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Abstract
We document an episode with considerable tax avoidance that occurred in Italy after 2008 when the Italian government reformed the property taxation by abolishing taxation on principal residences and increasing taxation on secondary properties. In presence of a very low *inter vivos* gift tax, Italian families found it beneficial to redistribute properties among their members. Difference-in-difference estimates indicate that property tax reform increased the probability that high-wealth donors made an *inter vivos* property gift by 3 percentage points and the size transferred by 4 square meters relative to less wealthy donors. Our estimates allow us to compute (back of the envelope) the amount of tax avoidance due to *inter vivos* transfer. The amount is around 78 million euros, or 4 percent of the annual tax revenue from principal residences.

JEL classification: H27, D31, D11

Keywords: tax avoidance, property taxes, inter vivos gifts.

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1 Introduction

Josh Barro notes in his *New York Times* article *The Inevitable, Indispensable Property Tax*[1] that economists like property taxes for the same reason taxpayers hate them - they are hard to avoid. It is possible to avoid property taxes, however, as we describe in this paper. A reason why avoidance is not detected is that economists often focus on tax base erosion. This is the wrong target to look at in many cases.

Barro stresses that economic agents cannot respond to a higher (property) tax on land by reducing the amount of land that exists. They may change what buildings to construct and where, but once a building exists, it is not likely that it will be moved in response to tax changes. Greg Mankiw wrote on a similar topic[2] that in order to recognize an efficient tax system and tax avoidance behaviors: *A good rule of thumb is that when you tax something, you get less of it.* Keeping this last suggestion in mind, we should recognize that even if tax base erosion is unlikely in the case of properties, certain combinations of property taxes and wealth transfer taxes (for instance *inter vivos* gift taxes) can lead to considerable tax avoidance.[3] We describe and evaluate an example of such a combination in this paper,[4] following the advice enhanced by Joel Slemrod to move the attention from a single tax to a *tax system* perspective.[5]

We document an episode with considerable property tax avoidance that occurred in Italy after 2008. At the end of 2008 the Italian government reformed property taxation by abolishing taxation on principal residences and increasing taxation on secondary properties. This first reform was followed by two additional reforms in 2011 and 2012 both increasing taxation of secondary properties. In presence of a very low *inter vivos* gift tax, which exempts transfers below 1 million euros, Italian families found it beneficial to redistribute properties between

[1] Published 4 July 2015.

[2] In his New York Times article published 21 January 2012.

[3] In a similar situation, Nordblom and Ohlsson (2006) show that the marginal excess burden of inheritance taxes might be infinite as the inheritance tax might be avoided by giving *inter vivos*.

[4] Stiglitz (1985) distinguishes between three different ways of avoiding taxes: redistribution of income to the types of income that are taxed the least, redistribution of income to the family members that are taxed the least, and the maximum use of tax credits. Our example is of the second type.

[5] The tax-systems perspective means to consider a variety of costs and behavioral margins often ignored in standard tax analysis: administrative and compliance costs, evasion and avoidance behavior, and multiple non-rate tax-system instruments (Slemrod and Gillitzer, 2013).

their members.

In addition to gift taxes there might exist transaction costs related to the transfer of property. But this must be weighed against the potential reduction in property taxes. Gift taxes and transfer costs only arise once whereas the reductions in property taxes are annual. The present value of property tax reductions might very well be higher than transaction costs even if these costs are non-negligible. It is then rational for families that want to minimize tax payments to redistribute properties.

A straightforward example: A family with one child, aged 18, owns two properties.[6] The value of the secondary property is below 1 million euros, let's say 950,000 euros. After the 2008 reform they probably pay a considerable tax amount on their second property considering the value of it. Under the current tax system they can transfer the secondary property to the child without having to pay any gift taxes. The child acquires the property and it becomes the principal residence of the child. And, as a consequence, the family does not have to pay any property taxes.

We estimate the causal effect of the Italian property tax reform on *inter vivos* property transfers using a difference-in-difference approach. Taxpayers affected by the reform (the treatment group that includes high-occupation donors who are assumed to be wealthy) are compared to unaffected taxpayers (the control group that includes donors with low-occupation who are assumed not be wealthy). We assume that potential donors in the treatment group face an exogenous and unexpected increase in the taxation of secondary properties relative to the taxation of the principal residence. We also assume that high-occupation donors find it more beneficial than their counterparts to transfer properties since this relative increase in taxation is larger for them. Their propensity to transfer property is, therefore, assumed to be higher that the propensity in the control group.

We use the 1998–2012 Bank of Italy Survey of Household Income and Wealth (SHIW), which is representative of the Italian population. The survey includes information on the number and size (in square meters) of properties received at any time as gifts, for respondents

[6] A family might consist of several households.

and spouses, data on parents' education and occupation. Thus, we can merge information on donors and recipients to study if the changes in property taxation have affected intra-family transfers. The availability of data on donors and recipients is crucial in this context, as the decision to transfer and how much to transfer is affected by both donors' and recipients' characteristics.

Difference-in-difference estimates indicate that the 2008 property tax reform increased the probability of high-wealth donors to make an *inter vivos* gift by 3 percentage points (extensive margin estimate) more than the probability of poorer donors. High-wealth donors are also estimated to have increased the size transferred by 4 square meters (intensive margins) more than poorer donors. Our estimates allow us to calculate (back of the envelope) the amount of tax avoidance due to *inter vivos* transfer because of the 2008 reform. Italian household avoided from 78 to 141 million euros. That is 4–8 percent of the annual tax revenue from principal residences.

The reform allows us to understand and describe avoidance behavior in detail. Studying real estate intergenerational transfers in Italy is interesting for several reasons: First, in Italy the ratio of aggregate real estate wealth to total wealth is 86 percent for those aged 60 or older. Second, the largest share of real estate wealth is the principal residence: for those aged 60 or older the owner occupancy rate is 75 percent. Thus, many elderly transfer real estate, and it is, of course, an open issue to what extent these transfers are voluntary or an attempt to elude tax payments.

Third, the Parliament is currently debating a new reform aimed to set the tax rate for the principal residences at zero (*Legge di stabilità*, 2015). The property tax on the principal residence was in fact re-introduced in 2012. This paper demonstrates that there is tax base erosion due to intra-family transfers, taking this effect, induced by the avoidance behavior, into account can be crucial. Indeed the central government usually compensates municipalities for the loss of the principal residence tax revenue by grants. These compensation grants are set equal to the pre-abolishment principal residence tax revenues.

A government should instead adjust public transfer to local jurisdictions to offset their real

loss, which as we demonstrate is composed by the pre-reform tax revenues plus the loss driven by the tax base erosion due to intra-family transfers. In fact, after the tax cut the number of principal residence dwelling increases. This effect is more pronounced if the *inter vivos* gift tax is low or if deductions are high.

Last, the Italian tax system is similar to those in many other developed countries. The conditions that lead to the kind of property tax avoidance we study in this paper are present also in other countries: a property tax which is designed so that tax rates differ for different types of residences[7] and low taxes on *inter vivos* gifts.

We provide a series of robustness checks. Our results appear to be stable if we control for different sub-samples, including and excluding possible outliers. We also test different selection criteria for being included in the treatment group, we exclude from the sample junior managers as high-occupations donors and in a different specification we exclude self-employed, the estimated coefficients remain between 0.027 and 0.029. In a separate series of regressions, we study if it is important that the recipient has siblings. This is crucial because a property received as a gift is difficult to sell in the short run. This problem is called *riduzione* in Italian jurisprudence. It means that other potential inheritance recipients could request the gift to be revoked. In line with our expectations, the estimated coefficient for the sibling indicator is negative and significant (extensive margin regression). Our results validity is confirmed by a series of placebo tests, we also show usual graphs confirming the so called pre-trend assumption, crucial to validate the implementation difference in difference strategy.

The paper is organized as follows: The next section describes some feature of the Italian fiscal system. Section 3 develops a theoretical framework while Section 4 discusses the data and presents summary statistics. The econometric specifications and identification issues are discussed in Section 5. Section 6 presents the empirical results and Section 7 concludes.

[7]In the case of Italy the difference is between owner occupied residence and other properties, in England the council tax differs drastically if nobody resides in the house, the typical case of second properties; in Ontario there are 7 different rates for 7 different types of properties (Slack and Bird, 2014).

2 Italy: An interesting framework

The Italian tax system has been the focus of several reforms during the last 15 years. In this paper we are mainly interested in two types of taxation: taxation of inheritance and *inter vivos* gifts on the one hand and property taxation on the other. Inheritance and gift taxation was reformed in two steps; it was reduced in 2000 and abolished in 2003. The inheritance and gift tax were then reintroduced in 2006 but with a very high basic exemption, transfers received below 1 million euros are tax exempt. Moreover this basic exemption increases linearly with the number of descendants, i.e., for a donor with two children the total exemption will be 2 million euros.

The municipal property tax, with acronym ICI (*Imposta Comunale sugli Immobili*), has been the subject of many reforms especially during the last decade. The tax base included residential, commercial, and industrial buildings plus agricultural and residential land (Slack and Bird, 2014, Longobardi, 2013).[8] Following the 2008 election, the newly elected government excluded principal residences from the tax base, this reform was promulgated by the end of July 2008. The timing is crucial since some Italian tax payers anticipated the payment of the principal residence tax instalment in June 2008. In Italy the property tax can be paid either at the end of the year or in two instalments, first in June and then in December.

One of the authors of this paper paid a share of his property tax in June 2008. After the abolishment of the principal residence tax this amount was refunded in December. The loss of municipal tax revenue was compensated by increased grants from the central government. The increment was mostly based on the previous tax revenues obtained by taxing principal residences. The exemption of principal residences lasted until the end of 2011 when, as part of a major package of fiscal reforms (*Decreto Salva Italia, December 2011*), the municipal property tax was changed.[9]

Nonetheless, a new municipal property tax was introduced in the beginning of 2012. The new tax, with acronym IMU (*Imposta Municipale Unica*), fundamentally reformed and in-

[8] Tax rates were set by municipal governments within the range of 0.4–0.7 percent.

[9] Taxation on the principal residence was reintroduced, but only for luxury dwellings (Messina and Savegnago, 2014).

creased property taxation. Principal residences were brought back into the tax base and assessed values were scaled up considerably.[10] A deduction was, however, introduced for the principal residence. The annual deduction was 200 euros plus 50 euros for any resident household member resident younger than 26 years. The government projected that this deduction would nullify the principal residence tax for around 4,6 million dwellings corresponding to 25 percent of the total number of dwellings. Overall, the new tax design resulted in a significant increase in property tax revenue.[11] Because the central government was entitled to half the revenue collected at the standard rate, municipalities had little incentive to reduce the tax rate especially on non-principal residences because principal residences were excluded from this calculation (Longobardi, 2013). As a matter of fact, 85 percent of the Italian municipalities have set the tax rates for secondary properties at its maximum level. This was accentuated by the fact that municipalities expected to earn little tax revenues from principal residences given the established deductions. Overall, the 2012 reform implied that municipalities had no incentives to reduce tax rates for secondary properties.

Summarizing, the property tax reforms that occurred in Italy from 2008 to 2012 have produced the following effects: The property tax changed noticeably over time and increments were pronounced for secondary properties. Potential donors, owning more than one property, faced an increasing differential between what they were paying for the principal residence and the other properties. This stands out clearly in the years spanning from 2008 to 2011 in which principal residence tax was set at zero. But this effect was even more pronounced when the first residence tax was reintroduced in 2012. In fact, 25 percent of the owners were still not paying for the principal residence. Moreover, in 2012 the larger share of property tax revenue came from taxes on secondary properties because assessed values were scaled up. Some statistics can help to understand the implications of the institutional evidence.

Table 1 shows tax revenues from principal residences and secondary properties in Rome. This is interesting evidence considering that the population and the number of buildings

[10] Keen et al. (2012) calculated an average increase of 49 percent.

[11] The basic tax rate was set at 0.76 percent but municipalities were permitted to alter the rate within ±0.3 percent. The tax rate for principal residences was set at 0.4 percent but municipalities were allowed to alter the rate within ±0.2 percent.

Table 1: Municipality tax revenue in Rome 2006–2012. Values in millions of euro

	from Principal residences	from Secondary properties
2006	244	448
2007	328	615
2008	4	605
2009	4	606
2010	12	614
2011	3	648
2012	364	963

Source: Ministero dell'Interno

remained almost constant during the period 2006–2012 in the Urbe. Tax revenue from the principal residences dropped during the period 2008–2011.[12] A second important fact is that the tax amount collected by the municipality of Rome doubled from 2006 to 2012. This gives the dimension of the increases created by the 2012 reform of taxes on secondary properties. This amount corresponds to 50 percent of the total revenue from this tax as the rest went to the central government.

Table 2 shows tax payments of an Italian taxpayer,[13] who owns a principal residence in Rome measuring 100 square meters (in a working-class neighborhood) and a second property at the nearby shore (around 25 km from the city center). Between 2008 and 2011 he did not pay any taxes for the principal residence. The amount paid in 2012 for the secondary property almost doubled compared to 2007. It is worth mentioning that this taxpayer was single, 38 years old in 2012, with no children, and, therefore, not exactly the most common taxpayer in Italy. So the deductions on the principal residence did not apply for him in 2012. A similar taxpayer with one child would have to pay 30 euros for the first residence, while

[12]The small tax amounts from principal residences between 2008 and 2011 came from taxation of very valuable residences such as villas, castles, or monumental dwellings in Rome.

[13]The information is provided by one of the two authors. The other author thanks his coauthor for disclosing the information.

Table 2: A taxpayer with principal residence in Rome ($\approx 100m^2$) and a secondary property nearby on the shore (Fregene) ($\approx 60m^2$). Values in euro.

Year	Principal residence	Secondary property
2007	246	221
2008	0	218
2009	0	218
2010	0	218
2011	0	218
2012	80	380

Source: Studio Sorrentino, Roma.
Note: In June 2008 this tax payer paid 100 euros for the principal residence, this amount was reimbursed at the end of the year after the tax was abolished.

with two children, he would not have to pay the tax.

Suppose that this taxpayer could transfer the second residence to a child with one grandchild in 2012. The total amount to pay for the family after the transfer would be 80 euros plus 58 euros,[14] a total of 138 euro, instead of 460, with an avoidance of 322. This simple example shows that also under the 2012 reform there was space and incentive to make an untaxed gift in order to save taxes, even if the willingness to redistribute probably was lower under this second law. More generally, all the aspects discussed make clear that the Italian tax system during the period 2008–2012 was designed in a way that wealthy donors had incentives to transfer their secondary properties through untaxed gift to avoid the secondary property tax.

Another feature of the Italian tax system, which we exploit as a robustness check, is the possibility for a donor to stipulate a free loan for use (i.e., *commodatum*) with its descendant. After 2008 Italian municipalities were left free to decide whether to accept residences transferred under *commodatum* as principal residences.[15] Not all the municipalities did this. But

[14] 58 is computed as follow, 108 euros coming from a principal residence of around 60 square meters nearby the shore, assuming same assessed value of the donor's principal residence with a deduction of 50 euros for the child

[15] A novelty for the Italian tax system since in principal free loan for use are contracts that transfer the property just in nominal but not in real terms

some Italian households, living in some municipalities, were given an alternative to untaxed gifts to avoid taxes on secondary properties.

Our data set has not, unfortunately, information on in which municipality a particular property is located. And there is no quality data available on which municipalities accepted properties transferred under *commodatum* as principal residences. In principle, however, this does not create identification problems since the effect of *commodatum* should only contribute to attenuation bias. However, we know if a donee have received a property under *commodatum* and we can exclude these transfers as a robustness check.

The transfer of a property can be costly, transaction costs counteract the tax savings from making a transfer. A main transaction cost in Italy is the *Tassa Ipo-catastale*. This is a lump sum payment of 336 euro in the case of a house transfer that will be registered as principal residence by the donee. There is also a register tax that amounts to 3 percent of the property's assessed value if the value of the gift exceeds 1 million euros below that threshold the register tax amount to a lump sum of 168 euro. These are one-off costs. The property taxes avoided by a transfer, on the other hand, create annual benefits. The literature on property tax capitalization usually discount this value over 30 years.

3 Theoretical framework

3.1 The basic model

The objective of this theoretical framework is to derive predictions to be tested empirically. We start, however, by discussing two observations from a review of the literature on wealth, bequests, *inter vivos* gifts, and taxation:

Observation 1. People tend to keep their money as long as possible.

Schmalbeck (2001) concludes that: "people simply do not like to give away their property while they are alive". There are several reasons for this observation suggested in the literature. The first is that wealth gives economic power and economic control in particular within the

family. This was suggested by Thurow (1976). A second suggestion is that wealth gives direct utility. This is sometimes phrased as the spirit of capitalism and the resulting transfers at death as capitalist bequest. Moore (1979), Carroll (2000), and Luo and Young (2009) are from different fields in economics but share this direct utility conjecture. Third, wealth provides insurance and can be seen as precautionary savings for, for example future medical costs (Poterba, 2001). Several more recent papers include wealth in the utility function, see for example Piketty (2011).

Observation 2. People tend to transfer *inter vivos* when the tax savings are large enough.

There are several examples of this: Ohlsson (2011) reports an explosion in gifts in the years prior to a major tax reform in Sweden in 1948. There were strong expectations that the reform would mean higher taxes on wealth, estates, inheritances, and gifts. The maximum gift tax rate in the United States was expected to increase considerably from 1977. Joulfaian (2004) reports that *inter vivos* gifts increased fourfold in 1976 compared to previous years.

Kopczuk (2007) suggests a different, but related, trigger for tax avoidance. Using data from the United States, he finds that people who pass away after lengthy illnesses have smaller estates than those who pass away suddenly. This is consistent with people waiting to avoid taxes until they have terminal illnesses.

Starting from the two observations we will present a simple model for a family with a parent p and one child k. The parent has some initial wealth, $w_{p,0}$, from period 0. We can think of this wealth as the total value of residential properties owned. The parent has altruistic motives and, therefore, cares about the consumption possibilities of the child. But the parent also derives direct utility from wealth, in other words there is joy-of-having (or joy-of-wealth).[16] The parent's altruism can be labelled latent as the parent does not necessarily will give *inter vivos* to child because of joy-of-having.

In order to focus on the relationship between intergenerational transfers, on the one hand, and taxes on wealth, gifts, and bequests on the other, we assume that the wealth (the residen-

[16]Laitner (1997) uses the term hybrid model for this type of models.

tial properties) remains within the family. The parent makes decisions in period 1 and passes away in period 2.

The utility function of the parent is:

$$U = u(c_{p,1}, w_{p,1}) + \lambda v(c_{k,1}) + \lambda v(c_{k,2}) \tag{1}$$

where U = the total utility of the altruistic parent, u = the direct utility of the parent, $c_{i,t}$ = the consumption of agent i, period t, $w_{i,t}$ = the wealth of agent i, period t, λ = the degree of altruism, and v = the direct utility of the child.

We assume that the parent maximizes utility subject to several budget constraints. The first budget constraint gives the consumption possibilities of the parent:

$$c_{p,1} = \bar{y}_p - t_{w,p,1} w_{p,1} \tag{2}$$

where $\bar{y}_p$ = the permanent income of the parent, g_1 = the *inter vivos* gift from the parent to the child, and $t_{w,p,1}$ = the wealth tax rate of the parent in period 1.

The gift in period 1 is the difference between the parent's initial wealth and the wealth the parent decides to keep:

$$g_1 = w_{p,0} - w_{p,1} \tag{3}$$

The wealth that the parent decides to keep in period 1 is bequeathed to child in period 2 when the parent passes away:

$$b_2 = w_{p,1} \tag{4}$$

Taxes on wealth and *inter vivos* gifts will reduce the consumption possibilities of the child in period 1:

$$c_{k,1} = \bar{y}_k - (t_{w,k,1} + t_g) g_1 \tag{5}$$

where $\bar{y}_k$ = the permanent income of the child, $t_{w,k,1}$ = the wealth tax rate of the child in period 1, and t_g = the gift tax rate, Similarly, taxes on wealth and bequests will reduce the

consumption possibilities of the child in period 2:

$$c_{k,2} = \bar{y}_k - t_{w,k,2}(b_2 + g_1) - t_b b_2 \tag{6}$$

where $t_{w,k,2}$ = the wealth tax rate of the child in period 2 and t_b = the bequest tax rate. We can note that increased gifts will decrease total tax payments if:[17]

$$t_{w,p,1} - t_{w,k,1} + t_b - t_g > 0 \tag{7}$$

The wealth tax rate of the child in period 2 does not appear in (7). It becomes a lump-sum tax as we assume that the wealth within the family is constant.

There are two important aspects when interpreting the respective taxes and conditions such as (7) in empirical analyses: The first is that the transfer taxes t_b and t_g should be interpreted as also including any possible transaction costs related to the transfers. The second is this model collapses 30 years or so into a single time period. The wealth tax rates $t_{w,p,1}$ and $t_{w,k,1}$ should be interpreted should be interpreted as the ratios between total (capitalized) property taxes and the (capitalized) property values over these years.

Using the budget constraints (2)–(6) to substitute into the utility function (1), the following objective function is obtained:

$$\begin{aligned} U = {} & u\Big(\bar{y}_p - t_{w,p,1}(w_{p,0} - g_1), w_{p,0} - g_1\Big) + \\ & + \lambda v\Big(\bar{y}_k - (t_{w,k,1} + t_g)g_1\Big) + \\ & + \lambda v\Big(\bar{y}_k - t_{w,k,2}w_{p,0} - t_b(w_{p,0} - g_1)\Big) \end{aligned} \tag{8}$$

Differentiating (8) with respect to gifts, and some rearranging, yields an inequality that needs to hold for there to be any *inter vivos* gifts:

$$u'_c t_{w,p,1} - \lambda v'_1(t_{w,k,1} + t_g) + \lambda v'_2 t_b \geq u'_w \tag{9}$$

[17]This is assuming a discount rate of zero.

where u'_c = the parent's marginal utility of consumption, u'_w = the parent's marginal utility of wealth, v'_1 = the child's marginal utility of period 1 consumption, and v'_2 = the child's marginal utility of period 2 consumption. There will be *inter vivos* if the left hand side of (9) is greater than or equal to the right hand side.

Regarding the extensive margin, suppose that the inequality (9) does not hold. There will not be any *inter vivos* gifts. We can now evaluate (9) at $g_1 = 0$. It is particularly interesting if the left hand side of (9) is increasing (decreasing) in each of the exogenous variables. This can be interpreted as that the probability of *inter vivos* gifts is increasing (decreasing).

Some calculations reveal that the left hand side of (9) is increasing in the wealth tax rate of the parent in period 1, in the wealth tax rate of the child in period 2, in the bequest tax rate, and in the initial wealth of the parent.[18] It is decreasing the wealth tax rate of the child in period 1 and in the gift tax rate. And if the marginal utility of wealth increases, the gift probability will decrease as the right hand side increases.

The impact of the degree of altruism is ambiguous. Increasing *inter vivos* gifts will, on the one hand, reduce the consumption possibilities of the child in period 1 as the child's tax payments on wealth and gifts will increase. On the other hand, the child's consumption possibilities in period 2 will increase as bequest tax payments will decrease. The gift probability will be increasing (decreasing) in the degree of altruism if the decrease in bequest taxes for the child is larger (smaller) than the increases in wealth and gift taxes.

Turning to the intensive margin, we know that this requires (9) to hold with equality. Total differentiation of this condition and some rearranging gives the following qualitative comparative static results for *inter vivos* gifts with respect to the different tax rates, initial

[18]Calculations are available on request.

wealth, and the degree of altruism:[19]

$$\frac{dg_1}{dt_{w,p,1}} > 0 \qquad \frac{dg_1}{dt_{w,k,1}} < 0 \qquad \frac{dg_1}{dt_{w,k,2}} > 0$$

$$\frac{dg_1}{dt_g} < 0 \qquad \frac{dg_1}{dt_b} > 0$$

$$\frac{dg_1}{dw_{p,0}} > 0 \qquad \frac{dg_1}{d\lambda} \gtreqless 0$$

Increasing the wealth tax rate of the parent in period 1, the wealth tax rate of the child in period 2, or increasing the bequest tax rate will increase *inter vivos* gifts. Higher initial wealth of the parent will also increase *inter vivos* gifts. *Inter vivos* gifts, on the other hand, will decrease if the wealth tax rate of the child in period 1 or the gift tax rate increases. The effect of the degree of altruism is ambiguous.

So how can we interpret the 2008 reform in light of this theoretical framework? In 2008 tax rates on *inter vivos* gifts and bequests were zero except for the very wealthy. There were, however, some transaction costs associated with transferring property; t_b and t_g were positive but small. For parents owning secondary properties and children not owning a principal residence, the reform meant that the wealth tax rate for parents increased whereas the wealth tax rate for children decreased to zero ($t_{w,p,1} \nearrow, t_{w,k,1} \searrow 0$).

It was possible for some parents to transfer property while still keeping power and control even though ownership was transferred to children (*commodatum*). This means that $u'_w = 0$. The inequality (9) reduces to $u'_c t_{w,p,1} > 0$. The predictions from this are that the parent will give and give as long as it is possible to convert own secondary properties to principal residences of children.

[19] We assume that the cross derivatives u''_{cw} and u''_{wc} are zero. Calculations are available on request.

3.2 Extension: The parent compensates the child

The parent imposes tax payments on the child in period 1 by the size of *inter vivos* gifts. This concerns both payments of the wealth tax and the gift tax. And similarly the parent affects the bequest tax payments of the child in period 2 by the size of *inter vivos* gifts. The child's wealth tax payments in period 2, on the other hand, are independent of the size of *inter vivos* gifts.

Now suppose that the parent compensates the child for all tax payments except the wealth tax in period 2. The utility function becomes:

$$\begin{aligned} U = & u\Big(\bar{y}_p - t_{w,p,1}(w_{p,0} - g_1) - (t_{w,k,1} + t_g)g_1 - t_b(w_{p,0} - g_1), w_{p,0} - g_1\Big) + \\ & + \lambda v\Big(\bar{y}_k\Big) + \\ & + \lambda v\Big(\bar{y}_k - t_{w,k,2}w_{p,0}\Big) \end{aligned} \tag{10}$$

Maximize (10) with respect to *inter vivos* gifts. This results in the following first order condition:

$$\frac{u'_w}{u'_c} = t_{w,p,1} - t_{w,k,1} + t_b - t_g \tag{11}$$

The condition (11) shows the tradeoff between the joy-of-having and the gain from avoiding tax payments. The right hand side of (11) shows the impact on tax payments of *inter vivos* giving, compare equation (7). If positive, *inter vivos* gifts reduce tax payments. And in this case the left hand side of (11), the marginal rate of substitution between wealth and consumption, determines how much shall be given *inter vivos*. The higher joy-of-having, the smaller the optimal *inter vivos* gifts will be. Kopczuk (2013) surveys the literature on this trade-off.

There is, however, one problem with this reasoning. It presupposes tax evasion. The compensations made by the parents should be taxed as *inter vivos* gifts and bequests. If the transfers made to child are properly taxed the first order condition will become:

$$\frac{u'_w}{u'_c} = t_{w,p,1} - \frac{t_{w,k,1}}{1 - t_g} + \frac{t_b}{1 - t_b} - \frac{t_g}{1 - t_g} \tag{12}$$

Inter vivos gifts will be made if the right hand side of (12) is positive.

Now we can end up in a situation where *inter vivos* gifts can reduce tax payments in the sense that the right hand side of (11) is positive and gifts are still not made as the right hand side of (12) is negative. A necessary, but not sufficient, condition for this situation is that:[20]

$$\frac{t_b^2}{1-t_b} < \frac{t_g^2 + t_g t_{w,k,1}}{1-t_g} \tag{13}$$

If the gift tax rate is high enough there will be no *inter vivos* gifts even though total tax payments, disregarding tax payments on the compensating transfer, could have been reduced. This can be interpreted as that the gift tax gives integrity to the wealth tax base.

Suppose instead that there is a bequest tax but no gift tax. Then there is no integrity for the wealth tax base and tax avoiding *inter vivos* gifts will be made.

4 Data and descriptive statistics

We use the 1998–2012 Bank of Italy Survey of Household Income and Wealth (SHIW), which is representative of the Italian population. This is a biennial survey of around 8,000 households per wave, organized in repeated cross sections. The survey includes information on the number and the surface area (in square meters) of properties received at any time as gifts, for respondents and spouses. There are also data on parents' education and occupation. Respondents disclose how they have acquired properties and under which type of agreement. We can, therefore, merge information on donors and recipients to study if the changes in property taxation have affected intra-family transfers.

The availability of data on donors and recipients is crucial in this context, as the decision to transfer and how much to transfer is affected by both donors' and recipients' characteristics. We separate *inter vivos* gifts from bequest to reduce measurement error problem.

Bequests and *inter vivos* gifts play important roles in the process of wealth accumulation in Italy. Guiso and Jappelli (2002) report that 26 percent of that SHIW respondents in

[20]Calculations are available on request.

1991 declared they had previously received transfers in their life with an average transfer of 41,700 euro. This share rose to 33 percent in the 2002 wave with an average transfer of 60,400 euro. Among homeowners, Cannari and D'Alessio (2008) show that the fraction receiving real estate transfers went from 39 percent in 1991 to 41 percent in 2002. A common fact of the Italian economy is that households tend to invest heavily on properties. Acquiring a property is not considered to be an unlikely event in Italy, the owner occupancy rate is around 75 percent for people aged 60 or more.[21] Owning a house in not strongly linked to high income as in other developed countries.

This helps our identification strategy which is based on assumptions about the wealth of potential donors. It is worth noting that we take total household earnings into account.[22] The median value in SHIW (1995–2012) is about 22,000 euros and about 24.5 percent of the households in SHIW own at least two properties.

Our calculations on this sample show that the fraction of households below this median value has a 21.2 percent probability of owning more than one property. For the households belonging to the upper half of the distribution, the corresponding probability is 25.9 percent. The probability for those below the median does not differ that much from the probability for those above. This confirms that property ownership is not an income driven fact. Data on dwelling characteristics are stock variables in SHIW.

Treatment and control groups are built in line with Jappelli et al. (2014). We differ from them by including all the recipients in our sample.[23] We assume that families with a potential donor with a high occupation gain more from redistributing properties among their members, since property tax payments for the secondary properties are proportional to square meters owned which in turn are directly related with wealth. Potential donor's resources are not observed directly in SHIW. We, therefore, split the sample on the basis of the potential donor's occupation, which is shown to be highly correlated with lifetime wealth.[24]

[21] This is computed by Jappelli et al. (2014) using the 2006 wave of SHIW 2006.
[22] That is the sum of the total annual earning of the household members.
[23] Jappelli et al. (2014) only include recipients with one parent alive in their sample.
[24] Jappelli et al. (2014) show that from 1993 to 2006 the average wealth differential of recipients' wealth was around 214,000 euros on average with a median of 111,000. This difference is highly stable over time.

A High-Occupation Potential Donor (HOPD) household is defined as a household where at least one potential donor of the household head[25] was an entrepreneur, a manager, a junior manager, a professional or a self-employed during the working life. This is just a potential measure of donor wealth. Our sample, therefore, run the risk of suffering from the misclassification-in-treatment problem. As discussed in Lewbel (2007), an average treatment effect computed under a specification that is subject to such issue will result in estimates that suffer from attenuation bias. Thus even if our measure is imprecise to identify real potential donors, we can assert that difference-in-difference results based on this classification are downward biased estimates of the real average treatment effect of principal property tax abolishment on intra-family transfers. In order to validate our strategy we employ other measures of HOPD by removing self-employed and junior manager from the treatment group.

Table 3 reports summary statistics for the whole sample and for the sub-samples according to the HOPD criterion. The probability of receiving any gift is around 0.06 in our total sample. Not surprisingly the probability is lower for households associated with low-occupation potential donor households, 0.05, and higher for households associated with high-occupation potential donor households, 0.08. The unconditional average square meters transferred is 9.17 in the total sample, and 15.44 and 6.73 in the sub-samples, respectively. The HOPD households are more likely to be headed by males with a probability differential around 0.08.[26] The donors' birth years are similar in the two sub-samples as well as the recipients' birth year. The two sub-samples appear to be comparable groups in these characteristics. This is important because donor and recipient age are determinants of wealth transfers, whether in form of bequest or *inter vivos* gifts.

[25]This choice is induced by the fact that not all the waves in SHIW reports parental occupation for the household head partner. In principle this would lead to a downward bias estimation of our causal effect, since HOPD are more likely to be partners with HPOD

[26]Jappelli et al. (2014) found a differential around 0.08 on the sample 1993–2006.

Table 3: Summary Statistics

	Total sample	High-Occupation Potential Donor	Low-Occupation Potential Donor
Property received, indicator	0.06 (0.24)	0.08 (0.27)	0.05 (0.22)
Surface area received, square meters	9.17 (70.55)	15.44 (114.58)	6.73 (42.24)
Female head, indicator	0.36 (0.48)	0.31 (0.46)	0.39 (0.49)
Head birth year	1947 (15.97)	1947 (15.43)	1947 (16.24)
Donor birth year	1915 (17.10)	1914 (17.05)	1916 (17.10)

Note: mean values and standard errors in parentheses
Source: SHIW, Bank of Italy

5 Econometric strategy

We use a difference-in-difference approach implementing a strategy very close to Jappelli et al. (2014), which fits perfectly with our scope:[27]

$$Y_{it} = \beta_1 HOPD_i + \beta_2 Post2008_t + \beta_3 Post2008_t * HOPD_i + X_{it}^d + X_{it}^r + \epsilon_{it} \tag{14}$$

where Y_{it} is the dependent variable. In some specifications it is an indicator that equals 1 if a property was ever given *inter vivos*, in other specifications number of the square meters given *inter vivos*. These two outcomes capture the extensive and intensive margin, respectively. $HOPD_i$ is an indicator for high parental occupation donors, $Post2008_t$ is an indicator for the post reform period, and $Post2008_t * HOPD_i$ is an interaction term that marks observations with high parental occupation donors after the reform. As explained in Section 2, we do not include 2008 in the treated period since the reform was not still completely implemented in 2008. Many households had paid part of their property tax on the principal residence during

[27] Jappelli et al. (2014) provides an interesting appendix, on the validity of such identification strategy. Their findings are that a difference-in-difference strategy, as the one we exploit, can at least conduce to attenuation bias in the estimation of the average treatment effect, see their appendix for a detailed prove of the effect of miss-classification on the estimated effects.

the year. Our indicator will therefore apply for the waves after 2008. X_{it}^{d} and X_{it}^{r} are time invariant donor or recipient characteristics, respectively.[28]

Figure 1 and Figure 2 report the breakup of household receiving gifts from HOPD donors and non-HOPD donors. These are the usual graph reported to justify the so called parallel-trend assumption in a difference-in-difference strategy, that is $\text{Cov}[\text{Post2008} * \text{HOPD}, \epsilon_{\text{i,t}}] = 0$. Another way to accomplish this target is to show in placebo regression that moving treatment status before the real time of the event conduce to non-significant estimates.

The dots in Figure 1 and Figure 2 represent average values of Y_{it} in different years, while the dashed lines represents a non-parametric local polynomial regression between the outcome variables and time. Figure 1 is for our extensive margin dependent variable while Figure 2 is for the intensive margin variable.

The figures show that control group trend is almost parallel and not influenced by the policy change. At the same time the last green dots come up to be drawn in the upper right part of the graph increasing the differential between the average outcomes in treated and control group. The same does not apply to the first part of the graph which shows a clear parallel trend. In Figure 2 we can see that the first part of the picture notably till year 2000 shows a decreasing pattern for the treatment group.

In Table 4, columns 1 and 2 we show the typical placebo regressions for difference in difference. It tests that treatment and control group states with a common underlying trend before the reform, a common pattern that is driven just by time and cross sectional invariant characteristics. Given the findings in Figure 1 and Figure 2 and the results in Table 4, column 1 and column 2, we define our natural experiment during the years 2000–2010.

We provide a regression with repeated cross section from 1995–2012 as a robustness test in Table 7, column 3. The qualitative results are unchanged compared to those of the baseline model. The error term in our specification (14) is computed using White's heteroskedasticity-

[28]We use many specification for this model, the baseline model includes the birthdate of the donor, the birthdate of the household head, and the gender of the household head. In a following and more generous specification we include the number of sibling of the household head and an indicator of the education of the household head. We exploit the presence of siblings of the recipient, because a house received as a gift is very difficult to sell in the short run. This problem is called *riduzione* in Italian. It means that other potential inheritance recipients could request to revoke the gift.

Figure 1: Fraction of households receiving *inter vivos* property gifts, by potential donor occupation. Fraction of HOPD and LOPD households on the vertical axe. Horizontal axe represents years. Green dots are average values per year for HOPD. Yellow dots are average values per year for LOPD. Blue line is a local polynomial interpolation of the data for HOPD. Red line is a local polynomial interpolation of the data for for LPOD.

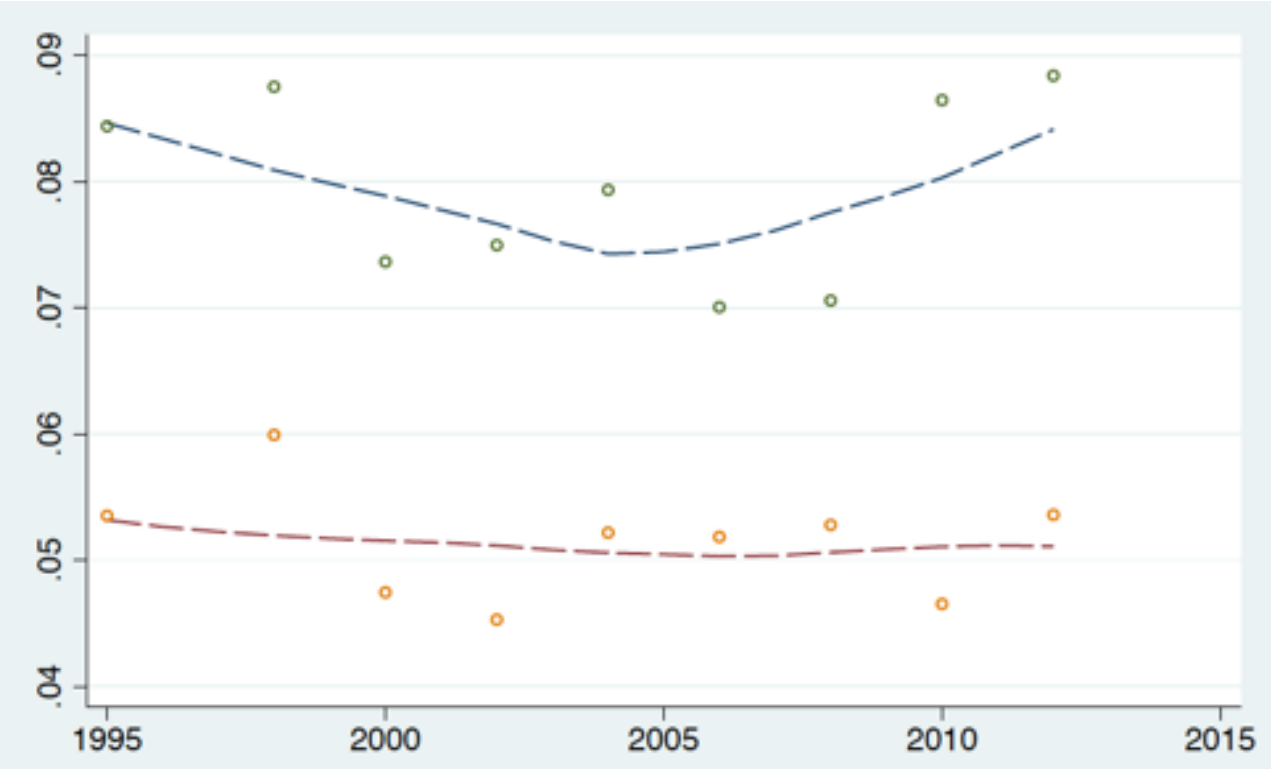

Figure 2: Square meters received, by potential donor occupation. Square meters transferred of HOPD and LOPD households on the vertical axe. Horizontal axe represents years. Green dots are average values per year for HOPD. Yellow dots are average values per year for LOPD. Blue line is a local polynomial interpolation of the data for HOPD. Red line is a local polynomial interpolation of the data for for LPOD.

robust variance matrix. This seems the only valid choice given the natural experiment that we are setting up.

In almost all the estimations we augment the empirical specification (14) with a set of year indicators (FE year), a set of region indicators for where the household is resident, and a series of interaction terms between these two sets of variables. These will capture time-invariant or cross-sectional invariant factors that we may have omitted in the specification. The interaction terms are usually recommended in difference-in-difference specifications on several years to capture economic cycle trends that are region-specific and may bias the results. We assume that other exogenous time-varying factors that we may have omitted do not affect the treatment and the control group differently.

Table 6 provides average treatment effect coefficient estimates for different specification of (14). Here we introduce control variable showing that the estimates ameliorates from column 1 to column 4. The adjusted R^2 increases with the introduction of control variables, p-values decrease, and the estimated differential increases. The model in column 4 suffers less heavily from attenuation bias. This suggests that the identification is better given the covariates.

We use linear probability model estimates through OLS for our extensive margin analysis. However, given the nature of our intensive margin dependent variable, we prefer to use a Tobit specification for this second set of regressions. To control for outliers, we estimates a series of regressions constraining our sample to households that receive not more than one dwelling with a maximum surface area of 200 square meters. These restrictions still leave us with 99 percent of the households. We also provide an estimation of the intensive margin using Poisson model regression in alternative to Tobit, this is done is the last column of Table 8.[29]

We provide a different specification for our $HOPD_i$ cross-section variation, the results are shown in Table 7, column 1 and 2. This is done to test if our results are driven by the miss-specification in treatment that we expect to have in our experiment. We, therefore, remove junior managers as high-occupational potential donors in column 1 and self-employed in column 2. It is worth noticing that a change in the treatment group by definition also

[29]While the Tobit is more appropriate for our purpose, some papers have found other functional form specifications to be more efficient, see Cameron and Trivedi (1998).

change the control group. Our result, however, remain stable.

We do a last robustness check for *commodatum* agreements, as we explained in Section 2. These agreements between relatives are extremely beneficial, as some municipalities accept a property received under *commodatum* as a principal residence of the recipient. From this it follows that the recipient does not have to pay property taxes for the property received under *commodatum*. Moreover, there are no transaction costs associated with these contracts contrary to what applies for *inter vivos* property gifts. As we already mention we do not know where these types of transfers are allowed. Moreover our recipients are identified just at regional level. In Table 7 column 4 we implement a specification dropping these cases from our sample, results remain unaltered.

6 Results

Our difference-in-difference estimates indicate that the 2008 property tax reform increased the probability that high-wealth donors making an *inter vivos* gift by 3 percentage points (extensive margin estimate) and increased square meters transferred by 6.4 meters (intensive margin estimate) relative to poorer donors. Specifically column 1 in Table 4 shows our baseline model for the extensive margin. The estimated coefficient of $Post2008_t * HOPD_i$ is 0.029 and significant with a p-value of 0.01. The estimation shows that males are more likely to receive gifts than females. This is interesting, considering that we are not estimating a warm glow behavior but a mix of altruism and joy-of-having. We can consider this result in line with our theory. Younger recipients are more likely to receive transfers and older donor are more likely to engage in strategic tax avoidance. This result remains stable across the other specifications. Column 2 and 3 shows placebo tests for our model. The placebo treatments are not significant, with p-values from 0.16 to 0.62.

Table 5 reports the intensive margin Tobit estimates. Column 1 includes a coefficient estimates for $Post2008_t * HOPD_i$ of 66.681, which is significant with p-value 0.07. An estimate excluding outliers ameliorates significance, p-value 0.04 and reduces the coefficient that re-

Table 4: Extensive margin estimations: baseline and placebo results, linear probability models

	(1) Baseline: Property received Post 2008	(2) Placebo: Property received Post 2006	(3) Placebo: Property received Post 2004
Post2008*HOPD	0.029		
	(0.01)		
Post2008	0.007		
	(0.50)		
Post2006*HOPD		0.012	
		(0.16)	
Post2006		0.018	
		(0.09)	
Post2004*HOPD			0.004
			(0.62)
Post2004			-0.020
			(0.03)
HOPD	0.014	0.015	0.017
	(0.00)	(0.00)	(0.00)
Donor birth year	-0.001	-0.001	-0.001
	(0.01)	(0.01)	(0.01)
Female head	-0.016	-0.016	-0.016
	(0.00)	(0.00)	(0.00)
Head birth year	0.001	0.001	0.001
	(0.00)	(0.00)	(0.00)
Region FE	YES	YES	YES
Year FE	YES	YES	YES
Region*Year FE	YES	YES	YES
Observations	39,107	39,107	39,107

Note: p-values within parentheses.

Table 5: Intensive and extensive margin estimations: different samples

	(1) Surface area received Tobit model	(2) Surface area received Tobit model (<201 sq meter) and (<2 properties)	(3) Property received Linear prob model (<201 sq meter) and (<2 properties)
Post 2008*HOPD	66.681	46.771	0.024
	(0.07)	(0.04)	(0.02)
Post 2008	-108.694	-94.661	-0.004
	(0.39)	(0.23)	(0.67)
HOPD	77.358	28.871	0.008
	(0.00)	(0.00)	(0.04)
Donor birth year	-1.543	-0.153	-0.000
	(0.07)	(0.78)	(0.17)
Female head	-68.286	-27.289	-0.010
	(0.00)	(0.00)	(0.00)
Head birth year	4.817	2.889	0.001
	(0.00)	(0.00)	(0.01)
Region FE	YES	YES	YES
Year FE	YES	YES	YES
Region*Year FE	YES	YES	YES
Post 2008*HOPD MFX		6.458	
Observations	39,111	38,709	38,709

Note: p-values within parentheses.

mains still positive 46.771. We compute marginal fixed effect (MFX) for this Tobit regression which report an average treatment effect around 6.45 square meter transferred. A robustness regression in column 3 for the extensive margin shows roughly comparable results to those in Table 4.

Table 6 shows how the estimation results are sensitive to the introduction of different controls. The table describes three facts: First, the parameter estimates for the treatment indicator increase over the different specifications from 0.024 to 0.029. Second, the p-values decrease over the specifications from 0.03 to 0.01. And, third, adjusted R^2 increases over the specifications. These control variables are most likely to be correlated with wealth and can affect the miss-classification in the treatment assignment. The attenuation bias tend to disappear when we control for these variables. This also leads to larger and better estimated coefficients. The whole specification seems to benefit from the inclusion of the control variables even if other tests should be provided to determine such an effects.

Table 6: Extensive margin estimations: different explanatory variables, linear probability models

	(1)	(2)	(3)	(4)
Post2008*HOPD	0.024	0.028	0.028	0.029
	(0.03)	(0.02)	(0.02)	(0.01)
Covariates	NO	YES	YES	YES
Region FE	NO	NO	YES	YES
Year FE	NO	NO	YES	YES
Region*Year FE	NO	NO	NO	YES
R^2	0.003	0.003	0.010	0.015

Note: p-values within parentheses.

In table 7, column 1 and column 2, we use different specifications for our variable treatment variable $HOPD_i$, moving junior manager donors to the control group changes the results marginally. The same applies if we move self-employed to the control group. In column 3 we include more years, this estimation is still feasible for the extensive margin (Figure 2 suggests that the same does not apply to the intensive one). Including the second reform year of 2011 in our sample reduces the estimated treatment effect to 0.01 but it is still significant, the p-value is 0.07. We remind that this second reform reintroduces the principal residence tax but with considerable exemptions for families with children, the secondary properties tax is instead increased given a strong variation in the assessed value multiplier. This second reform should have created an environment in which the strategic avoidance is less attractive, probably decreasing the rate of *inter vivos* transfers or simply stopping it. The estimated coefficient, in this case can be interpreted as an average value between the one provided by the first reform and a slowdown effect. The estimated coefficient of $HOPD_i$ in the last column of Table 7 is similar to the baseline model, here we drop the households with a *commodatum* contract from the sample.

As we mentioned above this form of contract can be a competing choice for those who wants to avoid property tax payment. In a last set of estimates Table 8, we introduce further controls to our baseline model. These include a control for the level of schooling of the

Table 7: Extensive and intensive margin estimations: different group definitions and different samples conditional on square meters received< 201 and properties received < 2, linear probability models and Tobit models

	(1) junior managers moved from treated group to control group	(2) self-employed excluded	(3) sample period extended to 1995–2012	(4) those with *commodatum* contracts excluded
Extensive marg.:Post2008*HOPD	0.027	0.029	0.010	0.024
	(0.02)	(0.01)	(0.07)	0.02
Intensive marg.:Post2008*HOPD	67.119	64.709	30.600	39.062
	(0.07)	(0.08)	(0.01)	(0.04)
MFX intensive marg: Post2008*HOPD	9.729	9.385	4.429	5.830
	(0.07)	(0.08)	(0.01)	(0.04)
Covariates	YES	YES	YES	YES
Region FE	YES	YES	YES	YES
Year FE	YES	YES	YES	YES
Region*Year FE	YES	YES	YES	YES

Note: p-values within parentheses;

household head (an indicator if the head does not have college degree or more) and a control for if the household head is an only child (an indicator if the household head has brothers or sisters). Low education of the recipients is correlated with a decrease in probability of receiving a transfer and fewer square meters transferred, not surprisingly being an only child is positively correlated with the probability of receiving a transfer. We further include a set of dummy for city size in order to control for the fact that rural urban differential characteristics could bias the results. As we mention in a previous section this characteristic is negatively correlated with the possibility that later in life, after the donor's death, siblings could ask a share of the property that was gifted in the past. As a matter of comparison we include in column 3 also a Poisson specification for the intensive margin model, the incidence rate coefficient estimated is positive and significant with p-value 0.01.

Our estimates allow us to compute (back of the envelope) the extent of tax avoidance because of *inter vivos* property transfers in Italy. Our calculations are simple but provide very interesting and useful numbers for policy perspective. There are around 23 million Italian

Table 8: Extensive and intensive margin estimations: additional explanatory variables conditional on square meters received< 201 and properties received < 2

	(1) Property received Linear prob model	(2) Surface area received Tobit model	(3) Property received Poisson model
Post 2008*HOPD	0.029	59.076	0.338
	(0.01)	(0.07)	(0.01)
Post 2008	0.007	-57.712	-0.497
	(0.50)	(0.58)	(0.27)
HOPD	0.013	59.619	0.233
	(0.00)	(0.00)	(0.00)
Donor Birth	-0.001	-0.702	-0.006
	(0.02)	(0.35)	(0.03)
Female Head	-0.018	-63.952	-0.296
	(0.00)	(0.00)	(0.00)
Head Birth	0.001	3.649	0.015
	(0.00)	(0.00)	(0.00)
Head Low School	-0.003	-25.755	-0.153
	(0.46)	(0.04)	(0.00)
Siblings	-0.001	-5.682	-0.016
	(0.03)	(0.00)	(0.04)
City size dummies	YES	YES	YES
Region FE	YES	YES	YES
Year FE	YES	YES	YES
Region*Year FE	YES	YES	YES
Observations	39,106	39,106	39,106

Note: p-values within parentheses.

households. In our sample we quantify that 33 percent of the households are associated with high-occupation potential donor households. This would correspond to around 7.6 million households on a national level. The average amount paid in ICI in 2007 was 187 euro for an apartment of 90 square meters in assessed class a/2 (intuitively the average type of residential property in Italy). We estimate an average effect of between 6.4 and 9.2 square meters transferred due to avoidance behavior. This implies that Italian household avoided around 78–141 million euros. That is 4–8 percent of the annual tax revenue from principal residences, 1,7 billion euros.[30]

7 Conclusions

We have two main results from our analysis. First, we show that there was considerable intra-family tax planning by *inter vivos* giving in connection with the 2008 property tax reform. This demonstrates that property tax avoidance is possible and can be sizeable. It is, however, necessary to study the correct margins and take the details of the *tax system* into account. Moreover, our theoretical analysis suggests that gift and bequest taxes might reduce the incentives for wealth (property) tax avoidance. Gift and bequest taxes can, in other words, provide integrity for wealth (property) tax bases.

Second, we quantify avoidance around 79 million euros, 4 percent of the annual property tax revenue (principal residences). Quantifying avoidances is always important, in this case it is also interesting from a pure practical policy perspective. Italy is presently discussing the possibilities to again reform the property tax and to cut property tax on principal residences. As we have shown this might reduce tax revenue more than expected due to tax base erosion. If the central government intend to replace the loss of tax revenues with grant transfers, these should offset the loss of revenue plus the loss due to intra-family tax avoidance. From a welfare perspective we can conclude that the marginal excess burden of the 2008 Italian property tax reform probably was high as it collected small tax revenue because of tax avoidance.

[30]The data and information used for this computation are easily available from many sources among which the website of the *Osservatorio delle politiche territoriali u.i.l.*, http://www.uil.it/documents/lastoriadellimu.pdf.

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