The Net Tax-Benefit Balance and welfare state redistribution through taxes and benefits

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Background

❑ **The NET pay/benefits vs. receipt of TRANSFERS**

- Net pay or net benefits show how the welfare state **redistribution** through taxes and benefits affect **income and social groups**
  - This matters to any citizens, who are **payers and recipients of the welfare state at the same time** (fair redistribution, attitudes)

❑ **Taxes**

- There is a great variety in how governments redistribute across income and social groups through taxes and benefits. However, **welfare state financing from taxpayers** is often neglected when the 'welfare state' is narrowly defined as social benefits and its size.

❑ **Tax-benefit Structure**

- The redistribution effects of the welfare state are studied using **rough indicators and without taxes**.

Research questions

1. Who pays what, who gets what?

    ▪ The *Net Tax-Benefit Balance* of *Social and Income* groups

2. What determines the level of (net) redistribution within and between social and income groups?

    ▪ The net redistribution is shaped by the tax-benefit structure that determine payers and recipients (vertical vs. horizontal)

    ▪ Questions regarding redistribution

      • What is the encompassing concept for the higher level of transferring between groups such as 'redistributiveness', 'redistribution efforts', or 'pro-poor'?

      • Why is supposedly-more-redistributive targeted system less redistributive?

      • What links payers (financing) and recipients (redistribution)?

Literature

Who Pays What, Who Gets What?

☐ **Income and demographic factors**

- Hills (2015) "Good times, bad times" analysed 'net pay (benefit)' of two hypothetical families
- OECD Tax-Ben Web Calculator

☐ **Types of taxes and benefits**

- Hills (1995) and Glennerster (1997, 2013, 2017): the flow of funds from types of taxes to social spending areas in the UK
- OECD The Tax Wedge

☐ **Implied by income level**

- Most of public attitudes studies in social policy and political science

Literature

Evaluation of redistribution

❑ **Financing modes** are not included
- Morel and Palme (2013), Tuxhorn et al. (2021), Steinmo (1993)
- Schmitt et al. (2020) articulated the importance of the revenue side of the welfare state.
    - First, financial charges to fund the welfare state are imposed by the government and therefore *politically contested*. Second, the modes of financing affect the *willingness to pay for the welfare state*. Third, the way of financing affects *eligibility criteria and coverage*. Last, it affects macro-economic outcomes as well as the *sustainability of the welfare state* in the long run.

❑ **Used progressivity, but roughly**
- The size of targeted transfers
- The degree of targeting without taxes: Korpi and Palme (1998), Brady and Bostic (2015)
- Definition of progressivity: Berens and Gelepithis (2019), Jaeger (2006)
- Focus on one type of progressive measures (e.g. wealth/inheritance tax) or high income earners.

Literature

Taxes and benefits

❑ **Disconnection with economic inequality literature**

- Guillaud et al. (2020): Four levers of redistribution
- Causa and Hermansen (2017): net pay (benefit) and progressivity
- Hérault and Jenkins (2022): Redistributive Effect and the Progressivity of Taxes and Benefits 1978-2018
- Ferrarini and Nelson (2003): comparative progressivity and redistribution analysis
- Only taxation: Prasad and Deng (2010): compared Esping Anderson's typology vs. taxation in the US and Europe

Analytical Framework

❑ **The Net Tax-Benefit Balance (NTBB of households)**

 ▪ Decomposition

   • By income deciles

   • By types of taxes and transfers

   • By household types

❑ **Three key dimensions of redistribution (Structural)**

 ▪ Progressivity

 ▪ Size

 ▪ Eligibility

 ▪ This structure affects vertical/horizontal redistribution and payers-recipients link

The Net Tax-Benefit Balance

❑ The sum of transfers minus taxes and SSC

❑ To investigate redistribution within and across social and income groups

- Vertical redistribution vs. horizontal redistribution

1. Eligibility

❏ Eligibility of transfers and liability of taxes determine and thus *link* **recipients and payers**

❏ Eligibility criteria determine the **coverage** of taxes and transfers

❏ **The redistribution logic** of taxes and benefits is related to **vertical redistribution vs. horizontal distribution** *(progressivity)*

- **Horizontal distribution** has higher likelihood that payers pay for their own transfers
  - Social insurance and universal system is more exclusive to payers (contributors)
- **Vertical redistribution** has higher likelihood that payers may not pay for their own transfers
  - Targeted system takes 'Robin Hood' strategies from transferring from the rich to the poor
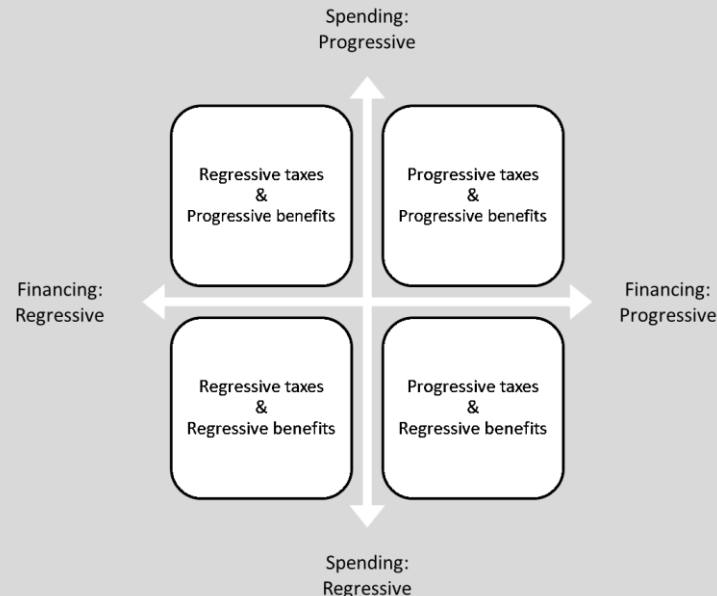
1. Eligibility

Intervention	Financing-spending link	Objectives	Eligibility/Liability	Level
Transfers				
Assistance (Targeted)	Tax revenues	Need; income guarantee; vertical redistribution	Means-test	Minimum
Fiscal	Tax contributions; and tax revenues	Need; work incentives; vertical redistribution	Means-test; work; family	Earnings-related
Insurance	Insurance contributions; and tax revenues	Risk-pooling; horizontal distribution	Membership; contributions	Earnings and contributions related
Categorical	Tax revenues	Need; income guarantee; horizontal distribution	Target group; Means-test	Flat rate; earnings-related
Universal	Tax revenues	Need; income guarantee; horizontal distribution	Citizenship	Flat rate; earnings-related
Financing modes				
Income taxes	All transfers	Vertical redistribution; fiscal	Inco...	
Inheritance, gift, and wealth taxes	All transfers	Vertical redistribution; fiscal	Thos... inher... weal...	
Social Security Contributions	Insurance transfers	Risk-pooling; horizontal distribution	Employers and employees; voluntary	Earnings-related
Indirect taxes	All transfers	Fiscal; horizontal distribution	Consumption	Flat rate

> Payer-recipients relationship is more clear (Returnable/regressive /willingness to pay)

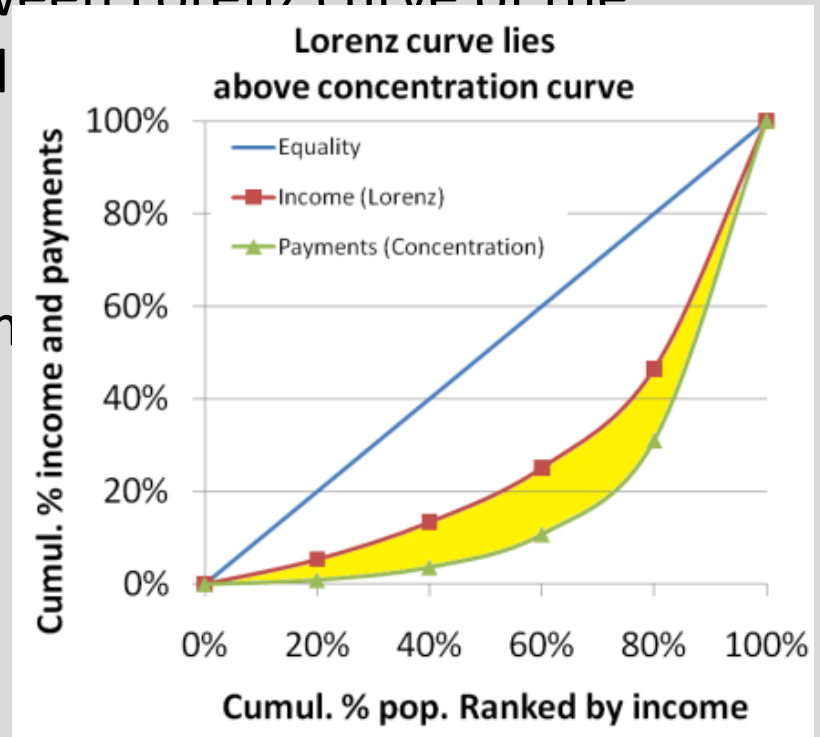Source: Financing modes are edited based on Hammar et al. (2008).

2. Progressivity and size

❑ Redistribution differs despite the same social expenditures

❑ The degree of vertical redistribution across social and income groups

■ Higher vertical redistribution (progressive) = less return of taxes/SSC

❑ Size amplifies or minimises progressivity effects

Spending:
Progressive

| Regressive taxes & Progressive benefits | Progressive taxes & Progressive benefits |
| Regressive taxes & Regressive benefits | Progressive taxes & Regressive benefits |

Financing:
Regressive

Financing:
Progressive

Spending:
Regressive

2. Progressivity

❑ Progressivity can be defined in various ways (Musgrave and Thin, 1948, Suits, 1977, OECD, 2022, Gerber et al., 2020).

- ■ Ratio of tax-benefit levels at two income points
- ■ Suits (1977): the area between Lorenz curve of the intervention against cumul... perfect equality
- ■ Kakwani index (1977) = C_t coefficient of pre-fisc incon...

Lorenz curve lies above concentration curve

- Equality
- Income (Lorenz)
- Payments (Concentration)

Cumul. % income and payments

Cumul. % pop. Ranked by income

Empirics

❑ Data: Luxembourg Income Study

❑ Countries: Denmark and Finland in 2016 (universalistic);
France and Germany in 2018 (conservative);
UK and US in 2018 (liberal)

❑ Age: Prime working-age (25-54) head households without +55 members to make income, taxes, and transfers more homogenous

❑ Measurement

- NTBB: the sum of three (assistance, insurance, universal) transfers minus income taxes and SSC

- Progressivity: Kakwani index

- Size: average rate

- Eligibility: NTBB by household types

The Net Tax-Benefit Balance (Income)
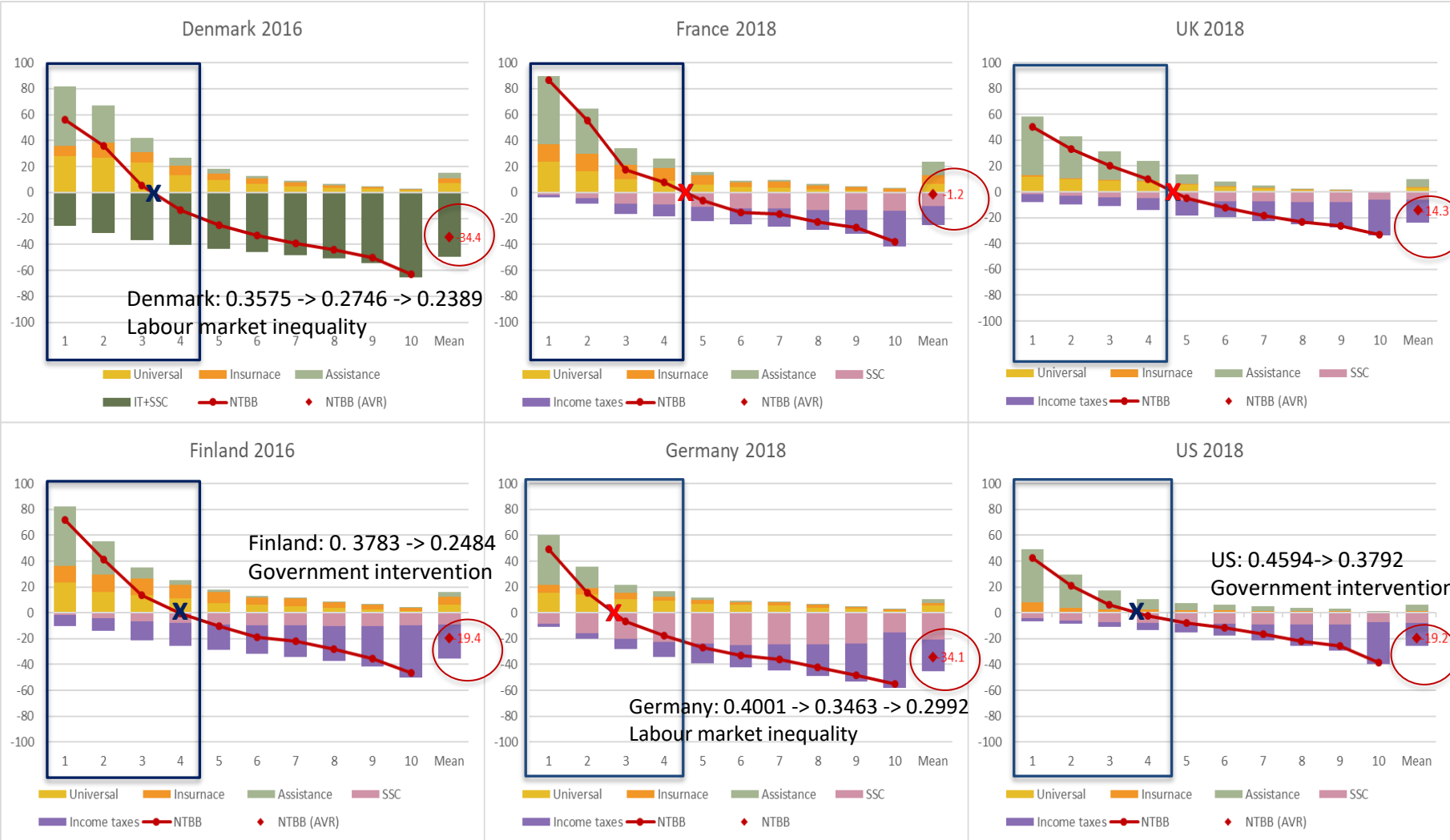
Data: Prime working-age (25-54) head households without +55 members from Luxembourg Income Study data

The Net Tax-Benefit Balance (Eligibility)
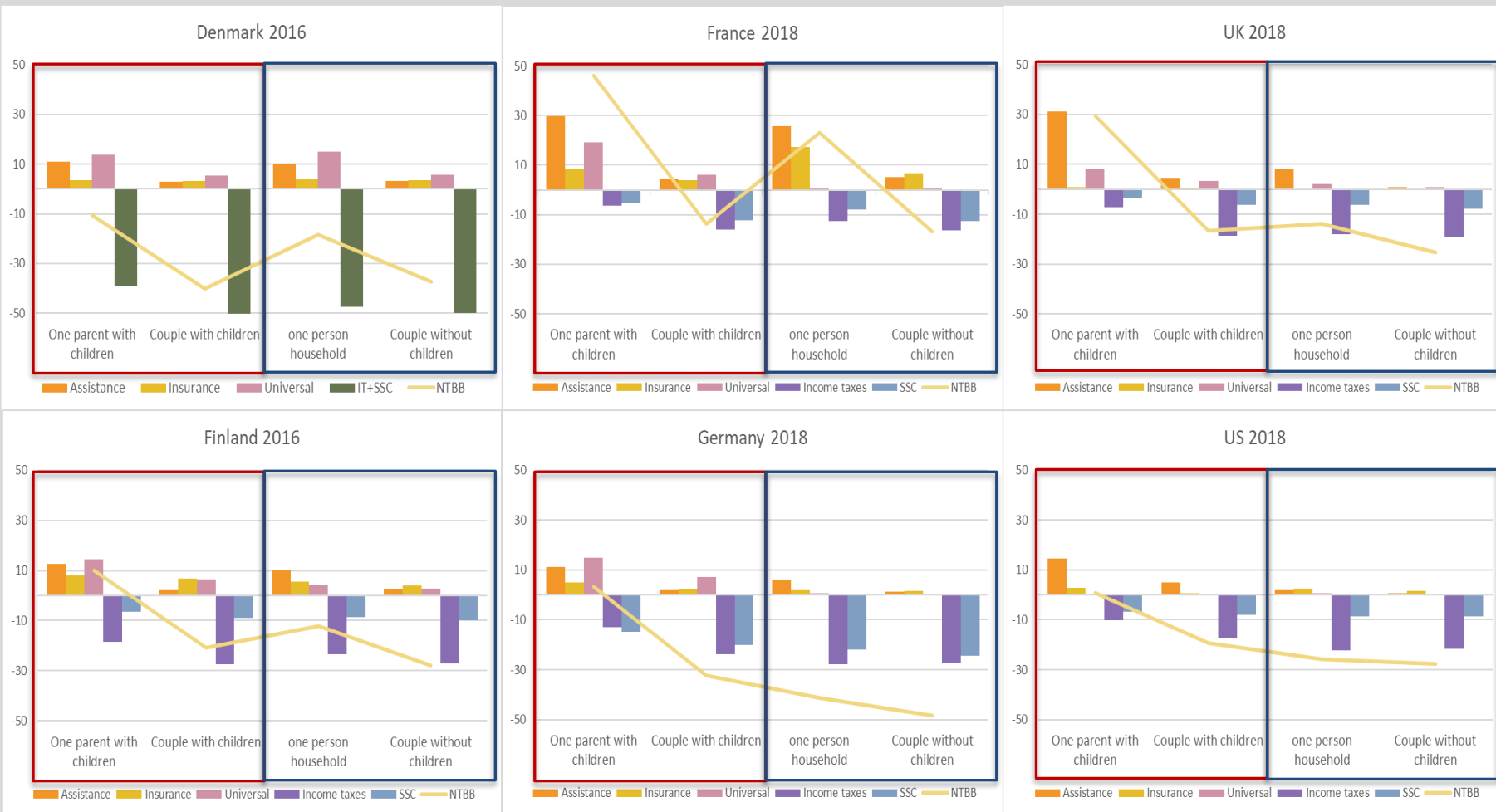
Data: Prime working-age (25-54) head households without +55 members from Luxembourg Income Study data
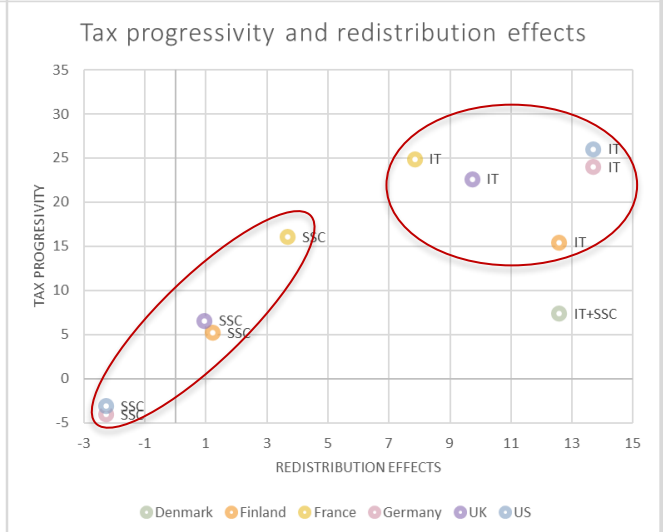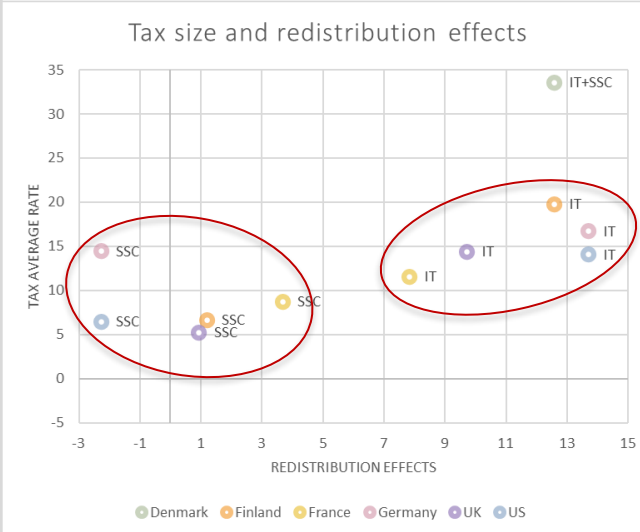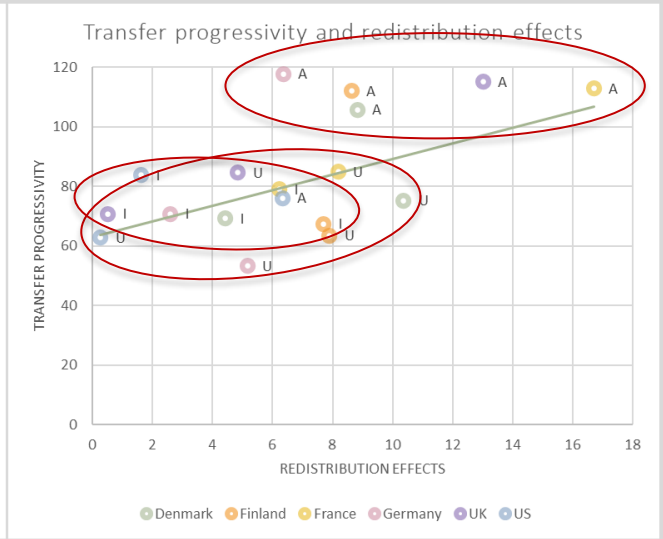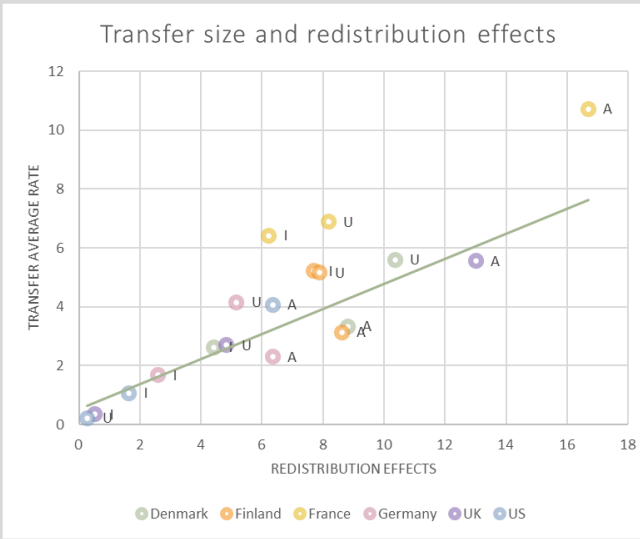
Progressivity, size, and redistribution

Data: Prime working-age (25-54) head households without +55 members from Luxembourg Income Study data

The interplay of size and progressivity

- ❑ While regressive measures may remain sizeable, progressive measures are often small and thus, less redistributive.
  - ▪ A few studies also pointed out that the *size*, rather than progressivity, matters more for redistribution (Causa and Hermansen, 2017).
  - ▪ Also, high tax progressivity is not coupled with or negatively correlated with high tax rates (Guillaud et al., 2020, Verbist and Figari, 2014).

Country	Intervention	Pre-fisc GINI [A]	Post-fisc GINI [B]	(A-B)/A *100	Rank	Average rate [C]	Rank	Progressivity [D]	Rank
Denmark	Transfers	0.3575	0.2746	23.22	2	12.09%	3	81.82	3
	Tax+SSC Gross	0.2746	0.2389	13.00	3	33.60%	1	7.42	6
Finland	Transfers	0.3783	0.2928	22.60	3	13.54%	2	76.41	5
	Tax+SSC Gross	0.2928	0.2484	15.16	1	26.52%	3	12.89	4
Germany	Transfers	0.4001	0.3463	13.42	5	8.17%	5	75.22	6
	Tax+SSC Gross	0.3463	0.2992	13.63	2	31.26%	2	11.02	5
France	Transfers	0.5841	0.4126	29.36	1	24.09%	1	95.94	2
	Tax+SSC Gross	0.4126	0.3597	12.82	4	20.39%	5	21.14	1
UK	Transfers	0.4453	0.3677	17.43	4	8.65%	4	103.86	1
	Tax+SSC Gross	0.3677	0.3264	11.23	5	19.73%	6	18.35	2
US	Transfers	0.4594	0.4223	8.08	6	5.47%	6	77.03	4
	Tax+SSC Gross	0.4223	0.3792	10.21	6	20.64%	4	16.88	3

- ❑ Korpi and Palme (1998)
  - ▪ 'Why regressive and expensive universalistic system is more redistributive while targeted system is supposed to be efficient?'

Conclusion 1. NTBB

❑ Lower income groups (1-4th deciles) **exhibit wide differences in 'steepness' of NTBB** because of wider differences in tax-ben level for the income group.

❑ For higher income groups, **taxes affect the level of NTBB more** because of lower transfer rates, although transfers has higher redistributive effects overall.

❑ For middle income groups, **a smooth reduction of transfers (especially assistance transfers)** and **lower SSC and less progressive income taxes jointly** lower the level of NTBB for low to middle income groups.

Conclusion 2. Structure

❑ We need to look into the tax-benefit mix

- Hard to generalise about sizes and progressivity of taxes and benefits by the 'welfare regime typology'
  - Universal benefits are not always least progressive or smallest/biggest.
  - SSC are regressive and big, and sometimes increases GINI (Germany, US) – costly to middle income groups.
- Progressivity and size may explain the tax-benefit structure more adequately
  - Evaluation of welfare state redistribution generally misses the progressivity/size of transfers and entire tax sides.
  - Progressivity means vertical redistribution (thus, less clear link between payers and recipients).
  - Size has more impacts on redistribution effects than progressivity. Regressive policies tend to remain sizeable, while progressive policies are too small.
  - This responds to why more targeted system has smaller redistribution effects.

Limitation

❑ Working age group vs. lifetime NTBB
- Old age groups have very different income, taxes, and transfers conditions
- Pension and health

❑ Universal benefits depending on lifecycle
- family, old age basic pension, education (NTBB by eligibility)
- This paper only covered one criterion, having children (family)

Future studies

❑ How the financial aspects affect attitudes

❑ NTBB of pension age and pension arraignments

❑ How economic and social factors separately and combined affect the level of NTBB

Literature

□ **"Who Pays What, Who Gets What?" is inherently related to redistribution** and responses to it

□ Different approaches to transfers or the net redistribution

- Evaluation of the Welfare state vs. State
  - Welfare state redistribution: welfare state policy evaluation
  - State: optimisation, structural analyses of both taxes and benefits
- Different levels (net redistribution)
  - Structural differences across countries and evaluation
  - Social or individual groups/taxpayers
- Attitudes studies
  - Redistribution in relation to welfare state support, attitudes, or political behaviours (self-interest, political ideology, beliefs, etc.)

An Overview

□ An Overview of tax revenue and social expenditure (% of GDP)

| | Social expenditure | | | Tax revenue | | | | | | | | | |
	Total	Cash benefits	Non-old age cash benefits	Total	Income taxes, individual (PIT)	Income taxes, corporate (CIT)	Social security contributions (SSC)			Taxes on payroll and workforce	Taxes on property	Value added taxes	Other consumption taxes
							employee	employer	total SSC				
Denmark	28.5	13.0	5.1	44.2	24.1	2.8	0.0	0.0	0.0	0.3	1.8	9.5	5.1
Finland	29.4	17.1	6.1	42.4	12.2	2.5	3.5	7.6	11.8	0.0	1.4	9.2	5.1
France	31.0	18.9	6.7	45.9	9.4	2.1	10.7	3.8	16.0	1.5	4.0	7.1	5.3
Germany	25.3	13.5	5.0	38.4	10.5	2.1	6.0	6.4	14.5	0.0	1.1	7.0	3.3
UK	19.7	9.0	3.4	32.9	9.0	2.6	3.5	2.4	6.3	0.1	4.1	7.0	3.8
US	18.2	8.6	2.1	24.9	10.1	1.3	3.2	2.8	6.1	0.0	2.9	0.0	4.4
OECD average	19.7	11.2	4.2	33.5	7.9	3.1	4.9	3.2	9.0	0.4	1.8	6.7	4.1

The Net Tax-Benefit Balance (Eligibility)
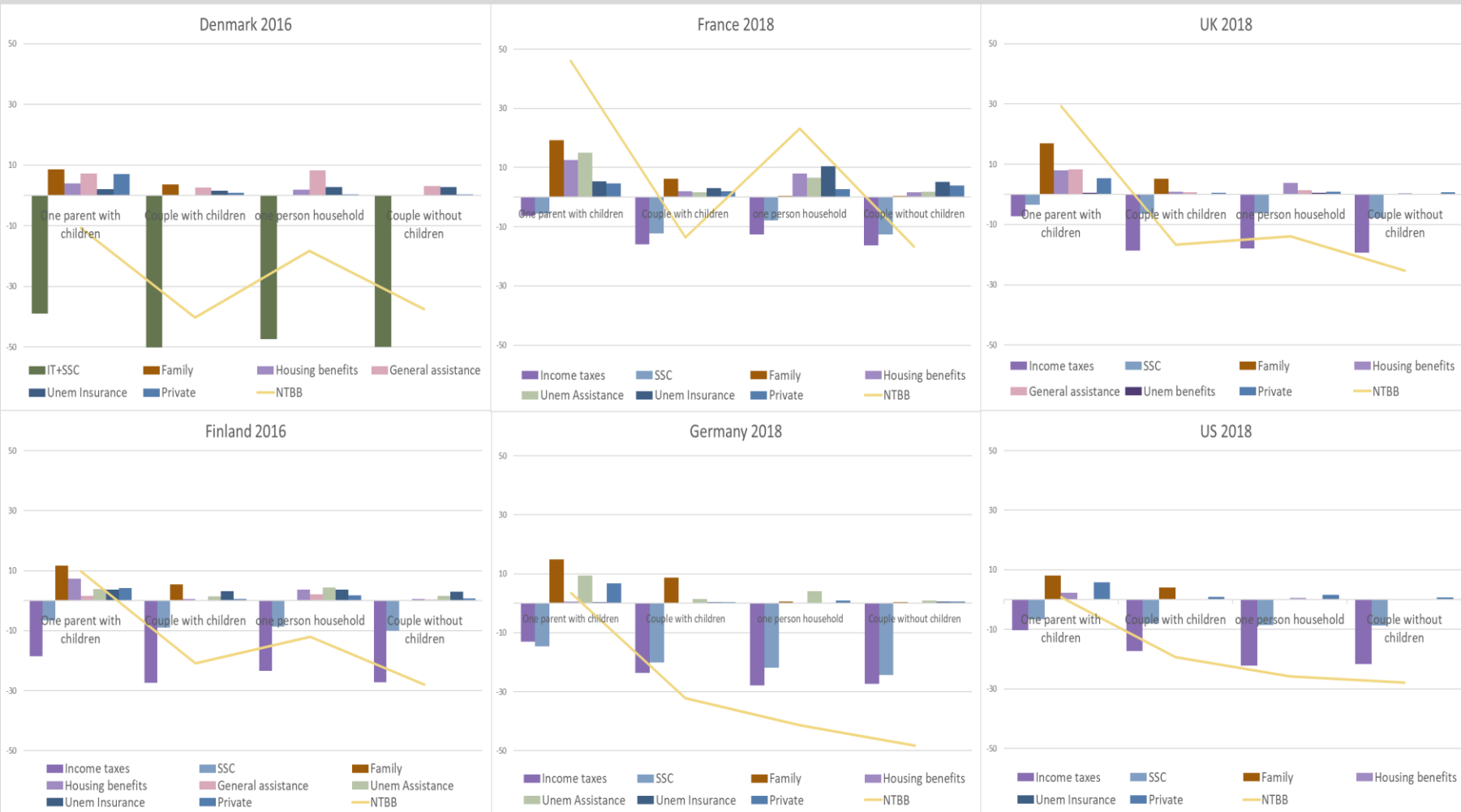
Data: Prime working-age (25-54) head households without +55 members from Luxembourg Income Study data

Progressivity, size, and redistribution

Country	Intervention	Pre-fisc GINI [A]	Post-fisc GINI [B]	Redistribution effects [A - B]	Rank	(A-B)/A *100	Rank	Average rate [C]	Rank	Progressivity [D]	Rank
Denmark	**Transfers**	**0.3575**	**0.2746**	**0.083**	**2**	**23.22**	**3**	**12.09%**	**3**	**81.82**	**3**
	Assistance		0.326	0.0315	3	8.81	4	3.35%	4	105.82	5
	Insurance		0.3417	0.0158	3	4.42	3	2.64%	3	69.36	5
	Universal		0.3205	0.037	1	10.35	2	5.61%	2	75.41	3
	Tax+SSC Gross	**0.2746**	**0.2389**	**0.0357**	**3**	**13.00**	**6**	**33.60%**	**1**	**7.42**	**6**
Finland	**Transfers**	**0.3783**	**0.2928**	**0.0855**	**3**	**22.60**	**2**	**13.54%**	**2**	**76.41**	**5**
	Assistance		0.3457	0.0326	4	8.62	3	3.15%	5	112.1	4
	Insurance		0.3492	0.0291	1	7.69	2	5.23%	2	67.52	6
	Universal		0.3485	0.0298	3	7.88	3	5.17%	3	63.61	4
	Tax+SSC Gross	**0.2928**	**0.2484**	**0.0444**	**1**	**15.16**	**3**	**26.52%**	**3**	**12.89**	**4**
	Income tax		0.256	0.0368	2	12.57	3	19.81%	1	15.48	5
	SSC		0.2893	0.0035	2	1.20	2	6.72%	3	5.25	3
Germany	**Transfers**	**0.4001**	**0.3463**	**0.0537**	**5**	**13.42**	**5**	**8.17%**	**5**	**75.22**	**6**
	Assistance		0.3747	0.0254	5	6.35	6	2.31%	6	118.25	1
	Insurance		0.3898	0.0103	4	2.57	4	1.70%	4	70.81	4
	Universal		0.3795	0.0206	4	5.15	5	4.17%	4	53.2	6
	Tax+SSC Gross	**0.3463**	**0.2992**	**0.0472**	**2**	**13.63**	**2**	**31.26%**	**2**	**11.02**	**5**
	Income tax		0.2989	0.0474	1	13.69	1	16.77%	2	24.01	3
	SSC		0.3543	-0.0079	5	-2.28	5	14.49%	1	-4.01	5
France	**Transfers**	**0.5841**	**0.4126**	**0.1715**	**1**	**29.36**	**1**	**24.09%**	**1**	**95.94**	**2**
	Assistance		0.4866	0.0975	1	16.69	1	10.74%	1	112.98	3
	Insurance		0.5478	0.0363	2	6.21	1	6.44%	1	79.17	2
	Universal		0.5364	0.0477	2	8.17	1	6.91%	1	85.06	1
	Tax+SSC Gross	**0.4126**	**0.3597**	**0.0529**	**4**	**12.82**	**1**	**20.39%**	**5**	**21.14**	**1**
	Income tax		0.3803	0.0323	5	7.83	5	11.61%	5	24.93	2
	SSC		0.3975	0.0151	1	3.66	1	8.80%	2	16.08	1
UK	**Transfers**	**0.4453**	**0.3677**	**0.0776**	**4**	**17.43**	**4**	**8.65%**	**4**	**103.86**	**1**
	Assistance		0.3875	0.0579	2	13.00	2	5.58%	2	115.26	2
	Insurance		0.4431	0.0023	6	0.52	6	0.36%	6	70.93	3
	Universal		0.4238	0.0215	5	4.83	4	2.71%	5	84.77	2
	Tax+SSC Gross	**0.3677**	**0.3264**	**0.0413**	**5**	**11.23**	**5**	**19.73%**	**6**	**18.35**	**2**
	Income tax		0.332	0.0357	4	9.71	4	14.43%	3	22.66	4
	SSC		0.3643	0.0034	3	0.92	3	5.30%	5	6.6	2
US	**Transfers**	**0.4594**	**0.4223**	**0.0371**	**6**	**8.08**	**6**	**5.47%**	**6**	**77.03**	**4**
	Assistance		0.4303	0.0291	6	6.33	5	4.09%	3	76.21	6
	Insurance		0.452	0.0074	5	1.61	5	1.09%	5	83.9	1
	Universal		0.4582	0.0012	6	0.26	6	0.24%	6	62.9	5
	Tax+SSC Gross	**0.4223**	**0.3792**	**0.0431**	**6**	**10.21**	**4**	**20.64%**	**4**	**16.88**	**3**
	Income tax		0.38	0.0423	3	10.02	2	14.13%	4	26.07	1
	SSC		0.4245	-0.0022	4	-0.52	4	6.51%	4	-3.08	4

Redistribution effects: transfers > taxes
Progressivity: transfers > taxes
Size: transfers < taxes

Transfers
Assistance transfers are always most **progressive** and redistributive. (U and I varies)
Size of transfers varies across countries (not one transfers is *always* big)

Taxes/SSC
Progressivity of SSC varies more than income taxes (20 vs. 9)
Size: income taxes > SSC