

The Impact of a Rise in Real Estate Transfer Taxes on the French Housing Market*

Guillaume Bérard and Alain Trannoy

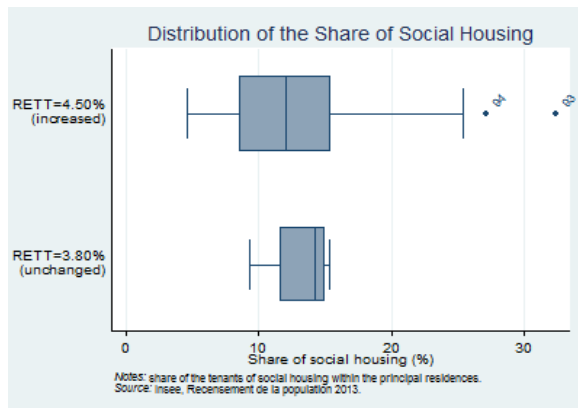
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Online Complement C1 – Local Variables

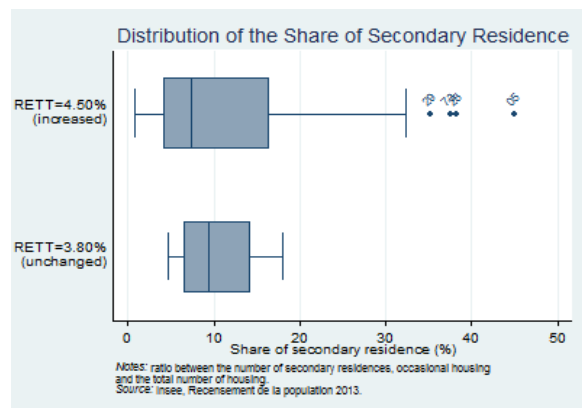
Figure C1-I

Distribution of the Local Variables by Implementation or Non-Implementation of the RETT Increase

A – Share of Social Housing



B – Share of Secondary Residence



Source: Authors' drawing.

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Online Complement C2 – Tax Bases Estimates with Month-Based Model (with all coefficients)

Table C2

Estimates for the Month-Based Model

	Total Tax Bases of the <i>Régime de droit commun</i>
Anticipation Effect ($T_d - 6$) ($\hat{\beta}_{A6}$)	0.012 (0.023)
Anticipation Effect ($T_d - 5$) ($\hat{\beta}_{A5}$)	0.055** (0.027)
Anticipation Effect ($T_d - 4$) ($\hat{\beta}_{A4}$)	0.013 (0.022)
Anticipation Effect ($T_d - 3$) ($\hat{\beta}_{A3}$)	-0.013 (0.021)
Anticipation Effect ($T_d - 2$) ($\hat{\beta}_{A2}$)	0.013 (0.022)
Anticipation Effect ($T_d - 1$) ($\hat{\beta}_{A1}$)	0.22*** (0.021)
Retention Effect (T_d) ($\hat{\beta}_{R0}$)	-0.25*** (0.030)
Retention Effect ($T_d + 1$) ($\hat{\beta}_{R1}$)	-0.10*** (0.026)
Retention Effect ($T_d + 2$) ($\hat{\beta}_{R2}$)	-0.047** (0.023)
Retention Effect ($T_d + 3$) ($\hat{\beta}_{R3}$)	0.00085 (0.029)
Retention Effect ($T_d + 4$) ($\hat{\beta}_{R4}$)	0.0076 (0.027)
Retention Effect ($T_d + 5$) ($\hat{\beta}_{R5}$)	0.021 (0.031)
Retention Effect ($T_d + 6$) ($\hat{\beta}_{R6}$)	0.014 (0.030)
Retention Effect ($T_d + 7$) ($\hat{\beta}_{R7}$)	-0.019 (0.035)
Retention Effect ($T_d + 8$) ($\hat{\beta}_{R8}$)	0.029 (0.040)
Retention Effect ($T_d + 9$) ($\hat{\beta}_{R9}$)	0.032 (0.033)
Retention Effect ($T_d + 10$) ($\hat{\beta}_{R10}$)	0.033 (0.034)
Retention Effect ($T_d + 11$) ($\hat{\beta}_{R11}$)	-0.0041 (0.031)
Retention Effect ($T_d + 12$) ($\hat{\beta}_{R12}$)	-0.0032 (0.032)
Retention Effect ($T_d + 13$) ($\hat{\beta}_{R13}$)	0.019 (0.035)
Retention Effect ($T_d + 14$) ($\hat{\beta}_{R14}$)	0.0041 (0.037)
Retention Effect ($T_d + 15$) ($\hat{\beta}_{R15}$)	0.0019 (0.038)
Retention Effect ($T_d + 16$) ($\hat{\beta}_{R16}$)	0.015 (0.038)

* *Economie et Statistique / Economics and Statistics, 500-501-502, 2018*

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Retention Effect ($T_d + 17$) ($\hat{\beta}_{R7}$)	-0.0038 (0.040)
Retention Effect ($T_d + 18$) ($\hat{\beta}_{R18}$)	0.012 (0.050)
Retention Effect ($T_d + 19$) ($\hat{\beta}_{R19}$)	-0.0027 (0.058)
Adjusted R ²	0.65
Observations	4,232

Notes: This table reports estimates of equation 2, using within estimator. Outcome variable is in log in the estimation. In this table T_d corresponds to the month of implementation of the reform in a *département* d . Standard errors, given in brackets, are clustered by *département*. Stars indicate significance level: * $p < 0.1$, ** $p < 0.05$ and *** $p < 0.01$.

Sources: CGEDD from DGFIP (*MEDOC*), Assiettes des droits de mutation immobiliers par département, Insee, Construction de logements (*Sit@del2*), Taux de chômage localisés, Estimation de population au 1^{er} janvier, DGFIP, Taux de fiscalité directe locale (TFPB), DGFIP-DGCL, Les budgets primitifs des départements, 2012 to 2015.

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Online Complement C3 – Estimates with Only March 2014 Subgroup against (Final) Control Group

Table C3

Estimates for the Month-Based Model: Tax Bases, with Only One Treatment Subgroup

	Total Tax Bases of the <i>Régime de Droit Commun</i>
Anticipation Effect ($T_d - 5$) ($\hat{\beta}_{A5}$)	0.054 (0.037)
Anticipation Effect ($T_d - 4$) ($\hat{\beta}_{A4}$)	-0.061*** (0.022)
Anticipation Effect ($T_d - 3$) ($\hat{\beta}_{A3}$)	0.060* (0.032)
Anticipation Effect ($T_d - 2$) ($\hat{\beta}_{A2}$)	-0.0053 (0.028)
Anticipation Effect ($T_d - 1$) ($\hat{\beta}_{A1}$)	0.21*** (0.042)
Retention Effect (T_d) ($\hat{\beta}_{R0}$)	-0.28*** (0.036)
Retention Effect ($T_d + 1$) ($\hat{\beta}_{R1}$)	-0.22*** (0.088)
Retention Effect ($T_d + 2$) ($\hat{\beta}_{R2}$)	-0.012 (0.032)
Retention Effect ($T_d + 3$) ($\hat{\beta}_{R3}$)	-0.047 (0.037)
Retention Effect ($T_d + 4$) ($\hat{\beta}_{R4}$)	-0.033 (0.058)
Adjusted R ²	0.67
Observations	2,852
March 2014 Group	Yes
May 2014 Group	No
April 2014 Group	No
June 2014 Group	No
January 2015 Group	No

Notes: For a better understanding, we present only estimates for the 5 months before and after reform. This table reports estimates of equation 2, using within estimator. Outcome variable is in log in the estimation. In this table T_d corresponds to the month of implementation of the reform in a *département* d. Standard errors, given in brackets, are clustered by *département*. Stars indicate significance level: * $p < 0.1$, ** $p < 0.05$ and *** $p < 0.01$.

Sources: CGEDD from DGFIP (*MEDOC*), Assiettes des droits de mutation immobiliers par département, Insee, Construction de logements (*Sit@del2*), Taux de chômage localisés, Estimation de population au 1^{er} janvier, DGFIP, Taux de fiscalité directe locale (TFPB), DGFIP-DGCL, Les budgets primitifs des départements, 2012 to 2015.

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Online Complement C4 – Discussion – TLV

Another point introducing a possible confounder is the 2013 reform of the *Taxe sur les Logements Vacants* (TLV), a tax on unoccupied housing. In urban areas where this tax was implemented, the number of transactions is supposed to have slightly increased. Nonetheless, we consider that this increase had no effect on our estimations because there are 24 *départements* within the treatment group (i.e. 88) and 1 *département* within the (final) control group (i.e. 4) which include urban area subject to the TLV. The distribution between each group is almost equal: 27% for the treatment group and 25% for the control group; for a total of 25% of *départements* with urban area submitted to the TLV, in the whole country. Furthermore, if the TLV actually increased the number of transactions, the distribution of this increase should be distributed equally between the months of the years 2013, 2014 and 2015. Indeed, the TLV is collected in November on unoccupied housing on January 1. Then, there should be no sharp increase in a particular month. If the common trend assumption of the difference-in-differences holds, every group should be affected identically, and the TLV should not introduce a downward bias.

Online Complement C5 – Robustness checks

Alternative Dependent Variables

Alternative dependent variables are used to test whether the results are biased because there was an exogenous shock affecting the housing markets of the two groups differently. To do so, we substitute the outcome variables with other variables, which are presumably not affected by the reform. We use the *Régime dérogatoire* as the dependent variable. The real estate market subject to the *Régime dérogatoire* is assumed to be not influenced by the reform, and are the closest data that we can compare to the *Régime de droit commun*.

Results of Table C5-3 show no coefficient significantly different from zero at the 10% level, for the substitute outcomes. Then, it appears that our results are not biased: there was no shock affecting differently the housing markets of the two groups during the regressed period.

Estimations Using Different Period

We check the validity of our results to the choice of the period and sample groups. In order to implement this test, we reduce the regressed period from January 2013 to October 2014. Doing this, we reduce the pre-reform period and we increase the (final) control group, as the January 2015 group is now never treated (its period of treatment begins in December 2014). Then, our (final) control group is now composed of 7 *départements*, against 4 in previous regressions.

Table C5-4 shows estimates close to the ones found in the main estimations. Indeed, regressing different period and sample, we see an anticipation effect in $T_d - 1$ of 25%, compared to 26% in the benchmark results, and a decrease in the tax base in the retention period of 16%, against 14%. The main difference is that there is now a significant coefficient for the post retention period, equal to - 6%, significant at the 1% level. This could implies that there was a lasting retention effect in some treated groups, but we will test this hypothesis below. Furthermore, reducing the regressed period, we increase mathematically the estimated retention effect. The main effect in which we are interest in being similar to our first estimates, they appear robust to the choice of the estimation period.

Changes in Local Economic Conditions

As the results that we find could be impacted by an exogenous economic shock, affecting the sample groups differently, we test for this kind of changes in the local economic conditions.

To implement this test, we use the same method as in Benzarti and Carloni (2015). We define interaction variables between a dummy variable defining the belonging group of the *département* d , and the monthly unemployment rate of this *département* d .

The first equation uses two sample groups: Treated and (Final) Control;

$$\begin{aligned} \log Y_{dt} = & \alpha_d + \lambda_t + \beta_{A1} \text{Anticipation}_{d,t=T_d-1} + \beta_2 \text{Retention}_{d,t \in [T_d, T_d+1, T_d+2]} \\ & + \beta_3 \text{Post. Retention}_{d,t \in [T_d+3, \text{Oct. 2015}]} + \gamma_1 (\text{Treated} \times \text{URate}_{dt}) \\ & + \gamma_2 (\text{Control} \times \text{URate}_{dt}) + \rho X_{dt} \\ & + \epsilon_{dt} \end{aligned} \quad (8)$$

The second equation uses the decomposition of the treated *départements* clustered by subgroups according to the implementation date (see Table 1):

$$\begin{aligned} \log Y_{dt} = & \alpha_d + \lambda_t + \beta_{A1} \text{Anticipation}_{d,t=T_d-1} + \beta_2 \text{Retention}_{d,t \in [T_d, T_d+1, T_d+2]} \\ & + \beta_3 \text{Post. Retention}_{d,t \in [T_d+3, \text{Oct. 2015}]} \\ & + \sum_{\text{Subgroup} = \text{March}}^G \gamma_{\text{Subgroup}} (\text{Subgroup} \times \text{URate}_{dt}) \\ & + \gamma_{\text{Control}} (\text{Control} \times \text{URate}_{dt}) + \rho X_{dt} \\ & + \epsilon_{dt} \end{aligned} \quad (9)$$

where $G = [\text{March, April, May, June, January}]$ is the set of treated subgroups.

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Results for both models presented in Tables C5-5 and C5-6 show only slight differences between the estimates and our main results. For the anticipation effect 25% (against 26%) and – 15% for the retention effect (against -14%), while the coefficient of the post retention period is still not different from zero. We can therefore conclude that our estimates are robust, and that no exogenous local economic shock does not affect differently our groups.

Regressing by Treatment Subgroups

We re-estimate the parsimonious model where we allow for a possible heterogeneity for the different subsets of treated groups.

$$\begin{aligned} \log Y_{dt} = & \alpha_d + \lambda_t + \sum_{Subgroup = March}^G \beta_{A1,Subgroup} (Subgroup \times Anticipation_{d,t = T_d - 1}) \\ & + \sum_{Subgroup = March}^G \beta_{R,Subgroup} (Subgroup \times Retention_{d,t \in [T_d, T_d + 1, T_d + 2]}) \\ & + \sum_{Subgroup = March}^G \beta_{P,Subgroup} (Subgroup \times Post.Retention_{d,t \in [T_d + 3, Oct. 2015]}) \\ & + \rho X_{dt} + \epsilon_{dt} \end{aligned} \quad (10)$$

where $G = [\text{March, April, May, June, January}]$ is the set of treated subgroups.

Results of this regression are displayed in Table C5-7. The anticipation effect is non-significant for the January subgroup and for the other subgroups spans a large range between 16% (May) and 45% (April). The retention effect is also non-significant for the January subgroup and is comprised between - 10% (March) and - 17% (May) for the other subgroups. None of the coefficients of the post retention period are significantly different from zero. It is not very surprising that there is some heterogeneity in the local-market responses.

Removing Possibly Heterogeneous Groups

When looking at the trends on the outcome variables (cf. Figures II and A, as well as the results of the previous section on the estimates by treatment subgroups), we see some different trends or levels in the January 2015 and May 2014 groups compared to the rest of the sample. Furthermore, the January 2015 group implemented the reform later compared to the other treated groups (6 months later) and is composed of only 3 *départements*, which could have reduced the treatment effect or the statistical power in this group, as assumed by the subgroups' estimates (see Table C5-7). We may thus suspect a possible heterogeneity or unobservables that affect them differently over time. In order to test this hypothesis, we estimate our coefficients removing either January 2015 or May 2014 group or both, from the estimated sample.

Removing May 2014 group does not change the estimates compare to our main estimates (see Table C5-8, column (2) and Table 2-B). Removing January 2015 group shows the same results for the anticipation effect, 26%, and it increases slightly the coefficients estimated at -15% for the retention effect (see Table C5-8, column (1)). Finally, removing both groups from the estimated sample does not change the coefficients of the anticipation effect, estimated at 26%, and slightly increase the estimate for the retention effect, estimated at -16% (see Table C5-8, column (3)). Again, none of the coefficients of the post retention period are significantly different from zero. We can conclude that our findings are robust to the choice of the sample, and to a possible bias from heterogeneous *départements*.

Table C5-1

Test on Possible Self-Selection: Logit, January 2008 to December 2013

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Variables	Marginal Effects	Unit of the Variable X (logit)	Mean of the Variable X
Total Tax Bases of the <i>Régime de Droit Commun</i>	0.0001172*** (0.000026)	X/1,000,000 (million)	135,000,000
Total Tax Bases of the <i>Régime de Dérogatoire</i>	-0.00000584 (0.0000418)	X/1,000,000 (million)	52,300,000
Unemployment Rate	0.0096091*** (0.0010484)	X% (percentage)	8.7
Number of New Residential Construction	-0.0001081 (0.0006182)	X/1,000 (thousand)	4,663
Property tax rate	-0.0021273*** (0.0002907)	X% (percentage)	15.6
Population	-0.0024646*** (0.0007269)	X/100,000 (hundred thousand)	621,208
Salary cost (per capita)	0.0520009*** (0.0064777)	X/100 (hundred)	189
Operating revenue (per capita)	-0.0049635** (0.0019514)	X/100 (hundred)	941
Social spending (per capita)	0.0052367** (0.0023943)	X/100 (hundred)	504
Pseudo R ²	0.17	/	/
Observations	6,624	/	/

Notes: This table reports estimates of equation 1, using binary logit. Treated *départements* are equal to 1, and controls to 0. Stars indicate significance level: * p<0.1, ** p<0.05 and *** p<0.01. Coefficients represents marginal effects at the mean and not odd ratios, then they can be interpreted in terms of magnitude. Standard errors are given in brackets.

Reading note: Total tax bases are expressed in millions of euros and number of new residential construction in thousands of units, thus marginal effects should be read in proportion. For instance, for each additional million euros of tax bases, *départements* are 0.00908 percentage points more likely to increase RETT; for each additional percentage of unemployment, *départements* are 1.38 percentage points more likely to increase RETT; for each additional thousands of new residential construction, *départements* are 0.532 percentage points less likely to increase RETT.

Sources: CGEDD from DGFIP (*MEDOC*), Assiettes des droits de mutation immobiliers par département, Insee, Construction de logements (*Sit@del2*), Taux de chômage localisés, Estimation de population au 1^{er} janvier, DGFIP, Taux de fiscalité directe locale (TFPB), DGFIP-DGCL, Les budgets primitifs des départements, 2008 to 2013.

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Table C5-2

Placebo Test: Period January 2008 to October 2011

	Total Tax Bases of the <i>Régime de droit commun</i>
Anticipation Effect ($T_d - 6$) ($\hat{\beta}_{A6}$)	-0.000097 (0.017)
Anticipation Effect ($T_d - 5$) ($\hat{\beta}_{A5}$)	-0.0045 (0.020)
Anticipation Effect ($T_d - 4$) ($\hat{\beta}_{A4}$)	-0.030 (0.027)
Anticipation Effect ($T_d - 3$) ($\hat{\beta}_{A3}$)	-0.026 (0.031)
Anticipation Effect ($T_d - 2$) ($\hat{\beta}_{A2}$)	-0.015 (0.027)
Anticipation Effect ($T_d - 1$) ($\hat{\beta}_{A1}$)	-0.026 (0.032)
Retention Effect (T_d) ($\hat{\beta}_{R0}$)	-0.059 (0.036)
Retention Effect ($T_d + 1$) ($\hat{\beta}_{R1}$)	-0.013 (0.036)
Retention Effect ($T_d + 2$) ($\hat{\beta}_{R2}$)	-0.024 (0.037)
Retention Effect ($T_d + 3$) ($\hat{\beta}_{R3}$)	-0.045 (0.036)
Retention Effect ($T_d + 4$) ($\hat{\beta}_{R4}$)	-0.030 (0.032)
Retention Effect ($T_d + 5$) ($\hat{\beta}_{R5}$)	- 0.0035 (0.033)
Retention Effect ($T_d + 6$) ($\hat{\beta}_{R6}$)	-0.011 (0.035)
Retention Effect ($T_d + 7$) ($\hat{\beta}_{R7}$)	-0.018 (0.033)
Retention Effect ($T_d + 8$) ($\hat{\beta}_{R8}$)	-0.021 (0.037)
Retention Effect ($T_d + 9$) ($\hat{\beta}_{R9}$)	-0.033 (0.037)
Retention Effect ($T_d + 10$) ($\hat{\beta}_{R10}$)	-0.025 (0.037)
Retention Effect ($T_d + 11$) ($\hat{\beta}_{R11}$)	-0.0072 (0.037)
Retention Effect ($T_d + 12$) ($\hat{\beta}_{R12}$)	-0.013 (0.043)
Retention Effect ($T_d + 13$) ($\hat{\beta}_{R13}$)	-0.0092 (0.042)
Retention Effect ($T_d + 14$) ($\hat{\beta}_{R14}$)	-0.025 (0.042)
Retention Effect ($T_d + 15$) ($\hat{\beta}_{R15}$)	-0.050 (0.046)
Retention Effect ($T_d + 16$) ($\hat{\beta}_{R16}$)	-0.024 (0.044)
Retention Effect ($T_d + 17$) ($\hat{\beta}_{R17}$)	-0.024 (0.047)
Retention Effect ($T_d + 18$) ($\hat{\beta}_{R18}$)	-0.048 (0.050)
Retention Effect ($T_d + 19$) ($\hat{\beta}_{R19}$)	-0.059 (0.056)
Adjusted R ²	0.74
Observations	4,232

Notes: This table reports estimates of equation 2, using within estimator. Outcome variable is in log in the estimation. In this table T_d corresponds to the month of implementation of the reform in a *département* d. Standard errors, given in brackets, are clustered by *département*. Stars indicate significance level: * $p < 0.1$, ** $p < 0.05$ and *** $p < 0.01$.

Sources: CGEDD from DGFIP (*MEDOC*), Assiettes des droits de mutation immobiliers par département, Insee, Construction de logements (*Sit@del2*), Taux de chômage localisés, Estimation de population au 1^{er} janvier, DGFIP, Taux de fiscalité directe locale (TFPB), DGFIP-DGCL, Les budgets primitifs des départements, 2008 to 2011.

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Table C5-3

Alternative Dependent Variable: *Régime dérogatoire*

	Total Tax Bases of the <i>Régime Dérogatoire</i>
Anticipation Effect ($T_d - 1$) ($\hat{\beta}_{A1}$)	0.051 (0.058)
Mean Retention Effect ($\hat{\beta}_2$)	-0.017 (0.052)
Mean Effect Post Retention ($\hat{\beta}_3$)	0.006 (0.053)
Adjusted R ²	0.43
Observations	4,232

Notes: This table reports estimates of equation 3, using within estimator. Outcome variable is in log in the estimations. In this table T_d corresponds to the month of implementation of the reform in a *département* d. Standard errors, given in brackets, are clustered by *département*. Stars indicate significance level: * $p < 0.1$, ** $p < 0.05$ and *** $p < 0.01$.

Sources: CGEDD from DGFIP (*MEDOC*), Assiettes des droits de mutation immobiliers par département, Insee, Construction de logements (*Sit@del2*), Taux de chômage localisés, Estimation de population au 1^{er} janvier, DGFIP, Taux de fiscalité directe locale (TFPB), DGFIP-DGCL, Les budgets primitifs des départements, 2012 to 2015.

Table C5-4

Estimations Using Different Period: January 2013 to October 2014

	Total Tax Bases of the <i>Régime de Droit Commun</i>
Anticipation Effect ($T_d - 1$) ($\hat{\beta}_{A1}$)	0.22*** (0.019)
Mean Retention Effect ($\hat{\beta}_2$)	-0.17*** (0.018)
Mean Effect Post Retention ($\hat{\beta}_3$)	-0.060*** (0.022)
Adjusted R ²	0.64
Observations	2,024

Notes: This table reports estimates of equation 3, using within estimator. Outcome variable is in log in the estimations. In this table T_d corresponds to the month of implementation of the reform in a *département* d. Standard errors, given in brackets, are clustered by *département*. Stars indicate significance level: * $p < 0.1$, ** $p < 0.05$ and *** $p < 0.01$.

Sources: CGEDD from DGFIP (*MEDOC*), Assiettes des droits de mutation immobiliers par département, Insee, Construction de logements (*Sit@del2*), Taux de chômage localisés, Estimation de population au 1^{er} janvier, DGFIP, Taux de fiscalité directe locale (TFPB), DGFIP-DGCL, Les budgets primitifs des départements, 2013 to 2014.

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Table C5-5

Change in Local Economic Conditions: Controlling for the Local Unemployment Rate

	Total Tax Bases of the <i>Régime de Droit Commun</i>
Anticipation Effect ($T_d - 1$) ($\hat{\beta}_{A1}$)	0.22*** (0.021)
Mean Retention Effect ($\hat{\beta}_2$)	- 0.16*** (0.024)
Mean Effect Post Retention ($\hat{\beta}_3$)	- 0.031 (0.026)
Treated \times URate ($\hat{\gamma}_1$)	0.0020 (0.011)
Control \times URate ($\hat{\gamma}_2$)	- 0.053 (0.033)
Adjusted R ²	0.65
Observations	4,232

Notes: This table reports estimates of equation 8, using within estimator. Outcome variable is in log in the estimation. In this table T_d corresponds to the month of implementation of the reform in a *département* d. Standard errors, given in brackets, are clustered by *département*. Stars indicate significance level: * p<0.1, ** p<0.05 and *** p<0.01.

Sources: CGEDD from DGFIP (*MEDOC*), Assiettes des droits de mutation immobiliers par département, Insee, Construction de logements (*Sit@del2*), Taux de chômage localisés, Estimation de population au 1^{er} janvier, DGFIP, Taux de fiscalité directe locale (TFPB), DGFIP-DGCL, Les budgets primitifs des départements, 2012 to 2015.

Table C5-6

Change in Local Economic Conditions: Controlling for the Local Unemployment Rate, by Subgroups

	Total Tax Bases of the <i>Régime de Droit Commun</i>
Anticipation Effect ($T_d - 1$) ($\hat{\beta}_{A1}$)	0.22*** (0.021)
Mean Retention Effect ($\hat{\beta}_2$)	-0.16*** (0.024)
Mean Effect Post Retention ($\hat{\beta}_3$)	-0.031 (0.026)
March \times URate ($\hat{\gamma}_{March}$)	-0.0011 (0.012)
April \times URate ($\hat{\gamma}_{April}$)	0.012 (0.018)
May \times URate ($\hat{\gamma}_{May}$)	0.062* (0.031)
June \times URate ($\hat{\gamma}_{June}$)	0.0026 (0.020)
January \times URate ($\hat{\gamma}_{January}$)	-0.0052 (0.024)
Control \times URate ($\hat{\gamma}_{Control}$)	-0.053 (0.033)
Adjusted R ²	0.65
Observations	4,232

Notes: This table reports estimates of equation 9, using within estimator. Outcome variable is in log in the estimation. In this table T_d corresponds to the month of implementation of the reform in a *département* d. Standard errors, given in brackets, are clustered by *département*. Stars indicate significance level: * p<0.1, ** p<0.05 and *** p<0.01.

Sources: CGEDD from DGFIP (*MEDOC*), Assiettes des droits de mutation immobiliers par département, Insee, Construction de logements (*Sit@del2*), Taux de chômage localisés, Estimation de population au 1^{er} janvier, DGFIP, Taux de fiscalité directe locale (TFPB), DGFIP-DGCL, Les budgets primitifs des départements, 2012 to 2015.

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Table C5-7

Estimates by Treatment Subgroups

	Total Tax Bases of the <i>Régime de Droit Commun</i>
March × Anticipation ($T_d - 1$) ($\hat{\beta}_{A1, March}$)	0.18*** (0.018)
April × Anticipation ($T_d - 1$) ($\hat{\beta}_{A1, April}$)	0.37*** (0.043)
May × Anticipation ($T_d - 1$) ($\hat{\beta}_{A1, May}$)	0.15*** (0.028)
June × Anticipation ($T_d - 1$) ($\hat{\beta}_{A1, June}$)	0.25*** (0.066)
January × Anticipation ($T_d - 1$) ($\hat{\beta}_{A1, January}$)	0.12 (0.16)
March × Retention ($\hat{\beta}_{R, March}$)	-0.11*** (0.022)
April × Retention ($\hat{\beta}_{R, April}$)	-0.15*** (0.025)
May × Retention ($\hat{\beta}_{R, May}$)	-0.19*** (0.023)
June × Retention ($\hat{\beta}_{R, June}$)	-0.17*** (0.037)
January × Retention ($\hat{\beta}_{R, January}$)	-0.12 (0.078)
March × Post.Retention ($\hat{\beta}_{P, March}$)	-0.022 (0.029)
April × Post.Retention ($\hat{\beta}_{P, April}$)	-0.022 (0.030)
May × Post.Retention ($\hat{\beta}_{P, May}$)	-0.0095 (0.038)
June × Post.Retention ($\hat{\beta}_{P, June}$)	-0.026 (0.031)
January × Post.Retention ($\hat{\beta}_{P, January}$)	0.032 (0.030)
Adjusted R ²	0.65
Observations	4,232

Notes: This table reports estimates of equation 10, using within estimator. Outcome variable is in log in the estimation. In this table T_d corresponds to the month of implementation of the reform in a *département* d. Standard errors, given in brackets, are clustered by *département*. Stars indicate significance level: * p<0.1, ** p<0.05 and *** p<0.01.

Sources: CGEDD from DGFIP (*MEDOC*), Assiettes des droits de mutation immobiliers par département, Insee, Construction de logements (*Sit@del2*), Taux de chômage localisés, Estimation de population au 1^{er} janvier, DGFIP, Taux de fiscalité directe locale (TFPB), DGFIP-DGCL, Les budgets primitifs des départements, 2012 to 2015.

The Impact of a Rise in Real Estate Transfer Taxes on the French Housing Market*

Guillaume Bérard and Alain Trannoy

Compléments en ligne / Online complements

Table C5-8

Removing Possibly Heterogeneous Groups

	Total Tax Bases of the <i>Régime de Droit Commun</i> (1)	Total Tax Bases of the <i>Régime de Droit Commun</i> (2)	Total Tax Bases of the <i>Régime de Droit Commun</i> (3)
Anticipation Effect ($T_d - 1$) ($\hat{\beta}_{A1}$)	0.23*** (0.019)	0.23*** (0.022)	0.23*** (0.020)
Mean Retention Effect ($\hat{\beta}_2$)	-0.16*** (0.018)	-0.15*** (0.022)	-0.17*** (0.019)
Mean Effect Post Retention ($\hat{\beta}_3$)	-0.030 (0.027)	-0.015 (0.024)	-0.029 (0.027)
Adjusted R ²	0.64	0.65	0.64
Observations	4,094	4,140	4,002
January 2015 Group	No	Yes	No
May 2014 Group	Yes	No	No

Notes: This table reports estimates of equation 3, using within estimator. Outcome variable is in log in the estimations. In this table T_d corresponds to the month of implementation of the reform in a *département* d . Standard errors, given in brackets, are clustered by *département*. Stars indicate significance level: * $p < 0.1$, ** $p < 0.05$ and *** $p < 0.01$.

Sources: CGEDD from DGFIP (*MEDOC*), Assiettes des droits de mutation immobiliers par département, Insee, Construction de logements (*Sit@del2*), Taux de chômage localisés, Estimation de population au 1^{er} janvier, DGFIP, Taux de fiscalité directe locale (TFPB), DGFIP-DGCL, Les budgets primitifs des départements, 2012 to 2015.