

Greenwich Political Economy Research Centre

Aggregate demand and inequalities:

Income, wealth and gender



Özlem Onaran,

Professor of Economics, Director of Greenwich Political Economy Research Centre



UNIVERSITY
of
GREENWICH

www.gre.ac.uk/gperc

Outline

- Post-Keynesian/Post-Kaleckian feminist political economy vs. mainstream macroeconomics
- Stylised facts
- Empirical PK research
- Policy implications

Principle of effective demand, multiplier and credit creation

- The importance of demand in determining output and employment
- the significance of investment and of income distribution in determining demand
- Productive capacity of the right quantity and location required for full employment
- Changes in autonomous investment or consumption or government spending or export demand have multiplier effects
- Demand to become effective has to be financed
- Demand is embedded in a monetary production economy
- Endogenous money and bank credit creation
- The interdependence of demand and supply
- Fundamental uncertainty and path dependency

Investment

- What influences the level of investment?
- Capacity utilisation
- Profits and profitability
- Credit availability
- 'Animal spirits'
 - Investment is the most volatile component of demand
- Technological opportunities
- The causal relationship runs from investment to savings

Employment and Unemployment

- Unemployment as an inherent feature of capitalist economies
- Cyclical fluctuations are a key feature
- Mainstream macroeconomists largely dismiss these features with explanations of unemployment based on ‘market imperfections’
 - choice of leisure in new classical economics
- Involuntary unemployment in Keynes
- Post Keynesians have range of explanations of unemployment – arising from:
 - Lack of demand; lack of productive capacity; political and social constraints
 - and of cyclical fluctuations (multiplier-accelerator type; Minsky cycles; Goodwin cycles etc).

The PK/Kaleckian models: fundamental elements of modern capitalism

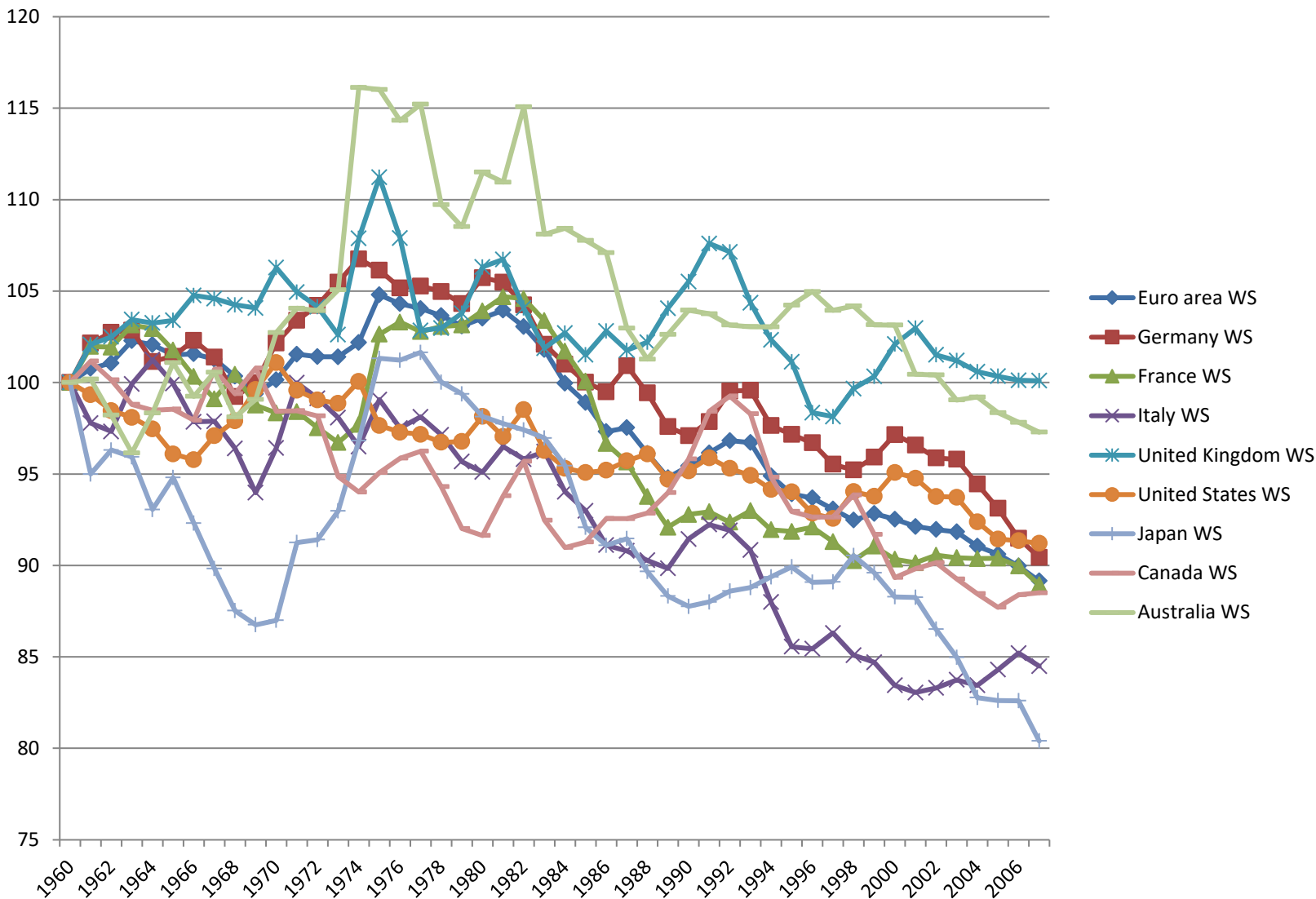
- Oligopolistic/monopolistic goods and capital markets, NOT perfect competition
- Prices are set via active cost-plus pricing
- Inflation: Conflict theory approach based on competing claims on income
- the mark-up on unit variable costs: degree of price competition among firms, overhead costs, bargaining power of trade unions
- Functional income distribution: distributional conflict → the mark-up
- Labour supply is not a constraint to production or growth,
- involuntary unemployment, also in the long run.
- Excess capacity is the norm; capacity utilization adjusts in the long run too.
- The principle of effective demand applies to the short, medium and long run.
- Saving is not a precondition for investment, but adjusts to investment through income effects in the long run.
- → paradox of saving also in the long run
 - higher saving/lower consumption/lower demand → lower investment and growth

Post Keynesian/ post-Kaleckian growth

- Long run is a succession of short-run equilibria = no fundamental difference between short and long run
- Role of institutions
- $I=S$ also at the centre of long run analysis.
- Animal spirits in the long run.
 - Note: there is no behavioural investment function in the neoclassical Solow growth model.
- Saving rate depends on demand and income distribution
- Dual role of wages
 - Income distribution and demand-led growth
 - wage-led vs profit-led growth

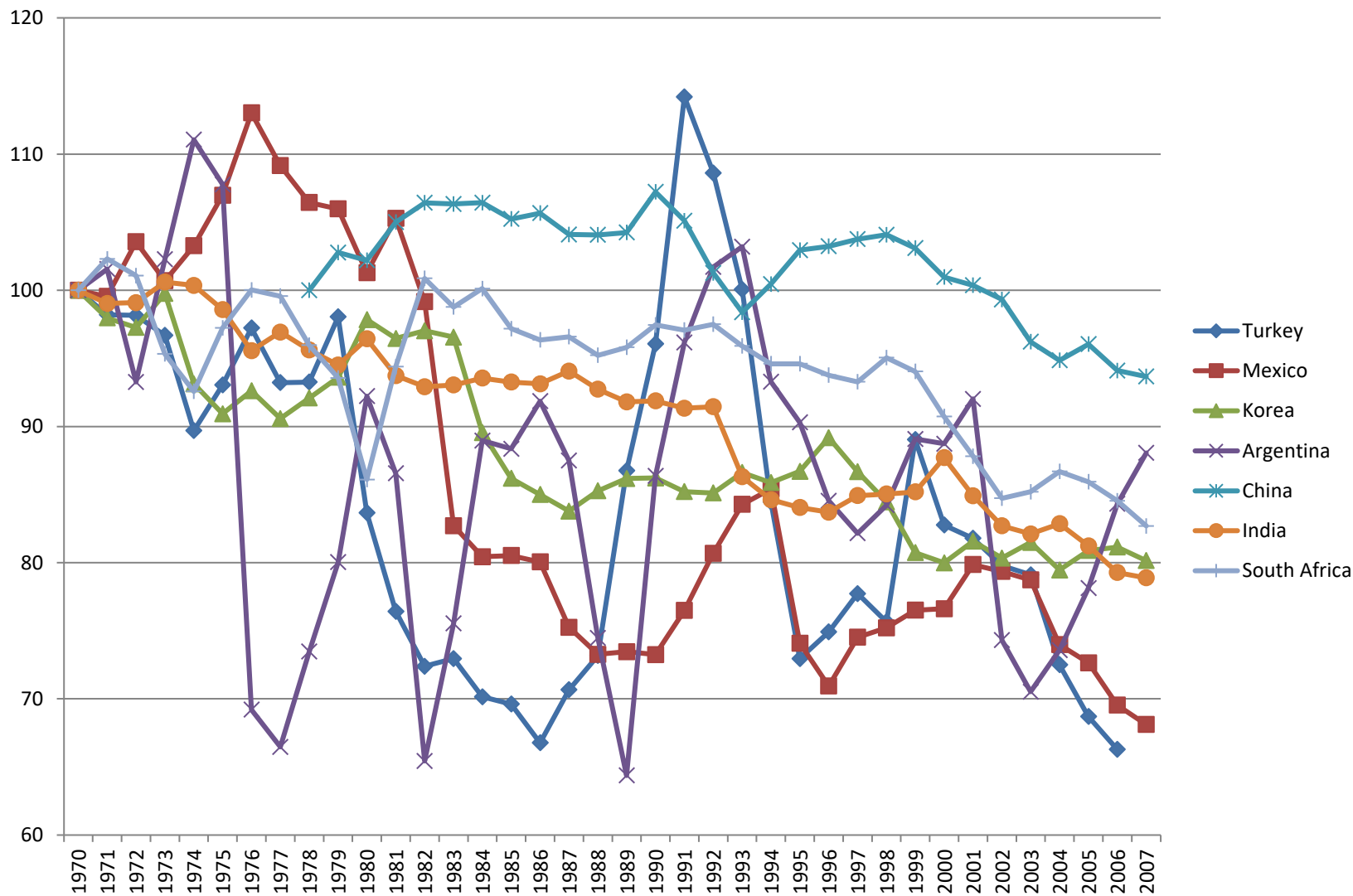
Income distribution: Glossary

- Personal income distribution: High vs. low income groups
- Functional income distribution
 - source of income - class
 - profit income (capital) vs. wage income (labor)
 - Value added (Y)=profit (R) + wage (W)
 - Profit: gross operating surplus
 - Wage: labour compensation
 - Wage share=wage/value added
 - Profit/value added=1- wage/value added
 - High profit share in income (high profitability)= low wage share
- Wage share vs. unit labor cost
- Wage share=(wage per employee*No of employees)/Value added
=real unit labor cost
- Wage share=wage per employee/(Value added/No of employees)
=wage per employee/productivity



*Adjusted labour share= compensation per employee*Total employment/GDP at factor cost

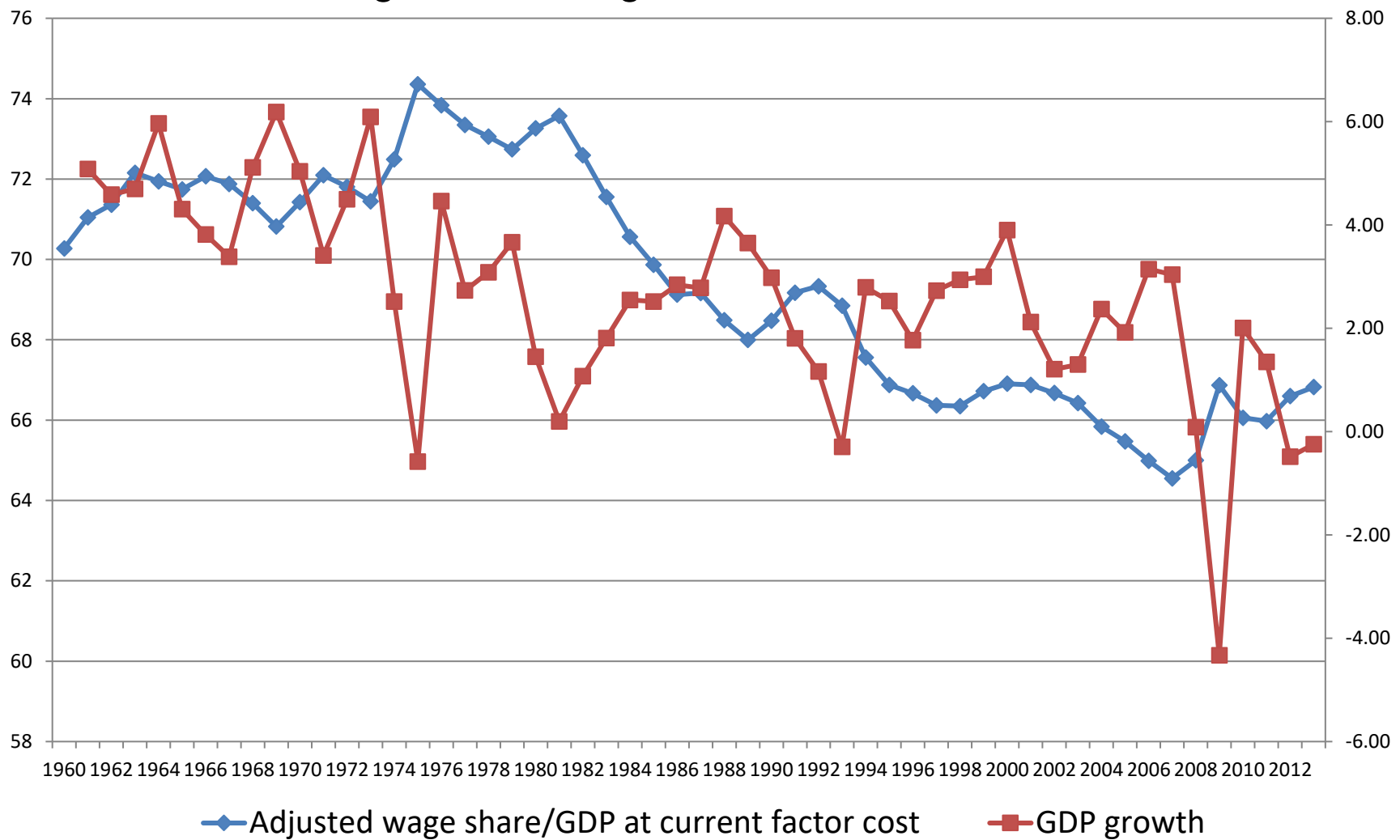
Source: Onaran and Galanis 2012



* Adjusted labour share = compensation per employee * Total employment / GDP at factor cost

Source: Onaran and Galanis 2012

Wage share vs. growth, EU15, 1960-2013



Capital gobbles labour's share, but victory is empty

The big picture

Steve Johnson looks at the wider negative implications of falling wages

In 1958, Walter Reuther, a powerful US union leader was taken on a tour of a newly automated Ford Motor plant. "Aren't you worried about how you're going to collect union dues from all these machines?" he was asked by a (no doubt smug) company manager.

"The thought that occurred to me," Mr Reuther replied, "was how are you going to sell cars to these machines?"

Fifty-five years on, such a debate may be even more pertinent. In the innocent days of 1958, wages accounted for half of America's gross domestic product.

labour's share of the pie than the US or UK.

Richard Lewis, head of global equities at Fidelity Worldwide Investment, who has studied this trend, believes it to be structural rather than cyclical, and therefore unlikely to reverse.

Mr Lewis says globalisation has "lowered the power of labour to bargain," resulting in de-unionisation and the "emasculat[i]on" of workers.

Simultaneously, companies have been able to optimise their tax regimes and can engage in both "financial expense" arbitrage (borrowing in the cheapest countries) and regulatory arbitrage.

Most importantly, however, he says globalisation and a move towards supranational corporate entities has made it possible for companies to consolidate their industries more effectively.

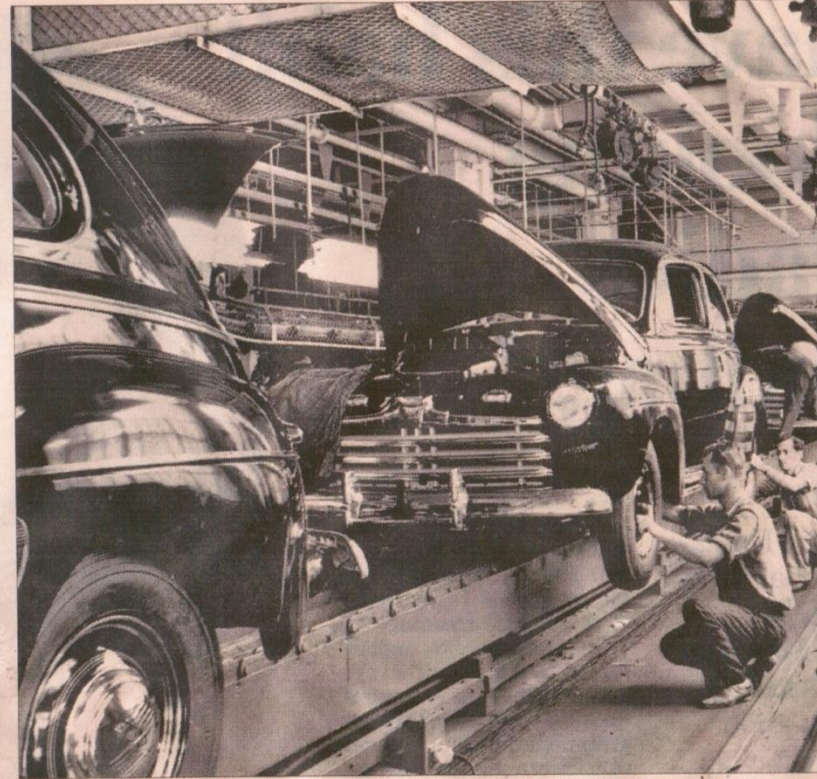
What all this means for the investment community is perhaps a little less clear-cut. Onaran and Galanis

labour will continue to be squeezed.

Frances Hudson, global thematic strategist at Standard Life Investments, believes this geographic divide opens the way for relative value trades that favour companies in countries that are becoming more competitive.

To complicate matters further, the academics found the global effect of a squeeze on labour was negative, as the heightened export competitiveness enjoyed by countries with weak wage growth simply reduced the competitiveness of its trading partners - a form of "beggar thy neighbour". A one percentage point fall in labour's share was found to reduce global GDP by 0.36 points.

With this in mind, Mr Greenberg believes we may have to start thinking about a "post-growth" world. "The revenue numbers of the S&P 500 are basically stagnant. Is that going to reverse any time soon? I don't see how it



In 1958, labour's share of economic output accounted for half of US GDP, but this has fallen to 42% today. Increasing globalisation and technology, this has fallen to 42%

right all along, and that capitalism ultimately sows the seeds of its own destruction, "when there is no consumer demand and it all falls over".

Mr Greenberg paints a picture of a bleak future

with, barring a "mass uprising", "McJobs" increasingly the norm.

"One thing that does need to change is the idea of shareholder value being the only responsibility of a company," he says, alluding

to the 19th century workers, "who took responsibility for their communities. They sense that your responsibility for them is a double-edged sword. Mr Reuther and I doubt have con-



경제

 코스피 2,474.76 +16.60	 코스닥 666.54 +4.23	 금리(국고채 3년, 연%) 1.900 -0.029	 환율(원/달러) 1,133.2 -2.0	 유가(WTI 선물, 달러/배럴) 51.30 +0.38
--	---	--	--	--

“분배는 성장의 결과가 아니라 원천이다”

한겨레경제사회연 '소득주도 성장' 좌담

참석자

- 스톡헤머 영국 킹스톤대 교수
- 오나란 영국 그리니치대 교수
- 이상현 ILO 사무차장 정책특보
- 최명준 연세대 교수 (사회)
- 정해주 고려대 교수
- 주상영 건국대 교수
- 김연명 중앙대 교수

최근 정치경과 학계에선 문재인 정부의 '소득주도 성장' 정책을 둘러싼 논쟁이 뜨겁다. '소득주도 성장론'은 가계의 처분가능소득을 키워 성장을 도모하는 전략이다. 대기업 감세나 규제 완화를 위주로 한 성장 전략을 취해온 역대 정부의 경제정책과는 접근 방식이 확연히 다르다. 하지만 주류 경제학계에선 '국가경제를 상대로 한 검증되지 않은 정책 실험'이라는 의구심을 쏟아낸다. "소득주도 성장론은 소득주도 성장론의 핵심 과제"라고 말했다. "한국은 기업 규모에 따라 기업의 실적에 큰 차이가 있고, 근로형태에 따라 노동 내부에서도 거대한 차이가 존재한다. 이런 차이는 앞서 말한 지대가 한국 경제에 크게 존재한다는 뜻이기도 하다. 그런 점에서 공정한 경쟁 구조를 만들기 위한 정책도 소득주도 성장 정책의 중요한 부분이다."



11일 오후 서울 마포구 공덕동 (한겨레) 회의실에서 '소득주도 성장론의 좌파와 성장 소득주도 성장의 경제·사회정책적논의' 좌담이 열려 참석자들이 발언하고 있다. 이번 좌담회는 한겨레경제사회연구원, 비판과 대안을 위한 사회복지학회, 칼폴라니사회경제연구소 주최로 열렸다. 신소영 기자 viator@hani.co.kr

왜야 한다는 점을 꼽았다. 그는 "이 두가지는 모두 다 '나라'론이 들지 않는다. 정부의 의지가 더 중요한 셈이다. 앞서 말한 재정 지출 확대로 주거나 교육, 건강, 보건, 그런이어서 동 사회 투자를 늘려가는 것도 중요하다. 이 과정에서 정부가 사회서비스 분야에 공공일자리를 적극적으로 만들어 갈 필요도 있다. 이는 여성과 남성 간 임금 격차를 줄이는 데도 기여한다"고 설명했다.

이 특보는 "노동과 자본 간의 분배뿐만 아니라 자본 내부의 격차, 노동 내부의 격차를 줄이는 정책도 소득주도 성장의 핵심 과제"라고 말했다. "한국은 기업 규모에 따라 기업의 실적에 큰 차이가 있고, 근로형태에 따라 노동 내부에서도 거대한 차이가 존재한다. 이런 차이는 앞서 말한 지대가 한국 경제에 크게 존재한다는 뜻이기도 하다. 그런 점에서 공정한 경쟁 구조를 만들기 위한 정책도 소득주도 성장 정책의 중요한 부분이다."

Interview at South Korean daily newspaper, Hankyoreh, 13 Oct 2017

“Distribution is not the result of growth, but the source of growth.”

“When wage is raised, productivity will also be raised”.

http://www.hani.co.kr/arti/economy/economy_general/814287.html

Effect of income distribution on growth: Contesting theories

- Effect of increasing profit share (falling wage share, rising inequality) on growth?
- Neoclassical
 - wage=cost
 - positive effect on investment
 - Positive effect on exports
- Puzzle: Why is growth lower despite a rise in the profit share?
- Keynes
 - Demand-led growth; excess capacity; involuntary unemployment
 - Inequality → negative effect on consumption (underconsumption)
 - Not much effect on investment (demand driven, animal spirits)
- Marx/Goodwin cycle
 - Positive effect on investment
 - High growth, depleting the reserve army of labour: profit squeeze
 - Investment falls
 - Large reserve army of labour; low wages → Realization crisis
- Post-Keynesian/Post-Kaleckian: Synthesis of Marx and Keynes

Post-Keynesian/Post-Kaleckian models

- Wages are
 - Cost item: lower wages=
 - higher profitability
 - higher international competitiveness
 - Source of domestic demand
- Lower share of wages in national income (higher profit share) →
 1. lower domestic consumption
 - Marginal propensity to consume (mpc) out of wages > mpc out of profits
 2. A positive partial effect on investment
 - Investment depends on profitability, but also demand
 - the sensitivity of investment to profits (partial)?
 3. higher foreign demand (Net exports=Exports-Imports)
 - Unit labour costs ↓ → higher international competitiveness
 - the sensitivity of net exports to unit labor costs; price elasticity of exports and imports; labour intensity of exports

...Post-Keynesian/Post-Kaleckian models

- Increase in the profit share: + & - effects on aggregate demand
 - if total effect is -: wage-led demand
 - if total effect is +: profit-led demand
 - Bhaduri and Marglin (1990)
- a flexible/synthesis distribution and growth model
- “Particular *models* such as that of ‘cooperative capitalism’ enunciated by the left Keynesian social democrats, the Marxian model of ‘profit squeeze’ or even the conservative model relying on ‘supply-side’ stimulus through high profitability and a low real wage... become particular *variants* of the theoretical framework presented here.” (Bhaduri/Marglin 1990, p. 388)’
- social and historical framework determining the parameters
- An empirical research question?
 - Onaran and Galanis, 2012/2014; Onaran et al 2011;2019;2021; Onaran and Stockhammer 2005; Stockhammer, Onaran, Ederer 2009; Stockhammer and Onaran 2004; Onaran and Obst 2015; Hein and Vogel 2009; Naastepad and Storm, 2007; Bowles and Boyer, 1995...

A structuralist demand-led post-Keynesian/Kaleckian econometric model (Obst, Onaran, and Nikolaidi 2017)

- behavioural specifications for consumption, private investment, exports, imports, tax revenues, government spending, and prices
- Consumption: function of level and distribution of income; different marginal propensity to consume out of wage vs. profit income
- Investment: function of profit share, demand, government spending, interest rate
- Exports: function of price of exports/foreign prices and foreign income;
- Imports: function of income and domestic prices/import prices.
- Domestic & export prices: set as a mark-up on unit labour costs & other input costs
- Structuralist: real world structural features of the economy matter
 - the existence of excess capacity & involuntary unemployment
 - demand matters
 - income distribution → demand
 - oligopolistic market structure and price setting by firms
 - labour intensity of exports

National and global multiplier effects

- National multiplier
 - private demand changes → changes in
 - Investment
 - Consumption
 - imports
- Global effects of a simultaneous fall in the wage share
 - Effects of changes in trade partners' wage share via changes in
 - import prices
 - trade partners' GDP

Fallacy of composition: Inconsistency of the Macro vs. Micro rationale

- Firm vs. aggregate/national
- National vs. regional/global level
- Economic globalization may make small open economies more likely to be profit-led
- But political globalization → race to the bottom in labour share
 - international competitiveness effects are eliminated
 - makes economies more likely to be wage-led

Summary of the results

(Onaran & Galanis 2012/4, UN/ILO; Onaran and Obst 2016)

- Domestic demand (consumption+investment) is wage-led
- Large/relatively closed economies are wage-led
 - \uparrow wage share : egalitarian; does not harm growth potential
 - EU as a whole, US, Japan, as well as Turkey, Korea
- although some individual states have a profit-led regime- e.g. if a small country, Belgium or Mexico, is the only one who decreases labor share, it can grow, but if every country does the same, they all contract
- Global race to the bottom: a 1%-point fall in the wage share
 - global GDP \downarrow by 0.36%; EU15 GDP \downarrow by 0.27%; UK GDP \downarrow by 0.2%
- Conversely a global wage-led recovery scenario:
 - Global GDP \uparrow by 3.05%, EU GDP \uparrow by 2.4%; UK GDP \uparrow by 1.9%
- Fallacy of composition
- **Planet earth is wage-led, unless we trade with Mars!**

Post-Keynesian/Kaleckian feminist macro political economy

Onaran, Oyvatt, Fotopoulou 2021

- Sectors of the economy
 - social: health, social care, education, child care (H)
 - Physical (rest of the economy, N)
 - unpaid domestic care sector (reproductive)
- Two income groups: profit and wages -different gender (female and male)
- + Feminist features: gender gap effects demand and supply
- + Wealth inequality
- + public spending in physical vs. social infrastructure (health, social care, education, childcare)
- + Long run supply side effect on productivity –endogenous technological change
 - public and private investment in social and physical infrastructure, demand, wages → productivity ↑
 - moderates the effect of higher public borrowing or wages on the profit share
- Demand side effect in the short run and long run
- + Employment of men & women in hours
 - Determined by output and productivity

- Purple green red new deal
 - public social and physical infrastructure investment/GDP \uparrow 1%-point
 - hiring nurses, social care workers, teachers or investing in renewable energy
 - increase wages & close gender gap via upward convergence
 - 2% \uparrow in female wages and 1% \uparrow in male wages
 - E.g. paying higher wages to care workers, nurses... increase the wage at the bottom of the scale more, enforce equal pay legislation
 - progressive income and wealth taxation
 - tax rate on wealth and profit income \uparrow 1%-point, on wages \downarrow 1%-point
- higher output in both short run and medium run
 - output \uparrow 10.9% in the UK (in Medium Run)
- Employment of both women & men \uparrow in both short & medium run, UK
 - $E_{\text{female}} \uparrow 9.6\%$, $E_{\text{male}} \uparrow 5.8\%$ (in Medium Run)
- Improved public finance, UK
 - public debt/GDP \downarrow 10.3%-point (in Medium Run)
- Tax wealth, invest in a caring and sustainable society

...Purple green red new deal: fiscal policy & international policy coordination

- Equality-led = Wage-led + gender equality-led
- output effects of higher wages small, in MR strong productivity effects
- Employment↑ in SR but in MR employment may ↓
- Full employment requires public investment, at least in the medium run
- Effects are strongest when coordinated across countries
- Fiscal policy effects are very strong and remain strong even when applied in a single country
 - EU wage and fiscal pol:
 - Obst, T., Onaran, Ö., Nikolaidi, M. 2020 “The effects of income distribution and fiscal policy on aggregate demand, investment and the budget balance: the case of Europe”, Cambridge Journal of Economics
 - G20 wage policies
 - Onaran, Ö. and Galanis, G. 2014 “Income distribution and aggregate demand: National and global effects” Environment and Planning A
- estimations for South Korea
 - Oyvatt, C., Onaran, O., 2020. The effects of public social infrastructure and gender equality on output and employment: the case of South Korea. [CWE-GAM Working Paper](#): Program on Gender Analysis in Economics

Wage-led development in the age of globalization?

- Globalization is not a barrier to egalitarian development
- the limits of strategies of international competitiveness based on wage competition in a highly integrated global economy
- Economic globalization may make small open economies more likely to be profit-led
- But political globalization → race to the bottom in labour share
 - international competitiveness effects are eliminated
 - makes economies more likely to be wage-led
- Europe and the UK is one of the main beneficiaries of coordinated wage-led growth.
 - Hence potentially policy leader

Planet earth has not traded with Mars but still grew despite declining wage share until the Great Recession. How?

- Potential crisis of aggregate demand deficiency
- The expected outcome should have been a stagnation of global demand and growth
- This was mainly circumvented by two distinct growth models
 - a root cause of the great recession

	<i>Debt-led growth</i>	<i>Export-led growth</i>
Center	US, UK, Australia, New Zealand	Germany, Japan, Netherlands, Norway, Sweden, Austria, Canada, Finland, Belgium, Denmark
Periphery	Spain, Greece, Turkey, Portugal, South Africa, Ireland, Hungary, Czech Rep., Slovakia, Estonia, Cyprus, Slovenia	China, Korea

Fragile → Great Recession 2008-2013

Conclusion

- A synthesis of Post-Keynesian/Post-Kaleckian feminist ecological Marxist political economy
- The importance of demand for the level of output and unemployment;
- and within demand the significance of investment
- the significance of income, wealth and gender inequalities;
- Changes in the balance of economic power
- Ecological limits

Long run?

Michal Kalecki on

“Political Aspects of Full Employment,” 1943

- “the maintenance of full employment would cause social and political changes which would give a new impetus to the opposition of the business leaders. Indeed, under a regime of permanent full employment, the 'sack' would cease to play its role as a 'disciplinary' measure. The social position of the boss would be undermined, and the self-assurance and class-consciousness of the working class would grow. ... It is true that profits would be higher under a regime of full employment than they are on the average under *laissez-faire*... But 'discipline in the factories' and 'political stability' are more appreciated than profits by business leaders. *Their class instinct tells them that lasting full employment is unsound from their point of view, and that unemployment is an integral part of the 'normal' capitalist system.*”

In the long run?

- Keynes: “in the long run we are all dead”
 - Short run unstable: save capitalism from capitalism itself
- Can policy save capitalism from capitalism itself?
- **Marx**: profit squeeze? Limits to capitalism?
- Kalecki: Full employment not consistent with capitalism
 - similar to Marx & Stiglitz?
- **Ecological economists** (e.g. Victor): Limits to growth?
 - Managing with lower growth?
 - shorter working hours?
 - » Keynes, 1930, “Economic Possibilities for our Grandchildren”:
“Three-hour shifts or a fifteen-hour week may put off the problem for a great while.”
 - **Green jobs**
- **Feminist economics**: Care crisis and ecological crisis needs **purple jobs**
 - Social infrastructure (eg care): More labour intensive; more jobs with lower growth; way to solve also gender inequality crisis
- Synthesis and policy informed by multiple theories in political economy

References

Bhaduri, A. and Marglin, S. (1990). Unemployment and the real wage: the economic basis for contesting political ideologies. *Cambridge Journal of Economics*, 14(4): 375-93.

Onaran, O, Oyvatt, C., Fotopoulou, F. 2019. The effects of gender inequality, wages, wealth concentration and fiscal policy on demand, productivity, employment and public finance., ESRC/Rebuilding Macroeconomics Project. Report <https://gala.gre.ac.uk/id/eprint/24018/> and Policy Brief <https://gala.gre.ac.uk/id/eprint/24735/> (shorter revised version forthcoming in *Feminist Economics*)

Onaran, Ö. and Galanis, G. (2014). "Income distribution and aggregate demand: National and global effects" *Environment and Planning A*, , 46 (10) . pp. [2489-2513](#) ISSN: 0308-518X (Print), [1472-3409](#) (Online) (doi: <https://doi.org/10.1068/a46265>) (online available as UN ILO report: [Microsoft Word - Is aggregate demand wage led or profit led final onaran correction changesaccepted.docx \(ilo.org\)](#))

Obst, T., Onaran, Ö. and Nikolaidi, M. (2017), " The effect of income distribution and fiscal policy on growth, investment, and budget balance: the case of Europe", *Cambridge Journal of Economics*, <https://doi.org/10.1093/cje/bez045> Available at Greenwich Papers in Political Economy, University of Greenwich, #GPERC43 https://gala.gre.ac.uk/id/eprint/16088/13/GPERC_obst_onaran_nikolaidi_NO43_NEW_VERSION_04042017.pdf

Kalecki, M. 1943. "Political Aspects of Full Employment" *Political Quarterly*, <http://mrzine.monthlyreview.org/2010/kalecki220510.html>

Appendix

- Policy debate

Policy Implications

- mobilize all the tools of economic policy with an aim to achieve full employment, ecological sustainability, and equality.
- → Multiple targets requires mobilizing all the tools of policy
- a comprehensive mix of
 - fiscal policy and public investment at the core
 - labour market policy for equality-led development
 - industrial policy
 - monetary policy

...Policy Implications

- Pre-distributive policies
 - Increase the bargaining power of labour via
 - reregulating the labour market
 - improving the union legislation,
 - increasing the coverage of collective bargaining
 - Close gender wage gaps
 - establishing sufficiently high minimum wages
 - regulating high/executive pay by enforcing pay ratios

...Policy Implications

- Re-distribution: median linked taxation of high incomes and wealth holdings (Goda, Onaran, Stockhammer 2013)
 - Higher marginal top income tax rates
 - e.g. 10/70 income tax rule:
 - rate of 70% for income above 10 times the median income
 - Wealth tax
 - 100/10 wealth tax rule:
 - 10% wealth tax on personal net wealth that is above 100 times the median wealth (excluding primary residence and own businesses)
 - Higher inheritance tax rates
 - 100/90 inheritance tax rule:
 - highest marginal tax rate of 90% for inheritance above 100 times the median wealth

Fiscal and industrial policy: Public investment priorities

- Physical infrastructure: **green** investment
 - Public transport, renewable energy, housing (building and insulation)
 - Ecological deficit
- Social infrastructure: **Purple** investment
 - education, health and social care, child care
 - care deficit
 - Both direct and indirect impact on productivity
 - Educated, creative and healthy workforce
 - socializing the invisible, unpaid domestic care work
 - » More options for women: Female labour force participation↑
 - » Recognize, reduce, redistribute
 - Social security → more innovative and productive workers
 - **improve pay and working conditions** in these industries
 - **Purple is green**: More jobs with lower Carbon emissions
 - labour intensive services with low carbon intensity

- Substantially **shorten** working time in parallel with the historical growth in productivity.
- Reverse financialisation; reregulate finance

How to finance?

- Progressive tax policy on income and wealth
- Borrowing
- National Investment Bank
- Monetary policy

Borrowing

- Fiscal credibility rule of the Labour Party: borrow only for public infrastructure investment
 - Impact on public budget –partly self-financing; there is money!
 - Increases national income in the short run (“multiplier”)
 - Increases productivity in the long run
 - Leads to higher tax revenues
- Critical question: What is infrastructure?
- Define spending in social infrastructure as investment (Women’s Budget Group)
- Currently, public spending in education, childcare, health and social care are considered as current spending as opposed to capital spending in public infrastructure investment
- Implications for the fiscal credibility rule:
 - borrow to invest in both social and physical public social infrastructure

Tackling 3 myths of the budget surplus ideology

- 1. compares public sector budget to households: doubly wrong
- Households borrow: Buying a House, education, job loss...
- Different from households, a government can obtain funding from
 - self-financing: Spending creates income and tax revenues;
 - bond sales to the private sector
 - borrowing directly from the Bank of England (“monetization”).
- 2. crowding out of private investment?
- interest rates are currently low; public sector deficits do not always put upward pressure on interest rates
- Private investment is encouraged by public infrastructure
- 3. inflationary pressures?
- inflation in the UK is about import dependency and low productivity; public investment improves productivity
- no empirical or theoretical basis, budget cuts are ideological

Monetary policy

- Going beyond inflation target and financial stability
 - Labour Party: Productivity as a goal?
 - Why not full employment?
 - But independence of the BoE still taboo
- Alternatives: Employment, equality and ecological sustainability
- Bank of England can use ‘Quantitative Easing (QE)’ to buy NIB bonds or government bonds to finance public investment
 - versions of Peoples’ QE
- Questions regarding the remit of the BoE
 - Should be independent from financial markets and vested interests
 - Should be accountable to deliver policy consistent with the targets of elected governments

- Recovery and sustainability needs **green** and **purple** public jobs for women and men with **pay rise** and **shorter hours**!
- Take care of full employment, decent pay for women and men, equality, and ecological sustainability, and the budget will take care of itself.

... Policy Implications: Macro economic context

- 2.1. Reverse financialisation; reregulate finance
- 2.2 Bring the welfare state and public investment back
 - public investment in social and physical infrastructure
 - Physical infrastructure: **green** investment
 - Social infrastructure: **Purple** investment
 - create jobs in labour intensive services -education, child care, nursing homes, health, community and social services
 - More jobs with lower growth
 - **improve pay and working conditions** in these industries
 - different from the former reliance on low pay service jobs with weaker labour unions
 - socializing the invisible care
- 2.4 Substantially **shorten** working time in parallel with the historical growth in productivity.
- Recovery and sustainability needs **green** and **purple** public jobs for women and men with **pay rise** and **shorter hours**!
- Take care of full employment, decent pay for women and men, equality, and ecological sustainability, and the budget will take care of itself.
- Synthesis of **Kaleckian**, **Feminist**, **Ecological** economics

Appendix

Consumption

$$\log C = c_0 + c_R \log((1 - t_r)R) + c_W \log((1 - t_w)W + \log B + \log CTO)$$

□ Consumption(C) is estimated as a function of adjusted after-tax profits((1-tr)R), adjusted after-tax wages((1-tw)W) and social benefits in cash/ other current transfers(B+CTO) which augment disposable income of HH

□

Investment

$$\log I = i_a + i_Y \log(Y_p) + i_\pi \log((1 - t_r)\pi) + i_g \log(G) + i_d \log(D/Y)$$

- Private investment depends positively on private output and the after-tax profit share

- Total Government expenditure enhances private investment through demand and crowding in effects (Commendatore, 2011; Seguino, 2012)
 - Alternative specification: disaggregate G in social and physical infrastructure and other current spending

- Private investment depends negatively on public debt to GDP (crowding out) (Dutt, 2013; Tavani and Zamparelli, 2015)

Private Investment (I)

Private Investment depends on

Profitability (profit share, π)

Demand (sales & production (output))

Capacity utilization : proxy Y (accelerator effect)

+Digression: $I=f(\text{profit rate})$

Profit rate= $R/K=(R/Y)(Y/Y^*)(Y^*/K)$

Y^* : full capacity output

Y^*/K : full capacity capital productivity: technology: assume constant
=assume 1

Y/Y^* =capacity utilization

Problems in measuring Y^* : trend growth??

Hence we simply use Y =accelerator effect in standard models

Foreign sector

- stepwise approach
- domestic prices = $f(\text{nominal unit labor costs, import prices})$
- export prices = $f(\text{nominal unit labor costs, import prices})$
- Exports = $f(\text{export price/import price, } Y_{rw})$
- Imports = $f(\text{domestic price/import price, } Y)$

Domestic and Export Prices, Exports, Imports

$$\log P = p_0 + p_{ulc} \log(ulc) + p_m \log(Pm) + p_{tc} \log(1 + t_c) \quad (6)$$

$$\log P_x = p_{x_0} + p_{xulc} \log(ulc) + p_{xm} \log(P_{xm}) + p_{tcf} \log(1 + t_{cfi})$$

$$\log X = x_0 + x_{pxm} \log(P_x/P_m) + x_{Yrw} \log(Y_{rw}) + x_e \log(E)$$

$$\log M = m_0 + m_{ppm} \log(P/P_m) + m_Y \log(Y) + m_g \log(G) + m_e \log(E)$$

- Real unit labour cost \approx wage share
- $Rulc = \text{nominal unit labor costs}/P = ulc/P$

$$\frac{\partial X/Y}{\partial (WS)} = \left(\frac{\partial \log X}{\partial \log P_x} \frac{\partial \log P_x}{\partial \log (ulc)} \frac{\partial \log (ulc)}{\partial \log (rulc)} \frac{\partial \log (rulc)}{\partial \log (ws)} \right) \frac{X/Y}{rulc}$$

$$= \left(e_{XP_x} e_{P_x ULC} \frac{1}{1 - e_{P ULC}} \frac{Yf}{Y} \right) \frac{X/Y}{rulc}$$

The first part is elasticity of X to ws and then it is multiplied by X/Y / rulc to find marginal effect

- Similarly for M

Then

$$\frac{\partial\left(\frac{NX}{Y}\right)}{\partial\pi} = \frac{\partial\left(\frac{X}{Y}\right)}{\partial\pi} - \frac{\partial\left(\frac{M}{Y}\right)}{\partial\pi}$$

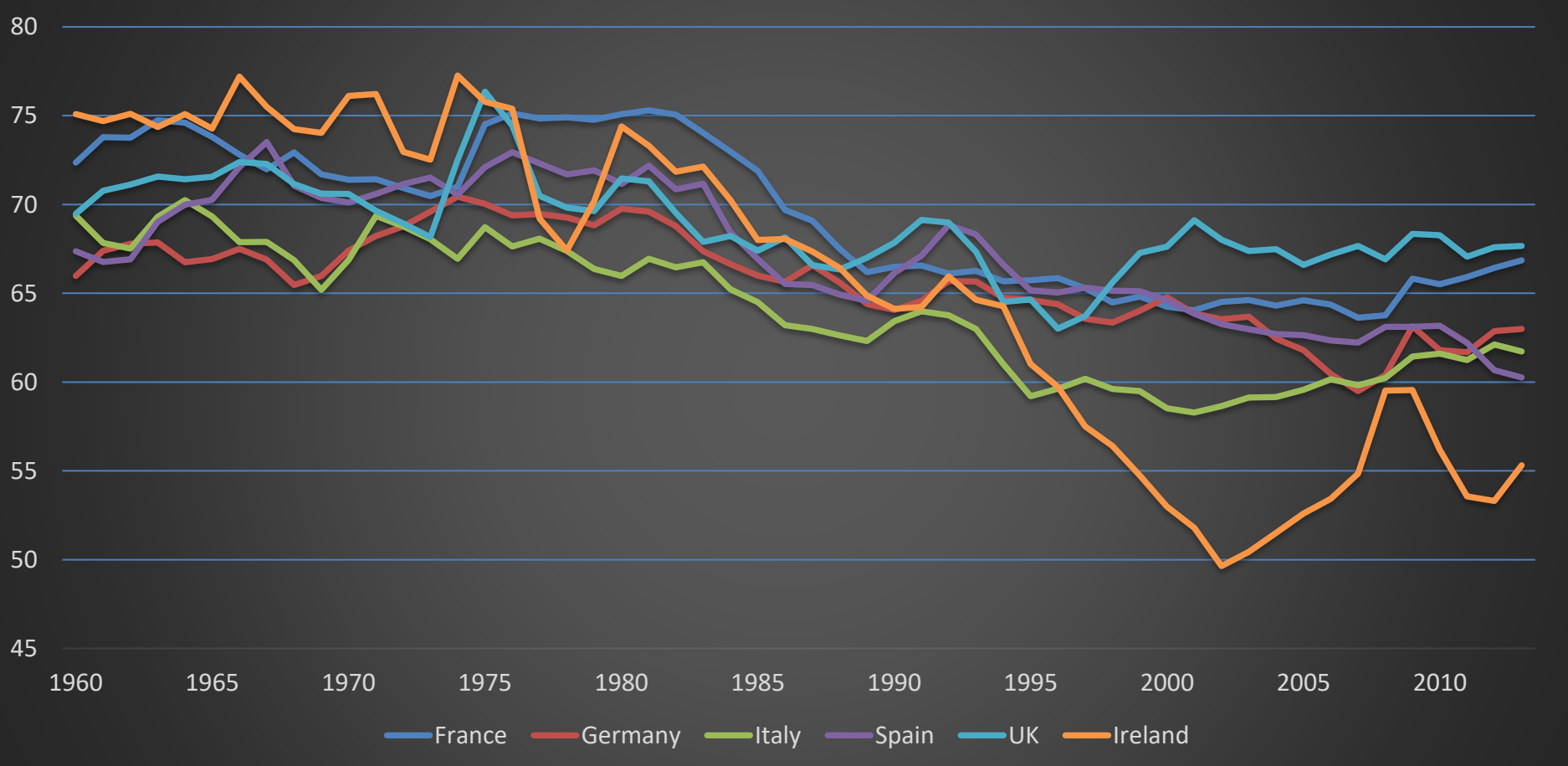
Government

$$G = \kappa_g Y$$

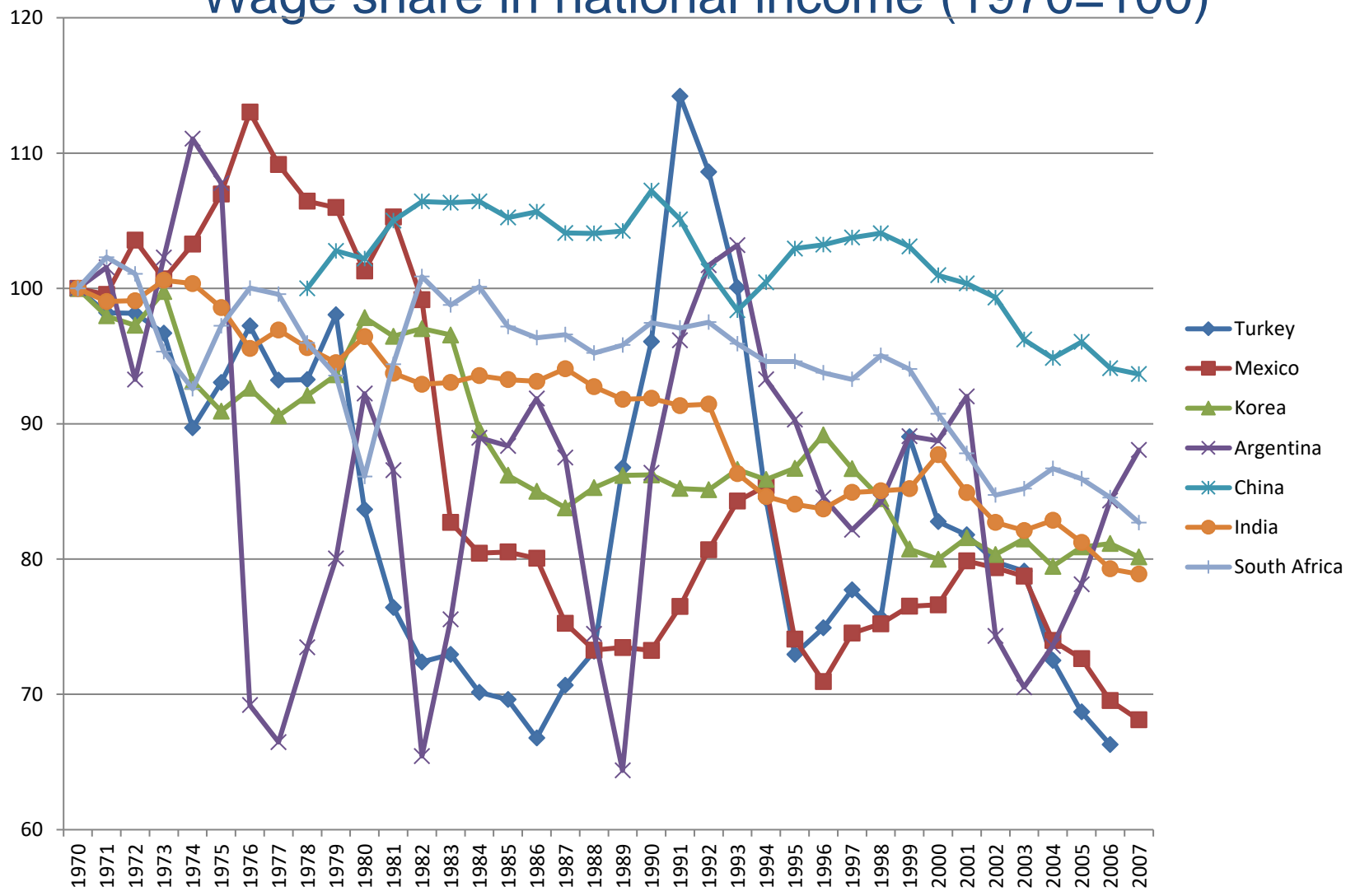
$$T = t_w W + t_r R + t_c C$$

$$D = D_{-1} + G_{tot} + rD_{-1} - T$$

Wage share (adjusted, ratio to GDP at factor cost, 1960-2013)



Wage share in national income (1970=100)



* Adjusted labour share = compensation per employee * Total employment / GDP at factor cost

Source: Onaran and Galanis 2012

The effects of a 1%-point increase in the profit share

Wage led

	C/Y	I/Y	X/Y	M/Y	NX/Y	% change in total private excess demand
Euro zone-12	-0.439	0.299	0.057	0.000	0.057	-0.084
Germany	-0.501	0.376	0.096	0.000	0.096	-0.029
France	-0.305	0.088	0.036	-0.162	0.198	-0.020
Italy	-0.356	0.130	0.037	-0.089	0.126	-0.100
United Kingdom	-0.303	0.120	0.048	-0.110	0.158	-0.025
United States	-0.426	0.000	0.006	-0.031	0.037	-0.388
Japan	-0.353	0.284	0.028	-0.026	0.055	-0.014
Canada	-0.326	0.182	0.063	-0.203	0.266	0.122
Australia	-0.256	0.174	0.049	-0.223	0.272	0.190

Onaran and Galanis 2014

The effects of a 1%-point increase in the profit share

	C/Y	I/Y	X/Y	M/Y	NX/Y	% change in total private excess demand
Turkey	-0.491	0.000	0.140	-0.144	0.283	-0.208
Mexico	-0.438	0.153	0.128	-0.253	0.381	0.096
Korea	-0.422	0.000	0.178	-0.181	0.359	-0.063
Argentina	-0.153	0.015	0.014	-0.178	0.192	0.054
China	-0.412	0.000	1.095	-0.891	1.986	1.574
India	-0.291	0.000	0.080	-0.230	0.310	0.018
South Africa	-0.145	0.129	0.000	-0.506	0.506	0.490

	The effect of a 1%-point increase in the profit share in only one country on private excess demand/Y	The effect of a 1%-point increase in the profit share in only one country on % change in aggregate demand (A*multiplier)	The effect of a simultaneous 1%-point increase in the profit share on the % change in aggregate demand (including effects of trade partners' export prices and GDP))
	A	B	D
Euro area-12	-0.084	-0.133	-0.245
United Kingdom	-0.025	-0.030	-0.214
United States	-0.388	-0.808	-0.921
Japan	-0.014	-0.034	-0.179
Canada	0.122	0.148	-0.269
Australia	0.190	0.268	0.172
Turkey	-0.208	-0.459	-0.717
Mexico	0.096	0.106	-0.111
Korea	-0.063	-0.115	-0.864
Argentina	0.054	0.075	-0.103
China	1.574	1.932	1.115
India	0.018	0.040	-0.027
South Africa	0.490	0.729	0.390

	Scenario 2	
	Change in profit share	The % change in aggregate demand (includes national and global multiplier effects, i.e. changes in Pm and Yrw)
Euro area-12	-11.05	2.36
United Kingdom	-7.83	1.91
United States	-6.31	6.15
Japan	-16.71	1.49
Canada	-3.00	2.84
Australia	-3.00	0.03
Turkey	-18.41	10.81
Mexico	-3.00	1.45
Korea	-8.64	7.46
Argentina	-3.00	1.27
China	-1.00	5.56
India	-3.00	0.43
South Africa	-1.00	1.93

A wage-led recovery scenario (Onaran and Galanis 2014)

Global GDP↑ by 3.05%

Policy mix: public investment, progressive taxation, Increasing equality
Obst, Onaran, Nikolaidi 2017

- increase public investment by 1% of GDP
- + increase wage share by 1% of GDP
- + more progressive taxation (1% higher tax on capital and 1% lower tax on labour)
- Multiplier: 2.2
- The impact of wage policies is positive but small
 - Demand is wage-led
- the overall stimulus becomes much stronger with fiscal expansion.
 - public investment self-finances part of itself
- The effects are stronger if policies are implemented simultaneously in all the EU countries.
- need for wage and fiscal policy coordination
- →6.7% higher GDP in the EU15, 4.5% higher GDP in the UK,

...Policy mix:
public investment, progressive taxation, Increasing equality
Obst, Onaran, Nikolaidi 2017

- Private investment increases by 2.3% as a ratio to GDP in the EU, and by 0.9% in the UK
 - Public spending crowds in private investment, it does not crowd out
 - >Demand
 - >improved business environment
- Budget balance improves by 0.9% as a ratio to GDP in the EU, and 0.1% in the UK
- Impact on inflation is very modest
 - a 1%-point rise in the wage share \rightarrow 1.5% \uparrow in prices in the EU, and 2% \uparrow in prices in the UK
-

A coordinated policy mix of wage-led recovery and public investment

- A wage-led recovery scenario and public investment stimulus in G20 (Onaran 2014 L20)
- increase wage share by 1%-5% +public investment by 1% of GDP in each country in the next 5 years in G20
- →3.9-5.84% more growth in G20
- Only wage-led recovery: 1.96% more growth in G20
 - Effects of wage-led recovery on growth and hence employment however is modest, albeit positive.
- Only public investment : 1.94-3.88% higher growth in G20
- Potential crowding in effects of public investment on private investment
→ growth ↑

What is the effect of an **increase in female and male wage rate**?

- General model: Dual role of wages → demand & cost
- Wages & gender gap → Income distribution → demand → output
- **Short-run:** (+) & (-) effects on aggregate demand

(+) consumption:

Marginal propensity to consume in H out of female wages > male w > profit

Marginal propensity to consume in N out of male & female w > profit

(-) investment: profit share ↓ → I ↓ but demand ↑ → I ↑

(-) net exports: the sensitivity of net exports to unit labor costs

(price elasticity of exports & imports; labour intensity of exports)

- **medium run:** labour productivity ↑: moderates the effect of wages on profits
- Total effect on demand is ambiguous in the short-run and medium-run
 - : profit-led economy (mainstream policy assumption)
 - +: wage-led economy
- **Gender equality led if female wages ↑ + gender gap ↓ → output ↑**
- **Equality-led = Wage-led + gender equality-led**

What is the effect of an increase in public **social** infrastructure, UK?

- **Short run:**

- (+) consumption: demand from employees in H

- labour intensive, higher share of female employment

- more income in the hands of women → C on education, health, care ↑

- gender equality ↑ → Social infrastructure ↑

- (+) investment: rising demand

- (-) effects of public debt/GDP on I: small

- Public debt/GDP: Direct + effect, but - effects through rising output

- **medium run:**

- labour productivity in the rest of the economy ↑ (G_H, C_H, Y ↑)

- ⇒ investment and net exports ↑

- **Employment of women and men** ↑ both in the short and medium run

- output effect is very strong and more than offsets the productivity effect (also strong)

- high multiplier effects

- female share of employment ↑ with greater share of social sector

What are the effects of taxation in the UK ?

- tax rate on wealth \uparrow
 - wealth concentration \downarrow
 - Investment \uparrow
 - very strong + impact on output, employment of women and men and the budget balance in both the short and medium run
- An increase in the progressivity of income taxation
 - tax rate on profit income \uparrow
 - tax rate on wages \downarrow
 - output, employment of women and men \uparrow , and public debt/GDP \downarrow in both the short and the medium run.
 - Because in the UK higher wages and equality lead to higher output
 - the UK economy is wage-led

- **Equality-led = Wage-led + gender equality-led**
- 1%↑ wage in social sector → output↑ in both short (0.5%) & medium run (0.3%)
- 1%↓ gender pay gap in H → output↑ in both short (0.3%) & medium run (0.2%)
- 1%↑ wage in the rest of the economy → output↑ in short (0.2%) & medium run (0.1%)
- 1% ↓gender pay gap in N → output↑ in both short (0.1%) & medium run (0.03%)
 - Smaller than effects of w in N
- Consumption ↑; not just the level but also composition change
 - more income in the hands of women → C on education, health, care↑
 - gender equality ↑ → Social infrastructure
- Private investment↑: w ↑ → profit share↓ → I↓ but $PW1/PW↓$ & $PW1↓$ & demand↑ → I↑
 - productivity↑ in MR → I↑
- Net export effects small
- **but output effects overall small, in MR strong productivity effects**
- → Employment↑ in SR but in MR employment ↓
 - $E_{tot} ↓ 0.5%$ if w ↑ in N
 - if w ↑ in H, in MR $E_f ↑ (0.02%)$ but $E_m ↓ (0.07%)$
- **Full employment requires public investment, in particular in the medium run**

The size of the multiplier

- Meta regression of 98 studies published 1992-2013 (Gechert, 2013)
 - a sample of 1882 observations of multiplier
- Multipliers from public spending are significantly positive and on average close to one
- vary a lot with study design and the underlying sample.
- Public investment: most effective fiscal impulse, mean multiplier: 1.22
- Multipliers are higher in recession phases, but also positive during growth phases (Gechert and Rannenber, 2014)

Financialization, distribution, accumulation, productivity

- Missing link between profits and investment
- The non-financial companies' financial activities → private investment↓
 - Interest payments+dividends to shareholders as well as their financial revenues (Tori and Onaran, 2015, EU15)
 - Orhangazi 2008; van Treeck 2008; Stockhammer 2006
- Increasing profits does not always lead to higher private investment
 - increasing demand → investment↑↑
 - Investment is wage-led in the majority of the EU MS (Onaran and Obst, 2016; Obst, Onaran, Nikolaidi, 2017)
- Financialization + inequality→lower productivity & potential growth

Distributional issues are at the very root of the recent crisis

