The effects of the French inheritance tax reforms

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The inheritance tax : a heated debate

Dilemma : meritocratic Ideal vs Altruism towards those we are related to

- Mr. Warren Buffet in the USA
  - « Repealing the estate tax would be a terrible mistake (. . .) the equivalent of choosing the 2020 Olympic team by picking the eldest sons of the gold-medal winners in the 2000 Olympics. »

- Mr. George Osborne, Chancellor of the Exchequer
  - « So now well over a third of homeowners in Britain have the threat of inheritance tax hanging over them.(. . .) People whose only crime in the eyes of the taxman is that instead of spending their savings on themselves, they want to pass something on to their families. »

Economic implication of inheritance in the literature

- Impact on labor supply :
  - Receipt of wealth have a negative impact on labour supply (Holtz-Eakin, Joulfaian and Rosen (1993))

- Impact on family held business :
  - Inheritance could favor entrepreneurship by reducing liquidity constraint (Holtz-Eakin, Joulfaian and Rosen (1994))

- Impact on wealth concentration

Research Question :

What are the economic effects of the inheritance reforms enacted from 2004 to 2007 ?

- Total cost for the government on the short and long term
- Tax incidence evaluation

Methodology :

- Micro-simulation model which simulates
  - The evolution of the estates distribution from 2000 to 2020
  - the estates tax that is payed on this inheritance

Summary

1. Overview of the methods to evaluate inheritance tax reforms
2. Methodology to estimate the evolution of the estate distribution
3. Overview of the French inheritance taxation
4. Results

Inheritance tax reform evaluation

Microsimulation :

- evaluation that rely on micro data (at the individual level) and econometric techniques

Construction of the microsimulation model in three steps :

i) Construction of the database
   - Representative sample of decedents : $\{W_{i,t}, X_{i,t}\}$
   - $W_{i,t}$: Wealth at death of the individual i at time t
   - $X_{i,t}$: Household characteristics relevant for tax calculation

ii) $T_t()$: Inheritance tax function depending of the legislation at time t

iii) Simulation of the ouputs
   - Inheritance tax paid by the individual : $T_t(W_{i,t}, X_{i,t})$
   - Net of tax inheritance for decedents i at time t : $w_{i,t} = W_{i,t} - T_t(W_{i,t}, X_{i,t})$
   - Total tax receipts at time t : $T_{B,t} = \sum_{i=1,\dots,N} T_t(W_{i,t}, X_{i,t})$

Inheritance tax reform evaluation (2)

- Basic method : Before-After reform Approach

    - Comparison of inheritance tax receipts and tax incidence **after the reform** in 2008-2020 and **before the reform** in 2000

    - Example for tax receipts :

    $$T_{2008} - T_{2000} = \sum_{i=1,\ldots,N} T_{2008}(W_{i,2008}, X_{i,2008}) - T_{2000}(W_{i,2000}, X_{i,2000})$$

    - Problem : difficult to isolate what is due to the inheritance tax reform and what is due to other causes (macroeconomic shocks)

Inheritance tax reform evaluation (3)

- More sophisticated approach : counterfactual approach

  - Comparison of inheritance tax receipts and tax incidence **after the reform** in 2008-2020 and **in absence of reform** in 2008-2020
  - The counterfactual (*) refers to an hypothetical situation : what would have been observed in absence of reform during the period

- Two kinds of counterfactual approach : Accouting vs Behavioral

  - Accounting Method : no behavioral responses

  $$T_{2008} - T_{2008}^\star = \sum_{i=1,\ldots,N} T_{2008}(W_{i,2008}, X_{i,2008}) - T_{2008}^\star(W_{i,2008}, X_{i,2008})$$

  - Behavioral Method : Responses of agents to the tax reforms

  $$T_{2008} - T_{2008}^\star = \sum_{i=1,\ldots,N} T_{2008}(W_{i,2008}, X_{i,2008}) - T_{2008}^\star(W_{i,2008}^\star, X_{i,2008})$$

Inheritance tax reform evaluation (4)

Nature of the behavioral responses :

- Trade-off between Consumption and Bequest $\Rightarrow$ Inheritance tax reform can influence saving and wealth accumulation behavior

- Tax evasion

- Tax avoidance with lifetime gifts or non taxable assets (insurance life in France)

Inheritance tax reform evaluation (5)

Example of Tax avoidance with lifetime gifts

- Two parents with two kids with 4 000 000€ at age 50.
  They die at age 80.

- Without lifetime gifts :
    - Taxable bequest of each parent = 2 000 000 - 150 000 = 1 850 000
    - Tax receipts for each parent = 558 800.
    - Inheritance tax rate = (558 800*2)/4 000 000 = **28%**

- Tax-optimization schemes through lifetime gifts :
    - Start giving to their children at age 50 150 000€ every 6 years
    - Taxable bequest of each parent = 2 000 000 - 6*150 000*2 = 200 000
    - Tax receipts for each parent = 38 3000
    - Inheritance Tax rate = (38 300*2)/4000000 = **2%**

Construction of the database

- Data necessary :
    - Distribution of wealth at death for the period 2000-2020 : $\{W_{i,t}, X_{i,t}\}$

- Data available : MTG Survey in 2000
    - MTG Survey (« Mutation à titre gratuit ») compiled by the tax administration.
    - The survey is a representative sample of bequest and gift tax returns filled during the year
    - All the most important bequest and gift tax returns are included in the survey
    - 6 surveys : 1984, 1987, 1994, 2000, 2006 and 2010
    - The survey includes all the information of the bequest or gift tax returns :
        - Socio-demographic information of the decedents and the inheritors
        - Complete description of the wealth of the decedents
        - Share of wealth of the decedents going to the the different inheritors
        - Previous donations received by the inheritors from the decedents

FIGURE 1: Socio-demographic information of the decedents in MTG survey

FIGURE 2: Description of the financial assets in MTG survey

I - BIENS MEUBLES	
• fonds de commerce, fonds d'industrie :	G1
• clientèles, offices :	G2
• valeurs mobilières non cotées :	G3
• valeurs mobilières cotées : (G4 = G5 + G6 + G7 + G8).............................	G4
• dont actions :	G5
obligations :	G6
SICAV, FCP :	G7
autres :	G8
• si la ventilation des valeurs mobilières cotées ne peut pas être fournie inscrire 1 dans le code G80	G80
• bons négociables, droits sociaux divers, parts de SCI de gestion :	G9
• créances (indemnités, pensions à recevoir, ..) :	G10
• assurance en cas de décès (part imposable) :	G11
• liquidités :	G12
• autres meubles corporels (y compris meubles meublant mais à l'exclusion du forfait mobilier) :	G13
• total des meubles (G14 = G1 + G2 + G3 + G4 + G9 + G10 + G11 + G12 + G13) :	G14

FIGURE 3: Description of the real estate assets in MTG survey

2 - IMMEUBLES (ou parts représentatives d'immeubles) :

• immeubles bâtis à usage professionnel (non agricole) : H1

• exploitations agricoles : H2

• biens ruraux donnés à bail à long terme (base imposable) : H3

• bois et forêts et parts de groupements forestiers (base imposable) : H4

• parts de groupements fonciers agricoles (base imposable) : H5

• autres immeubles non bâtis : H6

• immeubles à usage d'habitation (y compris parking) : H7

• dont   constructions nouvelles bénéficiant de l'exonération prévue aux
         articles 793-2-4 et 793 ter (base imposable) H8

• monuments historiques : H9

• total des immeubles (H10 = H1 + H2 + H3 +H4 + H5 + H6 + H7 +H9) : H10

- Only the MTG 2000 was available for the researchers

- Some information about the distribution of bequest in 2006 from
  « Conseil des prélèvements obligatoires » using the MTG survey of
  2006.

- Departure point : Distribution of wealth at death in 2000 :
  $\{W_{i,2000}, X_{i,2000}\}$

- Need to estimate the distribution of wealth at death for the period
  2001-2020

Methodology to estimate the evolution of the wealth at death distribution
(see Pikety,2011 :

a) Estimation of the aggregate flow of wealth (entire population)

b) Estimation of the aggregate economic flow of bequest

c) Estimation of the aggregate taxable flow of bequest

d) Estimation of the distribution of taxable bequest

Estimation of the aggregate flow of private wealth (entire population) :

$$W_{t+1} = (1 + q_{t+1}) \cdot (1 + p_{t+1}) \cdot (W_t + s_t \cdot Y_t)$$

Where :

- W_t is the aggregate flow of private wealth
- q_t is the real rate of capital gain
- p_t is the consumer price inflation
- s_t is the saving rate
- Y_t is the national income

From the private wealth flow to the economic bequest flow :

Basic accounting equation

$$B_t = W_t \cdot m_t \cdot \mu_t$$

Where :

- W_t is the aggregate flow of private wealth
- m_t is the mortality rate = total number of decedents/ total living population
- μ_t is the ratio between average wealth of the deceased and average wealth of the living
- B_t is the aggregate economic bequest flow

Economic and Fiscal Bequest Flows are different for three reasons :

- Tax-Exempt Assets (insurance life,. . .)

- Non-Tax Filer : 34% of decedents in 2000 do not fill estate tax returns)

- Tax Evasion

From the economic bequest flow to the fiscal bequest flow :

- Fiscal bequest flow available only for 2000 and 2006 (MTG survey)

- Estimation of fiscal bequest flow by using the evolution of the economic bequest flow :

  - For the period 2000-2005 : $B_t^f = B_{2000}^f + \frac{B_t - B_{2000}}{B_{2006} - B_{2000}} \cdot (B_{2006}^f - B_{2000}^f)$

  - For the period 2007-2020 : $B_t^f = B_{2006}^f \cdot \frac{B_t}{B_{2006}}$

  - If the rise of the economic flow between 2000 and 2001 represents 10% of the rise of the economic bequest flow between 2000 and 2006, then the rise of the fiscal flow between 2000 and 2001 will represent 10% of the rise of the fiscal flow

FIGURE 4: Fiscal and economic bequest flow, 2000-2020
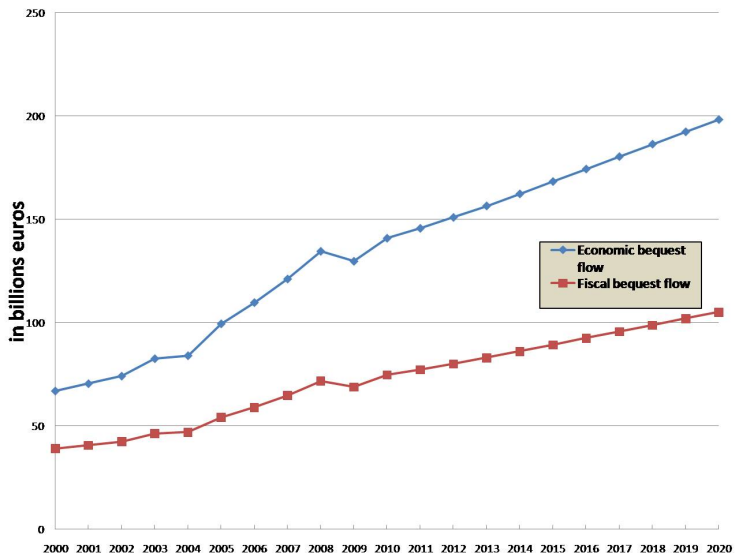
From the aggregate fiscal bequest flow to the distribution of taxable bequest :

TABLE 1: Distribution of bequest in 2000

Percentile	Threshold	Mean	Wealth Share
P0-50	0 €	4 000 €	3%
P50-90	28 000 €	80 000 €	44%
P90-100	170 000 €	400 000 €	55%
incl. P90-99	170 000 €	280 000 €	35%
incl. P99-100	650 000 €	1 450 000 €	20%
		73 000 €	100%

Sources : MTG survey 2000

Estimation of the evolution of the distribution of taxable bequest between 2000 and 2020 :

Basic idea :

- Assume a constant distribution of wealth between 2000 and 2020
- Same growth rate for every bequest corresponding to the evolution of the fiscal bequest flow
- $B_{i,t} = B_{i,2000} \cdot \dfrac{B_t^f}{B_{2000}^f}$

But this hypothesis is strongly misleading. . .

TABLE 2: Distribution of bequest in 2000 and 2006

Percentile	mean		Wealth Share		growth rate
	2000	2006	2000	2006	from 2000 to 2006
P0-50	4 000 €	20 000 €	3%	9%	4.8
P50-90	80 000 €	130 000 €	43%	45%	1.7
P90-100	400 000 €	530 000 €	55%	46%	1.3

Sources :

For 2000 : MTG survey 2000

For 2006 : Rapport du conseil des prélèvements obligatoires, 2008 based on MTG survey 2006

Evolution of the distribution of taxable bequest from 2000 to 2020 :

- For the period 2001-2006 :
  - Differential growth rate by wealth groups j (P0-50, P50-90, P90-100)
  - $B_{i,j,t} = B_{i,j,2000} \cdot \frac{B_{j,2006}}{B_{j,2000}} \cdot \frac{B_t^f / B_{2000}^f}{B_{2006}^f / B_{2000}^f}$

- For the period 2006-2020 :
  - Same growth rate for every wealth groups corresponding to the evolution of the fiscal bequest flow
  - $B_{i,j,t} = B_{i,j,2006} \cdot \frac{B_t^f}{B_{2006}^f}$

Following the previous methodology, we have now a microsimulation model :

- Replicating the distribution of wealth at death for the period 2000-2020 : $\{W_{i,t}, X_{i,t}\}$

- Computing the individual bequest tax receipt : $T_{i,t} = T_t(W_{i,t}, X_{i,t})$

- Computing the individual after tax bequest : $w_{i,t} = W_{i,t} - T_t(W_{i,t}, X_{i,t})$

FIGURE 5: Comparison of the simulated and observed proportion of taxed estates, 2000-2009
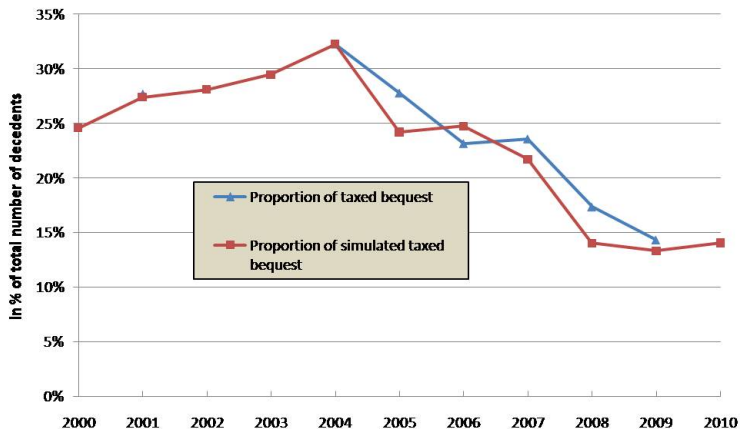
FIGURE 6: Comparison of the simulated and observed estate tax receipts, 2000-2009
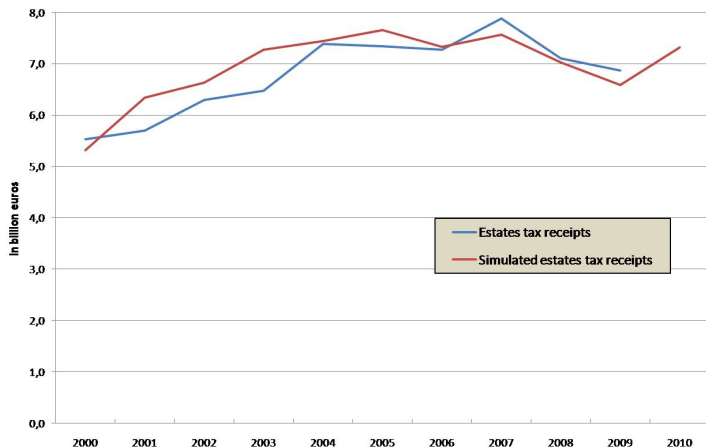
French inheritance tax design

- Bequest tax computed on the wealth received by each successor (part successorale)

- Progressive tax schedule and tax exemption depending on the kin relationship (children, spouse vs strangers) between the decedent and the successor

- Before 1992 : Complete unification of bequest and gift taxation
    - inter-vivos gifts are « recalled » when the donor dies and are added to the bequest left at death
      $\Rightarrow$ full tax neutrality between gifts and bequests
    - Example :
      G : gift received, B : bequest received, E : exemption, T() : inheritance tax function
    - At the moment of the donation, tax is equal to $T(G-E)$
    - At the death of the donor, tax is equal to $T(G+B-E)-T(G-E)$

French inheritance tax reform

- 1992 : « 10 year rule »for donations
    - Gifts made more than 10 years before the time of death are not recalled any more
    - The tax exemption is renewed every 10 years
    - Each parent could transmit to each of their children 46 000€ every 10 years

- 2004 :
    - Children exemption increased from 46 000€ to 50 000€
    - Creation of a supplementary exemption of 50 000€ to share between the spouse and the children

- 2005 : « 10 year rule » becomes « 6 year rule »

- 2007 : Loi TEPA
    - Full exemption for spouse
    - Children exemption increased from 50 000€ to 150 000€

Total cost of the estate tax reforms by using the constant average estates tax rate method :

- In 2000 : estates tax rate = $t_{B,2000} = \frac{T_{B,2000}}{B_{2000}}$

- In absence of reform since 2000, the estates tax rate should be constant over time and equal to $t_{B,2000}$:
  $\Rightarrow T^{\star}_{B,t} = t_{B,2000} \cdot B_t$

- In absence of the 2007 reform,
  $\Rightarrow T^{\sim}_{B,t} = t_{B,2006} \cdot B_t$

- With the reforms, the estate tax receipts simulated is :
  $T_{B,t} = \sum_{i=1,...,N} T_t(W_{i,t}, X_{i,t})$

- Total cost of the reforms = $T_{B,t} - T^{\star}_{B,t}$
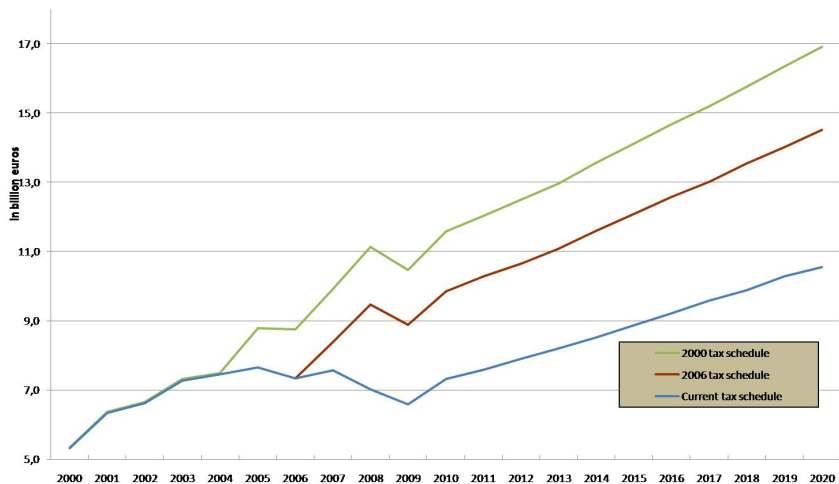
- Cost of the 2007 reform = $T_{B,t} - T^{\sim}_{B,t}$

FIGURE 7: Estates tax receipts with and without reforms, 2000-2020
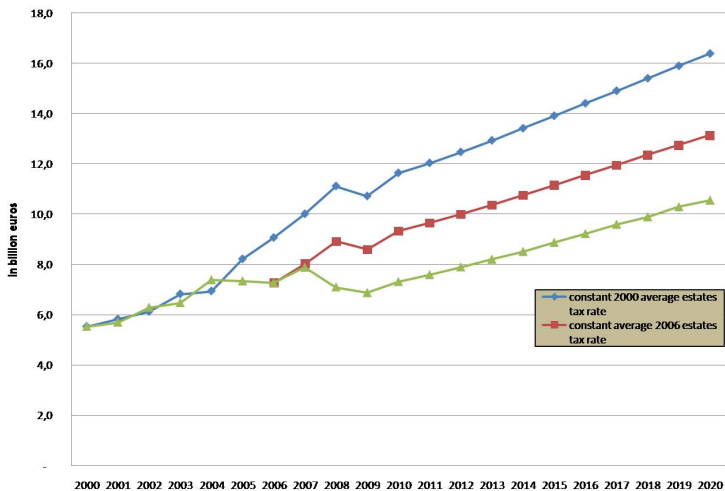
Total cost of the estate tax reforms by using the contrefactual approach :

- Comparison of inheritance tax receipts and tax incidence **after the reform** in 2008-2020 and **in absence of reform** in 2008-2020

- Accounting method : no response from the taxpayers to the reform

$$T_{2008} - T_{2008}^{\star} = \sum_{i=1,\dots,N} T_{2008}(W_{i,2008}, X_{i,2008}) - T_{2008}^{\star}(W_{i,2008}, X_{i,2008})$$

FIGURE 8: Estates tax receipts with and without reforms, 2000-2020

Total cost of the estates tax reforms in 2010 :

- With the constant average estates tax rate method :
  - 4.6 billion euros for all the reforms and 2.5 billions for the 2007 reform

- With the contrefactual approach :
  - 4.3 billion euros for all the reforms and 2.5 billions for the 2007 reform

FIGURE 9: Effect of the reforms on the proportion of taxed estates, 2000-2020
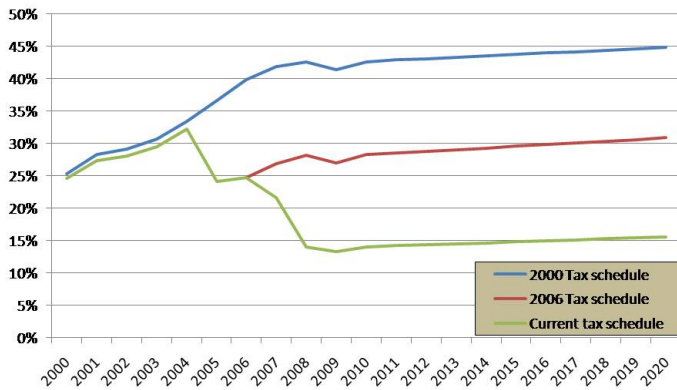
FIGURE 10: Effect of the reforms on the proportion of taxed surviving spouse, 2000-2020
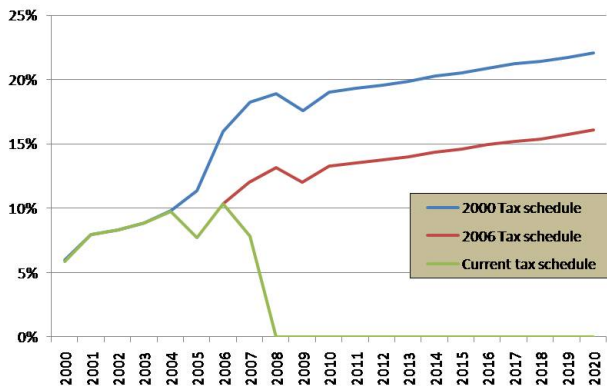
FIGURE 11: Effect of the reforms on the proportion of taxed children, 2000-2020
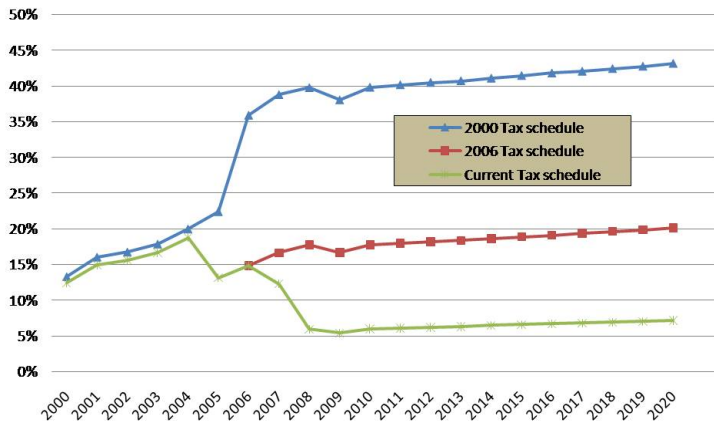
Who has benefited from the estate tax reforms ?

TABLE 3: Effect of the reforms on the tax rate by wealth groups (surviving spouse)

	2000	2010		
		Without reform	With 2005-2006 reforms	with 2005-2007 reforms
P0-50	0%	3%	0%	0%
P50-90	1%	3%	2%	0%
P90-99	3%	8%	6%	0%
P99-100	18%	22%	22%	0%

Who has benefited from the estate tax reforms ?

TABLE 4: Effect of the reforms on the tax rate by wealth groups (Children)

	2000	2010		
		Without reform	With 2005-2006 reforms	with 2005-2007 reforms
P0-50	1%	5%	1%	0%
P50-90	2%	7%	3%	1%
P90-99	10%	14%	11%	6%
P99-100	22%	25%	24%	22%

- 2005-2006 Reforms : Maintain the estate tax rate at its level of 2000
  - For the children of the lowest 99% estates
  - For the surviving spouse of the lowest 90% estates

- 2007 Reform : Played only on the top 10% Estates
  - For the surviving spouse :
    - Fully exempted the top 10% richest estates going to the surviving spouse

  - For the children :
    - Reduced by 50% the bequest tax rate of P90-99 relatively to its level in 2000
    - Maintain the bequest tax rate of the top 1% estate at its level of 2000

Long term impact of the 2007 reform with behavioral response

- First scenario : No behavioral response (1)
- Second scenario : Fully Tax optimisation strategy via lifetime gifts. Everybody gives to each of his children 150 000 € every 6 years starting at 50 (2)

TABLE 5: Long term effects of the 2007 reform on the tax rate by wealth groups (Children)

	2000	2040		
		Without 2007 reform	With 2007 reform (1)	with 2007 reform (2)
P0-50	1%	2%	0%	0%
P50-90	2%	5%	2%	0%
P90-99	10%	14%	8%	0%
P99-100	22%	26%	24%	11%

Conclusion

- Total cost of the reforms in 2010 :
    - 4.6 billion euros including 2.5 billions for the 2007 reform

- 2004-2005 reforms :
    - Have compensated the increase of the wealth during the period
    - Same tax rate as in 2000

- 2007 reform :
    - Has benefited mainly to the top 10%
    - Bottom 80% was already exempted
    - All the surviving spouse and 95% of the children are now exempted

Conclusion

- On the long term :

    - Without tax optimisation : 5 billion euros
    - Tax optimisation could lead to exempted 99% of the children and cost 13 billion euros

- 2012 reform has limited the effects of the 2007 reform

    - « 6 year rule » is now « 15 year rule »
    - Children tax exemption goes from 150 000€ to 100 000€