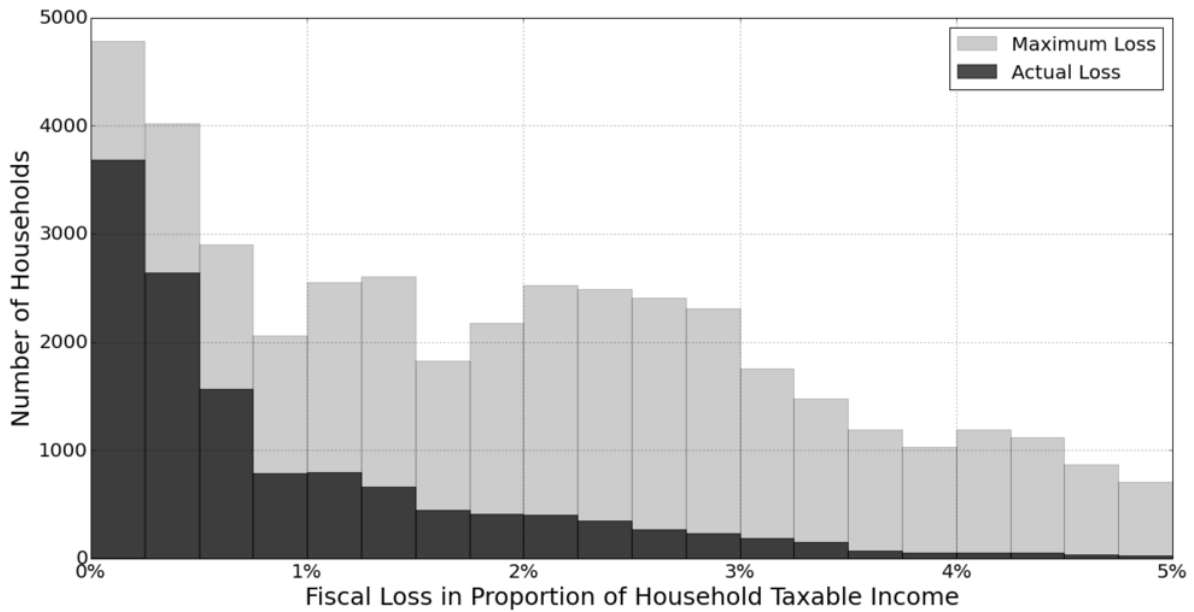


The results have been compared to those displayed in the original notebooks, which vary very slightly from those in the manuscript. This is due to a later change in the code made to simplify it.

Figure 1 : Actual and maximum fiscal losses from non-optimization



This table is identical to the one displayed in the manuscript.

Table 2 : Rate of non-optimization (and large non-optimization) by demographic groups, 2013

Sample each year
 *****2013*****

| | All | | | | | Can optimize | | | | | Unique opt allocation | | | | |
|-----------------|-------|-------|-------|--------|---------|--------------|-------|-------|--------|---------|-----------------------|-------|-------|--------|---------|
| | N | DNO | Prct | DNO 1% | Prct 1% | N | DNO | Prct | DNO 1% | Prct 1% | N | DNO | Prct | DNO 1% | Prct 1% |
| Children | | | | | | | | | | | | | | | |
| 1 | 27680 | 6232 | 0.225 | 1553 | 0.056 | 24548 | 6232 | 0.254 | 1553 | 0.063 | 24548 | 6232 | 0.254 | 1553 | 0.063 |
| 2 | 21020 | 5962 | 0.284 | 2337 | 0.111 | 18905 | 5962 | 0.315 | 2337 | 0.124 | 17023 | 5787 | 0.340 | 2236 | 0.131 |
| 3 | 2500 | 472 | 0.189 | 232 | 0.093 | 2147 | 472 | 0.220 | 232 | 0.108 | 1528 | 422 | 0.276 | 205 | 0.134 |
| 4 | 969 | 324 | 0.334 | 193 | 0.199 | 735 | 324 | 0.441 | 193 | 0.263 | 302 | 218 | 0.722 | 150 | 0.497 |
| 5 | 48 | 9 | 0.188 | 4 | 0.083 | 32 | 9 | 0.281 | 4 | 0.125 | 9 | 6 | 0.667 | 3 | 0.333 |
| Total | 52336 | 13012 | 0.249 | 4327 | 0.083 | 46446 | 13012 | 0.280 | 4327 | 0.093 | 43418 | 12671 | 0.292 | 4151 | 0.096 |

The code yields the same results as those contained in the original notebooks.

There are a few differences with the original manuscript:

- The sample size is bigger, regardless of how many children the couples have. As a consequence, there are also more couples which don't optimize and/or lose more than 1% of their income
- However, the proportions/percentages only vary slightly, especially for couples with less than 3 children (10⁻³). They are a bit higher for couples with 4 or 5 children (from 10⁻³ to 10⁻²),, but that is due to smaller samples (fewer families have so many children).

Table 3 : Distribution of effective, random, optimal and su-optimal allocations by demographic groups and allocation type

a) Effective allocation

| | child_1 | child_2 | child_3 | child_4 | child_5 | child_6 | Total_average |
|----------------------|----------|----------|---------|---------|---------|---------|---------------|
| All_on_man | 0.59 | 0.44 | 0.58 | 0.14 | 0.54 | 0.05 | 0.52 |
| All_on_woman | 0.41 | 0.18 | 0.13 | 0.03 | 0.08 | 0.01 | 0.29 |
| Equal_split | 0.00 | 0.39 | 0.00 | 0.79 | 0.00 | 0.91 | 0.17 |
| Most_on_man | 0.00 | 0.00 | 0.18 | 0.03 | 0.23 | 0.03 | 0.01 |
| Most_on_woman | 0.00 | 0.00 | 0.11 | 0.01 | 0.15 | 0.01 | 0.01 |
| N_obs | 27680.00 | 21020.00 | 2500.00 | 969.00 | 48.00 | 109.00 | |

Identical results.

b) Optimal allocation

| | child_1 | child_2 | child_3 | child_4 | child_5 | child_6 |
|------------------------------|----------|----------|---------|---------|---------|---------|
| All_on_man_optimal | 0.70 | 0.59 | 0.74 | 0.69 | 0.81 | 0.85 |
| All_on_woman_optimal | 0.41 | 0.22 | 0.22 | 0.32 | 0.40 | 0.38 |
| Equal_split_optimal | 0.00 | 0.48 | 0.00 | 0.60 | 0.00 | 0.88 |
| Most_on_man_optimal | 0.00 | 0.00 | 0.13 | 0.16 | 0.08 | 0.11 |
| Most_on_woman_optimal | 0.00 | 0.00 | 0.16 | 0.15 | 0.17 | 0.31 |
| Total | 1.11 | 1.29 | 1.26 | 1.92 | 1.46 | 2.53 |
| N_obs | 27680.00 | 21020.00 | 2500.00 | 969.00 | 48.00 | 109.00 |

The results are the same for couples with 1 or 2 children. For those with 3 or 4 children, they're a bit different (10^{-2}).

c) Sub-optimal allocation

| | | 1 | 2 | 3 | 4 | 5 | 6 | All |
|----------------------------------|----------------------|-------|-------|------|------|-------|--------|----------|
| Not_all_on_man_optimal | All_on_man | 0.29 | 0.17 | 0.12 | 0.00 | 0.11 | 0.00 | 0.22 |
| Not_all_on_woman_optimal | All_on_woman | 0.24 | 0.10 | 0.05 | 0.01 | 0.03 | 0.00 | 0.16 |
| Not_equal_split_optimal | Equal_split | 0.00 | 0.26 | 0.00 | 0.78 | 0.00 | 1.00 | 0.08 |
| Not_most_on_man_optimal | Most_on_man | 0.00 | 0.00 | 0.13 | 0.03 | 0.23 | 0.03 | 0.01 |
| Not_most_on_woman_optimal | Most_on_woman | 0.00 | 0.00 | 0.08 | 0.01 | 0.15 | 0.00 | 0.00 |
| N_obs | | 27680 | 21020 | 2500 | 969 | 48.00 | 109.00 | 52336.00 |

Identical results, except for a few proportions regarding couples with 3 or 4 children.

Table 4 : Profile of non-optimizers

Do not optimize

| | DNO I | DNO_1prct I | DNO II | DNO_1prct II |
|--------------------------------|------------------------|------------------------|------------------------|------------------------|
| Age_elder_child | -0.0055*** (0.0007) | -0.0034*** (0.0005) | -0.0054*** (0.0009) | -0.0043*** (0.0005) |
| Gain_fiscal_au_pacs[T.True] | 0.2182*** (0.0048) | 0.2889*** (0.0041) | 0.2020*** (0.0061) | 0.2928*** (0.0051) |
| I(Age_moyen_parents / 100) | 0.3922*** (0.0422) | -0.0337 (0.0330) | 0.3474*** (0.0522) | 0.0359 (0.0305) |
| I(Rni / 100000) | 0.0374** (0.0170) | -0.0727*** (0.0197) | 0.1398*** (0.0203) | -0.0969*** (0.0083) |
| Intercept | 0.0453*** (0.0108) | 0.0334*** (0.0067) | 0.0447*** (0.0148) | 0.0278*** (0.0087) |
| Master_both_parents[T.True] | | | -0.0874*** (0.0123) | -0.0451*** (0.0064) |
| Master_just_man[T.True] | | | -0.0851*** (0.0122) | -0.0479*** (0.0070) |
| Master_just_woman[T.True] | | | 0.0225** (0.0092) | -0.0023 (0.0049) |
| deux_enfants[T.True] | 0.0592*** (0.0043) | 0.0536*** (0.0026) | 0.0505*** (0.0054) | 0.0526*** (0.0031) |
| quatre_enfants_et_plus[T.True] | 0.0834*** (0.0114) | 0.1063*** (0.0098) | 0.0898*** (0.0154) | 0.1109*** (0.0132) |
| trois_enfants[T.True] | -0.0267*** (0.0079) | 0.0338*** (0.0057) | -0.0425*** (0.0098) | 0.0270*** (0.0067) |
| adjusted-R2 | 6.17% | 22.00% | 5.71% | 22.43% |
| N | 52336 | 52336 | 33044 | 33044 |

Standard errors in parentheses.

* p<.1, ** p<.05, ***p<.01

Almost identical results.

Table 5 : Transitions for demographically stable couples

| Same_optimal_allocation_same_family | True | | | | All |
|--|--------------|-------------|--------------|-------------|------------|
| Do_not_optimize_2013 | False | | True | | |
| Do_not_optimize_2014 | False | True | False | True | |
| Same_family_did_not_change_allocation | | | | | |
| False | 0 | 273 | 432 | 40 | 745 |
| True | 15220 | 0 | 0 | 4634 | 19854 |
| All | 15220 | 273 | 432 | 4674 | 20599 |

While the sample size is bigger (just like in table 2), the results are similar.

Table 6 : Correlation between change in marital status in 2014 and non optimization in 2013

| y=Separation | dy/dx | std err | z | P> z | [95.0% Conf. Int.] |
|--|--------------|----------------|----------|-----------------|---------------------------|
| Fiscal_loss_greater_than_0.01_prct_rev | 0.0060 | 0.002 | 2.512 | 0.012 | 0.001 0.011 |
| Gain_fiscal_au_pacs | 0.0033 | 0.002 | 1.725 | 0.085 | -0.000 0.007 |
| Age_moyen | -0.0005 | 0.000 | -3.370 | 0.001 | -0.001 -0.000 |
| Age_elder_child | 0.0006 | 0.000 | 2.429 | 0.015 | 0.000 0.001 |
| deux_enfants | -0.0011 | 0.002 | -0.697 | 0.486 | -0.004 0.002 |
| trois_enfants_et_plus | -0.0026 | 0.003 | -0.907 | 0.365 | -0.008 0.003 |
| Rni | -3.066e-07 | 5.5e-08 | -5.577 | 0.000 | -4.14e-07 -1.99e-07 |
| Diff_in_income_mere_pere | 2.189e-07 | 8.42e-08 | 2.601 | 0.009 | 5.4e-08 3.84e-07 |
| y=Mariage | dy/dx | std err | z | P> z | [95.0% Conf. Int.] |
| Fiscal_loss_greater_than_0.01_prct_rev | -0.0087 | 0.003 | -2.804 | 0.005 | -0.015 -0.003 |
| Gain_fiscal_au_pacs | 0.0062 | 0.002 | 3.087 | 0.002 | 0.002 0.010 |
| Age_moyen | -0.0016 | 0.000 | -8.675 | 0.000 | -0.002 -0.001 |
| Age_elder_child | 0.0001 | 0.000 | 0.377 | 0.706 | -0.001 0.001 |
| deux_enfants | 0.0117 | 0.002 | 6.496 | 0.000 | 0.008 0.015 |
| trois_enfants_et_plus | 0.0149 | 0.003 | 4.523 | 0.000 | 0.008 0.021 |
| Rni | 2.382e-07 | 5.51e-08 | 4.324 | 0.000 | 1.3e-07 3.46e-07 |
| Diff_in_income_mere_pere | -6.156e-09 | 7.32e-08 | -0.084 | 0.933 | -1.5e-07 1.37e-07 |
| y=Pacs | dy/dx | std err | z | P> z | [95.0% Conf. Int.] |
| Fiscal_loss_greater_than_0.01_prct_rev | -0.0068 | 0.003 | -2.706 | 0.007 | -0.012 -0.002 |
| Gain_fiscal_au_pacs | 0.0135 | 0.002 | 8.150 | 0.000 | 0.010 0.017 |
| Age_moyen | -0.0008 | 0.000 | -4.940 | 0.000 | -0.001 -0.000 |
| Age_elder_child | -0.0017 | 0.000 | -5.673 | 0.000 | -0.002 -0.001 |
| deux_enfants | -0.0033 | 0.002 | -2.044 | 0.041 | -0.006 -0.000 |
| trois_enfants_et_plus | -0.0105 | 0.004 | -2.496 | 0.013 | -0.019 -0.002 |
| Rni | 4.167e-07 | 4.78e-08 | 8.724 | 0.000 | 3.23e-07 5.1e-07 |
| Diff_in_income_mere_pere | -2.159e-07 | 5.94e-08 | -3.633 | 0.000 | -3.32e-07 -9.94e-08 |

Là encore, les variations de probabilités (dy/dx) sont très similaires à celles du manuscrit. Les quelques différences peuvent être expliquées par des erreurs d'arrondis.

Appendix

Table A.1 : Descriptive statistics

| | All |
|------------------------------------|------------|
| Rni | 35440.076 |
| Rni_mere | 14775.673 |
| Rni_pere | 20664.403 |
| Diff_in_incompe_mere_pere | 9876.557 |
| Age_moyen_parents | 34.203 |
| Age_pere | 35.316 |
| Age_mere | 33.090 |
| Ecart_Age_en_valeur_absolue | 3.405 |
| Nb_enfants | 1.587 |
| Age_moyen_children | 4.011 |
| Age_elder_child | 4.843 |
| Age_younger_child | 3.167 |

(Avec diplôme)

| | All |
|------------------------------------|------------|
| Rni | 35426.805 |
| Rni_mere | 14814.984 |
| Rni_pere | 20611.822 |
| Diff_in_incompe_mere_pere | 10151.278 |
| Age_moyen_parents | 33.921 |
| Age_pere | 35.052 |
| Age_mere | 32.789 |
| Ecart_Age_en_valeur_absolue | 3.478 |
| Nb_enfants | 1.568 |
| Age_moyen_children | 3.778 |
| Age_elder_child | 4.541 |
| Age_younger_child | 3.004 |

(Sans diplôme)

Table A.2 : Distribution of optimal allocations by family size

| Number of optimal allocations | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Total |
|--------------------------------------|----------|----------|----------|----------|----------|----------|----------|--------------|
| Number of children | | | | | | | | |
| 1 | 88.66 | 11.34 | | | | | | 27680.00 |
| 2 | 80.98 | 8.95 | 10.05 | | | | | 21020.00 |
| 3 | 61.04 | 14.28 | 10.56 | 14.12 | | | | 2500.00 |
| 4 | 31.17 | 17.96 | 15.27 | 11.46 | 24.15 | | | 969.00 |
| 5 | 18.75 | 8.33 | 27.08 | 10.42 | 2.08 | 33.33 | | 48.00 |
| 6 | 7.34 | 4.59 | 7.34 | 15.60 | 14.68 | 15.60 | 34.86 | 109.00 |
| Total | 43406.00 | 5562.00 | 2546.00 | 488.00 | 251.00 | 35.00 | 38.00 | 52326.00 |
| Share | 0.83 | 0.11 | 0.05 | 0.01 | 0.00 | 0.00 | 0.00 | 1.00 |

Table A.3 : Marital status change in 2014 and large non-optimization in 2014 : Sensivity analysis