable

Table 4.2: Regression result with property prices as dependent variable

	OLS (4)	OLS (5)	IV (4)	IV (5)
Constant	109.239 (11.885)	120.458 (10.398)	100.848 (22.779)	116.110 (17.644)
Recurrent Property Tax	-7.370 (11.578)	-13.409* (6.978)	5.041 (21.715)	-5.490 (17.015)
Recurrent Wealth Tax	-5.297 (27.645)	-14.094 (23.775)	2.149 (32.788)	1.412 (27.465)
Non-Recurrent Property Tax		23.877 (14.874)		2.186 (7.698)
Estate, Inheritance and Gift Tax		24.438 (28.395)		17.310 (29.875)
Long-Term Interest Rate		-2.456** (.940)		-2.381*** (.683)
No. Of Observations	694	694	694	694

\*\*\*/\*\*/\* represents the significance levels 1/5/10 percent. Robust standard errors are inside parentheses.

In *Table 4.2* the effects of different variables on property prices are estimated. In the *OLS(5)*, the recurrent property tax has a negative coefficient that is statistically significant on a 5 percent significance level. However, as discussed in section 3.2.2, endogeneity could cause biased and inconsistent estimations, meaning that the IV-estimations are more trustworthy. The long-term interest rate has a negative coefficient that is statistically significant in both the *OLS(5)-model* (5 percent significance level) and the *IV(5)-model* (1 percent significance level). Thus, it has an indirect effect on wealth distribution through its effect on property prices. Other possible effects of the long-term interest rate have not been investigated. The robust standard errors are larger than the non-robust standard errors which make the models less efficient (i.e. harder to reject the null hypothesis).

## 4.2 Discussion of the Results

### 4.2.1 Estate, Inheritance and Gift Tax

The regression analysis fails to show that increasing the estate, inheritance and gift tax could have a direct or indirect effect on decreasing the mean to median wealth ratio in a country. The topic is included in this discussion since the tax is applicable on immovable property, even if it is far from exclusively targeting this. Even so, taxes on estate, gifts and inheritance would have to comply with each other in order to avoid creating loopholes for avoiding tax when transferring capital. Inheritance in Sweden seems to lower the Gini coefficient (i.e. decreasing the income inequality) since low-wealth households in relative terms increase their wealth more than high-wealth households when inheriting (Ohlsson et al., 2020). However, the opposite goes for inequality in absolute terms due to high-wealth households inheriting more in absolute terms than low-wealth households. Previous results show that inheritance causes wealth inequality but that an inheritance tax increases the wealth inequality due to low-wealth households taxing more on inheritance in relation to their own wealth than high-wealth households (Ohlsson et al., 2020). It is to say that the relative wealth inequality increases while the absolute wealth inequality decreases as an effect of such a tax. The regression analysis does not show any significant effect, possibly due to this contradictory effect. Nevertheless, the *IV(5)* should be treated with caution due to the use of a relatively weak instrument.

#### 4.2.2 Capital Gains Tax

The capital gains tax is included in the variable income tax and is the most significant tax on immovable property in Sweden today but has to a large extent been abandoned when it comes to public property (e.g. listed stocks). In 2012, the investment savings account (ISK) was introduced in Sweden with the purpose of incentivising savings in stocks and funds. The main idea of the account form was that the capital gains tax was replaced by an annual tax based on the value of the ISK (in 2023 corresponding to 0.375 percent of the wealth on the account) (Swedish Tax Agency, n.d-b). The results of the regression do not show that increasing the capital gains tax would lead to a decrease in the mean to median wealth ratio. The Swedish Government is estimated to have lost on average 3.8 billion SEK in tax revenue every year (2012-17) as a consequence of the ISK but this form of taxation on savings was perceived as more attractive among the citizens (Mattson & Brink, 2018). Due to not finding that the variable income tax has a statistically significant effect on neither wealth distribution nor property prices (with the exception of the *OLS(5)*), the empirical study of this thesis cannot be used to support such a decision.

From a perspective of horizontal fairness, income from capital should be taxed similarly to income from work. This comes from the idea that individuals with the same income should be taxed equally (Lindsay, 2023). Taxing immovable property similar to the investment savings account could lead to a both higher and lower taxation rate than the traditional capital gains taxation, depending on if the taxation value increases or decreases. Nevertheless, it is expected to result in lower tax costs for the individual saver (Mattson & Brink, 2018), although possibly harder to pay due to liquid assets being locked up in real estate rather than stocks. The unpopularity of the recurrent property tax in Sweden (Hammar et al., 2008) could make it hard to implement a recurrent property tax without abolishing the capital gains tax on immovable property sales. If implementing a system similar to the investment savings account would have a similar effect, it would decrease the tax revenue which would diminish the redistribution possibilities for the government. The tax implementation could have a wealth equalising effect per se, if lowering property prices, but this effect has not been found in this empirical study. Implementing a recurrent property tax while keeping the capital gains tax would mean that different capital assets were to be taxed differently since there is no



capital gains tax when selling assets on the investment savings account, thus incentivising investments in assets that are not real estate.

#### 4.2.3 Property prices and Recurrent Property Tax

The results of the regression show that increases in property prices will have an increasing inequality as a consequence (up to a certain level of homeownership rate). This does comply with earlier theoretical studies that have stated that an increase in capital income (including property sales) has been a leading factor in increasing the income inequality in Sweden (Hansson et al., 2020). In the view that an increase in property prices would lead to an increase in wealth/income inequality, an increased recurrent property tax could be implemented in order to cool off the property market and thereby decrease the level of inequality in a country. Making it more expensive to own a property should lead to decreasing property prices according to basic microeconomic theory. Nevertheless, the recurrent property tax does not have a statistically significant effect on the mean to median wealth ratio (see *Table 4.1*) and a similar result has been found earlier in the case of Sweden. The Swedish tax reform in 2008 (introducing the at a large extent regressive property tax) did in most cases not lead to an increase in single family house prices in Sweden (Elinder & Persson, 2014). This could be interpreted as that the maximum willingness to pay for buying a property was not affected by the increased cost of owning it, although the Swedish homeownership rate decreased slightly after the year 2007 (Eurostat, 2023). Be that as it may, increasing the tax revenue is likely to increase the government's possibilities of redistributing wealth even if the reform in itself does not have redistributing mechanisms. This goes for most taxes but is especially worth mentioning for taxes on goods that are inelastic in demand.

In Sweden, the strictly regulated rental market has had an increasing effect on property prices. Partly, this is the case due to lower incentives to build rental properties, leading to a housing shortage (Jahnsen & Lundberg, 2013). Thus, deregulating the rental market should increase the incentives to build new rental properties, increasing the supply of homes and decreasing the property prices. The argument is supported by the fact that property prices in Sweden increased with 91 percent between 1999 and 2013 while the same number in Finland with less regulations was 35 percent (Jahnsen & Lundberg, 2013). The same result has been shown in the UK (Hilber & Vermeulen, 2010). Nonetheless, the increase in supply is likely to

tone down the rent increase when moving from regulated rents to market rents. The increase in rents are likely to increase the demand for owning one's home and thus having an increasing effect on property prices (SABO & Tyréns, 2016). Furthermore, the higher rent levels after the deregulation are likely to bring a higher need for social grants (i.e. wealth redistribution) (SABO & Tyréns, 2016). In summary, higher rents on the one hand has the effect of increasing the supply of rental housing, decreasing the demand for homeownership and thus decreasing the property prices. On the other hand, the increasing rent levels increase the demand for homeownership and hence an increase in property prices. Nevertheless, the mentioned empirical examples support the idea of using deregulations of the rent market as a measurement to decrease the growth rate of property prices and through it, wealth inequality.

#### 4.2.4 Interaction Term

The coefficient of the interaction term in the regression analysis shows that if the homeownership rate is high, an increase in property prices will have a negative effect. Hence, the fact that the homeownership rate in Sweden during the observed period of time is between 63.6 percent and 69.5 percent (lower values during the last years), with the median value in the data set being 73 percent (see *Table 3.4*), should influence the formation of property tax in the country. With a relatively low homeownership rate, the increase in real property prices in Sweden should have had a significant effect on increasing the wealth inequality. Furthermore, Sweden is clearly below the estimated turning point of 75.8 percent, supporting the idea that increasing property prices in Sweden should increase the wealth inequality in the country. This complies with earlier studies where this is proposed to be the main reason for the increasing wealth inequalities in Sweden (Hansson et al., 2020). To summarise, the regression does not show that increasing the recurrent property tax leads to a decrease in property prices, but previous results are ambiguous regarding how this would affect property prices and thus wealth distribution in Sweden. Nevertheless, increasing the tax revenue would increase the possibility of redistributing wealth, even if property prices remain unchanged, if such policies are preferred by the government.

The results of the analysis of the interaction term, implies that taking measures in order to increase or decrease property prices will not have the same effect in countries with large differences in homeownership rate. This result comes from the fact that the wealthiest share

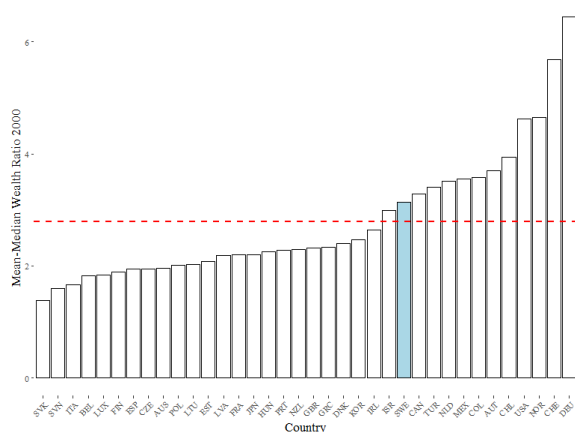
of the population to a larger extent owns their homes. Between 1993 and 2013, the Swedish homeowners increased their wealth with 972 billion SEK, of which 89 percent went to the wealthiest half of the population and 36 percent to the wealthiest tenth (Jahnsen & Lundberg, 2013). With a lower homeownership rate, the gains from a growing house market are shared among a smaller share of the population. Hence, wealth inequality could also be fought through increasing the homeownership rate, although this becomes harder with increasing property prices. This relationship between property prices and homeownership rate means that if property prices decrease, homeownership rate is likely to increase, due to a decreasing barrier of entry on the owner-occupied housing market. When passing the turning point (estimated to be 75.8 percent), a change in property prices will have the opposite effect. During the last years in the dataset, the homeownership rate in Sweden was not close to the turning point. Thus, trying to diminish the growth rate of property prices could be less costly than increasing the homeownership rate to a level above the turning point.

## 5 The Case of Sweden

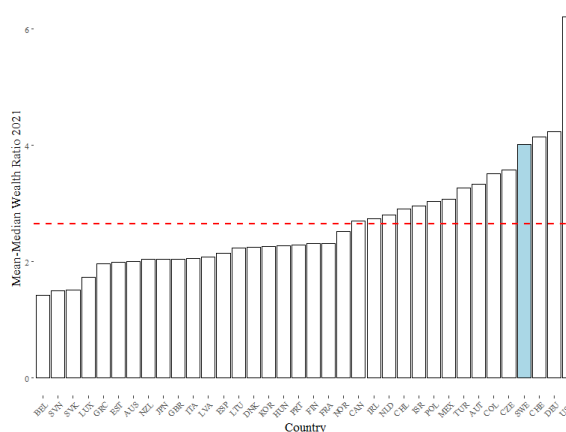
### 5.1 Sweden in Context

*Figure 5.1* and *Figure 5.2* illustrate how wealth inequality in Sweden relative to other countries has changed from 2000 to 2021. It is clear that inequality in Sweden has grown relative to other OECD countries in the study, moving further away from the mean (indicated by the red line). This trend is further supported by other studies showing signs of growing wealth inequality in Sweden (Lundberg & Waldenström, 2017). A possible contributing factor could be the abolition of many capital-taxes during the 21st century such as the wealth tax and the inheritance tax.

*Figure 5.1: Mean to median wealth ratio in 2000*



*Figure 5.2: Mean to median wealth ratio in 2021*



*Figure 5.3* shows how property prices have evolved over time, with Sweden highlighted in blue. Sweden places itself amongst the countries which have had the highest rate of property price increases, relative to other OECD member countries. Part of Sweden's relatively high rate of property price increase in the 21st century can be attributed to an expansive monetary policy leading to low interest rates, and a relatively unscathed real estate market following the great recession (Andersson & Jonung, 2020). This is made evident in *Figure 5.3* where Sweden seems to deviate from the mean (represented by the red line) approximately around 2007. The relatively small effect of the great recession can similarly also be seen through that the average stagnates relatively more than Sweden following 2008. The property tax reform in 2008 where an upper limit was introduced, essentially lowering the tax on immovable

property tax, can also be cited as a reason for Sweden's relatively large increase in property prices.

Figure 5.3: Property price index with base year 2000. Blue represents Sweden and red represents average

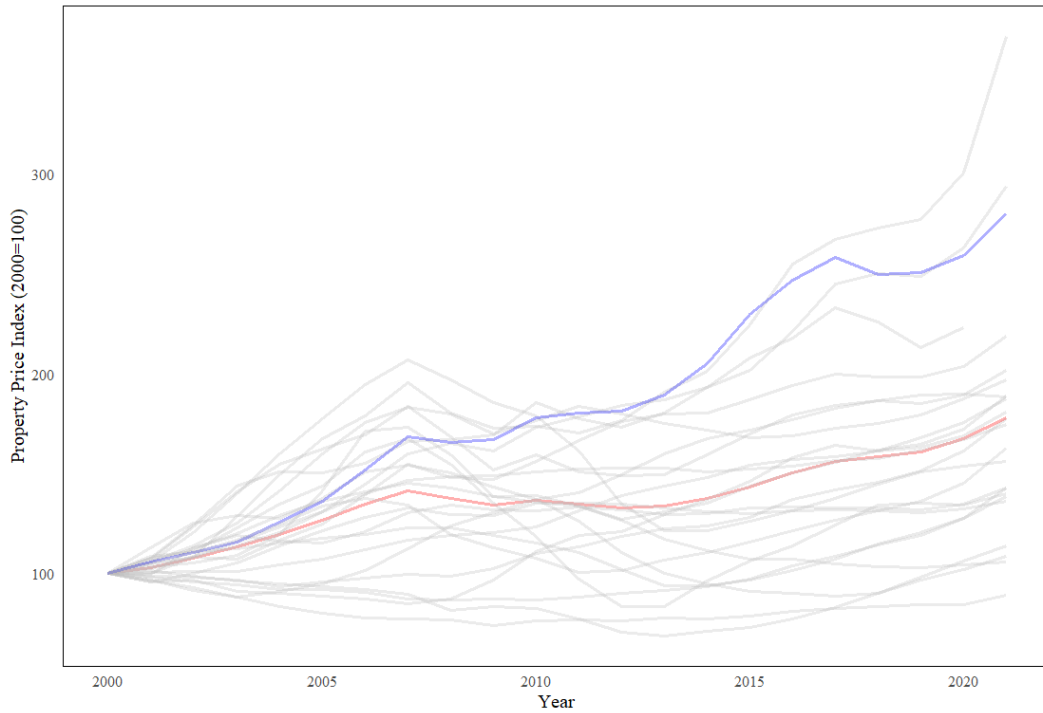
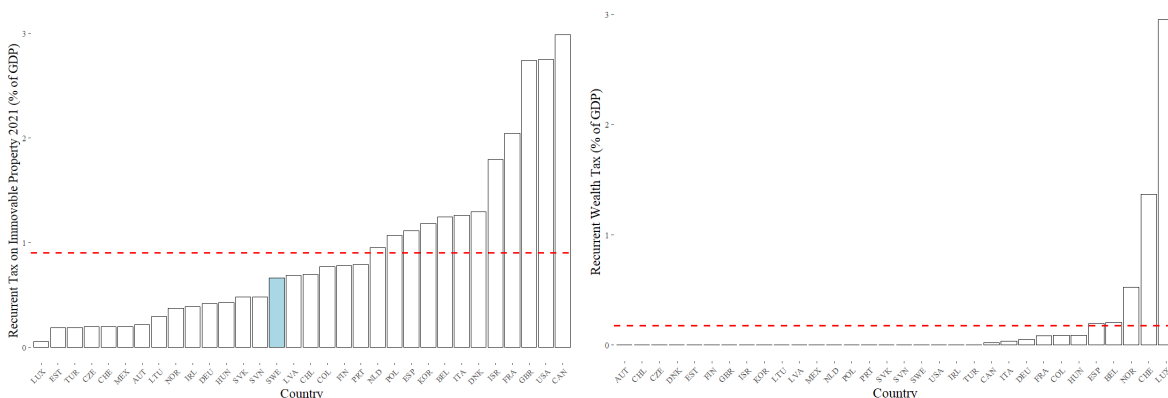


Figure 5.4 through Figure 5.8 shows how Sweden compares to other OECD countries when it comes to different forms of property tax. Sweden is highlighted in blue, and the red dashed line represents the mean of all countries. The figures generally show that Sweden lies below the mean size for all types of property tax, measured as a percentage of the GDP. Where Sweden stands out as having a particularly low tax size is estate, inheritance and gift tax where it is among the nine countries having none at all.

Figure 5.4: Recurrent property tax by country 2021      Figure 5.5: Recurrent wealth tax by country 2021





Continuing with the idea of horizontal fairness, estate, inheritance and gifts should also be taxed, but such taxes entail disadvantages similar to the recurrent wealth tax. Furthermore, this has been shown empirically (Elinder & Erixson 2021) and would just like the recurrent wealth tax call for international uniformity in order to avoid tax avoidance and evasion.

We also establish that a higher homeownership rate reduces wealth inequality driven by increasing property prices. Making the assumption that property prices will continue to increase, increasing homeownership rate will be beneficial. As Sweden's homeownership rate lies well below the cutoff for where property prices have wealth equalising effect, both policy to lower property prices and policy to increase homeownership rate will have wealth equalising effects. Two such measures have been discussed in this essay: Firstly, removing tax deductions for interest rate payments and centralising planning for new property projects both of which are applicable to Sweden. Secondly, removing responsibilities from the municipalities when it comes to building housing will likely avoid municipalities considering local interests over the societal ones which has been proved to lead to more building of property (OECD, 2021). Removing tax deductions for interest rates has been shown to increase affordability of owner-occupied housing. However, it may have short-run negative consequences for middle-income households.

In summary, the objective to diminish the wealth inequality in the country could not be used as an argument for implementing a recurrent tax on immovable property in Sweden. Nevertheless, the tax should be implemented for the reason of being a tax with many other advantages. A proportional or progressive recurrent wealth tax and taxes on estate, inheritance and gifts could also be implemented if taking measures against tax avoidance/evasion. Removing tax deductions for interest rates and facilitating faster decision making in housing construction could be taken into consideration, but it is important to remember that some measures that diminish property prices could make life hard for low-wealth/low-income households independently of wealth distribution.

## 6 Conclusion

During the last few years, wealth inequality has increased in many countries. There could be reasons for why a government in this situation would like to take actions against this situation (see section 2.3.3). By running a regression analysis of how wealth inequality and property prices are affected by the sizes of different types of taxes, the question of how wealth distribution is affected by property taxes has been answered. In light of this answer, the question of how this could affect national policy decisions has been answered as well. The main result is that increasing property prices seems to cause wealth inequality if the homeownership rate is below a certain level. In this study, this level has been estimated to be 75.8 percent. The recurrent property tax and the recurrent wealth tax have not been shown to have significant negative effects on property prices or mean to median wealth ratio.

Given that the Swedish homeownership rate is clearly below 75.8 percent, a policy recommendation has been made with the purpose of decreasing property prices and wealth inequality in Sweden. The recommendation to Sweden and countries in similar situations (i.e. having relatively low homeownership rate, growing wealth inequality and quickly increasing property prices) includes the implementation of a proportional or progressive recurrent tax on immovable property, meanwhile both the recurrent wealth tax and tax on estate, inheritance and gifts should be avoided due to having large distortive effects. Furthermore, it is recommended that tax deductions for interest rate payments be removed and that decision making on housing construction is made more centralised; these recommendations are made in order to decrease property prices and improve efficiency in housing markets, subsequently increasing the homeownership rate. Finally, this study does not go into details of how a recurrent property tax should be constructed. No comparison has been made between proportional and progressive taxes and no propositions are made regarding possible tax rates. Furthermore, the estimated turning point could be calculated as an interval of homeownership rate where changes in property prices have an insignificant effect, rather than a specific point. Nevertheless, the homeownership rates of many countries are clearly below 75.8 percent and ought to be outside such an interval as well. Further research is needed to examine if there is a relationship between recurrent property tax and wealth distribution in order to make a more detailed recommendation on changes in the tax system of a country if the objective is to



lower the wealth inequality. Future research could also take tax progressivity into account when investigating the wealth distribution effect of different types of taxes.

## References

- Akgun, O., Cournède, B. & Fournier, J.-M. (2017). The Effects of the Tax Mix on Inequality and Growth, *OECD Economics Department Working Paper*, vol. 1447, <https://www.oecd-ilibrary.org/content/paper/c57eaa14-en>
- Allen, M. P. (1997). *Understanding Regression Analysis*, [e-book] Boston: Springer, [https://link.springer.com/chapter/10.1007/978-0-585-25657-3\\_37](https://link.springer.com/chapter/10.1007/978-0-585-25657-3_37)
- Andersson, F. N. G. & Jonung, L. (2020). Lessons from the Swedish experience with negative central bank rates., *Cato Journal*, vol. 40, nr. 3, <https://www.cato.org/sites/cato.org/files/2020-09/cj-v40n3-2.pdf>
- Baily, M. N., Litan, R. E. & Johnson, M. S. (2008). The Origins of the Financial Crisis [pdf], [https://www.brookings.edu/wp-content/uploads/2016/06/11\\_origins\\_crisis\\_baily\\_litan.pdf](https://www.brookings.edu/wp-content/uploads/2016/06/11_origins_crisis_baily_litan.pdf)
- Baselgia, E. & Foellmi, R. (2022). Inequality and Growth: A Review on a Great Open Debate in Economics, *WIDER Working Paper*, vol. 2022, no. 5, <http://hdl.handle.net/10419/259361>
- Bastani, S. & Selin, H. (2019). Skillnad på marginalen - en ESO-rapport om reformerad inkomstbeskattning [Differences on the margin - a “The expert group for studies in public economics”-report on reformed income taxation] [pdf], Swedish Government Official Reports, [https://eso.expertgrupp.se/wp-content/uploads/2019/04/ESO-2019\\_3\\_Skillnad-pa-marginalen\\_webb.pdf](https://eso.expertgrupp.se/wp-content/uploads/2019/04/ESO-2019_3_Skillnad-pa-marginalen_webb.pdf)
- Blanco, L. & Ruiz, I. (2013). The Impact of Crime and Insecurity on Trust in Democracy and Institutions, *The American Economic Review*, vol. 103, no. 3, pp.284–288, <https://www.jstor.org/stable/23469744>
- Causa, O., Woloszko, N. & Leite, D. (2019). Housing, Wealth Accumulation and Wealth Distribution: Evidence and Stylized Facts, *OECD Economics Department Working Papers*, no. 1588, <https://doi.org/10.1787/86954c10-en>
- Čermáková, K., Hromada, E., Filho, E. A. H. & Krulický, T. (2022). The Effects of Homeownership on Wealth Distribution, *European Journal of Interdisciplinary Studies*, vol. 14, no. 1, <http://doi.org/10.24818/ejis.2022.05>

- Cox, R., Cunningham, J. P., Ortega, A. & Whaley, K. (2022). Black Lives: The High Cost of Segregation, Washington Center for Equitable Growth,  
<https://equitablegrowth.org/working-papers/black-lives-the-high-cost-of-segregation/>
- Credit Suisse. (2023). Mean and Median Wealth per Adult, unpublished
- De Courson, B. & Nettle, D. (2021). Why Do Inequality and Deprivation Produce High Crime and Low Trust?, *Scientific Reports*, vol. 11,  
<https://doi.org/10.1038/s41598-020-80897-8>
- Dowding, K. (2008). Why Are Inheritance Taxes Unpopular?, *The Political Quarterly*, vol. 79, pp.179–183, <https://doi.org/10.1111/j.1467-923X.2008.00914.x>
- Eklund, K. (2020). Vårt Framtida Skattesystem – En ESO-Rapport Med Förslag På En Genomgripande Skattereform [Our Future Tax Design - An “The Expert Group for Studies in Public Economics”-Report With Suggestions For A Comprehensive Tax Reform] [pdf], Report 2020:7, Swedish Government Official Reports,  
[https://eso.expertgrupp.se/wp-content/uploads/2020/11/2020\\_7-v%C3%A5rt-framtida-skattesystem-webb.pdf](https://eso.expertgrupp.se/wp-content/uploads/2020/11/2020_7-v%C3%A5rt-framtida-skattesystem-webb.pdf)
- Elinder, M. & Erixson, O. (2021). En beklaglig förlust? En ESO-rapport om erfarenheter och lärdomar av arvsskatt [A regrettable loss? An ”The Expert Group for Studies in Public Economics”-report regarding experiences and learning from inheritance tax], Report 2021:2,  
[https://eso.expertgrupp.se/wp-content/uploads/2020/06/2021\\_2-En-beklaglig-f%C3%B6rlust.pdf](https://eso.expertgrupp.se/wp-content/uploads/2020/06/2021_2-En-beklaglig-f%C3%B6rlust.pdf)
- Elinder, M. & Persson, L. (2014). Property Taxation, Bounded Rationality and House Prices, *IFN Working Paper*, vol. 1029,  
<https://www.ifn.se/media/1ypfa304/wp1029.pdf>

- Eriksson, K. (2009). Otrygghet och segregation – Bostadsområdets betydelse för allmänhetens otrygghet och oro för brott [Insecurity and segregation – The significance of the residential area on the insecurity and worry of crime of the broader society] [pdf], Report 2008:16, The Swedish National Council for Crime Prevention,  
<https://bra.se/publikationer/arkiv/publikationer/2009-02-05-otrygghet-och-segregation.html>
- Eurostat. (2023). Distribution of Population by Tenure Status, Type of Household and Income Group - EU-SILC Survey,  
[https://ec.europa.eu/eurostat/databrowser/view/ILC\\_LVHO02\\_\\_custom\\_8526898/default/table?lang=en](https://ec.europa.eu/eurostat/databrowser/view/ILC_LVHO02__custom_8526898/default/table?lang=en) [Accessed 16 November 2023]
- Forbes, K. J. (2000). A Reassessment of the Relationship Between Inequality and Growth, *The American Economic Review*, vol. 90. no. 4, pp.869–887,  
<https://doi.org/10.1257>
- Fox, J. (2017). Why Economists Love Property Taxes and You Don't, *Bloomberg*, 28 November,  
<https://www.bloomberg.com/view/articles/2017-11-28/why-economists-love-property-taxes-and-you-don-t?embedded-checkout=true> [Accessed 4 November 2023]
- FRED. (2023). Homeownership Rate in the United States,  
<https://fred.stlouisfed.org/series/RHORUSQ156N#0> [Accessed 16 November 2023]
- Gomez, M. & Gouin-Bonenfant, É. (2023). Wealth Inequality in a Low Rate Environment [pdf], <https://www.matthieugomez.com/files/qtheory.pdf>
- Halter, D., Oechslin, M. & Zweimüller, J. (2013). Inequality and Growth: The Neglected Time Dimension, *Journal of Economic Growth*, vol. 19, pp.81–104,  
<https://doi.org/10.1007/s10887-013-9099-8>
- Hammar, H., Jagers, S. C. & Nordblom, K. (2008). Attitudes towards Tax Levels: A Multi-Tax Comparison, *Fiscal Studies*, vol. 29, no. 4, pp.523–543,  
<https://doi.org/10.1111/j.1475-5890.2008.00084.x>

- Hansson, Å., Bengtsson, I., Kopsch, F. & Sjöstrand, M. (2020). Möjligheter och åtgärder för en bättre fungerande bostadsmarknad [Possibilities and measures for a better working housing market] [pdf], [https://lucris.lub.lu.se/ws/portalfiles/portal/84478904/Kommunivest\\_WP\\_2020\\_3.pdf](https://lucris.lub.lu.se/ws/portalfiles/portal/84478904/Kommunivest_WP_2020_3.pdf)
- Hilber, C. & Vermeulen, W. (2010). The Impact of Restricting Housing Supply on House Prices and Affordability: Final Report [pdf], Department for Communities and Local Government, <https://assets.publishing.service.gov.uk/media/5a7952a640f0b679c0a08298/1767142.pdf>
- Jahson, D. & Lundberg, J. (2013). Fördelningseffekter av utbudsrestriktioner på bostadsmarknaden [Distributive effects of restrictions of supply on the housing market] [pdf], The Reform Institute, <https://www.reforminstitutet.se/wp/wp-content/uploads/2013/09/fordelningseffekter-utbudsrestriktioner-kopia.pdf>
- Johansson, C. & Knutsson, I. (2017). Fastighetsskattens Omfördelande Effekter [The redistributive effects of the property tax], master's thesis, Department of Economics and Statistics, Linnaeus University, <https://www.diva-portal.org/smash/record.jsf?pid=diva2%3A1128828&dswid=-6200> [Accessed 4 November 2023]
- Layton, D. (2022). The Homeownership Rate and Housing Finance Policy – Part 2: The Heavy Lift to Break the 65 Percent Barrier [pdf], Joint Center for Housing Studies of Harvard University, [https://www.jchs.harvard.edu/sites/default/files/research/files/harvard\\_jchs\\_homeownership\\_rate\\_ii\\_layton\\_2022.pdf](https://www.jchs.harvard.edu/sites/default/files/research/files/harvard_jchs_homeownership_rate_ii_layton_2022.pdf)
- Levi, M. (1988). *Of Rule and Revenue*, [e-book] Berkeley: University of California Press, Google Books: <https://books.google.com/>
- Lindsay, I. K. (2023). Tax Fairness by Convention: A Defense of Horizontal Equity, *Florida Tax Review*, vol. 19, <https://scholarship.law.ufl.edu/ftv/vol19/iss1/2>
- Lundberg, J. & Waldenström, D. (2017). Wealth Inequality in Sweden: What Can We Learn from Capitalized Income Tax Data?, *Review of Income and Wealth*, vol. 64, no. 3, pp.517–541, <https://doi.org/10.1111/roiw.12294>

- Mattson, I. & Brink, A. (2018). Investeringsparkonto - en enkel sparform i ett komplext skattesystem [Investment Savings Account – a simple form of savings in a complex tax system] [pdf], Report 2018:19, Riksrevisionen, <https://www.riksrevisionen.se/rapporter/granskningsrapporter/2018/investeringsparkonto---en-enkel-sparform-i-ett-komplext-skattesystem.html>
- Mdingi, K. & Ho, S. Y. (2021). Literature Review on Income Inequality and Economic Growth, *MethodsX*, vol. 8, <https://doi.org/10.1016/j.mex.2021.101402>
- Norregaard, J. (2013). Taxing Immovable Property Revenue Potential and Implementation Challenges, *IMF Working Papers*, vol. 2013, no. 129, <https://doi.org/10.5089/9781484369050.001>
- Norrman, E. (2020). Dags För En Legitim Fastighetsskatt [Time For A Legitimate Property Tax], *Ekonomisk Debatt*, vol. 48, no. 2, <https://www.nationalekonomi.se/wp-content/uploads/2020/03/48-2-en.pdf>
- OECD. (2021). Brick by Brick, [e-book] Paris: OECD Publishing, <https://www.oecd-ilibrary.org/content/publication/b453b043-en>
- OECD. (2023). Global Revenue Statistics Database, <https://stats.oecd.org/> [Accessed 14 November 2023]
- Ohlsson, H. (2011). The Legacy of the Swedish Gift and Inheritance Tax, 1884–2004, *European Review of Economic History*, vol. 15, no. 3, pp.539–569, <http://www.jstor.org/stable/23226533>
- Ohlsson, H., Roine, J. & Waldenström, D. (2020). Inherited Wealth over the Path of Development: Sweden, 1810–2016, *Journal of the European Economic Association*, vol. 18, no. 3, pp.1123–1157, <https://doi.org/10.1093/jeea/jvz038>
- Piketty, T. (2017). *Capital in the Twenty-First Century*, Cambridge, MA: The Belknap Press
- Pischke, J. S. (2018). Weak Instruments [pdf], London School of Economics, <https://econ.lse.ac.uk/staff/spischke/ec533/Weak%20IV.pdf>
- SABO & Tyréns. (2016). Vad händer om vi inför marknadshyror i Sverige? [What happens if we introduce market rents in Sweden?] [pdf], <https://www.sverigesallmannytta.se/ny-rapport-om-effekten-av-marknadshyror/>

- Seim, D. (2017). Behavioral Responses to Wealth Taxes: Evidence from Sweden, *American Economic Journal: Economic Policy*, vol. 9, no. 4, pp.395–421, <https://www.jstor.org/stable/26598358>
- Shepherd, B. (2008). Session 1: Dealing with Endogeneity [pdf], Princeton University, [https://artnet.unescap.org/tid/artnet/mtg/gravity\\_d4s1\\_shepherd.pdf](https://artnet.unescap.org/tid/artnet/mtg/gravity_d4s1_shepherd.pdf)
- Slack, E. & Bird, R. M. (2014). The Political Economy of Property Tax Reform, *OECD Working Papers on Fiscal Federalism*, vol. 18, <https://www.oecd-ilibrary.org/content/paper/5jz5pzvzv6r7-en>
- Statista, (2021). Rate of Owned Dwellings in Japan from 1973 to 2018, <https://www.statista.com/statistics/1005428/home-ownership-rate-japan/> [Accessed 16 November 2023]
- Statista. (2023). Home Ownership Rate in Canada from 2007 to 2022, <https://www.statista.com/statistics/198969/home-ownership-rate-in-canada-since-2003/> [Accessed 16 November 2023]
- Statistics Sweden. (2022). Taxeringsvärden för småhus 2022 [Taxation value of single family housing 2022], <https://www.scb.se/hitta-statistik/statistik-efter-amne/boende-byggande-och-bebyggelse/fastighetstaxeringar/fastighetstaxeringar/pong/tabell-och-diagram/taxeringsvard-en-for-smahus-2022/> [Accessed 27 November 2023]
- Statistics Sweden. (2023). Segregationen synlig även i våra dagliga resmönster [Segregation can be seen, even in our daily travel patterns], <https://www.scb.se/hitta-statistik/artiklar/2023/segregationen-synlig-aven-i-vara-dagliga-resmonster/> [Accessed 30 November 2023]
- Swedish Government Official Reports. (2019). Långtidsutredningen 2019 [The longtime Investigation 2019] [pdf], Report 2019:65, <https://www.regeringen.se/rattsliga-dokument/statens-offentliga-utredningar/2019/12/sou-201965/>

- Swedish Tax Agency. (2023). Fastighetsavgift och fastighetsskatt [Property fee and property tax],  
[https://skatteverket.se/privat/fastigheterochbostad/fastighetsavgiftochfastighetsskatt.4.69ef368911e1304a625800013531.html#:~:text=Du%20som%20%C3%A4ger%20ett%20f%C3%A4rdigbyggt,inkomst%C3%A5ret%202022%20\(deklarationen%202023\)](https://skatteverket.se/privat/fastigheterochbostad/fastighetsavgiftochfastighetsskatt.4.69ef368911e1304a625800013531.html#:~:text=Du%20som%20%C3%A4ger%20ett%20f%C3%A4rdigbyggt,inkomst%C3%A5ret%202022%20(deklarationen%202023).). [Accessed 27 November 2023]
- Swedish Tax Agency. (n.d-a). Taxeringsvärde Småhus [Taxation value of single family housing],  
<https://skatteverket.se/privat/fastigheterochbostad/fastighetstaxering/deklarerasmahus/taxeringsvardesmahus.4.515a6be615c637b9aa4153a6.html> [Accessed 30 November 2023]
- Swedish Tax Agency. (n.d-b) Skatt på investeringssparkonto [Tax on investment saving account],  
<https://skatteverket.se/privat/skatter/vardepapper/investeringssparkontoisk.4.5fc8c94513259a4ba1d800037851.html> [Accessed 22 November 2023]
- The Heritage Foundation. (2023). 2023 Index of Economic Freedom,  
<https://indexdotnet.azurewebsites.net/index/explore?view=by-region-country-year>  
[Accessed 11 December 2023]
- Trading Economics. (2023). South Korea Home Ownership Rate,  
<https://tradingeconomics.com/south-korea/home-ownership-rate> [Accessed 16 November 2023]
- Waldenström, D., Bastani, S. & Hansson, Å. (2018). Kapitalbeskattningens förutsättningar [The conditions for capital taxation] [pdf], Stockholm: SNS Förlag,  
<https://www.diva-portal.org/smash/get/diva2:1177448/FULLTEXT01.pdf>
- Öberg, A. (2008). Incitamentseffekter Av Slopade Fastighetsskatt [Incentives Effects Of Abolished Property Tax] [pdf], Swedish Fiscal Policy Council,  
<https://www.fpr.se/download/18.28ce3f32184f580967d270/1670577082315/2008-7%20%C3%96berg%20-%20Incitamentseffekter%20av%20slopade%20fastighetsskatt.pdf>