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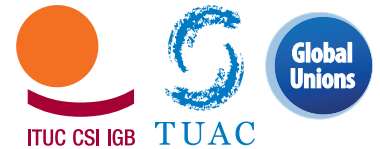
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# L20

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# THE CASE FOR A COORDINATED POLICY MIX OF WAGE-LED RECOVERY AND PUBLIC INVESTMENT IN THE G20

ECONOMIC MODELLING RESULTS PREPARED FOR THE L20\*  
BY PROFESSOR OZLEM ONARAN, UNIVERSITY OF GREENWICH, JUNE 2014

***“A coordinated mix of policies in the G20 targeted to increase the share of wages in GDP by 1%-5% in the next 5 years and to raise public investment in social and physical infrastructure by 1% of GDP in each country can create up to 5.84% more growth in G20 countries – compared to business as usual.”***

The share of wages in national income (GDP) has declined by around 10 percentage points in the G20 countries over the past three decades (Onaran and Galanis, 2012).<sup>1</sup> As the propensity to spend of wage-earners is higher than that of profit-earners, the decline in the wage share has contributed to a deficiency of demand in the global economy, and has been detrimental for growth and employment. Our findings show that a 1%-point overall decline in the wage share in the world leads to a decline in global GDP by 0.36%-points. Details of the findings are summarized in Appendix A below. However, in the current context of deficient aggregate demand and significant output gaps the reverse is also true:

a 1%-point increase in the wage share at global level could lead to a 0.36 % increase in the rate of growth in global GDP above the current trajectory. This shows that growth in the **world economy on aggregate is “wage-led”**.

In this paper, we set out the effects on growth of a policy scenario that begins to reverse the decline in the wage share and is supplemented by an increase in public investment in social and physical infrastructure. Table 1 summarizes the **effects of a coordinated policy mix in the G20** targeted to increase the share of wages in GDP over the next 5 years by 1%-5% points depending on the country and to raise public investment in social and physical infrastructure by 1% of GDP in each country. As explained in the Appendix, the impact of the increase in the wage share on growth varies in different countries according to the structure of their economies, notably their investment, and export and import shares. The proposed policy mix takes account of this by proposing differential increases in the wage share by groups of countries. It nevertheless shows that growth in all G20 economies will be increased by a coordinated increase in the wage share.

The effects on individual G20 countries, as well as on the G20 as a whole are displayed in Table 1. Column A postulates increases in

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<sup>1</sup> The wage share is defined as labour compensation, adjusted for the labour income of the self-employed, as a ratio of GDP. For reference in 2013, the wage share was 65.8% in the EU, 60.7% in Australia (in 2012), 60.3% in the US, and 39.04% in Turkey according to data supplied by the European Commission ([http://ec.europa.eu/economy\\_finance/ameco](http://ec.europa.eu/economy_finance/ameco)).

\*The online version of the paper is available at [www.tuac.org](http://www.tuac.org) and [www.labour20.org](http://www.labour20.org)

the share of wages in GDP of between one and 5 percentage points according to the country across the G20 over five years. Countries are subdivided into three groups, starting with countries where growth is predominantly wage-led, including the Euro-area, the UK, the US, Japan, Turkey and Korea. Increasing the share of wages in GDP by 5 percentage points in these countries could result in a wage-led recovery offsetting any negative effects on net exports or private investment as the current characteristics of the economies indicate strong internal demand effects. The second group includes Canada, Mexico, Argentina, and India, where the wage share could be increased by 3% of GDP. While growth in these countries, when they are treated in isolation, is profit-led, a simultaneous increase in the wage share in the G20 (even at an equivalent amount in all countries) would lead to higher growth in these countries, as well. Finally, in the third group, including China, South Africa, and Australia, a modest increase in the wage share by 1% of GDP can be pursued as part of a coordinated policy package. In this last group, the effect of a rise in the wage share would have an impact on net exports, which at first sight would limit the policy space for wage increases. However, part of the policy mix is to raise public investment that in the short term would stimulate growth and in the medium term would lead to a rebalancing of these economies, making them less reliant on export demand, changing the structure of their exports towards less labour intensive goods as well as to goods with a lower price elasticity of demand in the medium term. This would help develop a more **diversified economic structure**, and thereby for potential for **higher increases in living standards in the future**.

**In a scenario of coordinated wage-led recovery, all countries can increase their growth and overall this could create 1.96% more growth in the G20 as a whole over the next five years**, which is shown in Column B.

Thus, a coordinated wage increase alone could almost achieve the target of the G20 Finance Ministers and Central Bank Governors to raise G20 GDP “by more than 2% above the trajectory implied by current policies over the coming five years”<sup>2</sup>.

The effects of a coordinated public investment stimulus, i.e. increasing the ratio of public investment in physical and social infrastructure to GDP by 1% in each country are simulated under different assumptions about the size

of multipliers. Column C includes the country specific multipliers identified in Onaran and Galanis (2012). Column D shows the growth effects in each country and the G20 as a whole as an outcome of a coordinated (simultaneous) increase in public investment by 1% of GDP. **The growth effects of a simultaneous public investment stimulus are significantly higher than those of an isolated stimulus in one single country, since the former involves cross-country interactions, i.e. international demand spill-overs.** Column E shows the growth effects if the multiplier is assumed to be 1.22 in all countries. This multiplier value is based on the mean of a large sample of multiplier values for public investment (based on the literature, which has been reviewed by Gechert (2013)<sup>3</sup>). Finally, Columns F and G show growth effects under the assumption of a high value multiplier, 1.8, and a low value multiplier, 0.5, as used by the International Monetary Fund (IMF, 2009) regarding the values of capital spending multipliers. The **overall results confirm that a public investment stimulus of 1% of GDP in each country can lead to 1.94-3.88% higher growth in the G20 – compared to business as usual.**

Coming back to the initial goal to explore the effects of a policy mix, Columns H and K add the growth effects of this option under the assumption of different multipliers. The results show that a **policy mix of coordinated wage increases and public investment stimulus can lead to higher growth in the G20 by:**

- 3.9% under the assumption of the lowest multiplier of 0.5.
- 4.4% under the assumption of a multiplier of 1.22.
- 5.5% under the assumption of a multiplier of 1.8.
- 5.8% under the assumption of our country specific multipliers (estimated in Onaran and Galanis, 2012).

In summary, a policy mix of raising the wage share (e.g. through well set minimum wages and widening the coverage of collective bargaining) together with increased public investment in social and physical infrastructure would give a significant stimulus to growth and, hence, employment over a five year period in G20 countries. This is in addition to help achieve the crucial objectives of reducing inequality and achieving social, environmental, fiscal, and financial sustainability across the G20.

#### REFERENCES:

Gechert, S. (2013). What fiscal policy is most effective? A Meta Regression Analysis. IMK working paper 117.

IMF, 2009, Global Economic Policies and Prospects, Note by the Staff of the International Monetary Fund, G20 Meeting of the Ministers and Central Bank Governors, March 13–14, 2009, London.

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2. [https://www.g20.org/australia\\_2014/finance\\_ministers\\_and\\_central\\_bank\\_governors\\_meeting](https://www.g20.org/australia_2014/finance_ministers_and_central_bank_governors_meeting)

3. Gechert (2013) reports the mean of 98 studies published between 1992 to 2013, providing a sample of 1882 observations of multiplier values for public investment.

**TABLE 1: SCENARIO OF A WAGE-LED RECOVERY AND PUBLIC INVESTMENT STIMULUS IN G20 COUNTRIES**

	WAGE LED-RECOVERY		COORDINATED PUBLIC INVESTMENT STIMULUS OF 1% OF GDP					POLICY MIX: COORDINATED WAGE-LED RECOVERY+PUBLIC INVESTMENT OF 1% OF GDP			
	Increase in the wage share	Growth	Multiplier Onaran and Galanis (2012) (3)	Growth with multiplier in Onaran and Galanis	Growth with Multiplier=1.22 for all countries (4)	Growth with Multiplier=1.8 (5)	Growth with Multiplier=0.5 (6)	Growth with multiplier in Onaran and Galanis	Growth with Multiplier=1.22 for all countries (4)	Growth with Multiplier=1.8 (5)	Growth with Multiplier=0.5 (6)
	A	B	C	D	E	F	G	H=B+D	I=B+E	J=B+F	K=B+G
EURO AREA (12 COUNTRIES)	5	1,19	1,59	3,13	2,30	3,39	1,56	4,32	3,49	4,58	2,75
UNITED KINGDOM	5	1,06	1,20	2,37	2,04	3,01	1,18	3,43	3,10	4,06	2,24
UNITED STATES	5	4,55	2,08	5,29	3,16	4,66	2,64	9,84	7,71	9,21	7,20
JAPAN	5	0,77	2,41	6,46	3,38	4,98	3,23	7,23	4,15	5,75	4,00
CANADA	3	1,61	1,21	4,10	3,12	4,60	2,05	5,72	4,73	6,21	3,66
AUSTRALIA	1	0,11	1,41	1,99	1,72	2,54	0,99	2,09	1,83	2,64	1,10
TURKEY	5	3,42	2,21	4,87	2,69	3,97	2,44	8,30	6,11	7,39	5,86
MEXICO	3	0,79	1,11	2,73	2,28	3,37	1,36	3,51	3,07	4,16	2,15
KOREA	5	4,34	1,82	9,53	6,09	8,99	4,76	13,87	10,44	13,33	9,11
ARGENTINA	3	0,68	1,38	3,34	2,58	3,81	1,67	4,03	3,26	4,49	2,36
CHINA	1	2,01	1,23	6,06	4,33	6,39	3,03	8,07	6,34	8,40	5,04
INDIA	3	0,13	2,18	4,75	2,66	3,92	2,38	4,89	2,79	4,06	2,51
SOUTH AFRICA	1	0,75	1,49	3,71	2,75	4,05	1,85	4,46	3,50	4,80	2,60
GROWTH IN G20 (2)		1,96		3,88	2,42	3,57	1,94	5,84	4,38	5,53	3,90

Notes:

1. Selected countries for which wage share data is available since 1970s.
2. Weighted average of growth in each economy
3. Onaran and Galanis (2012), Is aggregate demand wage-led or profit-led? National and global effects, ILO, Conditions of Work and Employment Series No. 31, Geneva. [http://www.ilo.org/wcmsp5/groups/public/---ed\\_protect/---protrav/---travail/documents/publication/wcms\\_192121.pdf](http://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---travail/documents/publication/wcms_192121.pdf)
4. The mean of 98 studies published between 1992 to 2013, providing a sample of 1882 observations of multiplier values for public investment, Source: Table 1 in Gechert, S. (2013). What fiscal policy is most effective? A Meta Regression Analysis. IMK working paper 117.
5. The high value of capital spending multiplier reported in IMF 2009, <http://www.imf.org/external/np/g20/pdf/031909a.pdf>
6. The low value of capital spending multiplier reported in IMF 2009, <http://www.imf.org/external/np/g20/pdf/031909a.pdf>

## EMPIRICAL EVIDENCE FOR WAGE-LED GROWTH

This section first summarises our most recent estimation results regarding the effects of the changes in the wage share on growth based on Onaran and Galanis (2012) for the major developed and developing G20 countries, for which there is data for the wage share since at least the 1970s. These countries constitute more than 80% of global GDP. In this work, we also go beyond the nation state as the unit of analysis and discuss the global effects based on the responses of each country to changes, not only in domestic income distribution, but also to trade partners' wage shares. A change in the wage share of a trade partner affects the import prices and foreign demand for each country. This global dynamic is significant, as pro-capital redistribution policies have been implemented almost simultaneously in many developed and developing countries in the post-1980s period. Because of this, we have experienced a global "race to the bottom" in the wage share.

The empirical analysis is based on econometric estimations of consumption, investment, exports, and imports. Consumption is estimated as a function of adjusted profits and adjusted wages. Our findings show that the marginal propensity to consume out of profits is lower than that out of wages in all countries; thus, a rise in the profit share leads to a decline in consumption. Private investment is estimated as a function of output and the profit share. To estimate the effects of distribution on net exports, we follow a stepwise approach: Exports are estimated as a function of export/import prices, and the GDP of the rest of the world; imports as a function of domestic prices/import prices, and home country GDP; domestic prices and export prices are estimated as functions of nominal unit labour costs and import prices. The total effect of a change in the wage share on exports encompasses the effects of nominal unit labour costs on prices, namely of prices on export prices, and of export prices on exports. The effect of a change in the wage share on GDP via international trade not only depends on the sensitivity of exports and imports to prices but also on the degree of openness of the economy (*i.e.*, on the share of exports and imports in GDP); thus, in relatively small open economies, net exports may play a major role in determining the overall outcome; the effect becomes much lower in relatively closed large economies.

The total effect of the decrease in the wage share on aggregate demand of house-

holds and firms depends on the overall impact on consumption, private investment and net exports of changes in functional income distribution. If the total effect is negative, the economy is termed "wage-led"; if the effect is positive, the regime is termed "profit-led".

Table A.1 summarises the effects of a 1%-point increase in the profit share on consumption, investment, and net exports based on the estimations by Onaran and Galanis (2012).

One finding stands out for all countries: When the profit share increases, the fall in domestic consumption outweighs the rise in private investment. Leaving exports and imports aside and looking at only the effects on domestic demand, *i.e.* the effects on consumption and investment (in columns A and B), the negative effect in absolute terms of the increase in the profit share on private consumption is substantially larger than the positive effect on private investment in all countries. This means that demand in the domestic sector of economies, leaving the foreign demand aside, is clearly wage-led.<sup>4</sup> Hence, domestic demand unambiguously contracts when the wage share falls and the profit share increases. However, the effects on net exports in Column C have a crucial role in determining whether the economy is profit-led. Column D sets out the total effect on private demand. Column E shows the total effects after the multiplier process: The initial change in private demand due to a change in income distribution leads to a multiplier mechanism, which affects consumption, investment, and imports. This magnifies the effects of a change in income distribution on aggregate demand further. If the total effect in columns D and E is negative, then the economy is wage-led; thus, a rise in the profit share leads to a negative effect on growth.

The Eurozone-12, the UK, the US, Japan, Turkey and Korea are wage-led economies. Overall, the results indicate that large, relatively closed economies are more likely to be wage-led. To illustrate, in the Eurozone-12, a 1%-point increase in the profit share leads to a 0.13% decrease in private demand. Germany, France, and Italy as individual large members of the Eurozone-12 area are also wage-led. The

4. Consistent with our findings, previous findings for the individual countries in the literature also mostly conclude that domestic demand is wage-led. See Stockhammer et al (2009) for the Euro area; Stockhammer and Stehrer (2011) for Germany, France, US, Japan, Canada, Australia; Naastepad and Storm (2007) for Germany, France, Italy, UK; Hein and Vogel (2008) for Germany, France, UK, US; Bowles and Boyer (1995) for Germany, France, UK, US, Japan; Stockhammer et al (2011) for Germany, and Ederer and Stockhammer (2007) for France.

absolute value of the effect of an increase in the profit share on demand in individual countries like Germany and France is smaller than in the Euro area as a whole because the net export effects are higher for these countries. They have a much higher export and import share in GDP due to trade with the other European countries as well as non-European countries, whereas the Euro area as a whole is a rather closed economy with low extra-EU trade and high intra-EU trade. Previous studies show that small open economies in the Euro area such as the Netherlands and Austria may be profit-led, when analysed in isolation (Hein and Vogel 2008; Stockhammer and Ederer, 2008). A similar argument could apply to the rest of the EU.

Thus, wage suppression, which keeps real wage growth below productivity and leads to a fall in the wage share in Europe as a whole is likely to have only moderate positive effects on trade balances but will have substantial negative effects on domestic demand. If wages were to change simultaneously in all the EU countries, the net export position of each country would change little because extra-EU trade is comparatively small. Thus, when all EU countries pursue “beggar thy neighbour” policies through wage suppression, the international competitiveness effects will be minor, while the domestic effects will be decisive.

Canada, Australia, China, South Africa, Mexico, Argentina, and India are profit-led. As open economies with a high share of exports and imports in national income, the net export effects are higher in all of these countries. The effects discussed are only the national effects in isolation, i.e. assuming that the change is taking place only in one single country. The last column of Table A.1 summarises the total effects, when there is a global race to the bottom – a simultaneous 1% decrease in the wage share in all of these large developed and developing countries. Comparing columns E and F, the contraction in the UK, as well as other wage-led countries (Eurozone-12, US, Japan, Turkey, and Korea) is now much higher. In this global race to the bottom scenario, a 1%-point simultaneous decrease in the wage share leads to a decline in the Eurozone-12 by 0.25% point of GDP. The effect now is economically far more important.

The profit-led economies of Canada, Mexico, Argentina, and India also begin to contract, when the effects of decreasing import prices and changes in the GDP of the trade partners on net exports are incorporated in a simultaneous race to the bottom scenario. These economies could still grow, when they experi-

ence a fall in the wage-share alone, but when the wage share falls for all their trade partners, the expansionary effect of falling wage shares is reversed, as relative competitiveness effects are reduced and global demand contracts when all countries are implementing a similar wage competition strategy.

A 1%-point simultaneous decline in the wage share in the world leads to a decline in the global GDP by 0.36%-points (the average of the growth rates in column F of Table A.1 weighted by the share of each country in the world GDP). This leads to the conclusion that the world economy in aggregate is wage-led. If there is a simultaneous decline in the wage share in all countries (or as in our case in the thirteen major economies of the world), global aggregate demand also decreases. To reformulate the results positively, a 1%-point simultaneous increase in the wage share at the global level could lead to 0.36%-point higher rate of growth in the global GDP.

To summarise, firstly, domestic private demand (the sum of consumption and investment) is wage-led in all countries because consumption is much more sensitive to an increase in the profit share than investment is. Thus, an economy is profit-led only when the effect of distribution on net exports is high enough to offset the effects on domestic demand. Secondly, foreign trade forms only a small portion of aggregate demand in large economic areas such as the Eurozone, the UK, the US, Japan, and, therefore, the positive effects of a decline in the wage share on net exports do not suffice to offset the negative effects on domestic demand. Similarly, if countries, which have strong trade relations with each other (as within the EU), are considered as an aggregate economic area, the private demand regime is wage-led. Thirdly, even if there are some countries, which are profit-led, the global economy as a whole is wage-led because the world is a closed economy. Mainstream strategies that impose the same wage moderation policies in all countries, assume that the world as a whole, as well as the majority of countries, are profit-led. This is against the logic of our findings given that the effects of a fall in the wage share on domestic consumption more than offsets the effects on investment.

The micro rationale of an individual firm cannot be generalised to the macro rationale of a country. Individual firms might prefer to reduce the labour costs of their own workers to increase profits (thereby disregarding the effects of this on productivity and morale). At

the same time, they would prefer all other firms to give a pay raise, so that there is someone to buy their goods. Even though a higher profit share at the firm level seems to be beneficial to individual employers, at the macroeconomic level a generalised fall in the wage share generates a problem of realisation of profits due to deficient demand in a wage-led economy.

Furthermore, even in profit-led countries, a global fall in the wage share leads to a global aggregate demand deficiency, and potentially contraction in the profit-led countries as well. A seemingly rational pro-profit strategy at the level of an individual firm or a country is hence contractionary and counter-productive at the macro or global level.

**TABLE A1. SUMMARY OF THE EFFECTS OF A 1%-POINT INCREASE IN THE PROFIT SHARE (1%-POINT DECREASE IN THE WAGE SHARE)**

	THE EFFECT OF A 1%-POINT INCREASE IN THE PROFIT SHARE IN ONLY ONE COUNTRY ON					THE EFFECT OF A SIMULTANEOUS 1%-POINT INCREASE IN THE PROFIT SHARE ON % CHANGE IN AGGREGATE DEMAND
	Consumption/GDP	Investment/GDP	Net exports/GDP	Initial change in private demand/GDP	% change in aggregate demand (D*multiplier)	
	A	B	C	D (A+B+C)	E	F
EURO AREA-12	-0.439	0.299	0.057	-0.084	-0.133	-0.245
GERMANY	-0.501	0.376	0.096	-0.029	-0.031	-
FRANCE	-0.305	0.088	0.198	-0.020	-0.027	-
ITALY	-0.356	0.130	0.126	-0.100	-0.173	-
UNITED KINGDOM	-0.303	0.120	0.158	-0.025	-0.030	-0.214
UNITED STATES	-0.426	0.000	0.037	-0.388	-0.808	-0.921
JAPAN	-0.353	0.284	0.055	-0.014	-0.034	-0.179
CANADA	-0.326	0.182	0.266	0.122	0.148	-0.269
AUSTRALIA	-0.256	0.174	0.272	0.190	0.268	0.172
TURKEY	-0.491	0.000	0.283	-0.208	-0.459	-0.717
MEXICO	-0.438	0.153	0.381	0.096	0.106	-0.111
KOREA	-0.422	0.000	0.359	-0.063	-0.115	-0.864
ARGENTINA	-0.153	0.015	0.192	0.054	0.075	-0.103
CHINA	-0.412	0.000	1.986	1.574	1.932	1.115
INDIA	-0.291	0.000	0.310	0.018	0.040	-0.027
SOUTH AFRICA	-0.145	0.129	0.506	0.490	0.729	0.390
MEMO ITEM: % CHANGE IN GDP IN G20 (AVERAGE OF COLUMN F WEIGHTED BY THE SHARE OF EACH COUNTRY IN G20 GDP)						-0.36

Source: Onaran and Galanis (2012), Is aggregate demand wage-led or profit-led? National and global effects, ILO, Conditions of Work and Employment Series No. 31, Geneva. [http://www.ilo.org/wcmsp5/groups/public/---ed\\_protect/---protrav/---travail/documents/publication/wcms\\_192121.pdf](http://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---travail/documents/publication/wcms_192121.pdf)

Note: The global simulation excludes Germany, France and Italy since they are part of the Eurozone