

# **The recent evolution of income inequality in Uruguay.**

**An analysis based on household surveys and income  
tax micro-data**

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# Outline

I. Motivation

II. Previous studies

III. Methodology

IV. Preliminary results

- Household surveys vs. tax data
- Top incomes
- Taxation

V. Concluding remarks

# I. Motivation

- Uruguay: rapid economic growth since 2005 and declining trend in income inequality since 2008. 3 percent points in 2009-2011
- All studies based on hh surveys data. Differential reporting in household surveys by income source (Székely and Hilgert, 1999; Grosskoff (1993); Mendive and Fuentes (1997); Carella and Amarante, 1997; Amarante *et al.*, 2007)
- Availability of new sources of information based on income-tax records for 2009-2011
- Expanding literature on top incomes (WTIDB; Atkinson et al, 2011)
- Policy debates on how much to tax the rich

## II. Objectives

**a) Analyze differences in reported personal income, inequality levels and trends, between ECH and income tax micro-data.**

**b) Provide comparable information on top incomes shares (following Atkinson et al (2011))**

**c) Assess progressivity and redistribution of the Uruguayan personal income tax (and checking the validity of pre-tax income imputations carried out on household surveys)**

## II. Personal income taxation in Uruguay

- The Uruguayan tax system mainly relies on indirect taxes (65% of total fiscal revenue).
- In 2006, the personal income tax was reintroduced as part of a broader tax reform: IRPF and IASS
- Dual tax scheme: progressive tax schedule on labor income and pensions, and flat tax rate on capital income
- Differential tax rates within capital income: housing rents 12%; bussiness profits 7%; interests: 3-7%
- Tax unit: individual. Option for married couples in the case of labor income (1.8%).
- Retention agents: social security institute (BPS), firms, banks

## III. Methodology

**a) Harmonization of household surveys and income tax micro-data: reconstructing pre-tax income for formal workers, capital owners and pensioners**

**b) Estimation of top income shares following top income studies (Atkinson et al, 2011)**

**-Population control (population 20 and more)**

**- Control income (lack of official estimations of household income; provisional estimation based on information from national accounts and**

**-Most top incomes studies consider 80% of other sources).  
Main problem: estimating operating surplus appropriated by households NAS hh income**

**c) Redistribution and progressivity indexes**

# Data

## Household surveys: ECH 2009-2011

- Representative sample
- Labor income and pensions reported after taxes; not an explicit criterion on capital income
- Information on contributory status of labour force
- Caveats: misreporting of capital income and top incomes; lack of information of legal status of firms in the case of self-employed

## Income tax records: IRPF and IASS 2009-2011

- Micro-data (except for interests from bank deposits and non nominative shares)
- Tax unit: individuals
- Information on gross income, tax burden, deductions, sex, age, industry
- Coverage: 80-85% population aged 20 and more
- Caveats: tax evasion, tax avoidance, exemptions, increasing formalization

# IV. Main results

## IV.1 Harmonization ECH-DGI

- Estimation of household income from NAS 68 to 70% from GDP in 2009-2011
- Increasing participation of labour income in primary distribution and hh. income
- % of estimated NAS household income: DGI income tax micro-data: 62,8%; adjusted ECH: 65,4%; Unadjusted ECH: 80,2%

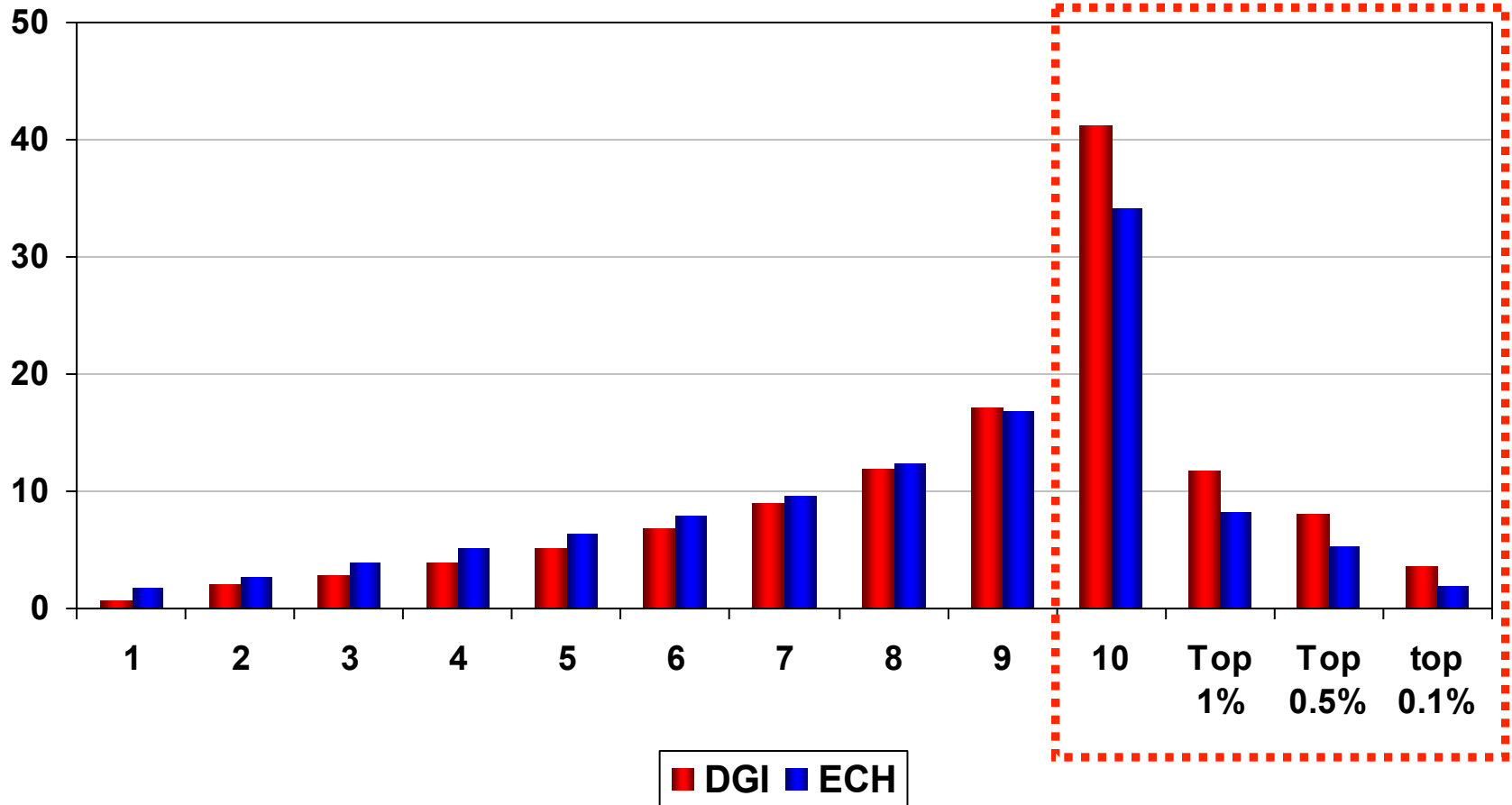
### % ECH/DGI

Income source	Earners	Income
<i>Labour income</i>	94.0	112.0
<i>Capital income</i>	56.0	70.0
Business profits/dividends	59.0	50.0
Housing rents	57.0	85.0
Other capital income	62.0	65.0
<i>Pensions</i>	88.0	90.0

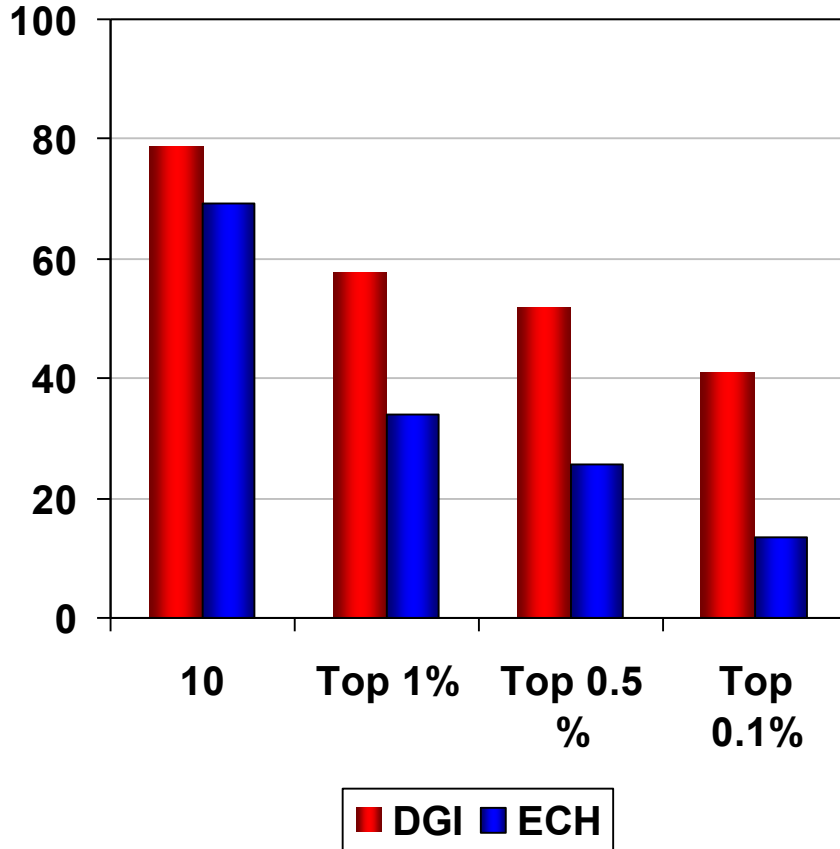


# ECH reports a lower income share of top groups

Total income



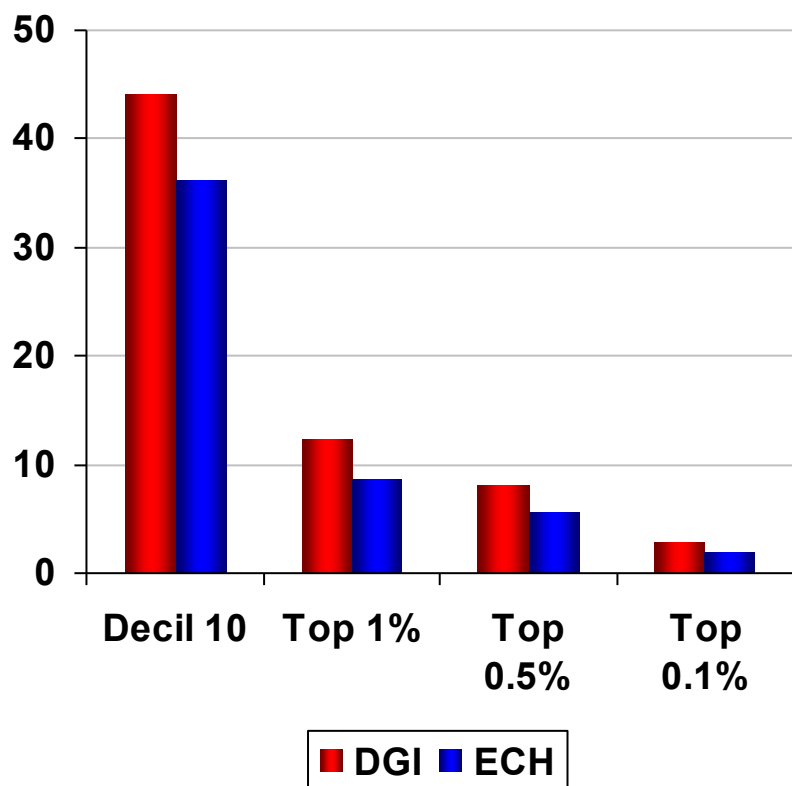
### Capital income



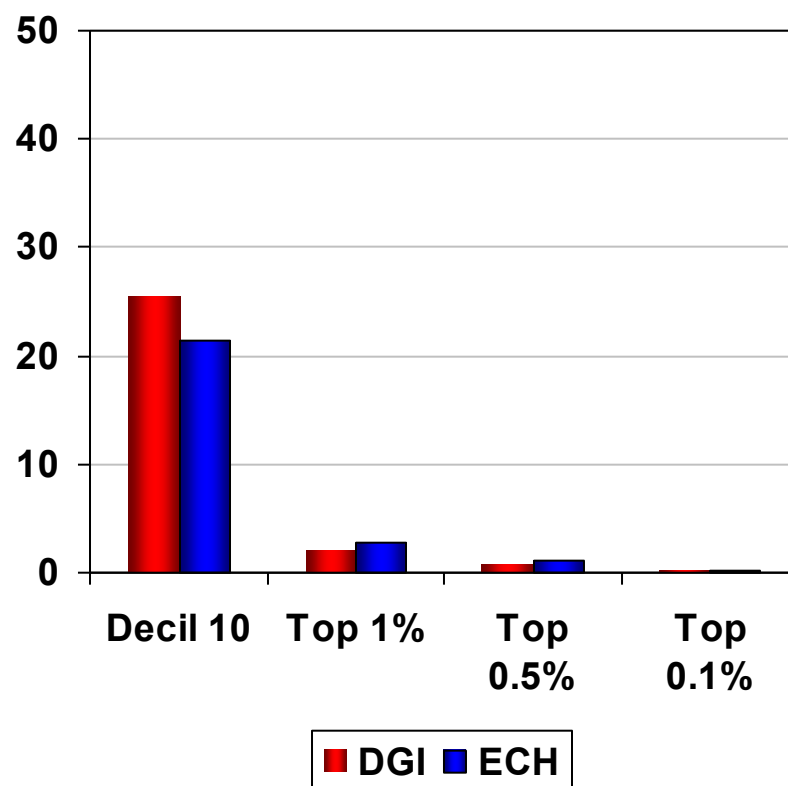
Top	Business profits/ dividends		Housing rents	
	DGI	ECH	DGI	ECH
1%	85.4	55	36.3	27.3
0,5%	80	46.3	30.4	18.9
0,1%	64.8	33.7	22.3	6.3

- ECH underestimates capital income shares in top groups

### Labour income

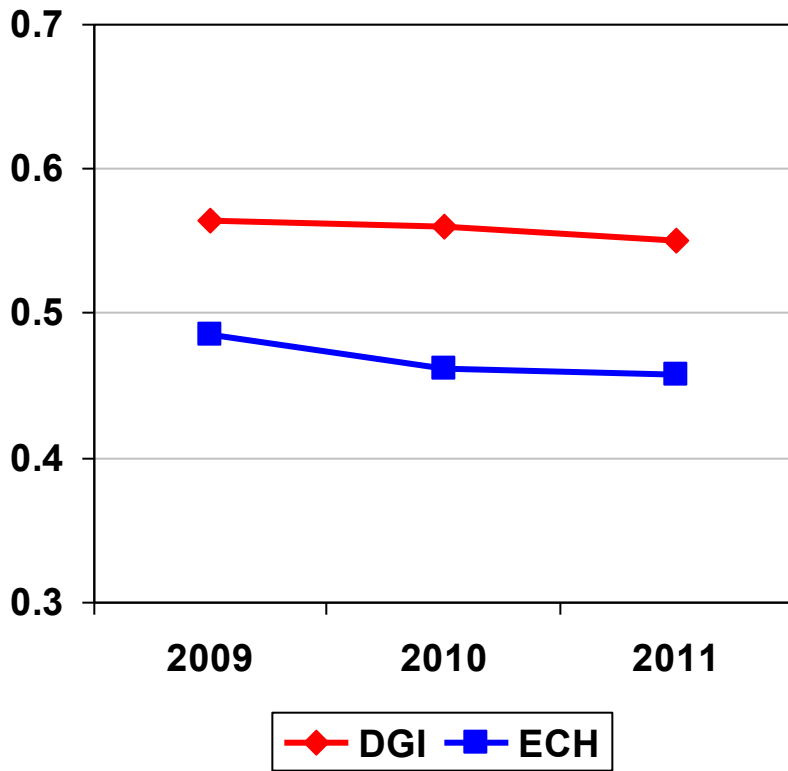


### Pensions

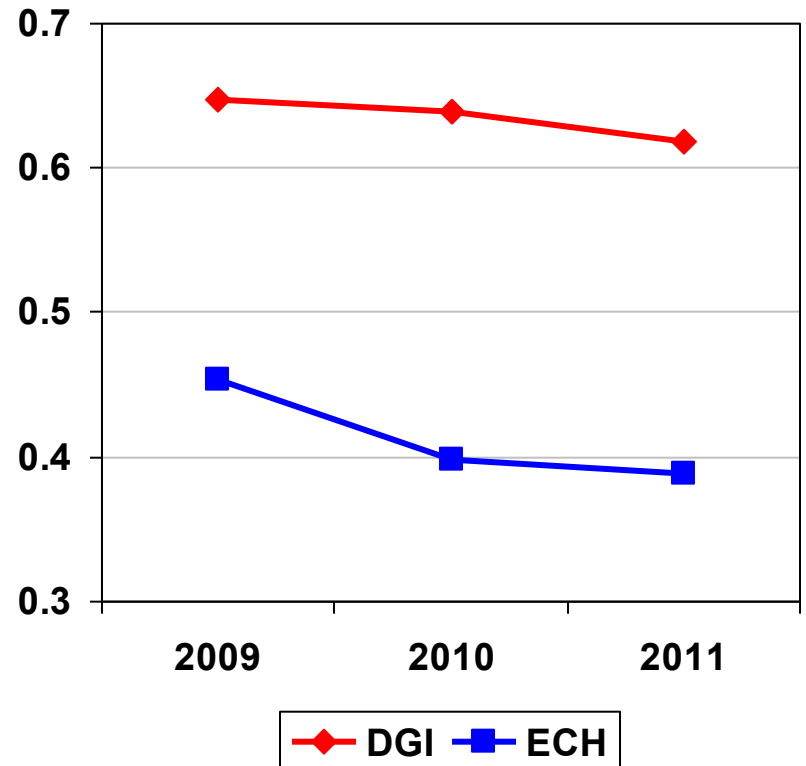


Inequality measures yield higher levels in DGI, but trends are similar, though fall is milder in DGI than ECH

**Gini index**



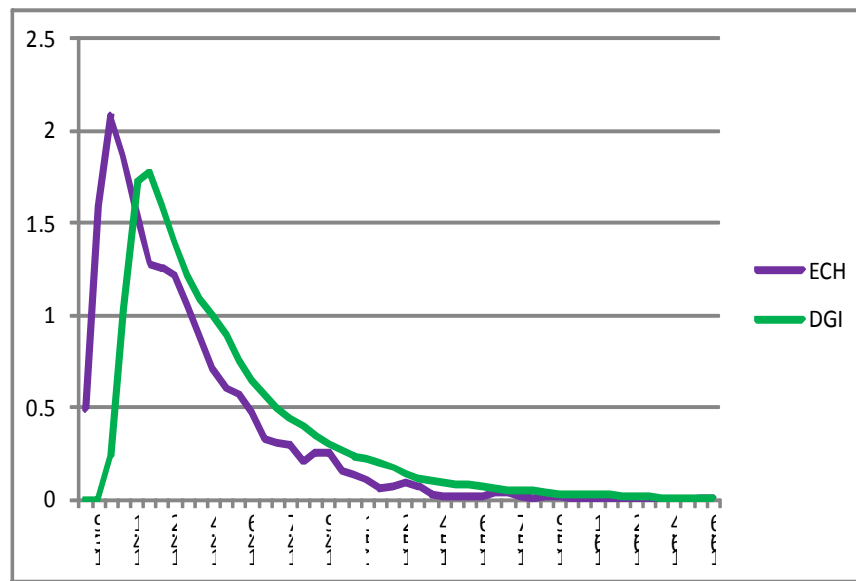
**Theil index**



# IV.2 Top incomes

(following Atkinson et al, 2011)

Year	Threshold P99 ECH/DGI	Top 1% share		Average income top 1%		
		ECH	DGI	ECH	DGI	ECH/DGI
2009	100.1	11.5	11.3	1,787,439	1,819,004	98.3
2010	93.6	10.3	11.5	1,722,218	2,115,462	81.4
2011	87.7	9.3	11.7	1,795,620	2,509,416	71.6



## IV.3. Redistribution and progressivity analysis

Redistribution indexes. Income taxation . DGI and adjusted ECH. 2011

	Total		Labour income		Pensions		Capital income	
	DGI	ECH	DGI	ECH	DGI	ECH	DGI	ECH
Pre-tax Gini index	0.55	0.453	0.544	0.407	0.486	0.453	0.848	0.549
Post-tax Gini index	0.530	0.433	0.523	0.384	0.469	0.444	0.851	0.552
Reynolds-Smolensky	0.019	0.0202	0.0211	0.0229	0.016	0.014	-0.001	-0.003

## Effective income tax rates. 2011

Percentile	Total		Labour income		Pensions		Capital income	
	DGI	ECH	DGI	ECH	DGI	ECH	DGI	ECH
Decile 1	0.4	0.0	0.1	0.0	0.0	0.0	11.5	10.0
Decile 2	0.2	0.0	0.0	0.0	0.0	0.0	11.7	10.0
Decile 3	0.1	0.1	0.0	0.0	0.0	0.0	11.7	11.6
Decile 4	0.2	0.1	0.0	0.0	0.0	0.0	11.8	11.4
Decile 5	0.2	0.1	0.0	0.0	0.0	0.0	11.8	11.5
Decile 6	0.2	0.1	0.0	0.0	0.0	0.0	11.7	11.2
Decile 7	0.2	0.4	0.0	0.2	0.0	0.7	11.7	11.3
Decile 8	1.2	1.9	0.9	1.7	1.6	2.3	11.6	11.3
Decile 9	4.0	4.7	3.9	4.6	3.9	4.3	11.4	11.3
Decile 10	10.8	10.5	11.1	10.6	10.4	9.6	9.0	10.4
Top 1%	14.1	13.6	15.5	14.3	13.0	11.0	8.4	9.9
Top 0,5%	14.5	14.3	16.6	15.2	11.3	11.2	8.3	9.6
Top 0,1%	14.3	15.2	19.3	17.0	8.0	6.3	8.2	8.7

## V. Concluding remarks

- Inequality reduction on primary income plus pensions robust to data source
- ECH captures a lower proportion of capital income, particularly in the case of business profits/dividends
- Slightly increase in the share of top 1% in DGI (11.7% in 2011) and decreasing in ECH. Top 1% share lower than Colombia but higher than most developed countries (except for Switzerland and US)
- Estimations might be a lower bound
- High share of capital in top income groups composition
- IT: + redistributive effect in pensions and labour income; - effect in the case of capital income



- Information requirements
  - Need of official estimates of NAS household account
  - Supervision of top groups reporting in ECH
  
- Further steps:
  - analysis on non-nominative capital income sources
  - Income tax data base can be merged with other existing administrative records (i, e: non contributory transfers) to better assess the distribution of income in Uruguay
  - Joint analysis of firms and individual data