Lost in Progressivity:

Evidence from the Personal Income Tax in Italy

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Introduction

Personal Income Tax (PIT) - (IRPEF – *Imposta sui redditi delle persone fisiche*) provides about **40 per cent of total revenues** (Ministry of Economy and Finance, 2023)

Art. 53 – Constitution *"Every person shall contribute to public expenditure in accordance with their capability. The tax system shall be progressive".*

Need for tax reform

i. Law n. 111/2023 – Delegation to the Government for Tax Reform

   Article 5 - **Guiding principles and criteria for the revision of the Personal Income Tax System**

   Revision and gradual reduction of the PIT, while respecting the **principle of progressivity** and in view of the transition of the system to a **single tax rate**

ii. Law n. 213/2023 – Budget Law for 2024

   Changes in the combination tax brackets-tax rates

   Intervention valid only for 2024

Income brackets	IRPEF 2023	IRPEF 2024
Up to 15,000 €	23%	**23%**
Between 15,000 € and 28,000 €	25%	
Between 28,000 € and 50,000 €	35%	35%
Over 50,000 €	43%	43%

→ **… No indication of intervention in the tax base**

Our study

Personal Income Tax

- Main source of **progressivity** in the Italian tax system (Bank of Italy, 2021)
- Weaknesses, critical issues and controversies in the structure of IRPEF → **inefficient instrument** to achieve redistribution (Pedone, 1973; Forte, 2016)
- Original provision of a **Comprehensive Income Tax** (CIT) – deviation from the theoretical framework and continuous exclusion of various sources of income (Pedone, 2014; Stevanato, 2021)
- Tax burden and progressivity limited mainly to two income categories: employees and pensioners (Corte dei Conti, 2021)

Our contribution

For the Italian case:

We assess and quantify how **the process of erosion of the tax base has impacted on the degree of progressivity** of IRPEF:

- *Cumulative effect* of exclusions from the tax base
- Role of *each component*

We compare the current system (IRPEF + withholding taxes) with:

- *Comprehensive income tax* – **progressivity by tax brackets**
- *Comprehensive income tax* – **progressivity by deduction**

Literature review

- Original framework (Cosciani Commission, 1962-1964) → idea of adopting a definition of the tax base as close as possible to the **comprehensive income tax model** (Schanz, 1896; Haig, 1921; Simons, 1938) + **progressivity by tax brackets**

- **However**
  - Introduction of IRPEF (1974) → exclusion of interest on government bonds (exempted) and of financial assets (withholding tax) → "*Meritorious but illusory choice*" (Pedone, 2014) – 32 tax brackets and last marginal tax rate equal to 72 per cent
  - During the years, **continuous process of erosion**, continuous legislative interventions of a marginal nature, and continuous proliferation of bonus and tax expenditure (Pellegrino and Panteghini, 2020; Bank of Italy, 2021, Boscolo, 2021)
  - Result → Around 80 per cent of the IRPEF tax base is composed of income from employment and pensions (Corte dei Conti, 2021)

Is IRPEF the ideal instrument in terms of **redistribution and progressivity aims**?

The effects of erosion → **Narrowing of the application of progressivity** (Bises and Scialà, 2014; Boscolo, 2021);
Breach of the principle of horizontal equity (Pellegrino and Vernizzi, 2011; Liberati, 2020);
Loss of revenue (Ministry of Economy and Finance, 2022)

→ **The need for a major revision of tax design** (Baldini, 2021; Stevanato, 2021)
→ **...** Only then should the **progressive system** be reconsidered → **toward the flat tax rate ?** (Stevanato, 2016; Baldini and Rizzo, 2020)

Methodology and data

Micro-simulation model (*EGaLiTe model,* Gastaldi *et al.*, 2017)

Data: Survey on Household Income and Wealth (SHIW) – Bank of Italy – **2016**

Sample: 7,420 households – 16,464 individuals

Reweighting procedure (Deville and Sarndal, 1992; Creedy, 2003; Pacifico, 2014)

Assumptions

1) No tax evasion

2) No behavioural responses

Tools

- Gini indices pre (G_Y) and post tax (G_{Y-T})
- Reynolds-Smolensky index ➜ $RS = G_Y - G_{Y-T}$ ➜ $RS = K \frac{1}{1-t} + R = (C_{Y,T} - G_Y) \left(\frac{t}{1-t}\right) + R$
- Kakwani index ➜ $K = C_{Y,T} - G_Y$
- Re-ranking effect ➜ $R = G_{Y-T} - C_{Y-T,Y}$
- Lorenz curves

Lost in progressivity

Escape from progressivity...

Source of income	Year of exclusion	Legislation	Detail
Interest on government securities	1973	Law n. 601/1973 - Exclusion from progressive personal income tax *Exempted from taxes*	Withholding tax at 6.25 per cent (1986 – Law Decree n. 556/1986) – raised to **12.5 per cent** in 1987 (Legislative Decree n. 239/1987)
Financial assets	1973	Law n. 601/1973 - Exclusion from progressive personal income tax *Withholding taxes*	Withholding taxes at **26 per cent**
Cadastral value first dwelling	2001	Law n. 388/2000	Tax allowance of one million lire from the cadastral income to determine the total IRPEF income – Law n.500/1992. Complete exclusion in 2001
Cedolare secca – rental income from residential properties	2011	Legislative Decree n. 23/2011	Possibility of opting for the cedolare secca regime instead of IRPEF - fully subject to the **10 per cent** rate for controlled rents or **21 per cent** otherwise
Self-employed flat-rate scheme	2019	Law n. 145/2018	Self-employed individuals with revenue below € 65,000 and expenses for additional work and employment below € 20,000 may opt for the scheme. **Tax rate of 15 per cent** on the tax base obtained by applying specific productivity coefficients
Self-employed flat-rate scheme – extension	2023	Law n. 197/2022	Extension of the revenue limit to € 85,000

Lost in progressivity

I step: the erosion of IRPEF

Table 1 – Redistributive effects

	CIT	(1)	(2)	(3)	(4)	(5)
Gini pre-tax index	0.4461	0.4461	0.4461	0.4461	0.4461	0.4461
Gini post-tax index	0.3938	0.3948	0.3959	0.3971	0.3986	0.3990
Reynolds-Smolensky index	0.0523	0.0513	0.0502	0.049	0.0475	0.0471
Average tax rate	0.1825	0.1809	0.1757	0.1739	0.1702	0.1694
Kakwani index	**0.2374**	0.2356	**0.2387**	0.2358	0.2370	0.2363
Re-ranking effect	0.0007	0.0007	0.0007	0.0007	0.0011	0.0011

Source: Authors' elaborations.

(1) (CIT – interest – financial assets) + proportional taxes on capital incomes
(2) CIT – interest – financial assets – cadastral value
(3) (CIT – interest – financial assets – cadastral value – rental income) + proportional taxes on capital incomes + cedolare secca tax
(4) (CIT – interest – financial assets – cadastral value – rental income – self-employed income (2019)) + proportional taxes on capital incomes + cedolare secca tax + self-employed flat tax (2019)
(5) (CIT – interest – financial assets – cadastral value – rental income – self-employed income (2023)) + proportional taxes on capital incomes + cedolare secca tax + self-employed flat tax (2023) → **IRPEF + withholding taxes**

Continued *erosion of the tax base* → Continued **erosion of the progressive power of the tax** → **reduction** of the Kakwani index

→ Proportional deviation reduction

Increasing in the re-ranking effect → **increasing in the horizontal inequality**

Lost in progressivity

II step: the role of each exclusion

Table 2 – Redistributive effects of each exclusion

	CIT	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
Gini pre-tax index	0.4461	0.4461	0.4461	0.4461	0.4461	0.4461	0.4461
Gini post-tax index	0.3938	0.3944	0.3942	0.395	0.3951	0.3952	0.3958
Reynolds-Smolensky index	0.0523	0.0517	0.0519	0.0511	0.0510	0.0508	0.0503
Average tax rate	0.1825	0.1813	0.1821	0.1772	0.1807	0.1785	0.1777
Kakwani index	**0.2374**	0.2366	0.2364	**0.2406**	<u>0.2346</u>	**0.2394**	**0.2385**
Re-ranking effect	0.0007	0.0007	0.0007	0.0007	0.0007	0.0012	0.0013

Source: Authors' elaborations.

(1) CIT – interest on government bond + withholding tax on interest
(2) CIT – financial assets + withholding tax on financial assets
(3) CIT – cadastral value
(4) CIT – rental income + cedolare secca tax
(5) CIT – self-employed income (2019) + self-employed flat tax
(6) CIT – self-employed income (2023) + self-employed flat tax

Cedolare secca regime ➔ greater reduction in the degree of progressivity (- 1.20% compared to CIT system)

Cadastral income ➔ slight increase in progressivity - **<u>no</u>** presence of withholding taxes (no wealth taxation)

Self-employed income ➔ slight increase in progressivity (due to the concentration of the self-employed along the distribution) **<u>but</u>** higher increase in the re-ranking effect

III step: the flat tax scheme

- Revenue neutral

- Equal redistributive effects

IRPEF + withholding taxes

Table 3 – Redistributive effects of IRPEF and withholding taxes

	IRPEF + withholding taxes
Reynolds-Smolensky index	0.047
Kakwani index	0.236

Source: Authors' elaborations.

Progressivity by deduction

$$T = t\,(Y - d)$$

T = tax liability

t = tax rate

Y = tax base

d = tax allowance

Table 4 – Tax rate and tax allowance – revenue and redistributive effect neutral

	CIT flat tax
Tax rate	32.5 %
Tax allowance	11,296 €

Source: Authors' elaborations.

III step: the flat tax scheme

Lorenz curves of net income - differences

Figure 1 – Lorenz curves
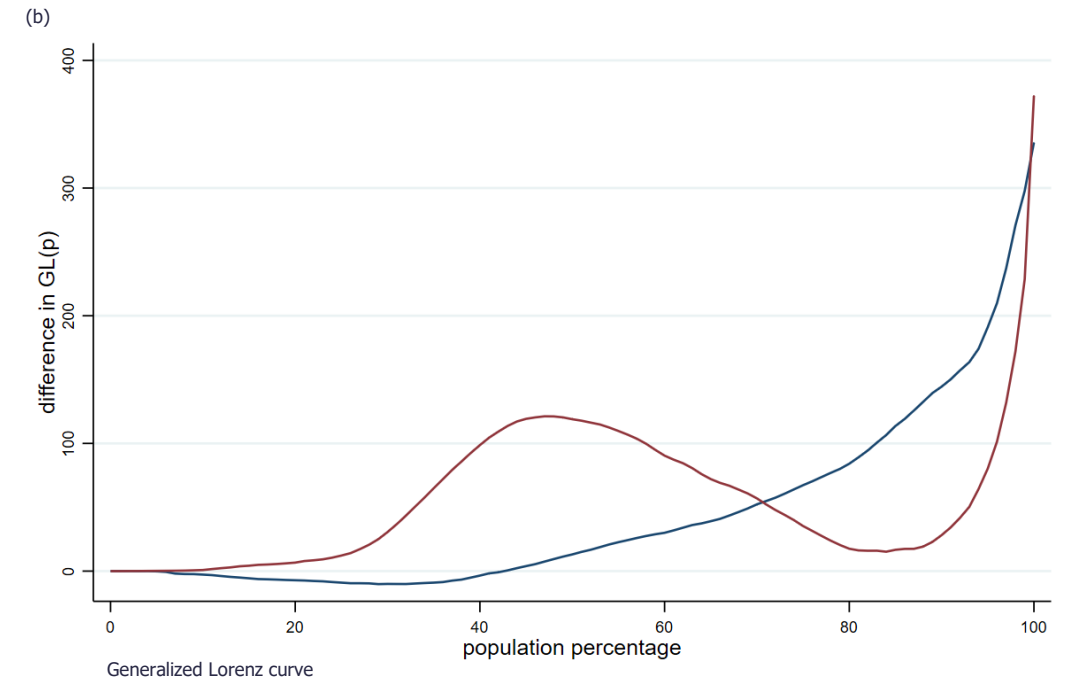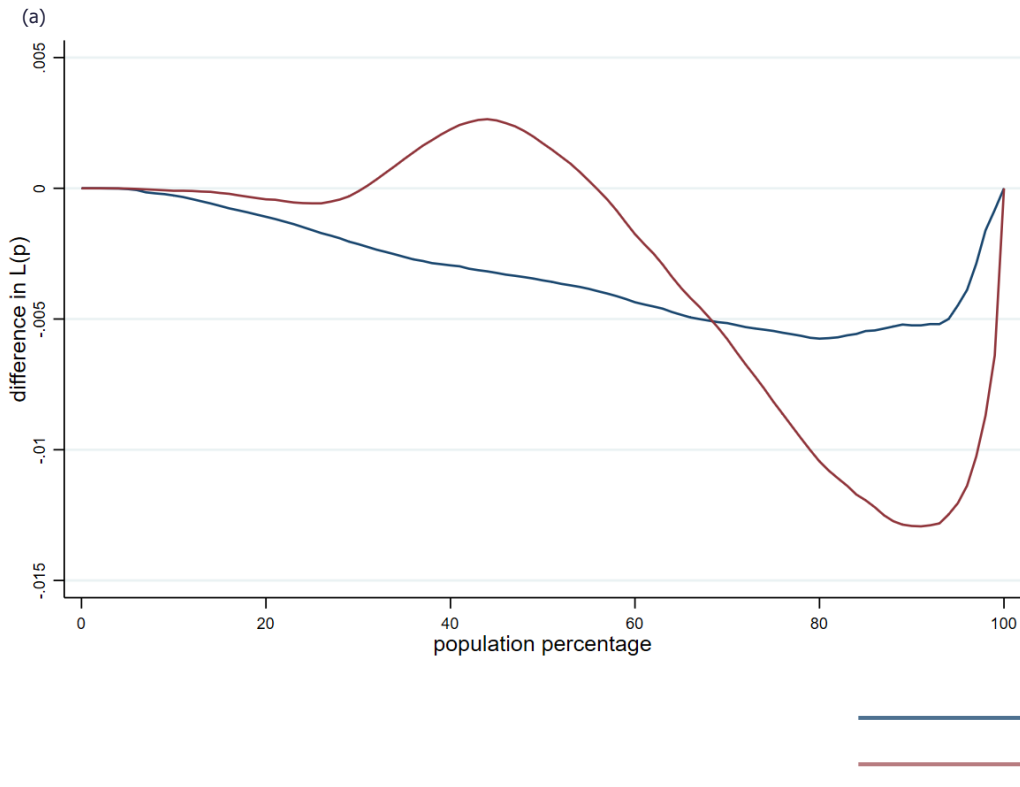
Source: Authors' elaborations.

Comparison of all the system : average tax rate

Figure 2 – Average tax rate

Source: Authors' elaborations.

- **IRPEF + withholding system**
  Wide dispersion of the average tax rate

- **CIT_progressivity by deduction**
  Reducing the tax burden on the middle class

Conclusions

Italian Personal Income Tax

- Pillar of the Italian tax system but **«weak pillar»** → critical issues and controversies in the structure of IRPEF → debates on the **progressivity of IRPEF**
- **… but what about the erosion of the tax base?**

We have investigated **the role of the continuous exclusion of the source of income from the IRPEF tax base:**

- **Erosion of the progressive power** of IRPEF
- Increasing in **the horizontal inequality**
- **Loss of revenue**

Finally, we have shown that is possible to implement a system with a **comprehensive tax base and with progressivity by deduction** (*revenue neutral and with the same redistributive effects*) → **reduction in the dispersion of average tax rate**

broadening of the tax base subject to progressivity

reducing the burden on the middle class

Thank you for your attention

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Appendix

Microsimulation model

Construction of the model

1) Identification of total income and of the IRPEF tax base
2) Grossing-up procedure
3) Application of IRPEF legislation
4) Survey weight calibration
5) Model validation
6) Simulation of future IRPEF legislation

Grossing-up procedure

Conversion of income subject to taxation from net to gross amounts → SHIW data do not contain information on gross income values → a hypothetical value of gross income is assigned to each taxpayer, then the IRPEF legislation according to the 2016 policy year is iteratively simulated through an algorithm in order to obtain a net income that is compared to the net income data in the Survey → if the two income are close, given a small margin of error, the procedure stopped

Data

Survey on Household Income and Wealth – Bank of Italy – 2016

16, 464 individuals and 7,421 households

Data on income, wealth and socio-demographic characteristics

Appendix

Microsimulation model

Re-weighting procedure

- This technique is often employed in micro-simulation models, particularly if the aim is to conduct redistributive analyses

- By building such models on survey data, the results obtained in terms of tax aggregates often deviate from what is reported in other official sources, such as administrative data on the tax-benefit system

- The procedure has employed the information provided by the Italian Ministry of Economy and Finance, in the form of aggregata data from tax returns - with reference to the 2017 Declarations, tax year 2016 → with the external total of the exact number of the categories considered it is possible to reweight the corresponding sample gorups

- The technique has been applied on: taxpayers by income classes, total number of taxpayers, total number of employee, total number of self-employee

Appendix

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Assumptions about the withholding taxes

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Definition of capital income

Interest on **other financial assets** (excluding government bonds) and **dividends**

Cedolare secca tax

We know (MEF, 2022) that **31 per cent** of taxpayers choose the **10 per cent rate**, the remainder the **21 per cent rate** → *Weighted average of the tax rate*

Self-employed flat tax

The tax base is determined by applying **sectoral productivity coefficients**. On the basis of the available data, we can identify:

- Wholesale and retail trade → coefficient equal to 40 per cent

- Professional activities → coefficient equal to 78 per cent

Appendix

Loss of revenue

Compare to a Comprehensive Income Tax system

	Loss of revenue (€)
Interest on government bond	1,802 bln
Capital income	1,559 bln
Cadastral value	4,737 bln
Rental income	3,233 bln
Self-employed flat tax (2019)	6,802 bln
Self-employed flat tax (2023)	7,117 bln

Source: Authors' elaborations.

Appendix

Concentration coefficients

Income

Ranking by total income	
Total income (no exempt income)	0.4497
Total income (with exempt income)	0.4461
Interest on government bonds	0.5672
Capital income	0.6761
Rental income	0.5918
Self-employed income_2019	0.2937
Self-employed income_2023	0.3464
Employee income	0.3691
Pension income	0.2813
Cadastral value_ first dwelling	0.3013
Cadastral value_ second dwelling	0.6408

Source: Authors' elaborations.

Tax

Ranking by total income	
Tax on interest on government bonds	0.5672
Tax on capital income	0.6761
Tax on rental income	0.5918
Tax on self-employed income_2019	0.2755
Tax on self-employed income_2023	0.3202
CIT	0.6836
IRPEF	0.6876
IRPEF + withholding taxes	0.6826

Source: Authors' elaborations.

Appendix

I step: the erosion of Irpef

Lorenz curves - differences


Generalized Lorenz curve
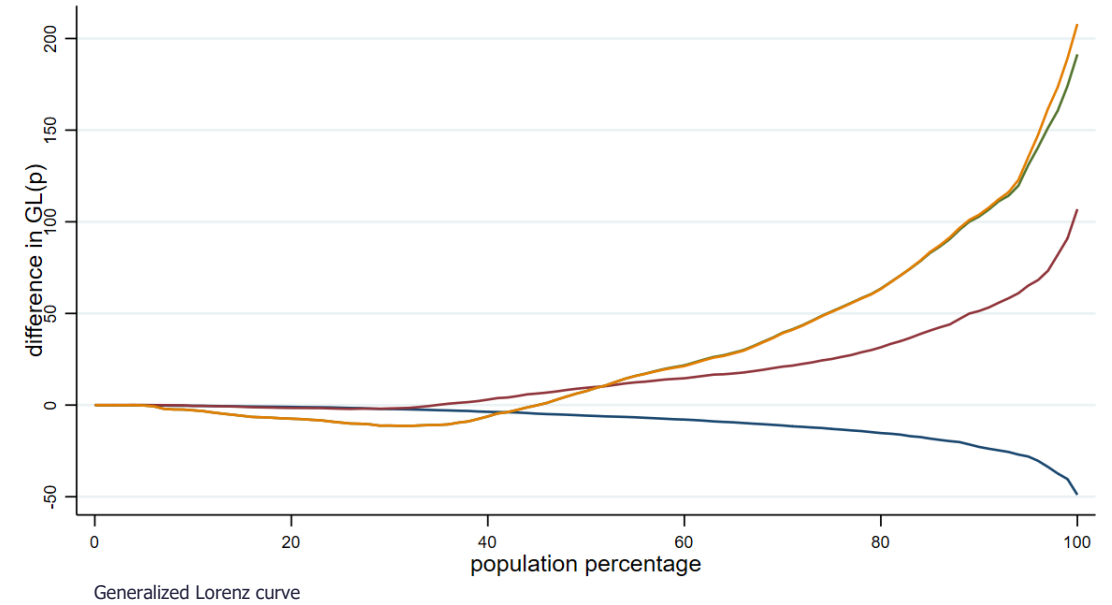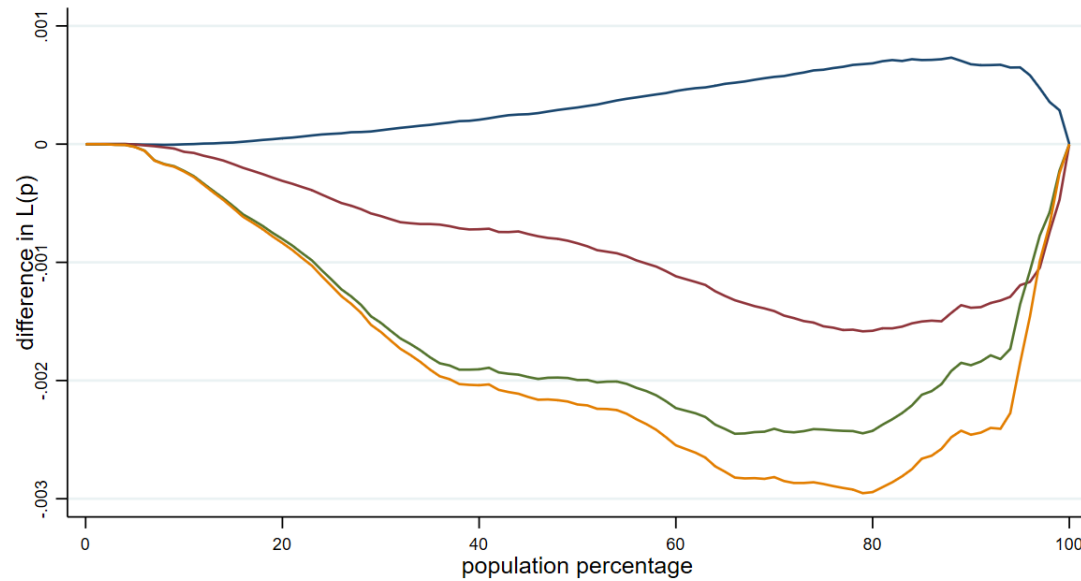
- CIT – capital income + capital taxes
- CIT – capital income – rental income + capital taxes + cedolare secca tax
- CIT – capital income – rental income – self-employed income + capital taxes + cedolare secca tax + self-employed tax (2019)
- CIT – capital income – rental income – self-employed income + capital taxes + cedolare secca tax + self-employed tax (2023)

Source: Authors' elaborations.

Appendix

II step: the role of each exclusion

Lorenz curves - differences
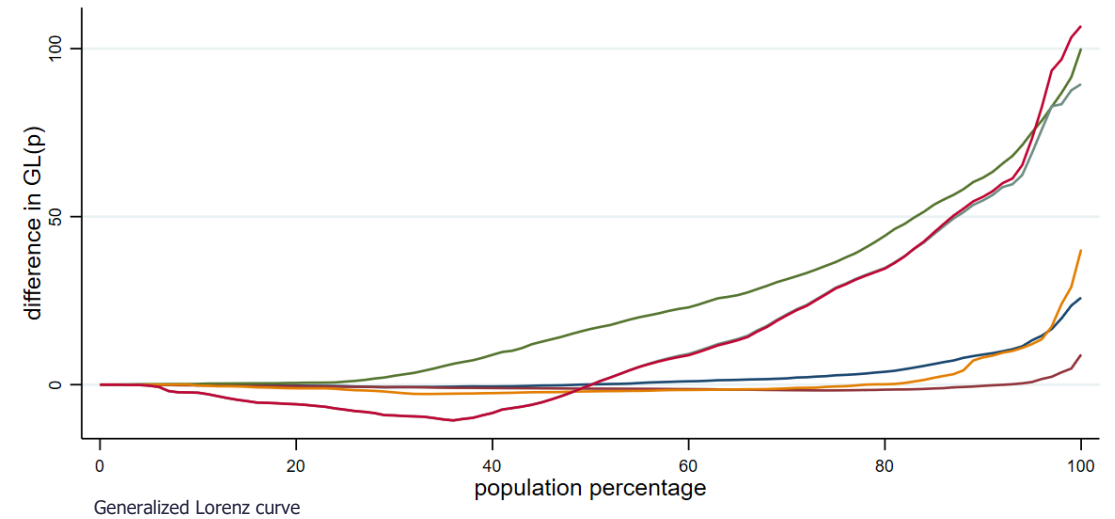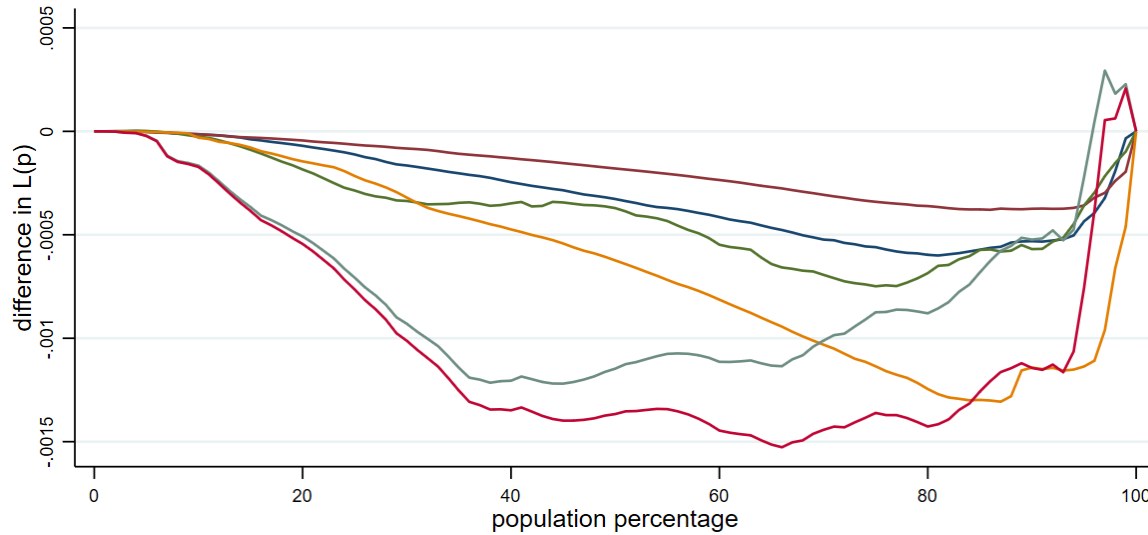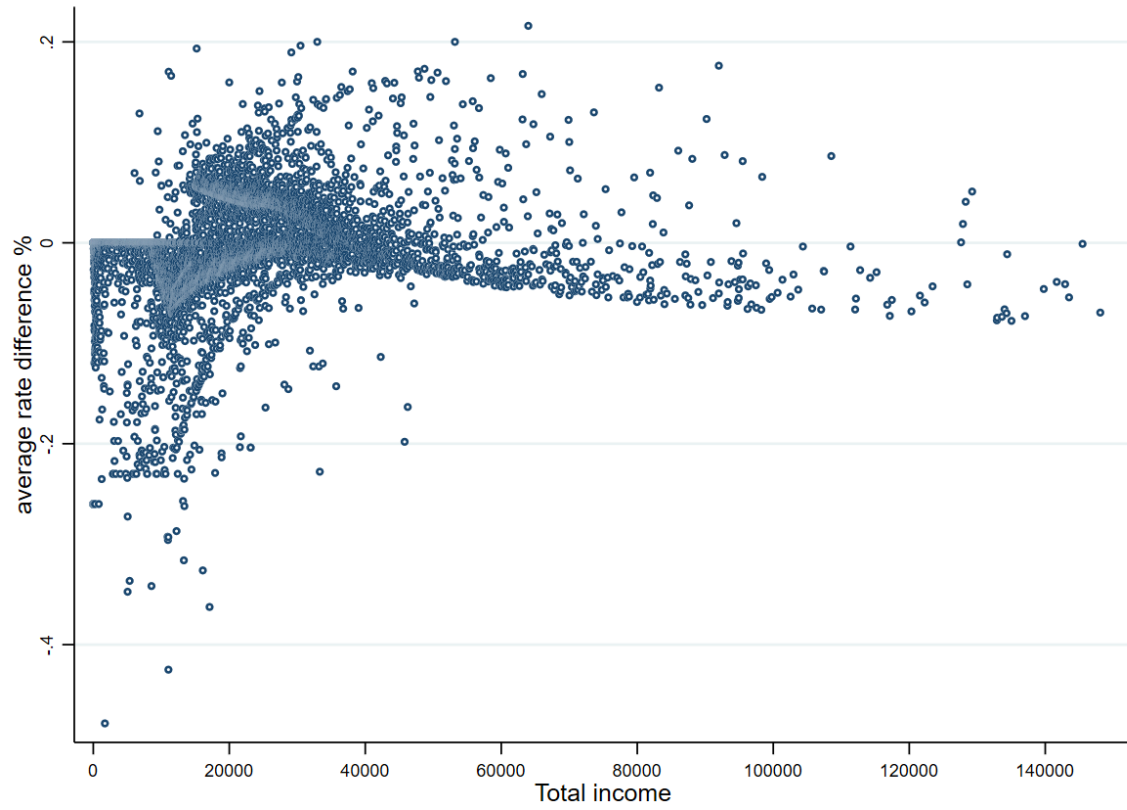

Comprehensive income – interest

Comprehensive income – capital income

Comprehensive income – cadastral income first dwelling

Comprehensive income – rental income

Comprehensive income – self-employed income (2019)

Comprehensive income – self-employed income (2023)
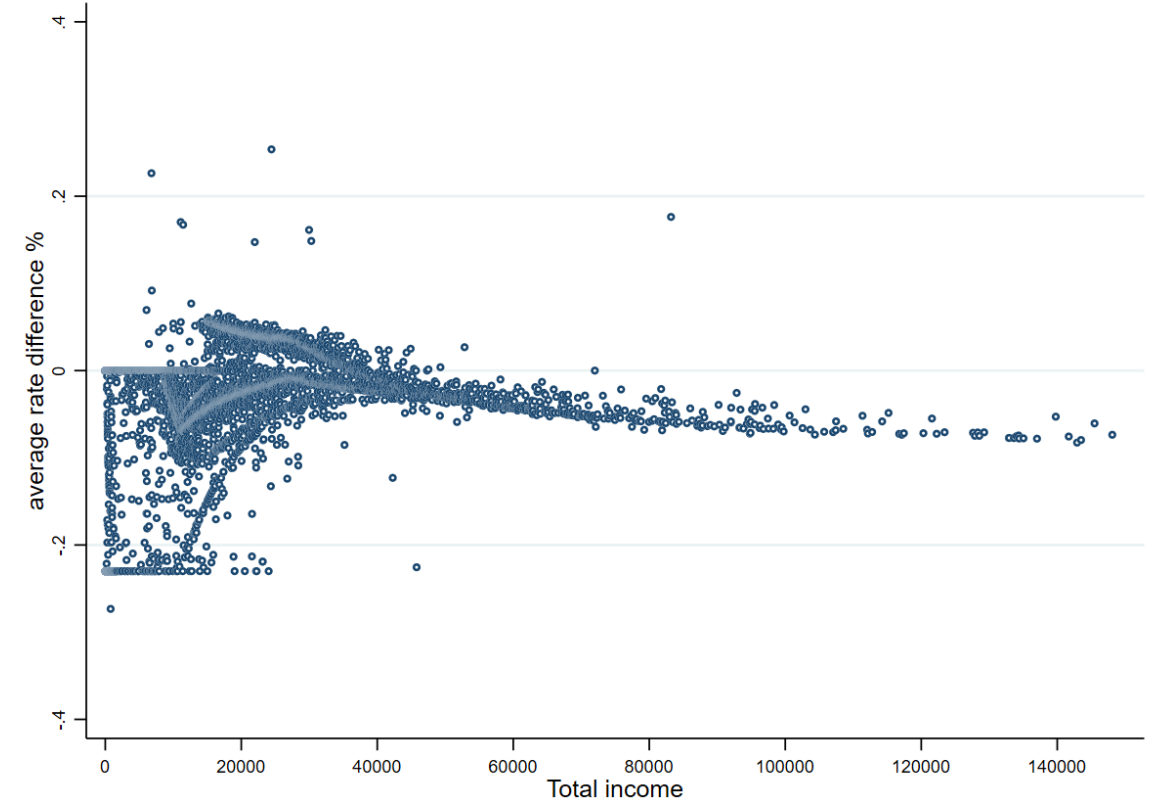
Source: Authors' elaborations.

Appendix

Differences in average tax rate

CIT with flat tax and CIT by tax brackets

CIT with flat tax and IRPEF 2024+ withholding taxes

Source: Authors' elaborations.

Source: Authors' elaborations.