

Econ 133 – Global Inequality and Growth

What is Income?

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Roadmap

1. Income = domestic output + net foreign income
2. Income = labor income + capital income
3. Functional vs. personal income distribution
4. Factor income vs. pre-tax income vs. disposable income

1 Income = domestic output + net foreign income

National income Y of a country = net domestic output Y_d + net foreign income

At world level: $Y = Y_d$

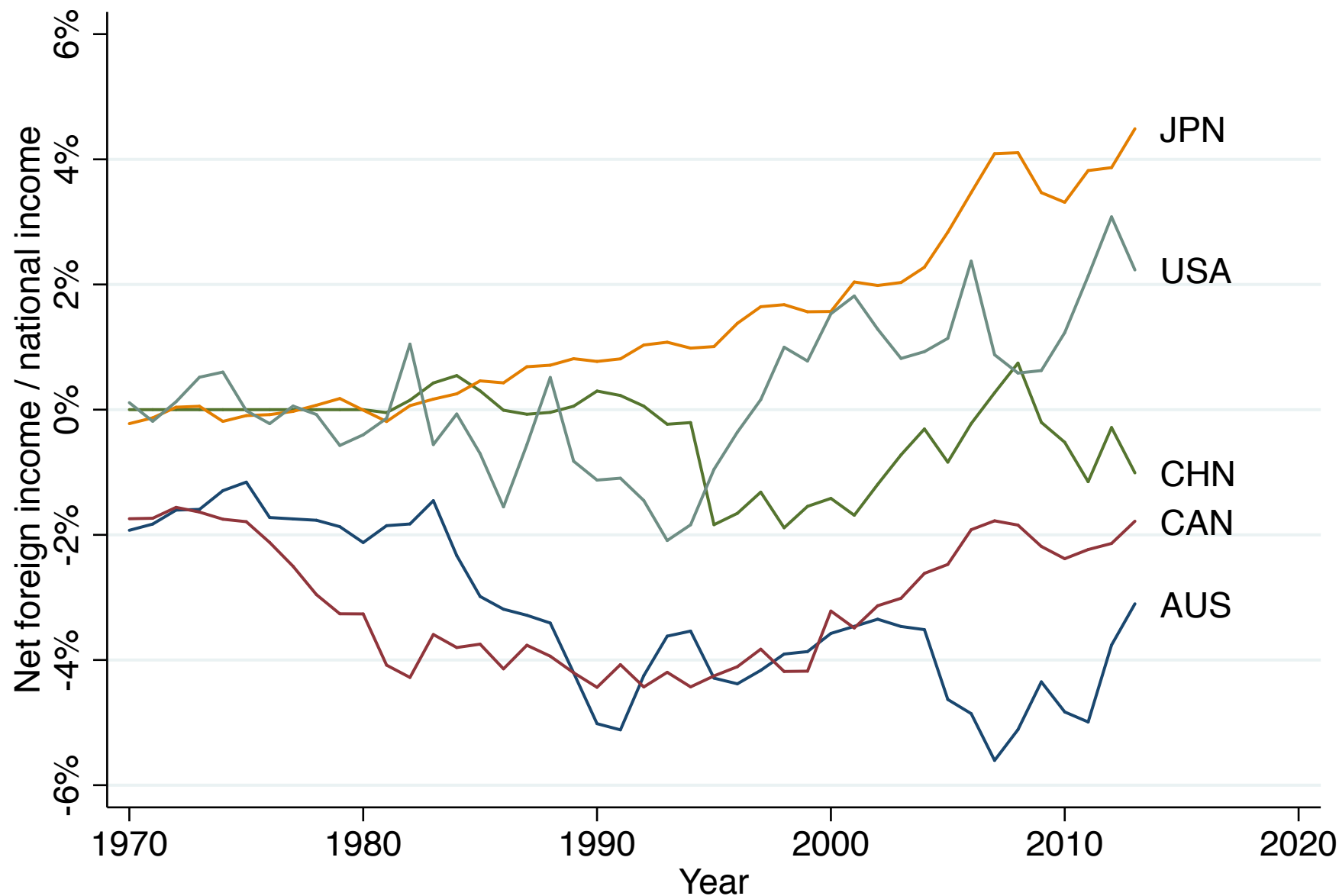
1.1 Net domestic output Y_d

- Net domestic output $Y_d = F(K, L)$
- Net domestic output $Y_d = \text{GDP} - \text{capital depreciation}$

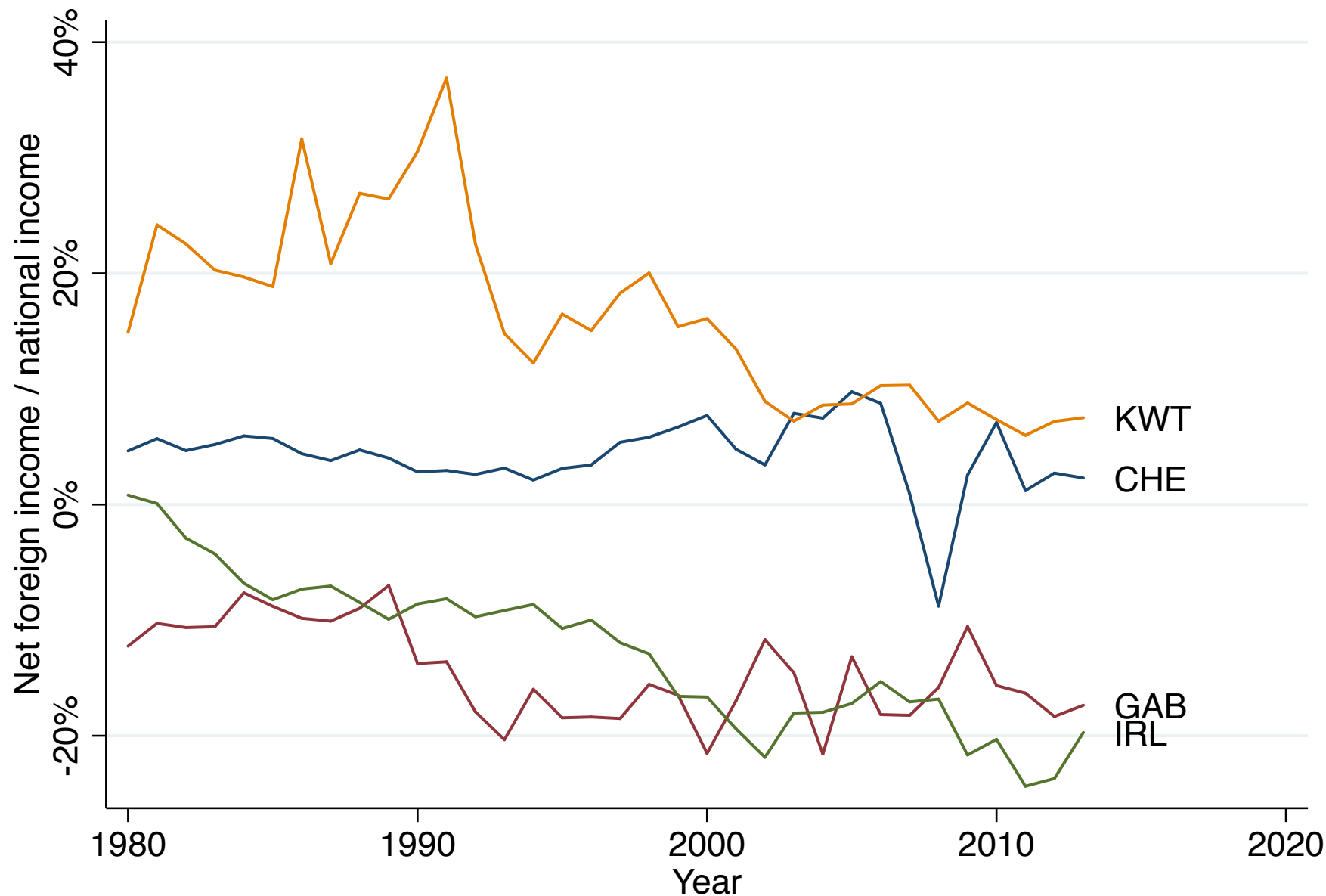
- GDP = gross domestic product = economy-wide value-added = the value of all goods and services sold to final users = $C + I$
- Depreciation: loss in the value of capital due to passing of time
- Depreciation is $\approx 10\text{-}15\%$ of GDP $\approx 2\text{-}3\%$ of capital stock K
- Depreciation varies with asset mix (buildings vs. software)
- Depreciation varies with geography \rightarrow harder to accumulate K in humid countries, exposed to cyclones. See Hsiang and Jina (2015)

1.2 Net foreign income

- Net foreign income = net foreign labor income + net foreign capital income
- Net foreign labor income: wages of cross-border workers. Typically negligible (except in tiny countries like Luxembourg)
- Net foreign capital income: dividends, interest, rents generated by cross-border assets. Can be large (and either > 0 or < 0)



Data source: World Bank's World Development Indicators



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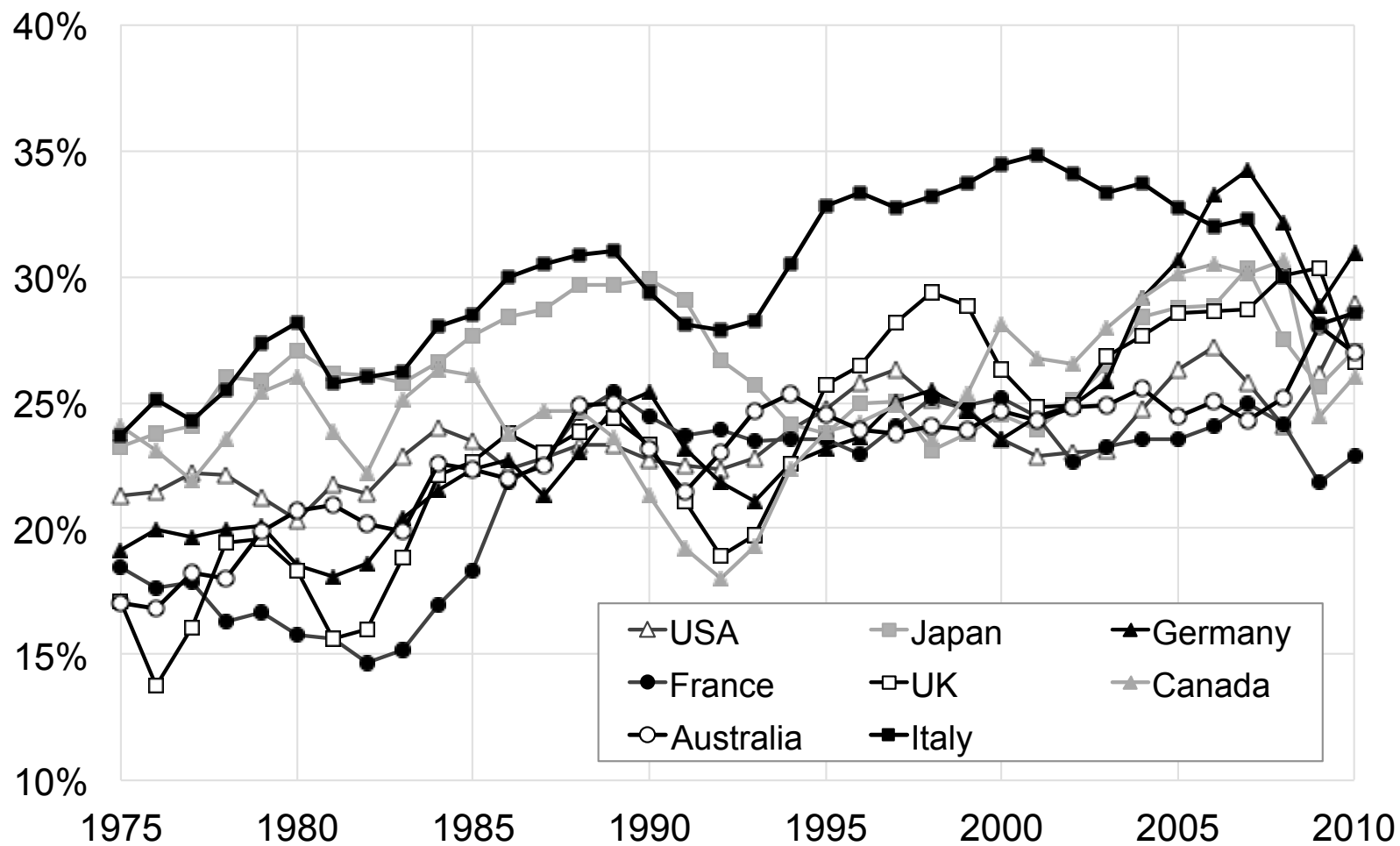
1.3 What determines net foreign income?

- Net foreign capital income = $FA \times r_A - FL \times r_L$
- $FA - FL$ = foreign assets minus foreign liabilities = net foreign asset position (NFA)
- FA, FL : depends on stage of development; demography; home bias; financial account policies
- r_A, r_L : depends on composition of external assets; exorbitant privilege; tax avoidance. See Gourinchas and Rey (2007)

2 Income = labor income + capital income

- $Y = F(K, L) + \text{net foreign income} = Y_K + Y_L$
- $Y_K = \text{capital income (domestic + foreign)} = \text{corporate profits} + \text{rents} + \text{interest} + \text{K component of mixed income}$
- $Y_L = \text{labor income (domestic + foreign)} = \text{wages} + \text{supplements to wages} + \text{labor component of mixed income}$
- $\alpha = Y_K/Y = \text{share of capital in national income} \approx 25\text{-}30\%$
- $1 - \alpha = Y_L/Y = \text{share of labor in national income} \approx 70\text{-}75\%$

Capital shares in factor-price national income 1975-2010



Source: Piketty and Zucman (2014)

3 Functional vs. personal income distribution

- Functional income distribution: distribution of $Y = Y_K + Y_L$ across factors of production K and L
- What classical economists were mostly interested in → Lecture 6
- Personal income distribution: distribution of $Y = \sum_i y_i$ across individuals i
- What today's economists are mostly interested in → Lecture 7, and parts II and III

- Both are related, since y_i depends on:
 - Distribution of y_{Li} across individuals i (part II)
 - Distribution of y_{Ki} across individuals i (part III)
 - Relative size of $Y_K = \sum_i y_{Ki}$ and $Y_L = \sum_i y_{Li}$ (Lecture 6)
 - Correlation between y_{Li} and y_{Ki} (part III)

4 Factor income, pre-tax income, disposable income

- So far we abstracted from the intervention of the government in the economy
- If no gov., personal income $y_i = y_{Ki} + y_{Li}$ = income that derives from the ownership of factors of production = factor income
- With government intervention, the actual income that people can spend or save can be different from $y_{Ki} + y_{Li}$
- Two types of government intervention affect income: social insurance and redistributive income taxation

4.1 Pre-tax income

- Pre-tax income = income after social insurance but before redistributive income taxation
- Main form of social insurance = retirement
- Other form of social insurance: unemployment insurance
- If pay-as-you-go pensions, then on aggregate pre-tax income = factor income
- But very different at individual level (think about retirees)

	billion current \$						% of personal pre-tax income (narrow definition)		
	Personal pre-tax income (narrow)	Personal pre-tax income / personal factor income	Equals: Personal factor income	Minus: pension contributions (SS + DC + DB + IRA)	Minus: investment income payable to DB + DC + IRA pensions	Plus: Pension distributions (SS + DC + DB + IRA)	Personal pre-tax income (narrow)	Personal pre-tax labor income	Personal pre-tax capital income
2010	12,026	92%	13,134	1,378	1,114	1,384	100%	71%	29%
2011	12,694	92%	13,744	1,345	1,154	1,449	100%	71%	29%
2012	13,508	93%	14,532	1,379	1,195	1,549	100%	70%	30%
2013	13,774	93%	14,855	1,509	1,217	1,645	100%	71%	29%

Source: Piketty, Saez and Zucman (2016)

4.2 Disposable income

- Disposable income = income after all taxes have been paid and all benefits have been received = income people can consume or save
- Disposable cash income: includes monetary transfers only
- Augmented disposable income: includes in-kind transfers (health, education)
- Full disposable income: includes monetary value of collective expenditure

	billion current \$					% of national income		
	Disposable income (cash income)	Equals: Pre-tax income (broad)	Less: Taxes on production	Less: Taxes on income and wealth	Plus: Social assistance benefits in cash	Disposable income (cash income)	Disposable income (cash income + in-kind transfers)	Disposable income (cash income + in-kind transfers + collective exp.)
2010	10,102	12,150	978	1,553	484	79%	87%	107%
2011	10,499	12,794	1,018	1,767	490	79%	86%	105%
2012	11,038	13,588	1,049	1,944	444	78%	86%	104%
2013	11,073	13,817	1,073	2,121	450	76%	83%	101%

Source: Piketty, Saez and Zucman (2016)

References

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