How deductions undermine the redistribution effect of taxes - Research with Swiss tax data

Oliver Hümbelin, BFH Centre for Social Security
FORS-SSP Methods and Research Meeting in Lausanne
26th March, 2019
1. Part 1: Economic Inequality in Switzerland. What can we learn from tax data

2. Part 2: Results from a study on redistribution through taxes and deductions with Swiss tax Data
Economic Inequality in Switzerland.

(Source: Sonntagszeitung, 27. Januar 2019)
Economic Inequality in Switzerland. Low income Inequality.

Inequality after Taxes and Transfers

Working age Population, 2015

Gini after Taxes and Transfers

Source: OECD
Economic Inequality in Switzerland: Low income Inequality. Little Redistribution.

Redistribution
Working age Population, 2015

(G_market-G_postTaxesTransfers)/G_market

Source: OECD
Regional Inequality within Switzerland

(Source: https://www.knoten-maschen.ch/wohlstandsberge-und-taeler-der-schweiz/)

Hümbelin

Income Redistribution through taxation
Inequality between and within cantons

(Source: http://inequalities.ch/)
Tax data collected by the **federal tax administration:**
Potentials and hurdles of tax data for inequality research

Tax data collected by the **federal tax administration**:
- **Pros:**
  - longest consistent time series for Switzerland (OECD-Data cannot be compared before and after 2008)
  - whole Switzerland, every canton, every municipality
Tax data collected by the federal tax administration:

Pros:
- longest consistent time series for Switzerland (OECD-Data cannot be compared before and after 2008)
- whole Switzerland, every canton, every municipality

Cons:
- information on non-taxed is not available before 1995/1996
- tax units not households
- little additional information on individuals and households
- only taxable incomes (incomes after deductions, major part of direct taxes and all means-tested benefits are missing)
Potentials and hurdles of tax data for inequality research

- Tax Data collected by the cantonal tax administration:
  - Pros:
    - Income (possibility to separate deductions), wealth and taxes in great detail
    - Full census, less problem with non-response, non-coverage
    - Possibility of spatial analysis (within canton)
  - Cons:
    - Still some components lacking (all means-tested benefits e.g. social assistance)
    - Tax subjects, not households
    - Little additional information on individuals and households
    - Difficult to obtain from all cantons of Switzerland

- Starting point of an ongoing SNF-project on inequality, poverty and the impact of the welfare state in Switzerland (http://inequalities.ch/)

- Solution: Data-Linkage
Potentials and hurdles of tax data for inequality research

- Tax Data collected by the cantonal tax administration:
  - Pros:
    - income (possibility to separate deductions), wealth and taxes in great detail
    - full census, less problem with non-response, non-coverage
    - possibility of spatial analysis (within canton)
  - Cons:
    - still some components lacking (all means-tested benefits e.g. social assistance)
    - tax subjects, not households
    - little additional information on individuals and households
    - difficult to obtain from all cantons of Switzerland

Starting point of an ongoing SNF-project on inequality, poverty and the impact of the welfare state in Switzerland (http://inequalities.ch/)

Solution: Data-Linkage
Potentials and hurdles of tax data for inequality research

- Tax Data collected by the cantonal tax administration:
  - Pros:
    - income (possibility to separate deductions), wealth and taxes in great detail
    - full census, less problem with non-response, non-coverage
    - possibility of spatial analysis (within canton)
  - Cons:
    - still some components lacking (all means-tested benefits e.g. social assistance)
    - tax subjects, not households
    - little additional information on individuals and households
    - difficult to obtain from all cantons of Switzerland
Potentials and hurdles of tax data for inequality research

- Tax Data collected by the cantonal tax administration:
  - Pros:
    - income (possibility to separate deductions), wealth and taxes in great detail
    - full census, less problem with non-response, non-coverage
    - possibility of spatial analysis (within canton)
  - Cons:
    - still some components lacking (all means-tested benefits e.g. social assistance)
    - tax subjects, not households
    - little additional information on individuals and households
    - difficult to obtain from all cantons of Switzerland
- Starting point of an ongoing SNF-project on inequality, poverty and the impact of the welfare state in Switzerland (http://inequalities.ch/)
- Solution: Data-Linkage
Datenflüsse der Verknüpfung der Steuerdaten: schematische Darstellung

**POP 1**
Ständige Wohnbevölkerung des Kantons Bern, 2011-2015

**POP 2**
Eltern und Kinder der Personen der ständigen Wohnbevölkerung,

**Steuerverwaltung (Steuerdaten)**
Jahre 2011 - 2015

**Bern Amt für Sozialversicherung (Daten zu Prämienverbilligungen)**
Jahre 2011 - 2015

**BFS**
Berner Amt für Sozialversicherung (Daten zu Prämienverbilligungen)
Jahre 2011 - 2015

**UNIBE/BFH**
verknüpfte Nutzdaten

**BFS - Koordinationsstelle**
Personen ohne Pseudo-ID aus POP1 und POP2 wird eine Pseudo-ID zugewiesen

**BEVNAT**
Erweiterung um Eltern von POP1 + Beziehungsvariablen werden erstellt

**Datenpool und Verknüpfung vor Ort beim BFS für UNIBE/BFH**

**ZAS**
ersetzt AHV-NR. durch NAPREF


**Prof. Philipp Wanner**
Pool mit Kt. Steuerdaten (BSV)

**Steuerdaten Harmonisierung**

ID = AHV Nr., Pseudo-ID


2. ID = AHV Nr., Erweiterung über BEVNAT um Kinder und Eltern von POP1, die nicht in Bern wohnhaft sind (POP2)

3a. ID = AHV Nr., Pseudo-ID, wenn vorhanden (POP1)

3b. ID = AHV Nr., Pseudo-ID, wenn vorhanden (POP1)

3a. ID = AHV Nr., Pseudo-ID

4a. Schlüssel = AHV Nr., Pseudo-ID (nur POP1)

4b. Schlüssel = AHV Nr., Pseudo-ID (POP2+POP2)

4c. Schlüssel = AHV Nr., Pseudo-ID (POP2+POP2)

4d. Schlüssel = NAPREF (ID für BFS von ZAS), Pseudo-ID, von POP1, POP2

4e. Schlüssel = AHV Nr., Pseudo-ID (Steuerdaten)

5a. ID = Pseudo-ID, Nutzdaten aus den kantonalen Steuerstatistiken (Datensatz pro Jahr)


5c. ID = Pseudo-ID, Nutzdaten aus STATPOP (POP1+POP2)

5d. ID = Pseudo-ID, Nutzdaten aus BEVNAT (POP1+POP2)

5e. ID = Pseudo-ID, Nutzdaten aus SE (POP1+POP2) (Jahresdatensätze)

5f. ID = Pseudo-ID, Nutzdaten: SHIVALV, ANV-IK, EL-Daten (POP1+POP2)

6. ID = Pseudo-ID, verknüpfte Nutzdaten

**Pool mit Kt. Steuerdaten (BSV)**
 UNIBE/BFH

**BFS - Koordinationsstelle**
Personen ohne Pseudo-ID aus POP1 und POP2 wird eine Pseudo-ID zugewiesen

**BEVNAT**
Erweiterung um Eltern von POP1 + Beziehungsvariablen werden erstellt

**Datenpool und Verknüpfung vor Ort beim BFS für UNIBE/BFH**

**ZAS**
ersetzt AHV-NR. durch NAPREF


**Prof. Philipp Wanner**
Pool mit Kt. Steuerdaten (BSV)

ID = AHV Nr., Pseudo-ID


2. ID = AHV Nr., Erweiterung über BEVNAT um Kinder und Eltern von POP1, die nicht in Bern wohnhaft sind (POP2)

3a. ID = AHV Nr., Pseudo-ID, wenn vorhanden (POP1)

3b. ID = AHV Nr., Pseudo-ID, wenn vorhanden (POP1)

3a. ID = AHV Nr., Pseudo-ID

4a. Schlüssel = AHV Nr., Pseudo-ID (nur POP1)

4b. Schlüssel = AHV Nr., Pseudo-ID (POP2+POP2)

4c. Schlüssel = AHV Nr., Pseudo-ID (POP2+POP2)

4d. Schlüssel = NAPREF (ID für BFS von ZAS), Pseudo-ID, von POP1, POP2

4e. Schlüssel = AHV Nr., Pseudo-ID (Steuerdaten)

5a. ID = Pseudo-ID, Nutzdaten aus den kantonalen Steuerstatistiken (Datensatz pro Jahr)


5c. ID = Pseudo-ID, Nutzdaten aus STATPOP (POP1+POP2)

5d. ID = Pseudo-ID, Nutzdaten aus BEVNAT (POP1+POP2)

5e. ID = Pseudo-ID, Nutzdaten aus SE (POP1+POP2) (Jahresdatensätze)

5f. ID = Pseudo-ID, Nutzdaten: SHIVALV, ANV-IK, EL-Daten (POP1+POP2)

6. ID = Pseudo-ID, verknüpfte Nutzdaten

**BFS - Koordinationsstelle**
Personen ohne Pseudo-ID aus POP1 und POP2 wird eine Pseudo-ID zugewiesen

**BEVNAT**
Erweiterung um Eltern von POP1 + Beziehungsvariablen werden erstellt

**Datenpool und Verknüpfung vor Ort beim BFS für UNIBE/BFH**

**ZAS**
ersetzt AHV-NR. durch NAPREF


**Prof. Philipp Wanner**
Pool mit Kt. Steuerdaten (BSV)

ID = AHV Nr., Pseudo-ID

Income redistribution through taxation – how deductions undermine the effect of taxes

Oliver Hümbelin
Bern University of Applied Sciences

Rudolf Farys
University of Bern

Abstract
This paper shows the potential of administrative data to grant us a more complete picture of the redistributive effects of the visible (tax rates) and hidden (tax deductions) instruments of the fiscal welfare state. Based on administrative tax data from a large Swiss canton, we apply a gini-based redistributive effect decomposition to demonstrate how several taxes and deductions impact income distribution.
Introduction: The role of the tax system to reduce income inequality

The OECD (2011, 2015) points out that the recent increase in disposable income inequality is also because of a retreat of governmental redistribution. It is therefore important to fully understand the redistribution mechanics of a welfare state.

An important element of income inequality reduction are progressive direct taxes. On average 25% of the overall redistribution can be attributed to income taxes (Wang et al. 2014).

Yet many countries also provide options for claiming deductions that alter the redistributive effect of taxes. This latter aspect however is often neglected since data usually only reports on taxes paid.

By using administrative tax data we are able to evaluate the visible (taxes) and hidden (deductions) instruments of the welfare state with respect to their impact on income inequality.
The OECD (2011, 2015) points out that the recent increase in disposable income inequality is also because of a retreat of governmental redistribution. It is therefore important to fully understand the redistribution mechanics of a welfare state.
The OECD (2011, 2015) points out that the recent increase in disposable income inequality is also because of a retreat of governmental redistribution. It is therefore important to fully understand the redistribution mechanics of a welfare state.

An important element of income inequality reduction are *progressive direct taxes*. On average 25% of the overall redistribution can be attributed to income taxes (Wang et al. 2014).
Introduction: The role of the tax system to reduce income inequality

- The OECD (2011, 2015) points out that the recent increase in disposable income inequality is also because of a retreat of governmental redistribution. It is therefore important to fully understand the redistribution mechanics of a welfare state.

- An important element of income inequality reduction are *progressive direct taxes*. On average 25% of the overall redistribution can be attributed to income taxes (Wang et al. 2014).

- Yet many countries also provide options for claiming deductions that alter the redistributive effect of taxes. This latter aspect however is often neglected since data usually only reports on taxes paid.
Introduction: The role of the tax system to reduce income inequality

- The OECD (2011, 2015) points out that the recent increase in disposable income inequality is also because of a retreat of governmental redistribution. It is therefore important to fully understand the redistribution mechanics of a welfare state.
- An important element of income inequality reduction are progressive direct taxes. On average 25% of the overall redistribution can be attributed to income taxes (Wang et al. 2014).
- Yet many countries also provide options for claiming deductions that alter the redistributive effect of taxes. This latter aspect however is often neglected since data usually only reports on taxes paid.
- By using administrative tax data we are able to evaluate the visible (taxes) and hidden (deductions) instruments of the welfare state with respect to their impact on income inequality.
Theory: Redistribution through taxation

▶ Taxes: the degree of redistribution depends on the mean tax rate and the progressivity. According to the OECD, tax rates were lowered in most OECD countries in recent years.

▶ Deductions: comprise amounts that are deductible from taxable income, which accordingly lead to a lower tax rate and tax burden. Some aim to lower hard social circumstances (e.g. child costs) others incentivize certain behaviors (saving for old age). Without data it is difficult to tell the redistributive effect.

▶ Behavioral aspects: Taxes and deductions induce also behavioral responses that affect pre-tax income distribution (see Bargain et al. (2015)).
Taxes: the degree of redistribution depends on the mean tax rate and the progressivity. According to the OECD, tax rates were lowered in most OECD countries in recent years.
Theory: Redistribution through taxation

- **Taxes**: the degree of redistribution depends on the mean tax rate and the progressivity. According to the OECD, tax rates were lowered in most OECD countries in recent years.

- **Deductions**: comprise amounts that are deductible from taxable income, which accordingly lead to a lower tax rate and tax burden. Some aim to lower hard social circumstances (e.g. child costs) others incentivize certain behaviors (saving for old age). Without data it is difficult to tell the redistributive effect.
Theory: Redistribution through taxation

- **Taxes**: the degree of redistribution depends on the mean tax rate and the progressivity. According to the OECD, tax rates were lowered in most OECD countries in recent years.

- **Deductions**: comprise amounts that are deductible from taxable income, which accordingly lead to a lower tax rate and tax burden. Some aim to lower hard social circumstances (e.g. child costs) others incentivize certain behaviors (saving for old age). Without data it is difficult to tell the redistributive effect.

- **Behavioral aspects**: Taxes and deductions induce also behavioral responses that affect pre-tax income distribution (see Bargain et al. (2015)).
Taxes: the degree of redistribution depends on the mean tax rate and the progressivity. According to the OECD, tax rates were lowered in most OECD countries in recent years.

Deductions: comprise amounts that are deductible from taxable income, which accordingly lead to a lower tax rate and tax burden. Some aim to lower hard social circumstances (e.g. child costs) others incentivize certain behaviors (saving for old age). Without data it is difficult to tell the redistributive effect.

Behavioral aspects: Taxes and deductions induce also behavioral responses that affect pre-tax income distribution (see Bargain et al. (2015)).
As opposed to many other European countries where the levying of taxes is centralised, the tax system in Switzerland mirrors the historically evolved federal structure, giving a lot of power to the sub-state levels, namely the cantons and municipalities (ESTV, 2013). A total of 26 tax laws exist, with each canton having its own tax law and the municipalities and the federal state also levying taxes.

We use tax data from a large canton in Switzerland. Aargau is the fourth largest canton in Switzerland, with respect to economic inequality, mean income and the tax system it is an average canton, thus its not a special case we are looking at.

We have two time points: 2001 (283'580 tax units) and 2011 (327'047 tax units) and thus we are able to compare changes over time.
As opposed to many other European countries where the levying of taxes is centralised, the tax system in Switzerland mirrors the historically evolved federal structure, giving a lot of power to the sub-state levels, namely the cantons and municipalities (ESTV, 2013). A total of 26 tax laws exist, with each canton having its own tax law and the municipalities and the federal state also levying taxes.
As opposed to many other European countries where the levying of taxes is centralised, the tax system in Switzerland mirrors the historically evolved federal structure, giving a lot of power to the sub-state levels, namely the cantons and municipalities (ESTV, 2013). A total of 26 tax laws exist, with each canton having its own tax law and the municipalities and the federal state also levying taxes.

We use tax data from a large canton in Switzerland.
As opposed to many other European countries where the levying of taxes is centralised, the tax system in Switzerland mirrors the historically evolved federal structure, giving a lot of power to the sub-state levels, namely the cantons and municipalities (ESTV, 2013). A total of 26 tax laws exist, with each canton having its own tax law and the municipalities and the federal state also levying taxes.

We use tax data from a large canton in Switzerland.

Aargau is the fourth largest canton in Switzerland, with respect to economic inequality, mean income and the tax system it is an average canton, thus its not a special case we are looking at.
As opposed to many other European countries where the levying of taxes is centralised, the tax system in Switzerland mirrors the historically evolved federal structure, giving a lot of power to the sub-state levels, namely the cantons and municipalities (ESTV, 2013). A total of 26 tax laws exist, with each canton having its own tax law and the municipalities and the federal state also levying taxes.

We use tax data from a large canton in Switzerland.

Aargau is the fourth largest canton in Switzerland, with respect to economic inequality, mean income and the tax system it is an average canton, thus it's not a special case we are looking at.

We have two time points: 2001 (283’580 tax units) and 2011 (327’047 tax units) and thus we are able to compare changes over time.
The Assessment of taxes

Pre-tax-incomes

- Gross income (from employment and self-employment)
- + income from wealth (rental income, interests and dividends)
- + social transfers (pensions, social benefits from social insurances, social assistance and transfers from other private households)

Assessment of taxes

- Gross income
- Deductions
- = Taxable income

Taxes

- Federal tax (on income)
- Cantonal tax (on income and wealth)
- Municipality tax (on income and wealth)
- Church tax (on income and wealth)

Disposable income

(Gross income – taxes)

Hümbelin

Income Redistribution through taxation

14 / 24
Overview on taxes under scrutiny

Hümbelin

Income Redistribution through taxation

Hümbelin
Overview on deductions under scrutiny

<table>
<thead>
<tr>
<th>Table A.4: Assignment of deductions to main categories and Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A Social deductions</strong></td>
</tr>
<tr>
<td>A1 Second earner deduction</td>
</tr>
<tr>
<td>A2 Special deductions for second earners when assisting in own business</td>
</tr>
<tr>
<td>A3 Costs of illness or disability</td>
</tr>
<tr>
<td>A4 Child deductions</td>
</tr>
<tr>
<td>A5 Deductions for supported persons</td>
</tr>
<tr>
<td>A6 Invalidity deduction</td>
</tr>
<tr>
<td>A7 Deductions for child care</td>
</tr>
<tr>
<td>A8 Deductions for paid out life annuities</td>
</tr>
</tbody>
</table>

| **B Work-related expenses**                                  |                                              |
| B1 Miscellaneous work expenses individual/spouse            | Multiple smaller limits for e.g. foreign meals, bus/train tickets, etc. |
| B2 Child care necessary for job                              | 6000 CHF per child                    |

| **C Real estate and interest costs**                         |                                              |
| C1 Property expenses                                         | 10-20% of rental income or effective costs of value-preserving expenses |
| C2 Debt interest                                             | Limited to income from assets over 50000 CHF |

| **D Deductions related to assets and insurance**             |                                              |
| D1 Cost of asset management                                  | No limit                                    |
| D2 Buying into obligatory pension scheme (Pillar 2), individual/spouse | No limit                                    |
| D3 Contribution to voluntary pension scheme (Pillar 3a)      | ~6000 – ~34000 CHF depending on year and employment status |
| D4 Personal premiums to social security (OASI/DI)            | No limit                                    |
| D5 Insurance cost and interest of savings capital            | 2000 CHF (singles); 24000CHF (married)       |

| **E Alimonies and charity (transfers)**                      |                                              |
| E1 Alimonies to spouse                                       | No limit                                    |
| E2 Alimonies to children                                     | No limit                                    |
| E3 Party donations                                           | 1100 CHF                                   |
| E4 Voluntary contributions                                   | 20% of net income                          |

| **F Other deductions**                                       |                                              |
| F1 Other deductions                                          | No limit; Apprentice training in private household |
Overview on deductions under scrutiny

Hümbelin

Income Redistribution through taxation
Decomposition of redistribution effects

Reynolds & Smolensky (1977) concept of measuring redistribution:

\[ RS = G_x - G_x - t \]  

The overall effect differentiates the effect into an effect of progression/Kakwani-Index (Kakwani, 1977), average tax burden and an effect of reranking (Wang et al., 2014):

\[ RS = G_x - G_x - t_i = K_i \ast t_i - t_i - RR_i \]  

(1) Identify effect of taxes

(2) To identify the effect of deductions a post tax income distribution without any deductions was created (\( G_z \)). The effect of every single deduction (\( u_i \)) was identified by comparing post tax income distributions applying deduction \( i \) (\( G_{u_i} \)) to \( G_z \).
Reynolds & Smolensky (1977) concept of measuring redistribution

\[ \text{RS} = G_x - G_x - t_i \] (1)

The overall effect differentiates the effect into an effect of progression/Kakwani-Index (Kakwani, 1977), average tax burden and an effect of reranking (Wang et al., 2014)

\[ \text{RS} = G_x - G_x - t_i = K_i \ast t_{1 - t_i} - RR_i \] (2)

(1) Identify effect of taxes
(2) To identify the effect of deductions a post tax income distribution without any deductions was created (\( G_z \)). The effect of every single deduction (\( u_i \)) was identified by comparing post tax income distributions applying deduction \( i \) (\( G_{u_i} \)) to \( G_z \).
Decomposition of redistribution effects

- Reynolds & Smolensky (1977) concept of measuring redistribution

\[ RS = G_x - G_{x-t} \]  

(1)

- The overall effect differentiates the effect into an effect of progression/Kakwani-Index (Kakwani, 1977), average tax burden and an effect of reranking (Wang et al., 2014)

\[ RS = G_x - G_{x-t} = K_i \times t_i = RR_i \]  

(2)

- (1) Identify effect of taxes
- (2) To identify the effect of deductions a post tax income distribution without any deductions was created (\(G_z\)). The effect of every single deduction (\(u_i\)) was identified by comparing post tax income distributions applying deduction \(i\) (\(G_{u_i}\)) to \(G_z\).
Decomposition of redistribution effects

- Reynolds & Smolensky (1977) concept of measuring redistribution

\[ RS = G_x - G_{x-t} \]  \hspace{1cm} (1)

- The overall effect differentiates the effect into an effect of progression/Kakwani-Index (Kakwani, 1977), average tax burden and an effect of reranking (Wang et al., 2014)
Reynolds & Smolensky (1977) concept of measuring redistribution

\[ RS = G_x - G_{x-t} \]  \hspace{1cm} (1)

The overall effect differentiates the effect into an effect of progression/Kakwani-Index (Kakwani, 1977), average tax burden and an effect of reranking (Wang et al., 2014)

\[ RS = G_x - G_{x-t_i} = K_i \cdot \frac{t_i}{1-t_i} - RR_i \]  \hspace{1cm} (2)
Decomposition of redistribution effects

- Reynolds & Smolensky (1977) concept of measuring redistribution

\[ RS = G_x - G_{x-t} \]  \hspace{1cm} (1)

- The overall effect differentiates the effect into an effect of progression/Kakwani-Index (Kakwani, 1977), average tax burden and an effect of reranking (Wang et al., 2014)

\[ RS = G_x - G_{x-t_i} = K_i \cdot \frac{t_i}{1 - t_i} - RR_i \]  \hspace{1cm} (2)

- (1) Identify effect of taxes
Decomposition of redistribution effects

- Reynolds & Smolensky (1977) concept of measuring redistribution

\[ RS = G_x - G_{x-t} \]  

(1)

- The overall effect differentiates the effect into an effect of progression/Kakwani-Index (Kakwani, 1977), average tax burden and an effect of reranking (Wang et al., 2014)

\[ RS = G_x - G_{x-t_i} = K_i \times \frac{t_i}{1-t_i} - RR_i \]  

(2)

- (1) Identify effect of taxes
- (2) To identify the effect of deductions a post tax income distribution without any deductions was created \((G_z)\). The effect of every single deduction \((u_i)\) was identified by comparing post tax income distributions applying deduction \(i\) \((G_{u_i})\) to \(G_z\).
Results: Partial redistributive effect of taxes (incl. deductions)

<table>
<thead>
<tr>
<th>Year</th>
<th>Gini pre-tax incl. deductions</th>
<th>Gini post-tax incl. deductions</th>
<th>Decrease</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>0.413</td>
<td>0.391</td>
<td>-0.008</td>
</tr>
<tr>
<td></td>
<td>-0.008</td>
<td>-0.006</td>
<td>-0.002</td>
</tr>
<tr>
<td></td>
<td>-0.001</td>
<td>-0.001</td>
<td>-0.001</td>
</tr>
<tr>
<td>2011</td>
<td>0.422</td>
<td>0.401</td>
<td>-0.006</td>
</tr>
<tr>
<td></td>
<td>-0.006</td>
<td>0.001</td>
<td>-0.005</td>
</tr>
<tr>
<td></td>
<td>-0.001</td>
<td>-0.001</td>
<td>-0.001</td>
</tr>
</tbody>
</table>

Hümbelin Income Redistribution through taxation
Results: Partial redistributive effect of taxes (no deductions)

<table>
<thead>
<tr>
<th>Year</th>
<th>Gini pre-tax</th>
<th>State tax</th>
<th>Cantonal income tax</th>
<th>Cantonal wealth tax</th>
<th>Community income tax</th>
<th>Community wealth tax</th>
<th>Church tax</th>
<th>Gini post-tax</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>0.413</td>
<td>-0.016</td>
<td>-0.012</td>
<td>-0.001</td>
<td>-0.011</td>
<td>-0.001</td>
<td>-0.001</td>
<td>0.37</td>
</tr>
<tr>
<td>2011</td>
<td>0.422</td>
<td>-0.016</td>
<td>-0.01</td>
<td>-0.001</td>
<td>-0.009</td>
<td>-0.001</td>
<td>-0.001</td>
<td>0.385</td>
</tr>
</tbody>
</table>
Results: Partial redistributive effect of deductions

<table>
<thead>
<tr>
<th>Year</th>
<th>Deductions</th>
<th>Gini post-tax ex. deductions</th>
<th>Gini post-tax incl. deductions</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>Social</td>
<td>0.37</td>
<td>0.38</td>
</tr>
<tr>
<td></td>
<td>Work-related</td>
<td>0.002</td>
<td>0.009</td>
</tr>
<tr>
<td></td>
<td>Real estate</td>
<td>0.002</td>
<td>0.009</td>
</tr>
<tr>
<td></td>
<td>Financial</td>
<td>0.014</td>
<td>0.014</td>
</tr>
<tr>
<td></td>
<td>Transfers</td>
<td>0.003</td>
<td>0.003</td>
</tr>
<tr>
<td></td>
<td>Others</td>
<td>0.003</td>
<td>0.003</td>
</tr>
<tr>
<td>2011</td>
<td>Social</td>
<td>0.385</td>
<td>0.401</td>
</tr>
<tr>
<td></td>
<td>Work-related</td>
<td>0.002</td>
<td>0.003</td>
</tr>
<tr>
<td></td>
<td>Real estate</td>
<td>0.009</td>
<td>0.009</td>
</tr>
<tr>
<td></td>
<td>Financial</td>
<td>0.003</td>
<td>0.003</td>
</tr>
<tr>
<td></td>
<td>Transfers</td>
<td>0.003</td>
<td>0.003</td>
</tr>
<tr>
<td></td>
<td>Others</td>
<td>0.001</td>
<td>0.001</td>
</tr>
</tbody>
</table>

Increase in Gini from deductions:

- Social: 0.002
- Work-related: 0.003
- Real estate: 0.014
- Financial: 0.003
- Transfers: 0.001
- Others: 0.001

Income Redistribution through taxation
While most studies focus on direct taxes paid, this paper expands the perspective by providing insight into the mitigating effect of the often hidden part of the fiscal welfare state; deductions.

Our administrative data based study showed however that deductions mitigate the redistributive effect of taxes drastically (by nearly 50%).

Put simply, high income earners profit greatly from deductions.

1. While a lot of deductions were created to reduce taxes to ease the consequences of difficult social or work-related circumstances (such as the deduction for children or deductions for commuters) they are nevertheless open to everyone. In a progressive tax system however, the resulting relative tax relief for high income earners is higher.

2. High income earners have additional options to claim deductions like costs related to homeownership or shifting money to the pension system.

3. Inequality and redistribution scholars should therefore also have an eye deductions and not only on tax rates.
While most studies focus on direct taxes paid, this paper expands the perspective by providing insight into the mitigating effect of the often hidden part of the fiscal welfare state; deductions.

1. While a lot of deductions were created to reduce taxes to ease the consequences of difficult social or work-related circumstances (such as the deduction for children or deductions for commuters) they are nevertheless open to everyone. In a progressive tax system however, the resulting relative tax relief for high income earners is higher.

2. High income earners have additional options to claim deductions like costs related to homeownership or shifting money to the pension system.

3. Inequality and redistribution scholars should therefore also have an eye deductions and not only on tax rates.
While most studies focus on direct taxes paid, this paper expands the perspective by providing insight into the mitigating effect of the often hidden part of the fiscal welfare state; deductions.

Our administrative data based study showed however that deductions mitigate the redistributive effect of taxes drastically (by nearly 50%).
While most studies focus on direct taxes paid, this paper expands the perspective by providing insight into the mitigating effect of the often hidden part of the fiscal welfare state; deductions.

Our administrative data based study showed however that deductions mitigate the redistributive effect of taxes drastically (by nearly 50%).

Put simply, high income earners profit greatly from deductions.
While most studies focus on direct taxes paid, this paper expands the perspective by providing insight into the mitigating effect of the often hidden part of the fiscal welfare state; deductions.

Our administrative data based study showed however that deductions mitigate the redistributive effect of taxes drastically (by nearly 50%).

Put simply, high income earners profit greatly from deductions.

1. While a lot of deductions were created to reduce taxes to ease the consequences of difficult social or work-related circumstances (such as the deduction for children or deductions for commuters) they are nevertheless open to everyone. In a progressive tax system however, the resulting relative tax relief for high income earners is higher.
While most studies focus on direct taxes paid, this paper expands the perspective by providing insight into the mitigating effect of the often hidden part of the fiscal welfare state; deductions.

Our administrative data based study showed however that deductions mitigate the redistributive effect of taxes drastically (by nearly 50%).

Put simply, high income earners profit greatly from deductions.

1. While a lot of deductions were created to reduce taxes to ease the consequences of difficult social or work-related circumstances (such as the deduction for children or deductions for commuters) they are nevertheless open to everyone. In a progressive tax system however, the resulting relative tax relief for high income earners is higher.

2. High income earners have additional options to claim deductions like costs related to homeownership or shifting money to the pension system.
While most studies focus on direct taxes paid, this paper expands the perspective by providing insight into the mitigating effect of the often hidden part of the fiscal welfare state; deductions.

Our administrative data based study showed however that deductions mitigate the redistributive effect of taxes drastically (by nearly 50%).

Put simply, high income earners profit greatly from deductions.

1. While a lot of deductions were created to reduce taxes to ease the consequences of difficult social or work-related circumstances (such as the deduction for children or deductions for commuters) they are nevertheless open to everyone. In a progressive tax system however, the resulting relative tax relief for high income earners is higher.

2. High income earners have additional options to claim deductions like costs related to homeownership or shifting money to the pension system.
Thank you for your attention!


