

Wer bezahlt letztlich wen?

Eine Anwendung der Input-Output-Analyse auf den
Einkommenskreislauf ($Y = \hat{b}(1-A)^{-1}F$)

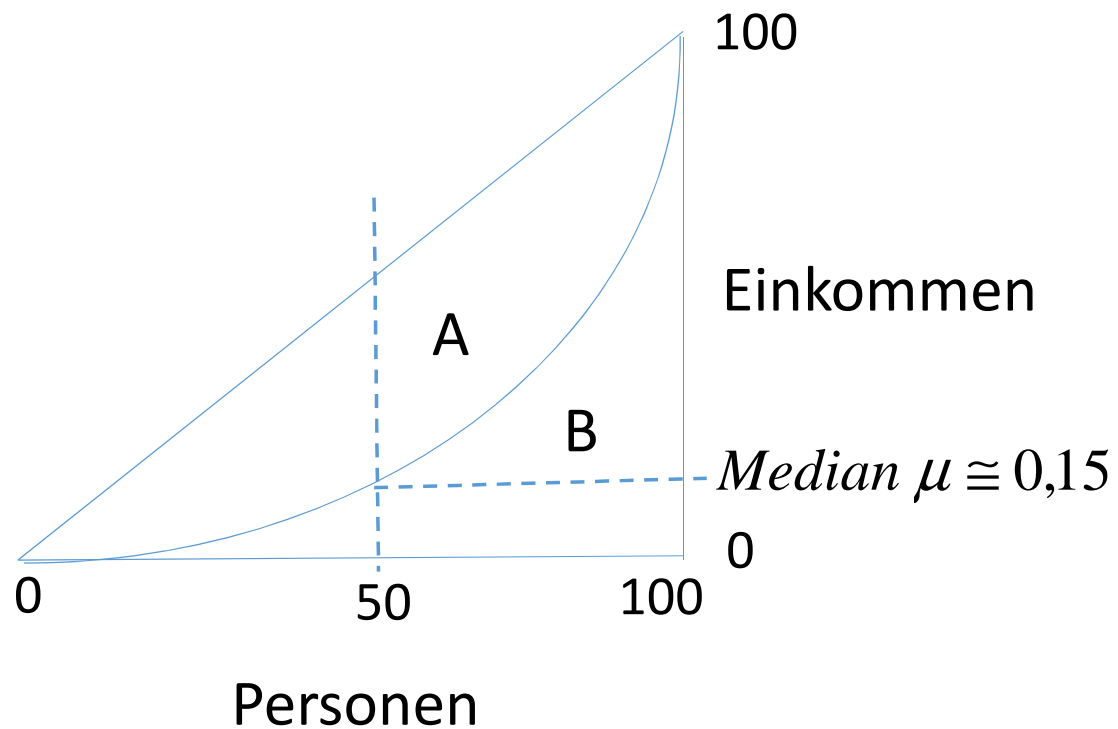
von

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Input-Output-Tagung Osnabrück
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Stand der Forschung: der Gini-Koeffizient einer Einkommensverteilung



$$G = \frac{A}{A+B} \cong 0,5$$

$$G = 0 \quad \text{Gleich}$$

$$G = 1 \quad \text{Ungleich}$$

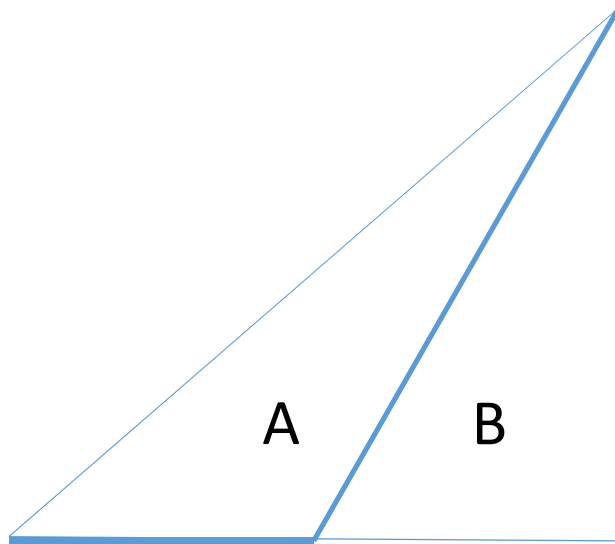
Einwände

- Mangel an gegenständlicher Theorie
- Unvollständige Ordnung der Verteilungen
- Annahme der Einkommenshomogenität

Mangel an gegenständlicher Theorie

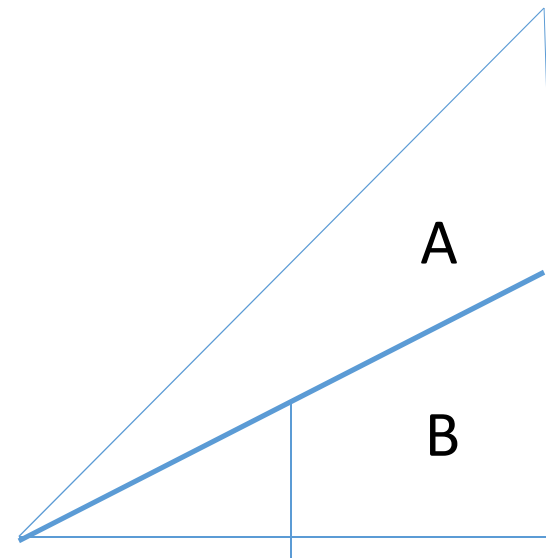
- Personelle (vs. funktionelle) Verteilung,
ökonomische, soziologische, politische Theorie?
- Statistischer Index, Dispersionsmaß
(Theil-, Atkinson-, Hoover-Index, Varianz?)
“The problem with which we are concerned is basically that of comparing two frequency distributions $f(y)$ of an attribute y which for convenience I shall refer to as income.” (Atkinson)

Unvollständige Ordnung: $G=0,5$



Personen

Ganzes
Einkommen
auf die
Hälfte
verteilt
 $\mu = 0$



Personen

Halbes
Einkommen
gleich
verteilt
 $\mu = 0,25$

Was ist politisch
vorzuziehen?

Annahme der Homogenität

- Einkommensquelle? Arbeit, Kapital
- Prozess der Verteilung? Primär, sekundär
- Besteuerung? Direkt, indirekt
- Begriff der Gleichheit/Ungleichheit
- Einkommen als Statusmerkmal

Einkommen wird allein als individuelle Kaufkraft gesehen.

Theorie des wirtschaftlichen Kreislaufs: Die Logik der Einkommensbegriffe in der VGR

(Unternehmenssektor)

2-Produktionskonto

| | |
|----------------------|-----------------|
| Vorleistungen | Produktionswert |
| <i>Wertschöpfung</i> | |

3-Einkommensentstehung

| | |
|---------------------------|----------------------|
| Arbeitnehmer-einkommen | <i>Wertschöpfung</i> |
| <i>Betriebsüberschuss</i> | |

4-Einkommensverteilung

| | |
|-------------------------|---------------------------|
| Gel. Vermögenseinkommen | <i>Betriebsüberschuss</i> |
| <i>Primäreinkommen</i> | Empf. Vermögenseinkommen |

5-Einkommensumverteilung

| | |
|------------------------------|------------------------|
| Geleistete Übertragungen | <i>Primäreinkommen</i> |
| <i>Verfügbares Einkommen</i> | Empf. Übertragungen |

Die Verflechtung der Einkommensarten

Deutschland 2000, Mrd. Euro

| | 4. Verteilung | | | | 5. Umverteilung | | | | 3. Einkommens- entstehung | | | | Übr. Wt. | Sum |
|------------|---------------|-----|-----|-------------|-----------------|-----|-----|-------------|------------------------------|-----|-----|-----|-------------|-------------|
| | NFC | FC | GG | PH | NFC | FC | GG | PH | ANE | SE | BÜ | PSt | 10 | |
| 4NFU | 11 | 19 | 3 | 0 | | | | | 0 | 0 | 226 | 0 | 27 | 286 |
| 4FU | 76 | 158 | 39 | 98 | | | | | 0 | 0 | -49 | 0 | 66 | 388 |
| 4ST | 4 | 10 | 0 | 1 | | | | | 0 | 0 | -3 | 218 | -7 | 223 |
| 4PH | 185 | 108 | 5 | 1 | | | | | 1099 | 181 | 57 | 0 | 9 | 1645 |
| 5NFU | -11 | | | | 0 | 6 | 3 | 25 | 0 | 0 | 0 | 0 | 0 | 23 |
| 5FU | | 30 | | | 6 | 1 | 5 | 70 | 0 | 0 | 0 | 0 | 1 | 113 |
| 5ST | | | 154 | | 32 | 8 | 151 | 600 | 0 | 0 | 0 | 0 | 5 | 950 |
| 5PH | | | | 1545 | 12 | 68 | 389 | 1 | 0 | 0 | 0 | 0 | 3 | 2018 |
| 6NFU | | | | | -28 | | | | | | | | | -28 |
| 6FU | | | | | | 29 | | | | | | | | 29 |
| 6ST | | | | | | | 385 | | | | | | | 385 |
| 6PH | | | | | | | | 1310 | | | | | | 1310 |
| 10ÜW | 21 | 63 | 22 | 0 | 1 | 1 | 17 | 12 | | | | | | 137 |
| Sum | 286 | 388 | 223 | 1645 | 23 | 113 | 950 | 2018 | 1099 | 181 | 231 | 218 | 104 | 1833 |

U2-FEIER REICH EINKOMMENSKREISLAUF

Einkommens-
kreislauf
I./III. Quadrant

Portugal 2000
(Mill. Euros)

| Primary distribtn. | Non-finan. corp. | Finan. cial corp. | Gen. gov. ment | HH wages, salar. | HH mixed inc. | HH old age | HH others | Non-prof. org. | Non-finan. corp. | Finan. cial corp. | Gen. gov. ment | HH wages, salar. | HH mixed inc. | HH old age | HH others | Non-prof. org. |
|--------------------|------------------|-------------------|----------------|------------------|---------------|------------|-----------|----------------|------------------|-------------------|----------------|------------------|---------------|------------|-----------|----------------|
| NFC | 983 | 905 | 26 | 0 | 1 | 0 | 0 | 0 | | | | | | | | |
| FC | 5,359 | 3,083 | 1,279 | 2,574 | 466 | 127 | 48 | 40 | | | | | | | | |
| GG | 289 | 486 | 17 | 4 | 0 | 0 | 0 | 5 | | | | | | | | |
| H-wages | 122 | 1,375 | 168 | 1 | 2 | 0 | 0 | 0 | | | | | | | | |
| H-mixed | 875 | 1,921 | 336 | 10 | 25 | 5 | 1 | 0 | | | | | | | | |
| H-age | 34 | 839 | 150 | 2 | 5 | 1 | 0 | 0 | | | | | | | | |
| H-other | 12 | 670 | 27 | 0 | 0 | 0 | 0 | 0 | | | | | | | | |
| NPO | 126 | 243 | 0 | 0 | 0 | 0 | 0 | 0 | | | | | | | | |
| second. distrib. | | | | | | | | | | | | | | | | |
| NFC | 3,222 | | | | | | | | 74 | 874 | 5 | 1.312 | 61 | 40 | 13 | 0 |
| FC | | 2,410 | | | | | | | 816 | 51 | 6 | 2,410 | 144 | 138 | 313 | 22 |
| GG | | | 12,203 | | | | | | 4,450 | 529 | 12,384 | 18,211 | 1,497 | 1,025 | 211 | 27 |
| H-wages | | | | 61,484 | | | | | 296 | 607 | 3.073 | 189 | 40 | 18 | 4 | 3 |
| H-mixed | | | | | 15,421 | | | | 66 | 115 | 674 | 57 | 8 | 3 | 1 | 1 |
| H-age | | | | | | 3,838 | | | 989 | 1,177 | 9,876 | 37 | 30 | 4 | 1 | 11 |
| H-other | | | | | | | 1,440 | | 75 | 354 | 855 | 156 | 31 | 15 | 3 | 1 |
| NPO | | | | | | | | 13 | 549 | 40 | 1,295 | 446 | 81 | 43 | 9 | 3 |
| dispos. income | | | | | | | | | | | | | | | | |
| NFC | | | | | | | | | -1,847 | | | | | | | |
| FC | | | | | | | | | | 2,571 | | | | | | |
| GG | | | | | | | | | | | 22,218 | | | | | |
| H-wages | | | | | | | | | | | | 44,339 | | | | |
| H-mixed | | | | | | | | | | | | | 14,631 | | | |
| H-age | | | | | | | | | | | | | | 14,930 | | |
| H-other | | | | | | | | | | | | | | | 4,044 | |
| NPO | | | | | | | | | | | | | | | | 2,410 |
| 10 | 2,871 | 2,943 | 1,766 | 0 | 7 | 0 | 0 | 0 | 212 | 56 | 851 | 435 | 72 | 40 | 8 | 0 |
| FISIM | -1,302 | 1,940 | -15 | -1,429 | -259 | -71 | -27 | -20 | | | | | | | | |
| Sum | 12,591 | 16,816 | 15,957 | 62,646 | 15,667 | 3,900 | 1,463 | 38 | 5,679 | 6,374 | 51,237 | 67,591 | 16,595 | 16,256 | 4,605 | 2,477 |

Desaggregation des Lohnsektors

(Arbeit, private Haushalte) Portugal 2000, Mrd. Euro



| | Employed labour by education | | | Self-employed labour by education | | | Oper. surp. | Taxes prod. | ROW | FISIM | Total |
|--------------|---------------------------------|--------------|---------------|--------------------------------------|------------|------------|----------------|----------------|--------------|---------------|----------------|
| | prim. | sec. | tert. | prim. | sec. | tert. | | | | | |
| NFi. corp. | 0 | 0 | 0 | 0 | 0 | 0 | 9,691 | 0 | 642 | 342 | 10,675 |
| Fin. corp. | 0 | 0 | 0 | 0 | 0 | 0 | 2,764 | 0 | 4,175 | -3,083 | 3,838 |
| Gen. gov. | 0 | 0 | 0 | 0 | 0 | 0 | -70 | 14,972 | 186 | 68 | 15,156 |
| H wages | 36,112 | 8,095 | 12,961 | 952 | 142 | 229 | 2,189 | 0 | 1 | 297 | 60,978 |
| H mix. in. | 1,052 | 333 | 366 | 2,726 | 267 | 311 | 6,841 | 0 | 6 | 594 | 12,495 |
| H old ag. | 1172 | 306 | 168 | 201 | 18 | 6 | 734 | 0 | 0 | 265 | 2869 |
| H other | 315 | 142 | 61 | 74 | 0 | 2 | 113 | 0 | 0 | 47 | 755 |
| N-prof. or. | 0 | 0 | 0 | 0 | 0 | 0 | -349 | 0 | 0 | 17 | -331 |
| Total | 38,650 | 8,877 | 13,557 | 3,953 | 427 | 548 | 21,913 | 14,972 | 4,993 | -1,453 | 111,374 |

Das IO-Schmankerl

$$Y = \hat{b}(1 - A)^{-1} F$$

| | WB1 | WB2 | C | I | Einn. |
|-------|-----|-----|---|---|-------|
| WB1 | 1 | 5 | 3 | 1 | 10 |
| WB2 | 2 | 1 | 2 | 5 | 10 |
| WS1 | 7 | 0 | | | 7 |
| WS2 | 0 | 4 | | | 4 |
| Ausg. | 10 | 10 | 5 | 6 | |

| | C | I | Ges. |
|------|------|------|------|
| WS1 | 3,65 | 3,35 | 7 |
| WS2 | 1,35 | 2,65 | 4 |
| Ges. | 5 | 6 | |

Kreislauf der Produkte: Von der Endnachfrage zur Wertschöpfung

Einkommenskreislauf

$$Y = \hat{b}(1 - A)^{-1} F$$

| | HH1 | HH2 | ANE | BÜ | SEinn. |
|--------|-----|-----|-----|----|--------|
| HH1 | 1 | 5 | 3 | 1 | 10 |
| HH2 | 2 | 1 | 2 | 5 | 10 |
| VFE1 | 7 | 0 | | | 7 |
| VFE2 | 0 | 4 | | | 4 |
| SAusg. | 10 | 10 | 5 | 6 | |

| | ANE | BÜ | Ges. |
|------|------|------|------|
| VFE1 | 3,65 | 3,35 | 7 |
| VFE2 | 1,35 | 2,65 | 4 |
| Ges. | 5 | 6 | |

Kreislauf der Einkommen: Von der Wertschöpfung zum verfügbaren Einkommen

Nettowertschöpfung nach Art und Letztempfänger, Portugal 2000

| | Employed labour | | | Self-employed labour | | | Oper- ating surplus | Taxes on prod. | ROW | FISIM | Dispos. income |
|---------------------|-----------------|-----------|----------|----------------------|---------|-----|---------------------------|----------------------|------|-------|-------------------|
| | by education | | | by education | | | | | | | |
| | primary | secondary | tertiary | primary tertiary | second. | | | | | | |
| NFin. corp. | -338 | -77 | -121 | -16 | -2 | -3 | -1071 | -40 | -192 | 13 | -1847 |
| Fin. corp. | 764 | 174 | 271 | 42 | 5 | 7 | 877 | 148 | 509 | -225 | 2571 |
| Gen. gov. | 6543 | 1478 | 2335 | 344 | 42 | 60 | 2975 | 7026 | 1487 | -71 | 22218 |
| H wages | 24181 | 5423 | 8676 | 668 | 98 | 157 | 2531 | 859 | 1794 | -47 | 44339 |
| H mixed inc. | 1378 | 395 | 482 | 2401 | 236 | 275 | 7735 | 641 | 947 | 142 | 14631 |
| H old age | 4338 | 1018 | 1321 | 361 | 38 | 36 | 3260 | 3155 | 1462 | -59 | 14930 |
| H other | 750 | 232 | 223 | 94 | 3 | 7 | 708 | 341 | 1803 | -118 | 4044 |
| N-prof. organ. | 749 | 170 | 267 | 46 | 5 | 8 | 536 | 442 | 210 | -23 | 2410 |
| 10 | 957 | 218 | 340 | 69 | 8 | 11 | 4590 | 2273 | 1428 | -634 | 9260 |
| FISIM | -672 | -154 | -237 | -56 | -6 | -8 | -229 | 126 | 484 | -430 | -1183 |
| Generated income | 38650 | 8877 | 13556 | 3953 | 427 | 548 | 21913 | 14972 | 9931 | -1453 | 11137 4 |

Vergleich direkt - indirekt

| | Employed labour primary education | | Operating surplus | | Taxes on | production | | | |
|--------------|--------------------------------------|---------------|-------------------|---------------|---------------|---------------|--|--|--|
| | direct | +indirect | direct | +indirect | direct | +indirect | | | |
| NFi. corp. | 0 | -338 | 9,691 | -1,071 | 0 | -40 | | | |
| Fin. corp. | 0 | 764 | 2,764 | 877 | 0 | 148 | | | |
| Gen. gov. | 0 | 6,543 | -70 | 2,975 | 14,972 | 7026 | | | |
| H wages | 36,112 | 24,181 | 2,189 | 2,531 | 0 | 859 | | | |
| H mix. in. | 1,052 | 1378 | 6,841 | 7,735 | 0 | 641 | | | |
| H old ag. | 1,172 | 750 | 734 | 3,260 | 0 | 3155 | | | |
| H other | 315 | 315 | 113 | 708 | 0 | 341 | | | |
| N-prof. or. | 0 | 749 | -349 | 536 | 0 | 442 | | | |
| Total | 38,650 | 38,650 | 21,913 | 21,913 | 14,972 | 14,972 | | | |

Literatur

Reich, U.-P. „Mechanisms of national income distribution: a comparative SAM analysis of Canada, Germany, and Portugal”, *Economic Systems Research*, im Erscheinen.