Retirement savings and real-estate purchases

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Abstract

Home-ownership is a substitute for renting. Moreover, it provides an in kind income stream reducing the need for additional income after retirement. In some countries, such as Switzerland or Singapore, it is possible to make advanced pension assets to purchase real estate. It alleviates borrowing constraints now, but at the same time lowers pension assets.

We empirically study a household's decision to withdraw pension funds for home purchase. We exploit a reform in Switzerland from 2012 that reduced incentives for advanced withdrawals: it increased the amount of non-pension equity a borrower had to provide for a home purchase. Using individual-level data from a large employer-based pension fund, we find fewer advanced withdrawals after the reform, showing the restricted possibility to use pension funds as equity. At the same time, conditional on making a withdrawal, the average amount withdrawn decreases. These findings are heterogenous with respect to urbanization and tax level. We show that none of the results are driven by changes in interest rates or wages around the reform.

Keywords: Retirement; Annuity; Home-Ownership

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1 Introduction

This paper aims at understanding the interplay between retirement savings and real estate purchases. Advanced withdrawals of pension funds to purchase owner-occupied housing are possible in countries like Australia, Singapore or Switzerland. The purchase of real estate can work as a substitute for retirement savings. Owning a home acts as an insurance against fluctuations in rental costs (Sinai and Souleles, 2005). It may further act as a substitute for the purchase of long-term care insurance and as a secure family asset that may be passed on to the subsequent generation. Effectively, individuals face the trade-off between lower housing costs due to home ownership and reduced pension funds in the future along with low portfolio diversification.

Theory based on the life-cycle model of saving under borrowing constraints predicts an increase in the home ownership rate with age as people save and become home-owners, followed by a decrease in old age as people draw on their housing equity (Artle and Varaiya, 1978). This hump shaped homeownership age profile has also been observed in the data (Chambers et al., 2009; Fernández-Villaverde & Krueger, 2007; Yang, 2009). Home-ownership rates increase with income (Gyourko & Linneman, 1997; Turner & Smith, 2009). At the same time, the interest rate constitutes a key determinant of residential property purchases (DeFusco and Paciorek, 2017). Beginning with the financial crisis, many central banks introduced an exceptionally expansive monetary policy, with key interest rates lowered to (almost) zero. Property ownership became more attractive such that households with ceteris paribus lower wealth could afford to borrow financing a home. Such households are particularly exposed to threat posed by variable and potentially higher interest rates in the future which would make debt service more difficult.

Due to this risk exposure, stricter regulation in residential property financing were introduced in Switzerland. As of 1 July, 2012 households must provide at least 10% of the property's value as equity other than pension assets from a minimum total amount of 20% equity necessary to purchase housing property. Additionally, the amortization obligation was introduced by which new borrowers must reduce their loan-to-value ratio to a maximum of two thirds within 20 years. As of 1 September, 2014 the amortization period was

tightened to 15 years and since then a linear repayment is required in addition. Drawing on individual-level data from a large Swiss employer-based pension fund, we shed light on what factors influence withdrawal decisions and what their consequences are for adequacy of retirement income. We exploit these two amendments in the financing of owner-occupied property when investigating an insurer's decision to purchase real estate as a substitute for retirement savings in a regression discontinuity design.

We observe fewer advanced withdrawals after the reform, reflecting the restricted possibility to use pension funds as equity. The negative effect of the reform is also seen on the intensive margin. Conditional on making a withdrawal, the average amount withdrawn decreases. We find heterogeneity regarding the level of urbanization and the tax rate. These results are neither driven by changes in interest rates or wages around the reform.

The paper proceeds as follows: in Section 2 we summarize the related literature. Section 3 provides an overview on the institutional setting: the Swiss pension system and promotion of home ownership. Section 4 introduces the dataset and describes the empirical strategy. Section 5 presents first descriptive results. Section 6 concludes.

2   Related Literature

The advance withdrawal of pension assets for purchasing a home is most closely related to the literature on portfolio choice in retirement. Assuming a portfolio consisting of four major asset classes (bonds, risky assets, annuities and housing), Yogo (2016) shows that despite its ignorance in previous literature, housing is the most important tangible asset for the usual retiree. It serves two purposes: consumption value from living in the home and a wealth store, which can be left as a bequest or invested to pay health costs (Yogo, 2016, p. 5). Brown et al. (2001) examine the role of life annuities and introduce the potential importance of inflation-protected annuities and stock-market-linked variable annuities in helping people protect themselves against the expenses associated with longevity.

The decision to purchase real estate as a substitute for retirement savings is multifaceted in the period after retirement. For countries like Japan with declining fertility rates and long

life expectancy Mitchell and Piggott (2004) suggest the unlocking of housing wealth assets via reverse mortgages to finance retirement expenditures. Based on a longitudinal dataset for the US Painter and Lee (2009) investigate determinants of the elderly to leave home ownership. While age is not related directly to housing tenure choice for older households, a lower health status, being a single head of household and living far away from one's children are positively correlated with becoming a renter (Painter and Lee, 2009). It is further of interest how the allocation of retirement savings to house purchases feeds back to other social insurances (especially in case of divorce and declines in prices).

A further research strand deals with the effect of crisis on retirement decisions. The latest financial crisis of 2007 has shown housing to be an important component in the transmission of real estate shocks to household finance. For American households Hurd and Rohwedder (2010) and Chai et al. (2011) show reduced contributions to social security and private pensions caused by changes in unemployment and households' equity exposure, as well as spending and economic expectations. The relationship between housing and (retirement) savings via the price channel is mixed at the timing of retirement. Also for the US, Coile and Levine (2011) conclude that declining stock prices cause workers to delay retirement, with an increased effect for highly educated workers between the ages of 62 and 69 years. Retirement timing is mostly unaffected by the decline in housing prices though—possibly because a reduced number of older workers finance their retirement consumption with housing wealth.

In Switzerland the annuity rate (longevity risk insurance) increased after the crisis. This was predominantly driven by individuals working in sectors like the export industry which were affected the most by the crisis (Bütler and Ramsden, 2016a). The crisis had an impact on individual risk aversion and, as a consequence, on the value of longevity insurance. Bütler et al. (2016) study the impact of means-tested benefits on annuity demand in mandated fully-funded pension plans. Results from a calibrated life-cycle model demonstrate that means-tested benefits, acting as a form of insurance against poverty, are a likely driver for capital payouts at retirement. This effect is higher for individuals at the lower end of the wealth distribution.

Bütler and Teppa (2007) study the the choice between an annuity and a lump sum at retirement in Switzerland. The utility-based measure of the annuity's value within a life-cycle

model has a substantial impact on individual annuitization rates. The choice of the lump sum is best predicted by a low accumulation of retirement assets. Exploiting a reduction of the annuity conversion factor Bütler et al. (2013) find a significantly lower propensity to annuitize among affected individuals. In contrast, an example from the US documents that retirees did not alter their demand for the lump sum option in response to lower interest rates, but only responded to large, salient changes in an annuity's value[1] (Chalmers and Reuter, 2012). Sub-optimal annuity demands can be explained by financial literacy (Chalmers and Reuter, 2012) or difficulties with annuity valuation (Brown et al., 2013). Financial literacy is correlated with retirement planning (Lusardi & Mitchell, 2007a; Lusardi & Mitchell, 2010; Lusardi et al., 2010; Lusardi & Mitchell, 2011) and is especially low among the young, women and the less-educated (Lusardi & Mitchell, 2007b; Lusardi & Mitchell, 2014).

Finally, tax rates are a key determinant of annuity and lump sum prices. Bütler and Ramsden (2016b) analyze the role of taxation for individual annuitization decisions and show that large differences in relative taxation can explain a significant part of the variation in annuity rates. Exploiting kinks in the Swiss tax schedule they find evidence for tax optimization strategies by individuals. A summary of robust evidence on households' behavioral responses to local differences caused by the decentralization of fiscal autonomy to the cantonal and municipal level can be found in Schmidheiny (2017). Brown et al. (2001) analyze life annuities and the tax treatment of annuity products in different institutional settings.

3 Institutional Setting

In the following, we briefly describe the Swiss pension system and introduce the institutional background regarding advance withdrawal of pension assets.

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[1] See Mitchell et al. (1999) for a calculation of the annuity value in terms of the "money's worth framework".

3.1 The Swiss Pension System

The Swiss pension system is based on three pillars: the Federal Old-Age, Survivors' and Invalidity Insurance (1st pillar), the occupational pension scheme (2nd pillar) and private pension schemes (3rd pillar)[2]. The first pillar pension aims to provide a subsistence level of income to all retirees. It is financed by a pay-as-you-go system and benefits are paid according to the number of contribution years. In addition, means-tested supplemental benefits are paid out to retirees whose income level is insufficient to cover basic living expenses adequately.

The second pillar is an occupational pension scheme with the goal to maintain living standards after retirement. It is mandatory for all employees with an annual income exceeding a predefined threshold (CHF 24,675 in 2017). The organizational structure usually depends on the size of the pension fund and is chosen by the employer. Options vary between setting up an entirely autonomous pension fund and a complete outsourcing of risk to an insurance company. Upon retirement, the employees have different options of withdrawal. They may withdraw the accumulated retirement capital as a monthly lifelong annuity, a lump sum, or a combination of the two. Annuity payments are proportional to the accumulated retirement wealth and determined by a conversion rate.

All pension funds are obliged to insure the mandatory share of income which ranges from CHF 24,675 to CHF 84,600 (in 2017). The minimum conversion rate for the mandatory part is by law 6.0% (in 2017). In the super-mandatory part (for annual incomes exceeding CHF 84,600), pension insurers may set conversion rates at their discretion.

The third pillar encompasses an optional, fully privately financed pension. It is divided into a regulated (3a) scheme with tax benefits and an unregulated (3b) scheme without tax benefits.

The statutory retirement age is 65 for men and 64 for women.

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[2] Art. 111 and 112 of the Swiss Federal Constitution (Bundesverfassung der Schweizerischen Eidgenossenschaft; BV) build the legal basis of the Swiss pension system and Art. 113 BV explicitly governs the second pillar.

3.2 Promotion of Home-Ownership

The Swiss Confederation is legally required to promote home ownership since 1972[3]. The aim is to facilitate the acquisition of residential property to a wide spectrum of the population (Bundesamt für Sozialversicherungen, 2010). In 2015 38.4% of households owned the condominium/apartment or house they occupied (Eidgenössische Steuerverwaltung (ESTV) et al., 2010). Despite a rise from 34.6% in 2000, Swiss home ownership is relatively low in international comparisons (Eidgenössische Steuerverwaltung (ESTV) et al., 2010).

It is possible to withdraw pension assets from the second-pillar (occupational pension wealth) and third-pillar (bound voluntary insurance) to finance the purchase of residential property for personal use.[4] Residential property may be in the form of ownership, co-ownership (i.e., condominium ownership), the property of the insured person with his or her spouse or with the registered partner and the independent and permanent construction law. The funds may be claimed either in the form of an advance withdrawal of pension assets (equity) or in the form of a pension fund pledge (liability). A pledge allows for a higher borrowing, since banks use the pledge as collateral. Moreover, there are no restriction in terms of a minimum amount for the pledge. However, we focus on the advance withdrawal of pension funds, as this is the empirically most relevant case.

Advance pension withdrawals count as equity, enabling home ownership with fewer capital assets. This is a decisive argument in light of the mortgage lending rule of banks, by which at least 20% of the property's value must be equity (NZZ, 2014). An advance withdrawal is possible up to three years before retirement. Other than pension withdrawals, equity may include inheritance advances, non-interest-bearing and non-refundable loans, the lending of account balances, securities, and the repurchase value of insurance policies (Swiss Bankers Association, 2014, p. 4).

The minimum amount of the advance withdrawal is CHF 20,000 and may be claimed

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[3] Art. 108 BV builds the legal basis for the home ownership promotion in Switzerland and Art. 30 of the Federal Law on Occupational Retirement, Survivors' and Disability Pension Plans (Bundesgesetz über die berufliche Alters-, Hinterlassenen- und Invalidenvorsorge; BVG) and Art. 1–7 of the Ordinance on the Encouragement of the Use of Vested Pension Accruals for Home Ownership (Verordnung über die Wohneigentumsförderung mit Mitteln der beruflichen Vorsorge; WEFV) regulate the advance withdrawal of the second pillar for the purchase of a home.

[4] Alternative reasons for an advance withdrawal of pension assets are for investment into a home, the amortization of a mortgage and the acquisition of shares of housing cooperatives or similar investments.

every five years. For insurers older than 50 years, the advance withdrawal is restricted by the greater value of the following two amounts: (i) the vested termination benefits stated at the age of 50 (increased by the repayments made after the age of 50 and reduced by the amount used for home ownership on the basis of advance withdrawals or pledged deposits); (ii) half of the difference between the vested termination benefits at the time of the withdrawal and the vested termination benefits already used for home ownership at that time. This implies that an insured person at the age of 61 years with retirement assets of CHF 200,000 at the age of 50, and CHF 450,000 at the age of 61, may withdraw up to CHF 225,000 in advance.

1 July, 2012 introduced a drastic change in the financing rules of residential property. Prior to that date it was possible to fully cover the 20% of equity from pension assets (Swiss Bankers Association, 2014, p. 3). The public opinion was that mortgages of low-income and low-wealth households were susceptible to risk from higher interest rates. Consequently stricter regulation was called for to ensure economic sustainability (FINMA, 2016, p. 2). According to the new regulation, households must provide at least 10% of the property's value as equity other than occupational pension assets (2nd pillar wealth). Additionally, new borrowers must reduce their loan-to-value ratio to a maximum of two thirds within 20 years. The new guidelines apply to new home purchases and mortgage increases (Swiss Bankers Association, 2014, p. 3). They were originally passed by the Board of Directors of the Swiss Bankers Association on 14 May, 2012 and approved by the Swiss Financial Market Supervisory Authority (Eidgenössische Finanzmarktaufsicht; FINMA) on 30 May, 2012. They entered into force on 1 July, 2012. On 1 September, 2014 the amortization period was shortened from 20 years to 15 and since then the loans must be repaid linearly, i.e., with regular installments (FINMA, 2014).

4 Data and Empirical Strategy

4.1 Data

We use various data sources. The main data are administrative individual-level data from two large Swiss employer-based pension funds. In terms of pension wealth, these two pension

funds hold around CHF 20 billion each.

This data provides information on socio economic factors, income and retirement balances. It also gives an indication of the time and amount of an advance cash-out or pledge. Via the information on residence, the data can then be linked to administrative data on taxes, house prices and municipal characteristics. The data will be complemented with the Swiss data on SHARE (Survey of Health Aging and Retirement in Europe). Moreover, we use macroeconomic control variables such as interest rates, regional unemployment and GDP over time.

4.2   Empirical Strategy

We want to test what implications the stricter regulations on the financing of a home has on advance withdrawals for home ownership. Identification relies on the variation in mortgage regulation due to the stricter housing financing reform of 1 July, 2012. With this reform, home ownership has become less attractive. The requirement of 10% equity other than advance withdrawals implies that prospective home owners require equity other than that of their pension wealth of at least 10% of their home's value. Additionally, the simultaneous introduction of a maximum amortization period by which new borrowers must reduce their loan-to-value ratio to a maximum of two thirds within 20 years has placed time pressure to refund on the borrowers.

We are interested in studying two adjustment margins. First, the extensive margin: do insured people still make advance withdrawals to finance owner-occupied housing? Second, the intensive margin: conditional on their withdrawal, how much do they withdraw relative to the total pension wealth?

To estimate the effect of the stricter financing regulations on the advance withdrawals, we exploit the temporal discontinuity at the reform date by adopting a sharp regression discontinuity design (RDD).[5] The pension fund data provide an appropriate setting for an RDD approach because different insured persons are observed on a frequent basis. Thus the

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[5] One assumption for RDD estimation is that the threshold is not manipulable. We plan to check for bunching around the threshold using a McCrary test (McCrary, 2008). E.g., potentially low-equity households still try to buy property before the reform.

data cover all insured persons' withdrawals decisions by day.

We define the reform as the treatment of insured person i, T_i. It is determined by the time of withdrawal in days of insured person i, t_i, relative to the *Reform* date of 1 July, 2012:

$$T_i = \begin{cases} 1 & \text{if } t_i \geq Reform \\ 0 & \text{if } t_i < Reform \end{cases} \tag{1}$$

The treatment effect is formally tested by the following regression equation:

$$y_i = \alpha + \gamma_{01}t_i + \gamma_{02}t_i^2 + ... + \gamma_{0p}t_i^p + \beta T_i + \gamma_{11}t_i \times T_i + \gamma_{12}t_i^2 \times T_i + ... + \gamma_{1p}t_i^p \times T_i + \epsilon_i \tag{2}$$

y_i is the outcome variable of interest, i.e., either the number of withdrawals, or the advance withdrawal for home ownership as a share of the total pension wealth for individual i. p is the order of the control polynomial function, with $p = 1, 2, 3, 4$. The γ coefficients are indexed on the polynomials p. To allow for different polynomial orders on either side of the reform cut-off, they are further indexed by 0 and 1. Our coefficient of interest is β which estimates the local average treatment effect of the reform.

The main implication of the local randomization result is that there should be no discontinuity of baseline characteristics just below and above the cut-off (Lee and Lemieux, 2010). Thus, baseline covariates are used as a robustness check for the validity of the RDD. We control for pension wealth, since the tax rate is a function of accumulated pension assets and its square to capture non-linearities in wealth regarding annuity demand. Additionally, we include the fixed mortgage rate as control. With an optimal mix between annuity and lump sum, significant savings can be obtained on the tax burden on total pension payments. To represent the trade off between the two choices, the ratio of the tax on the annuity to the tax on the lump sum payment is added as a control variable. The housing prices represent the cost of a house with 5–6.5 rooms grouped in a vector of binary variables with the following categories: <CHF 600,000, CHF 600,000–CHF 800,000, CHF 800,000–CHF 1,200,000, CHF 1,200,000–CHF 2,000,000 and >CHF 2,000,000. These real estate prices are generated as the median price in the respective canton and year of advance withdrawal. Similarly, Age_i is a categorical variable for the age of the insured person in five year increments. We further

include canton fixed effects to control for all unobservable time-invariant canton-specific factors affecting the choice of advance withdrawal for home ownership. Finally, ϵ_i is a random unobserved error term.

We apply various strategies to address potential endogeneity issues. The exclusion of high-wealth individuals from the data reduces selection effects into low-tax municipalities, since they are the most likely to move to benefit from lower taxes (see also Bütler & Ramsden, 2016b). For the annuity tax rate it may be argued that migration due to income tax rates is negligible, since it is the same as the income tax, but it is important for the lump sum tax. By excluding the very rich we also avoid a bias caused by a potentially different annuity demand. Moreover, there is a potential reverse causality with real estate prices. If advance withdrawals are frequent within a region, real estate prices may be higher and vice versa. We will run regressions with and without real estate prices as an explanatory variable. The choice of the mortgage rate may also affect results. The Libor and fixed mortgage rates are more volatile over time than the variable mortgage rate. We check for discontinuities in the three types of mortgage rates as a robustness check. At the moment we include canton dummies in the regression equation 2. As a robustness check we exclude these, since the fiscal decentralization is captured in the tax rate and real estate prices.

As a further robustness check, we show the following three sets of results for our outcome variable of interest:

1. The existence of a discontinuity around the 1 July, 2012 threshold is investigated graphically. Thus, we plot local sample means of the dependent variable in small equidistant non-overlapping bins over the support of the time of withdrawal t_i, together with smooth global polynomial regression curves drawn separately for times below and above the reform cut-off.

2. We estimate equation (2) using polynomials of the different orders $p = 1, 2, 3, 4$ for the entire sample of time (days) (*parametric approach*).[6]

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[6] Including higher-order polynomials would be justified when using observations very far away from the cut-off for which different treatment effects are expected. Within a reasonably narrow time range, there is no reason to expect non-linearities between mean counterfactual outcomes and the rating variable (see Jacob et al., 2012 for a discussion).

Table 1: Descriptive statistics

	No WEF	WEF	Difference	p-value
Female	0.57 (0.49)	0.34 (0.47)	0.23***	0.00
Married	0.62 (0.49)	0.72 (0.45)	-0.09***	0.00
Annuity	1876 (1529)	1755 (1190)	122**	0.05
Has taken lump sum	0.18 (0.38)	0.18 (0.39)	-0.01	0.70
Lump sum	27400 (90438)	27608 (90112)	-209	0.96
Last wage	56737 (40578)	72937 (34829)	-16200***	0.00
Obs.	5924	650		

3. We implement local linear regressions using the procedure in Calonico et al. (2014) for observations within an optimal bandwidth. To choose the optimal bandwidth, we apply the three different bandwidth selectors: the selector of Calonico et al. (2014) (CTT), the one proposed by Imbens and Kalyanaraman (2012) (IK) and the cross-validation (CV) method of Ludwig and Miller (2007) (*non-parametric approach*).

Table 1 provides t-tests of some main characteristics of the sample of retirees comparing those who took advantage of advance withdrawals to the rest of the population. In Figure 1 we provides a histogram of the amount of advance withdrawals in our sample.
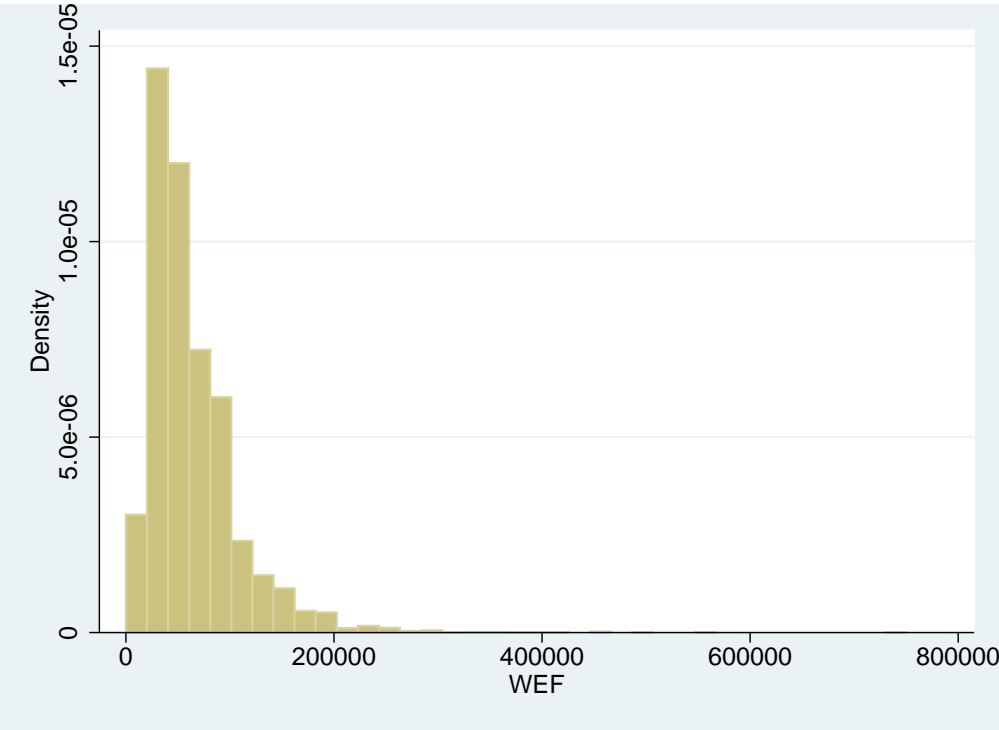
FIG. 1: Histogram of WEF.

5 Results

5.1 Consequences of the reform

We begin with a graphical analysis of advance withdrawals around the reform in 2012. Figure 2 shows the aggregate number of advance withdrawals in the sample. There is a strong upward trend between 1995 and 2010, more than doubling the number of annual withdrawals from initial levels of roughly 200. In 2011 and 2012 there is a marked dip from almost 400 in 2010 to about 300. Potentially, this has to do with anticipation effects of the reform. In the years after the reform there is a decreasing trend.

Separating the analysis by men and women, we observe similar patterns (Figure 3). The main difference is that more men than women make advance withdrawals. But for both subgroups we observe a decrease in the number of withdrawals being made. Comparing results from individual-level data with aggregate statistics from Switzerland reveals a similar picture (cf. Figure 4). Around the reform, the number of withdrawals in Switzerland drops from above 25,000 to less than 20,000, corresponding to a decrease by a fifth.
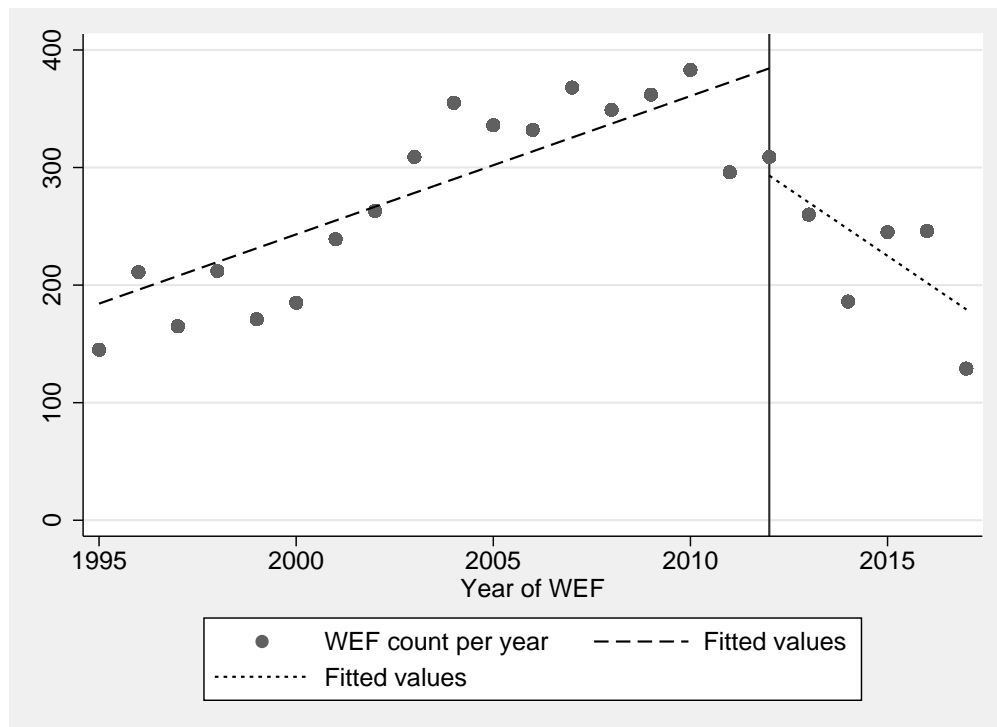
FIG. 2: Number of WEF withdrawals per year pre- and post-reform 2012.
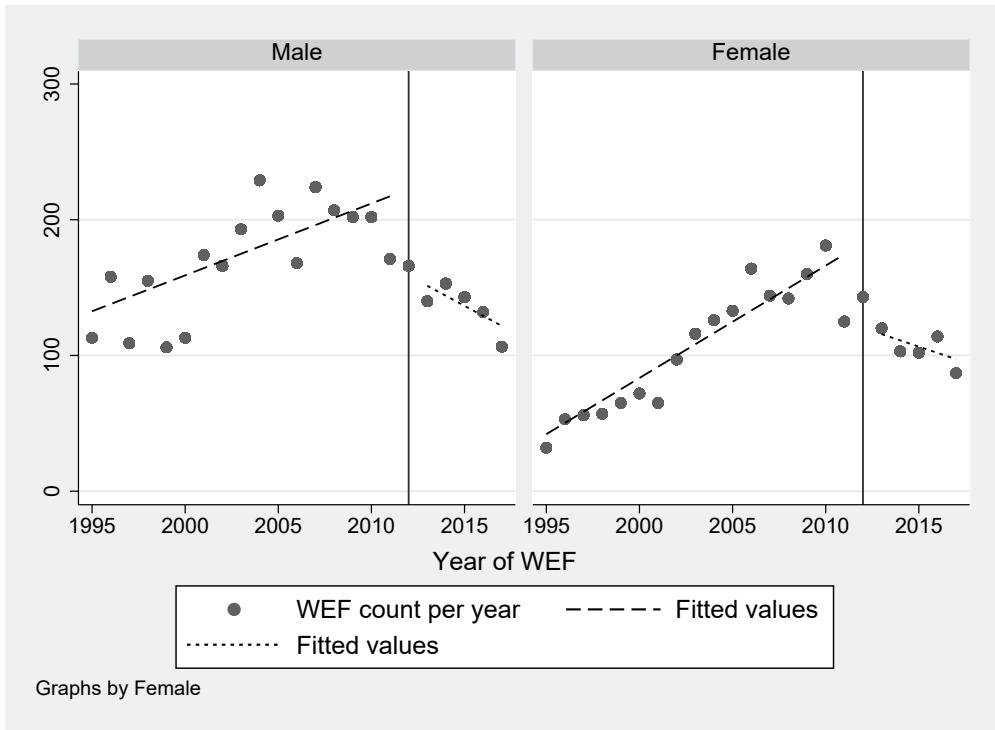
FIG. 3: Number of WEF withdrawals per year pre- and post-reform 2012 by gender.
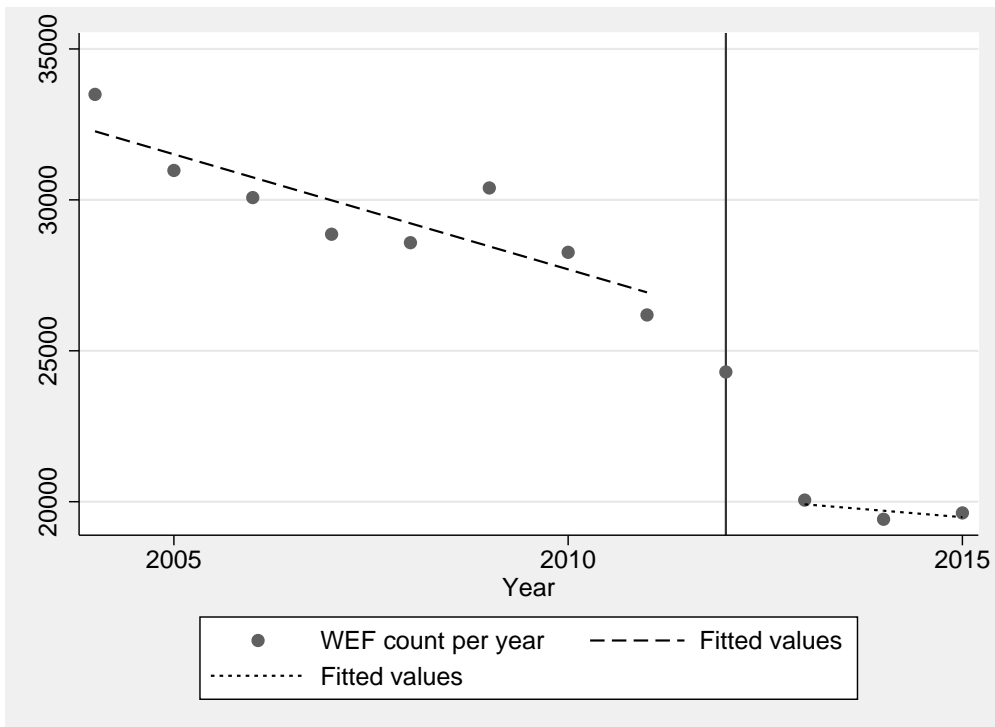

FIG. 4: Number of withdrawals per year in Switzerland.

Next, we turn to the analysis of the amounts of pension funds withdrawn in advance. Figure 5 shows the mean and median withdrawal by year. The picture is not as clear as with the number of withdrawals since there is strong variation over the years. But the general trend shows an increasing mean before the reform and a declining trend after the reform. The median is virtually constant in the pre-reform period, and a decline after 2012.

Figure 6 shows the distributions of advance withdrawals between 2007 and 2017. The solid line shows the pre-reform distribution and the dashed one the post-reform distribution. Data are capped at 200,000 since only few observations are driving the right tail of the distribution. The post-reform distribution lies to the left of the pre-reform one. There is additional mass in the range 0–50,000 and less mass in the range 70,000–120,000. This shows the decline in the amount of withdrawals made after the reform.

Again Figure 7 showing the mean aggregate annual withdrawal for Switzerland confirms the above analysis. The average amount withdrawn drops from about 78,000 to 75,000.

The difference in means between men and women is even more striking than the comparison of the number of withdrawals (cf. Figure 8). Men make on average higher withdrawals than women: the average for men is around 73,000 and is significantly different from the female value of around 52,000. This reflects generally lower earnings by women than men which reduce the female capacity to withdraw funds.
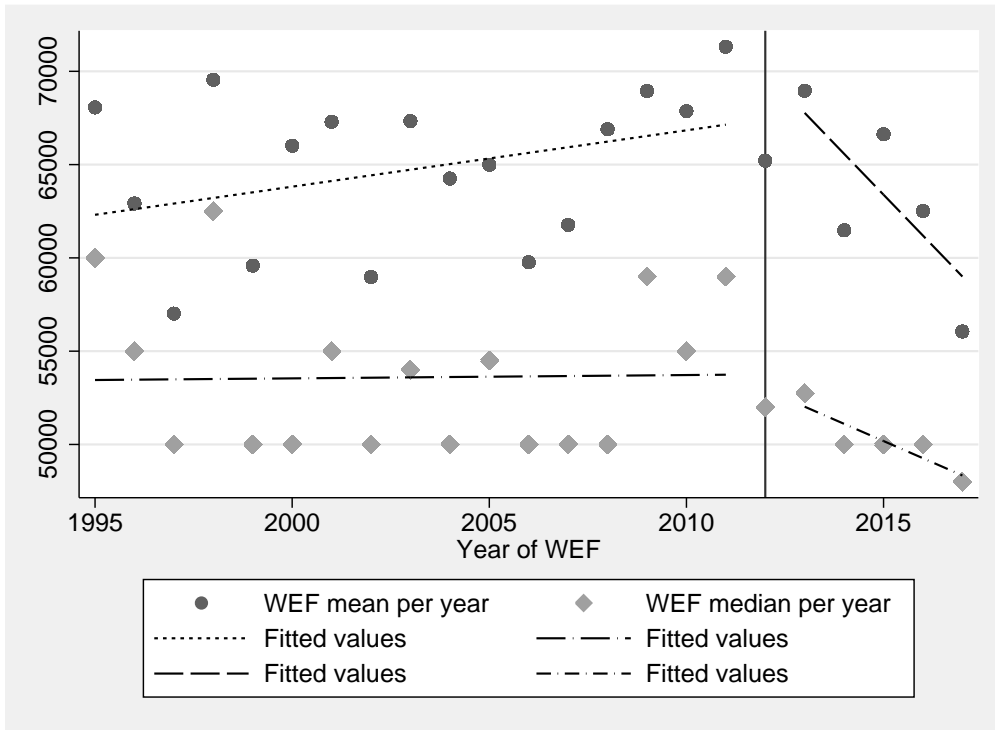
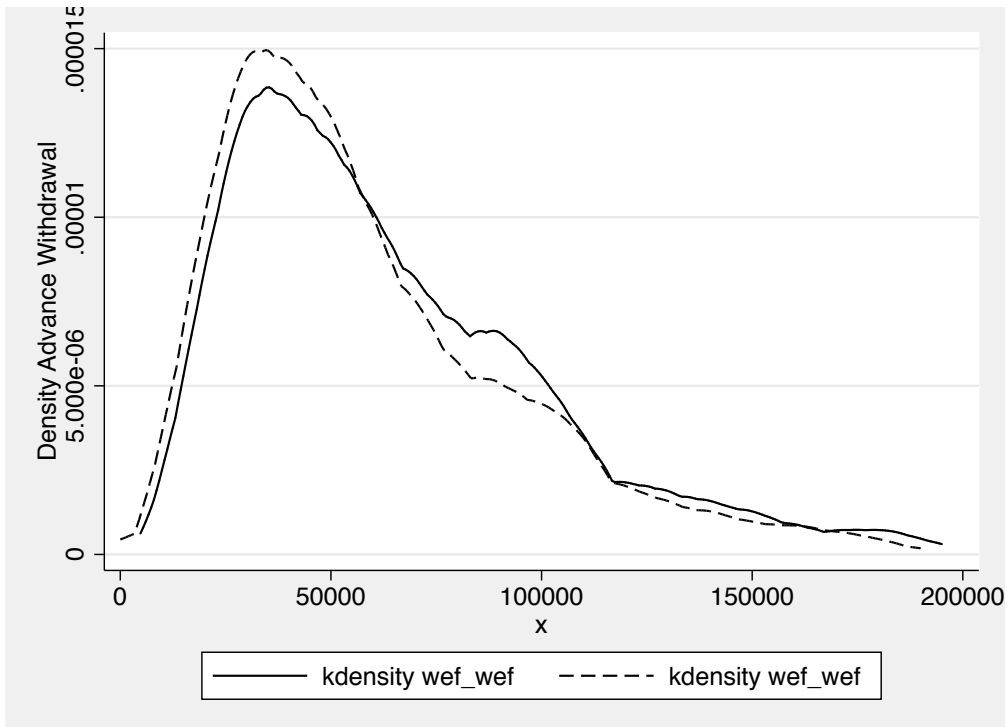FIG. 5: Mean and median WEF withdrawal per year pre- and post-reform 2012.

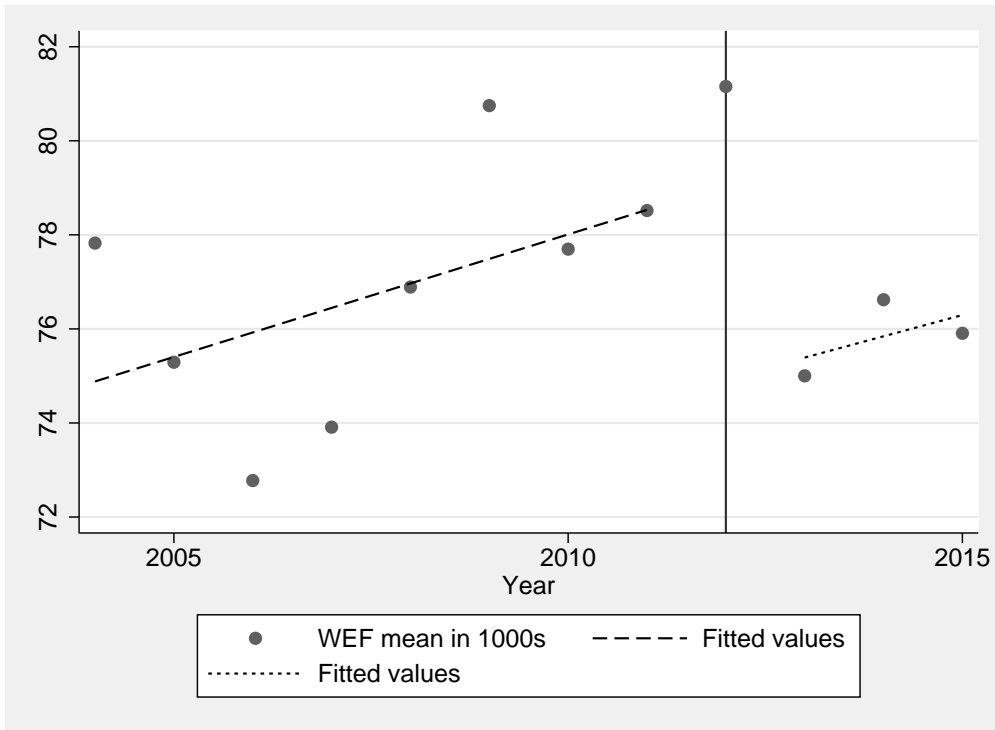FIG. 6: Density plot of advance withdrawals

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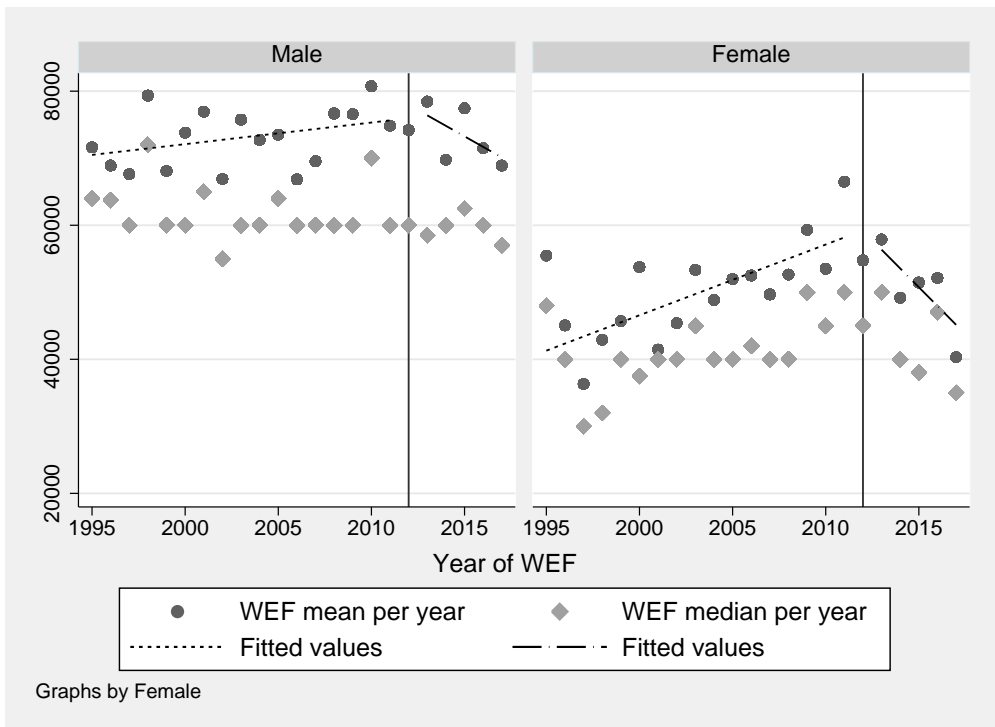FIG. 7: Mean withdrawals per year in Switzerland (in CHF 1,000).

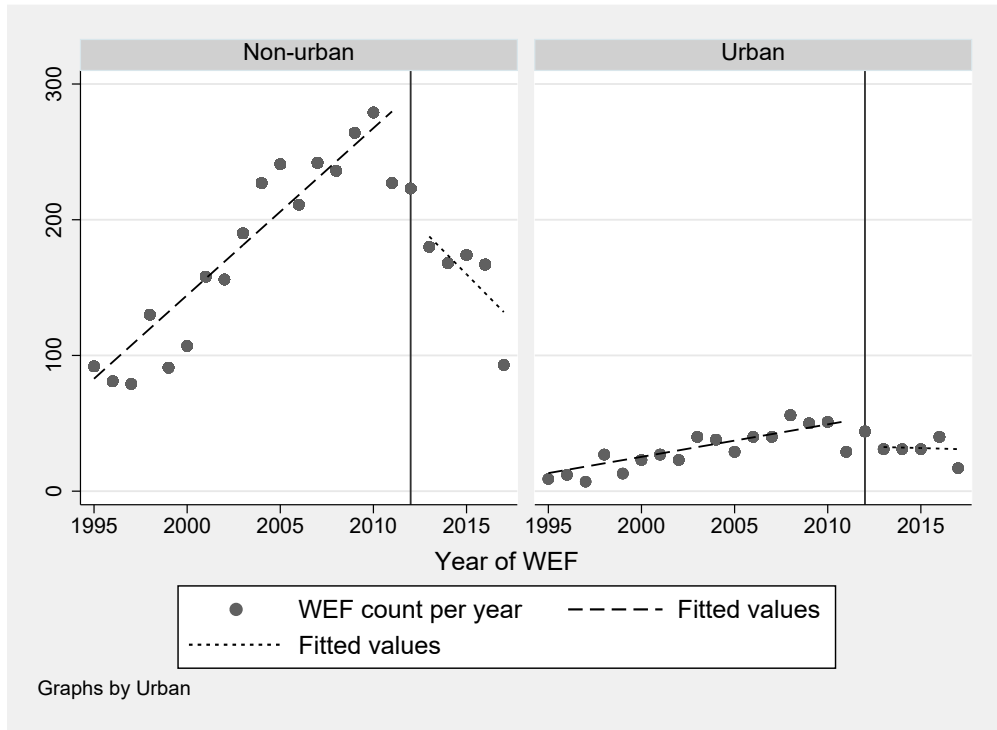FIG. 8: Mean and median WEF withdrawal per year pre- and post-reform 2012 by gender.

FIG. 9: Number of WEF withdrawals per year pre- and post-reform 2012 by urbanization.
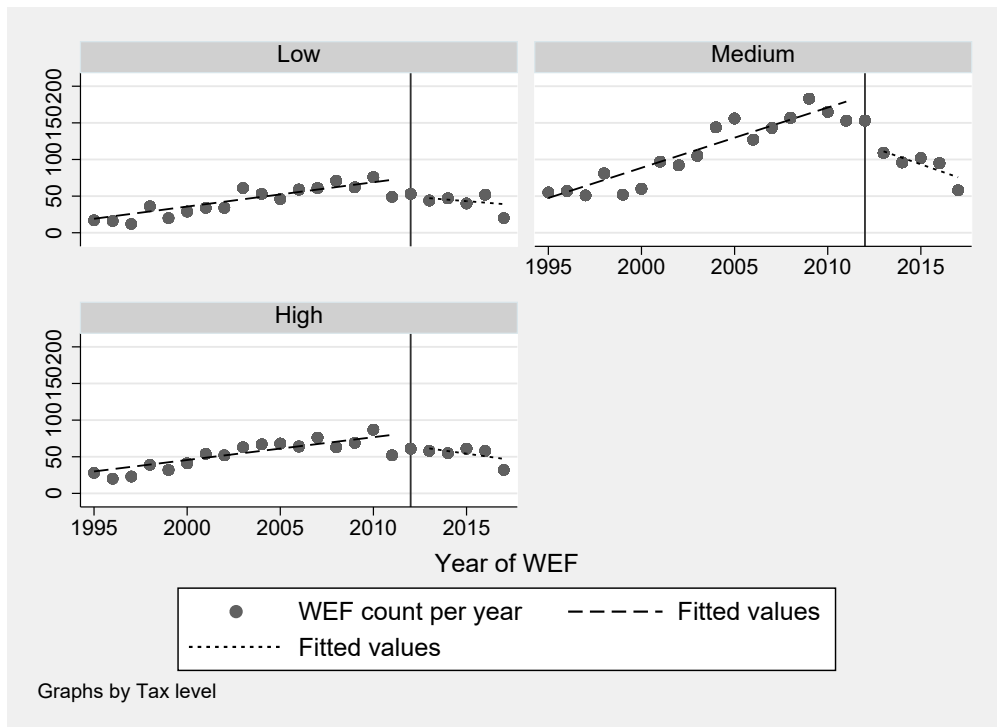

FIG. 10: Number of WEF withdrawals per year pre- and post-reform 2012 by tax level.
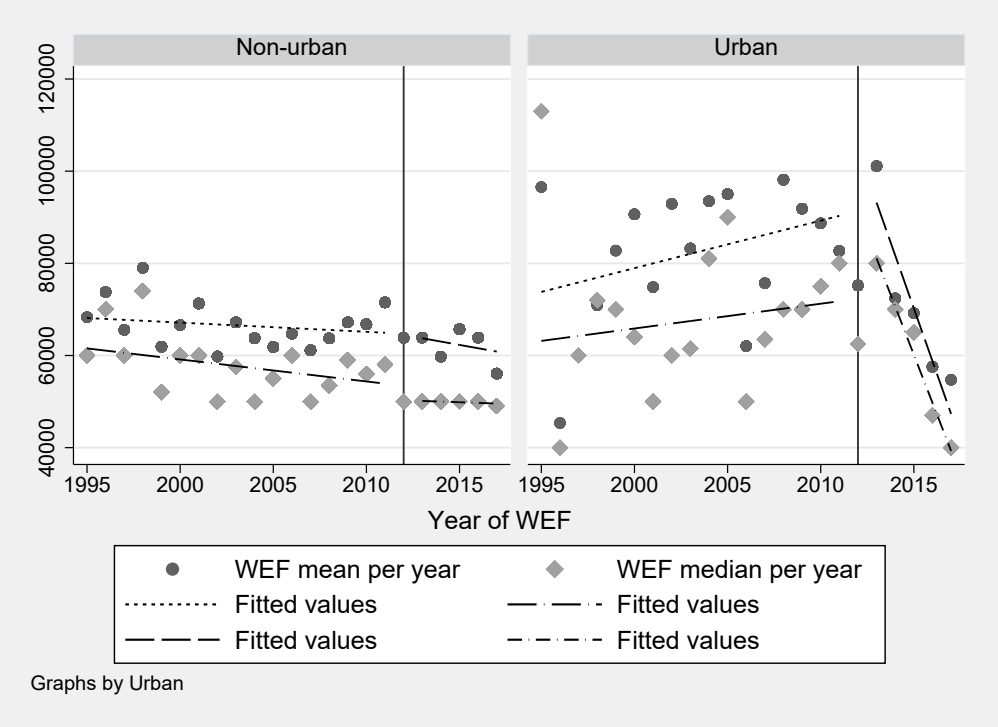
FIG. 11: Mean and median WEF withdrawal per year pre- and post-reform 2012 by urbanization.
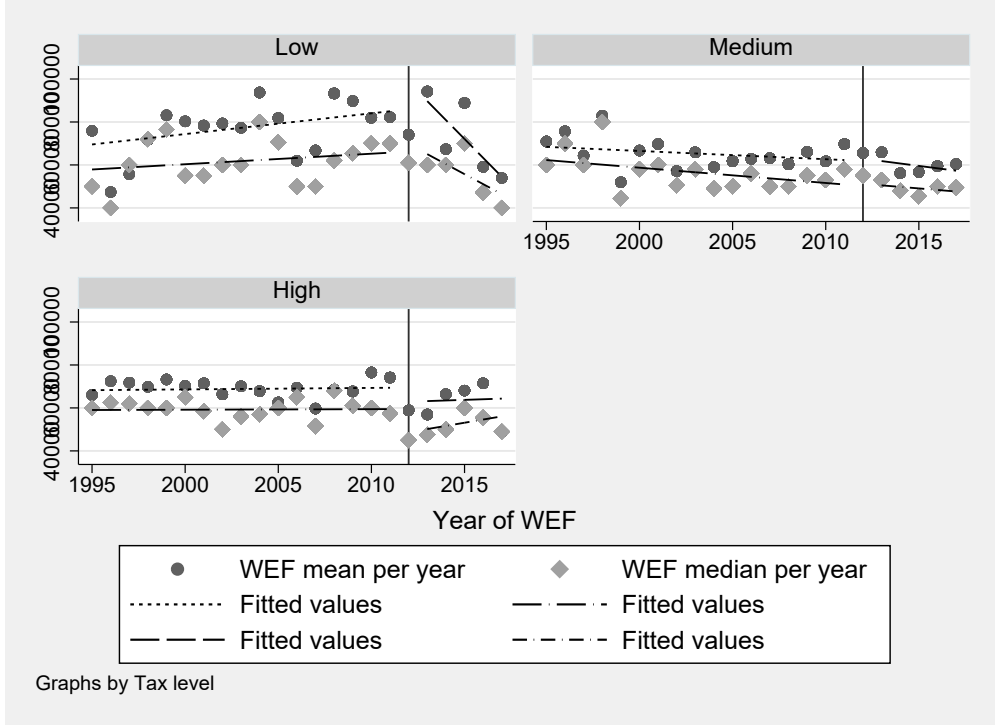
FIG. 12: Mean and median WEF withdrawal per year pre- and post-reform 2012 by tax level.

5.2 Robustness

A central requirement for an RDD setting to work is the validity of the assumption that nothing else that could explain the dependent variable changes around the reform. Two of the most central variables that would affect advance withdrawals are interest rates and wages. Interest rates affect the cost of mortgage and thus directly the decision to purchase real estate. Wages affect the amount available in the pension fund and also the households' budget constraint. Banks typically take into account current income when judging the household's financial situation. We inspect the interest rates for fixed mortgages (5 years) and the Libor (3M) mortgage (5 years) over time (Figure 13). While there is an overall decreasing trend since the financial crisis, there are no distinct jumps around 2012 that could explain our findings.

We repeat the procedure for real wages (Figure 14). Real wages have been increasing around a trend for a longer period of time. There is no discontinuity around the timing of
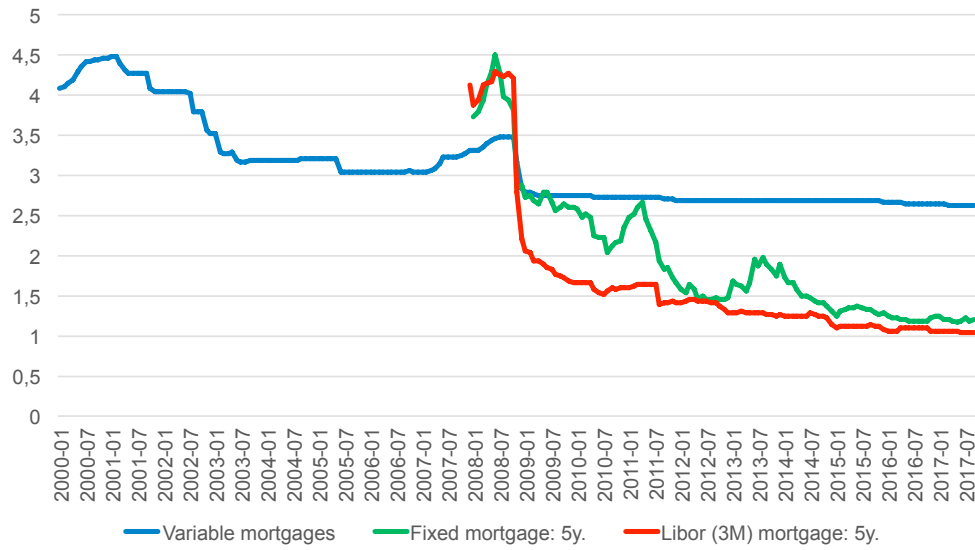
the reform.

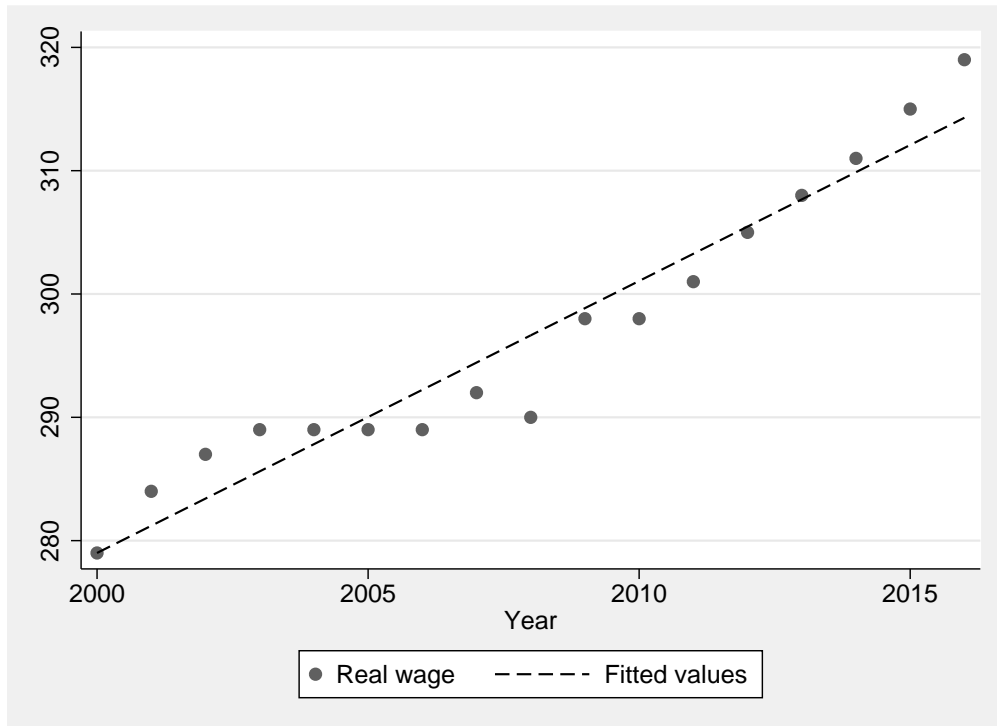
FIG. 13: Interest rates over time in Switzerland.

FIG. 14: Real wage per year in Switzerland.

6 Concluding Remarks

The analysis provides evidence of changes in the number of withdrawals and the share of assets withdrawn around the change of regulation. It gives an indication that individuals might have adjusted their behavior both at the extensive and intensive margin. Individuals are thus affected by the reform, restricting the amount of pension-based equity that can be used to purchase real estate.

It seems that the reform brings about the desired effect of limiting the use of pension assets for home purchases. It remains to be seen if households find substitute channels for equity or if they resort to the purchase of less expensive property.

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