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# **The role of gender equality in an equality-led sustainable development strategy**

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**Abstract:** The aim of this paper is to outline the cornerstones of a macroeconomic model to analyse the various channels through which gender equality can influence growth and employment outcomes. The paper first introduces the basic Post-Keynesian/neo-Kaleckian demand-led growth model, and contrasts this with the mainstream neoclassical growth model. Then we present the main features of an extended model that incorporates gender relevant categories in the behavioural functions that determine private aggregate demand (consumption, investment), and the role of the government in a model with endogenous changes in productivity and employment. The paper concludes by a discussion of the policy implications.

**Keywords:** demand-led growth, gender equality, wage share, wage-led growth, public investment, social infrastructure

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## **1. Introduction**

Mainstream economics continue to guide policy towards further wage moderation along with austerity as one of the major responses to the Great Recession, in particular in Europe. The combination of austerity and wage moderation is deepening inequality in all dimensions with detrimental consequences for gender equality regarding labour market outcomes such as employment and pay as well as division of the unpaid and invisible work burden at home.

The advocates of this policy framework would argue that a fall in real wages, and rise in inequality is good for growth or at best it is an unavoidable consequence of dealing with the crisis. Among the critiques of this mainstream approach, there is an increasing consensus regarding the destabilizing effects of rising inequality, however without sufficient attention to the interplay of different dimensions of inequality, and in particular gender inequality.

The aim of this paper is to outline the cornerstones of a macroeconomic model to analyse the various channels through which gender equality can influence growth and employment outcomes. The rest of the paper is organized as follows: section two introduces the basic Post-Keynesian/neo-Kaleckian demand-led growth model, and contrasts this with the mainstream neoclassical growth model. Section three presents current contributions from feminist economics to gendering demand-led growth models, and suggests an extended model that incorporates gender relevant categories in the behavioural functions that determine private aggregate demand (consumption, investment), and the role of the government in a model with endogenous changes in productivity and employment. Section four concludes and discusses policy alternatives.

## **2. Demand-led growth model**

Mainstream economic policy informed by the standard neoclassical growth model (Solow growth model) emphasises the supply side rather than the demand side of the economy as the determinant

of growth; and assumes that demand will follow supply. Typically, wages are treated merely as a component of cost. When the wage share falls, and profit share increases this is expected to lead to a rise in private investment due to higher profitability, as well as net exports due to lower unit labour costs, and thus higher international competitiveness. This thinking guides policies promoting wage moderation in Europe. E.g. the European Commission (2006) explicitly argues that wage moderation, i.e. real wage growth below productivity growth, is the key to preserve growth and jobs in a competitive global economy. From this perspective, further deregulation in the labour markets would be seen as a positive development to ensure wage moderation.

However, the mainstream theory fails to explain why growth is lower in the post-1980s despite a rise in the profit share, and why recovery is still so sluggish after the recession. The standard neoclassical growth model assumes full employment and does not incorporate demand-side constraints and hence excess capacity and involuntary unemployment. Contrary to this, heterodox, Post-Keynesian/neo-Kaleckian macroeconomic models address this by integrating the dual role of wages both as a cost and a source of demand.<sup>1</sup> These models synthesise the ideas of Keynes, Kalecki, and Marx, and while they accept the direct positive effects of higher profits on private investment and net exports as emphasised in mainstream models, they contrast these positive effects with the negative effects on consumption. Demand plays a central role in determining growth and employment; hence growth is demand-constrained, and the distribution of income between workers and capitalists (wages and profits) have a crucial effect on demand.<sup>2</sup>

These models allow for involuntary unemployment, underemployment, and excess capacity. This approach is different from the neoclassical macroeconomic models based on microeconomic decisions of optimizing agents. Components of aggregate demand are determined

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<sup>1</sup> The theoretical models have been formally developed by Rowthorn (1981), Dutt (1984), Taylor (1985), Blecker (1989), Bhaduri and Marglin (1990).

<sup>2</sup> The distribution of income between wages and profits, i.e. labour and capital, reflects the “functional distribution of income” between different classes. The emphasis on personal income distribution in the mainstream debates on inequality, e.g. the share of top 1%, neglects the change in the distribution of income between labour and capital. However, the latter has significant consequences for demand. Needless to say, this does not mean that the rise in top income shares is unimportant, but the analysis of inequality should incorporate the inequality between classes as well.

by behavioural equations. Wages are an outcome of a bargaining process between employers and workers as opposed to the neoclassical theory, where they are determined by the marginal product of labour. Neoclassical labour supply is based on the choice between leisure and consumption. The difference of the demand-led models of growth and employment is that unemployment is involuntary. Labour supply is inelastic and employment is demand constrained not supply determined. Leisure is not a choice but a residual.

On the demand side, firstly, consumption is expected to decrease when the wage share decreases, since workers consume more as a proportion of their income compared to the owners of capital. In technical terms, the marginal propensity to consume out of wage income is higher than that out of profit income. Secondly, a higher profitability (a lower wage share) is expected to stimulate private investment for a given level of aggregate demand. Thirdly, net exports (exports minus imports), for a given level of domestic and foreign demand, will depend negatively on unit labour costs, which are by definition, closely related to the wage share. Thus, the total effect of the decrease in the wage share on aggregate demand of the private sector (households and firms) depends on the relative size of the reactions of consumption, private investment and net exports to changes in income distribution. If the total effect is negative, the demand regime is called wage-led; otherwise the regime is profit-led.

Theoretically, both are likely scenarios, and whether the negative effect of lower wages on consumption, or the positive effect on investment and net exports is larger in absolute value, is an empirical question depending on the parameters of an economy. If consumption is very sensitive to distribution, i.e. if the differences in the marginal propensity to consume out of wages and profits is very high; if investment is not very sensitive to profits, but responds more to demand; if domestic demand constitutes a more significant part of aggregate demand; and if net exports are not very responsive to relative prices and the effect of labour costs on export prices are not very large, then the economy is more likely to be wage-led. If the responsiveness of investment to profits is rather strong and foreign trade is an important part of the economy (as is the case in small open

economies) and is very responsive to labour costs, then the economy is more likely to be profit-led. In a wage-led economy, a fall in the labour share would generate a decline in GDP; for growth a higher wage share is required. Pro-capital policies would generate more growth only if an economy is profit-led.

While Post-Keynesian/post-Kaleckian models offer a general theory, which allows for different regimes and opposing effects of the wage share on growth, mainstream economic policy assumes that all economies are profit-led. Indeed the mainstream argument goes beyond that since the EC's policy of wage moderation is prescribed to all the countries in Europe; hence the EC implicitly assumes that Europe as a whole is profit-led. Similarly, these policies have been exported to the developing world through the IMF and the World Bank; hence the implicit assumption must be that the global economy is profit-led.

A wide body of empirical research in the tradition of Post-Keynesian/post-Kaleckian models challenge the assumption that all countries are profit-led (e.g. Onaran and Galanis, 2012; Onaran et al 2011; Stockhammer et al 2009; Hein and Vogel, 2008; Naastepad and Storm, 2007; Stockhammer and Onaran, 2004; Bowles and Boyer, 1995). In the context of Europe, Stockhammer et al (2009) and Onaran and Galanis (2012) show that demand in the Eurozone-12 is wage-led. Similarly, Germany, France, and Italy as individual large members of the Eurozone-12 area are also wage-led (Onaran and Galanis, 2012; Hein and Vogel, 2008). The Euro area as a whole is a rather closed economy with low extra-EU trade albeit a high intra-EU trade. Previous studies show that small open economies in the Euro area, like the Netherlands and Austria, may be profit-led, when analysed in isolation (Hein and Vogel 2008; Stockhammer and Ederer, 2008). Thus wage moderation, 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 effects on foreign trade, but it will have substantial effects on domestic demand. Second, 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, the international competitiveness effects will be minor, and the domestic effects will dominate the outcome.

A wage-led growth regime can be seen broadly as an equality-led growth regime, embracing all dimensions of equality. Redistribution from profits to wages as well as from the rich to the poor will lead to higher growth rates. Similarly eliminating gender wage gaps as part of a process of an upward convergence in wages, would contribute to greater equality and overall a higher wage share, which in turn in a wage-led economy such as Europe will lead to higher growth according to empirical evidence. However, a gendered approach to macroeconomic modelling should go beyond the effect of gender equality on aggregate income distribution (the wage share) and should incorporate gender relevant categories in all behavioural components of the model. This is what we discuss in Section 3.

### **3. Integrating gender in a demand-led growth model**

The central role of inequality in Post-Keynesian/Kaleckian models provides a useful theoretical framework for analysing the impact of gender inequality on macroeconomic outcomes. Feminist economists have incorporated in this framework gender differences in income to analyse the effects of both interclass and intraclass distribution as well as household dynamics and caring labour (See Seguino, 2012 for a review). As opposed to conventional macroeconomic models, in feminist macroeconomics labour is treated as a produced means of production; the reproduction of labour is carried out by both paid and unpaid work; women have a disproportionate share of unpaid work relative to men. Furthermore in the tradition of structuralist macroeconomics, the stylized structural features of economies (market structure, the structure of production and trade and resulting price elasticities, and balance of payments constraints to growth) play a crucial role in these macro models. In the feminist structuralist macroeconomic models the country’s economic structure (agricultural, semi-industrialized, post-industrial), macro-level policies that influence

relations with the rest of the world (rules governing trade and cross-border investment and finance), the form and extent of gendered job segregation (e.g. women's association with paid care work) and the distribution of care labour between men and women have been incorporated.

Most of the feminist macroeconomics on the effects of gender inequality on growth analysed the cases of developing economies (Seguino, 2012). Seminal contributions include Ertürk and Çağatay (1995), Braunstein (2000), Blecker and Seguino (2002), Akram-Lodhi and Hanmer (2008), Seguino (2010), and Braunstein et al. (2011). The latter develops a theoretical macro model based on the stylized structural features of a modern industrial economy with a large human services sector that primarily employs women. Braunstein (2013) offers a non-technical presentation of the model. However, the model is not empirically estimated.

The model by Braunstein et al. (2011) incorporates “investments in human capacities” by individuals and households. “Human capacities” include standard human capital measures such as skills and education as well as broader features such as emotional maturity, patience, and self-confidence. This “investment” firstly generates current aggregate demand. Secondly, it increases labour productivity through both the short-term day-to-day aspects of reproduction and longer term aspects, hence creates future productive capacity and improves economic growth in the long-run; however the latter is not incorporated since the model is a short run model. Investments in human capacities plays a similar role to physical investment; however outside feminist economists investing in future human capacities is not acknowledged as investment. Investments in human capacities are determined by expectations about future economic opportunities, which are directly related to higher wages as well as economic activity. In the model “caring spirits” is the tendency to provide care, and defines the process through which expectations are transformed into actual investments in human capacities.<sup>3</sup> Caring spirits may be determined by social norms, individual motivation, or public preferences and the structure of the social welfare state. They distinguish

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<sup>3</sup> Braunstein et al. (2011) use the term “caring spirits” analogous to Keynes’s animal spirits.

between “strong/altruistic” vs.” weak/ individualistic” caring spirits as well as “caring” and “non-caring” states. However, there is no explicit government sector in the model. Favourable opportunities translate into higher investment in human capacities in societies with “strong/altruistic” caring spirits than in individualistic ones. Strong caring spirits increase the likelihood of an economy being wage-led, because higher wages translate into a higher investment in human capacities. If the increase in human capacities investment is high enough, total investment in physical and human capacities could increase despite a lower profit share. Overall the model by Braunstein et al. (2011) shows that higher female wages not only directly affect demand, but also could raise labour productivity and reduce unit labour costs via more investment in “human capacities” at the household level. Overall, the net effect of higher female wages on profits and investment is ambiguous, and may even be positive under certain parameters.

Braunstein et al (2011) is the most detailed theoretical model to integrate gender in a demand led growth model; however it does not explicitly model the government sector, employment, the effects of gender distribution of income on consumption, and the long run supply side (productivity) effects of social infrastructure on private investment.

The task ahead is to build in gender inequality in not only the theoretical but also the empirical models of demand-led growth. Furthermore, the effects need to integrate both the short run demand effects and the long run productivity effects. There are three important entry points in the Post-Keynesian/Kaleckian demand-led growth models for integrating gender: i) a higher degree of gender equality is expected to change the composition of consumption; e.g. more income in the hands of women is expected to increase the share of household spending that will benefit children more; hence spending in human capacities such as education is a positive function of gender equality at the household. Demand-led growth models traditionally model consumption as a function of wages and profits<sup>4</sup>; a gender aware macro modelling strategy requires estimating

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<sup>4</sup> For simplicity, we can assume that profits is not gendered. Although there is a behavioural difference in the risk taking of female vs. male entrepreneurs, with implications for investment behavior, given the low share of female entrepreneurs, this simplification is unlikely to affect outcomes.

consumption as a function of female and male wages and profits, and disintegrating consumption into household consumption in spending in human capacities and the rest. ii) In the standard demand-led growth models private investment is simply a function of profitability and demand. However, private investment responds to infrastructure. In mainstream policies, the only positive crowding in effects on private investment due to public infrastructure is physical infrastructure such as transport or ITC infrastructure. However social infrastructure in terms of education and health plays a crucial role for the productivity and profitability of private investments. Hence, investment should be modelled as a function of both public and private spending which would enhance human capacities and social infrastructure. Gender equality will thereby have a further positive effect via changing not just the level but also composition of consumption, thereby increasing social infrastructure and private investment.

The aim of this paper is to outline the cornerstones of a gendered macroeconomic model by integrating several different theoretical contributions in the literature, which analyse i) the effect of income distribution on growth (e.g. Bhaduri and Marglin, 1990; Stockhammer et al 2009; Onaran and Galanis, 2012); ii) the effect of income distribution and growth on employment (Stockhammer and Onaran, 2004), iii) the effect of government spending on demand and growth (Blecker 2002), iv) the interaction of growth, income distribution and productivity (Hein and Tarassow, 2010; Naastepad, 2006), v) the effects of changes in male and female wages in economy with social reproduction (Braunstein et al 2011).

For simplicity, we can start with a two sector model with a 'social' sector that provides the social infrastructure contributing to human capacities vs. the rest of the economy. Social infrastructure include services such as care, health and education and contribute to the reproductive sector of the economy and are part of social infrastructure, whereas the rest of the economy, is predominantly representing the production sphere. Social infrastructure are produced both in the market economy by paid labour of men and women in the public and private sector and in the home economy by unpaid labour. The social sector typically employs more women than men.

The rest of the economy includes physical infrastructure among other things. In the rest of the economy employment is predominantly male. Aggregate output is determined by demand, whose components are private consumption, private investment, net exports, and government spending. While the model acknowledges that unpaid labour contributes to the welfare of the society, its market value is zero, and thereby it is not part of aggregate output as measured by the conventional GDP figures.

Demand-led growth models traditionally models consumption by the households produced in the market economy by paid labour only. A gender aware macro modelling strategy first requires disintegrating consumption into two categories: consumption on social services (produced by both paid and unpaid labour) and the rest of the economy. Second, traditionally, consumption is modelled as a function of aggregate wages and profits. A gender aware approach has to address gender income differentials by modelling consumption (in both sectors) as a function of income from female waged employment, male waged employment, and profits. For simplicity, wages are treated as exogenous, determined by bargaining and labour market institutions. However, employment is an endogenous variable as will be discussed in more detail below. Hence, total female wage income and male wage income as well as wage shares and profit shares are endogenous.

There is only limited empirical research on the differences in propensities to consume by men and women, as well as the composition of consumption with respect to types of goods and services and their import content. There is empirical evidence that marginal propensity to consume out of wages is higher than that out of profits (e.g. Onaran and Galanis, 2012), and since female wage income in aggregate is lower than male wage income, our hypothesis is that marginal propensity to consume out of female wage income is higher than that out of male wage income. Hence, an increase in female wage rate or female employment, other things being equal, is expected to lead to higher consumption. Another important empirical question to explore is how a higher degree of gender equality in wages or employment could change the composition of

consumption. Braunstein (2013) theorizes that the impact of income on human capacities depends not only on how much is earned and spent, but on what is purchased, and whether these commodities provide good substitutes or complements for unpaid care time. At a first glance, women need to spend more of their income on social services to replace their unpaid reproductive labour as long as not all these services are available for free by the public sector. Furthermore, we expect more income in the hands of women or the presence of an employed mother in the household to increase household spending in children's education as well as the equality in the spending on boys and girls. Seguino (2012) suggests that in the developing countries, women are more likely to consume domestic goods, while men are likely to consume a higher proportion of luxury and/or imported goods such as cell phones, automobiles, and televisions. Ertürk and Çağatay (1995) propose that increases in the intensity of women's unpaid work in the household raises savings rates. Hence, a rise in female wage income may decrease unpaid work and increase the propensity to consume. However, interestingly Floro and Seguino (2002) find that, for a group of semi-industrialized countries, higher incomes and more bargaining power for women are associated with higher aggregate savings rates.

Most of the Post-Keynesian literature does not model the public sector with the notable exception of Blecker (2002). In our gendered framework, the public sector has a crucial role to play in contributing to social infrastructure. Women do the majority of unpaid "reproductive" labour; therefore the development of the "social sector" in the market economy with services provided by paid labour in the public sector will have profound effects on women as well as the aggregate macroeconomic outcomes.<sup>5</sup> First, on the supply side, this will reduce the need for unpaid labour to provide care, education and health, and improve the chances of women to participate in the paid economy. Second, on the demand side, given the current rates of occupational segregation the new jobs in the social sector generated will be traditionally female jobs, and increase the

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<sup>5</sup> This does not exclude the production of these services in the private sector.

employment chances of women. Third, both public supply of social services and increased paid employment opportunities could transform the gender norms about the division of labour in the household regarding the paid vs. unpaid work (Folbre and Nelson, 2000). Hence, government spending should be introduced to the model in a disaggregated fashion as spending on social infrastructure, physical infrastructure and other public spending. Taxes are modelled as a function of wage and profit income. As an extension, consumption should also be modelled as function of after tax wages and profits.

In the standard demand-led growth models private investment in physical capital is simply a function of profitability (the share of profits in national income) and demand. In a gendered macro model, in order to fully understand the importance of social infrastructure, we need to further include the response of private investment to the business environment created by social as well as physical infrastructure in the short run and their positive effects on productivity in the long run. Traditionally public spending in physical infrastructure such as transport or ITC infrastructure is expected to generate positive crowding in effects on private investment. However social infrastructure in terms of education and health plays a crucial role for the productivity and profitability of private investments as well. While we may expect to see positive effects on the “animal spirits” of the firms even in the short run through an expected improvement in the business environment, longer term effects of lagged public spending (or average values of the past five years) should be integrated to empirical estimations of private investment behaviour.

Net exports can be simply modelled as a function of aggregate demand and unit labour costs. For simplicity, we could assume that social services are non-tradable and all net exports are in the rest of the economy.

To allow for the long term effects of social infrastructure, the model should further integrate supply side effects by modelling changes in labour productivity. Hein and Tarassow (2010) and Naastepad (2006) incorporate productivity in the standard (non-gendered) demand led growth models. In our extended framework, productivity could be modelled as function of

investment disaggregated as private and public investment in social and physical infrastructure. Furthermore following the Post-Keynesian literature on technological change, productivity is also a positive function of growth, i.e. a function of demand and profit share. The latter is because a higher wage share, i.e. a lower profit share pushes firms to be more innovative. This is also consistent with the efficiency wage effects in the new Keynesian labour economics literature. Overall, technological change is endogenous.

Finally, a gendered macroeconomic analysis should focus on outcomes beyond growth. As a measure of empowerment, employment of men and women may be a more direct indicator than aggregate growth rate. Hence a gendered macro model should also incorporate the effects on employment. In the standard demand-led growth models, Stockhammer and Onaran (2004) models employment in the context of an SVAR model. In our gendered framework, employment in social services and the rest of the economy can be modelled in a general form as a function of demand, labour productivity, and labour costs. Using the latest figures about the share of female and male employment in each sector, we can then estimate the total female and male employment in the economy for a given demand.

The model can then be econometrically estimated and used to simulate the effects of changes in public spending in the social sector vs. the rest of the economy on employment of men and women, as well as macroeconomic outcomes such as private investment, productivity, growth and budget deficit. Other exogenous variables such as male and female wages or gender composition of the sectors can also be changed to simulate effects on growth and employment. The ultimate aim is to have a model, which can guide public spending policy and wage policy to achieve an equitable development strategy.

Overall a rise in female income may generate positive multiplier effects in the economy. With respect to the effects of public spending, although government spending in social infrastructure is expected to generate more female employment than male employment at the beginning, the overall effects on male employment is also expected to be positive through

aggregate multiplier effects. If women have a higher marginal propensity to consume, and if the import component of the inputs in the social infrastructure sector is lower as is found by Antonopoulos et al. (2010), public spending in the social sector is expected to have a larger multiplier effect on aggregate demand.

However, feminist economics emphasize the contradictory effects of increased female labour force participation on economic outcomes (Seguino, 2012). Under certain circumstances increased female labour force participation may stimulate output. However, if gender norms prevent a more equal distribution of unpaid care labour, in the absence of accessible public services for care, the increase in paid working hours by women may crowd out unpaid caring labour, which in turn has a negative effect on the production of labour power and hence labour productivity (Ertürk and Darity, 2000; Braunstein et al., 2011). In developed economies the supply of care services by the public or private sector, may mediate the second effect; however the effect will also depend on the wages and affordability of these services (Seguino, 2012). To develop the argument further, Braunstein et al. (2011) introduces a social reproduction function on the supply side with three types of inputs - nonmarket time, commodities, and public infrastructure- which are combined to produce human capacities, including daily maintenance of the labour force as well as longer term investments. Wage differentials between men and women and social norms lead to a higher share of female unpaid time input. Commodities are direct and indirect care services and capital goods financed by income from work or public and private transfers. Public infrastructure are goods and services like roads, electricity, sanitation, water, nurseries, schools, and nursing homes that increase the availability and accessibility of care commodities, or lower the required time for care work by women. Braunstein (2013) distinguishes between a low road regime, where higher female labour force participation is associated with a decline in human capacities production, and a high road regime, where increased female labour force participation is associated with higher production of human capacities. An increase in economic activity and female labour force participation has both a negative (time) effect on the production of capacities through the

increase in the opportunity cost of unpaid work and a positive (income) effect on the production of capacities through consumption of market care goods. However, the latter effect depends on the financial costs of reproduction, what care and capital commodities households ultimately decide to purchase, and the gender division of labour in unpaid care. If the time and financial burdens of social reproduction are spread among more contributors, increasing female labour force participation can be counterbalanced by supports in the family, community and the state. Braunstein (2013) calls this the gender egalitarian case. Smaller gender wage gaps with an upward convergence of female wages to male wages, public or private provision of care services are conducive to the high road regime. In contrast, the low road regime is characterized by the “feminization of responsibility and obligation” (Braunstein, 2013). According to the theoretical framework of Braunstein et al. (2011), a wage-led economy with a high road distribution of social reproduction more gender wage equality raises human capacities investment and aggregate demand by more than it cuts into profits, and hence raises growth. Higher labour market participation among women induced by higher wages does lower the nonmarket time for human capacities production. But gender egalitarian relations of reproduction and strong public support for care and the availability of care commodities lead to an increase in the production of human capacities thanks to higher incomes. This is the win-win scenario for the society, and the workers and carers.

While addressing the production and consumption of social services produced by unpaid labour is an integral part of feminist economics from a theoretical perspective, empirically pinning down these effects at the macroeconomic level runs against the constraints of data availability regarding unpaid labour; its composition as well as its precise contribution to human capacities, which necessarily includes abstract elements as self-confidence. Time use surveys are not carried out very frequently to provide sufficiently long historical data for time series analysis. Furthermore the behavioural aspects of division of unpaid labour at the household level and the labour supply decisions require a micro econometric analysis using individual data. Hence a full modelling of

the labour supply behaviour and the incorporation of unpaid care labour requires and integrated microeconomic and macroeconomic modelling. The model we outline here is limited to an aggregate macroeconomic analysis; therefore it assumes that labour market supply decisions of women are simply demand driven and women's unpaid labour is infinitely elastic. This simplification does not reflect the complete picture of the impact of changes in policies on wellbeing of the households as well as productivity in the future. Furthermore, Fonatana (2014) emphasizes that some unpaid household activities can be replaced with market services only to some extent; e.g. looking after children has a strong relational component and involves close emotional interaction.

#### **4. Conclusions and policy implications for gender aware policies as part of an equality-led and sustainable strategy in Europe**

The push for wage-led/equality-led recovery can primarily come through a strengthening of the bargaining power of labour and bringing the welfare state back. Gender equality should be at the heart of the design as well as evaluation of these policies. A wage-led development strategy requires policies targeting the top, middle, and bottom of the wage distribution. This would correct the increased gap between the changes in productivity and wages in the last three decades. Strengthening the power of the labour unions via an improvement in union legislation, increasing the coverage of collective bargaining, increasing the social wage via public goods and social security, establishing sufficiently high minimum wages, eliminating the gender wage gap, eliminating discriminatory labour market practices, regulating high/executive pay, and levelling the global play ground through international labour standards are the key elements in creating the balance of power relations in favour of a wage-led recovery.

However, the magnitude of the effects that can come from a wage-led/equality-led recovery on growth and hence employment however is modest, albeit positive. Wage-led growth

is not a magic bullet to solve all the ills of our current economic model. The neoliberal shift in macroeconomic policy away from a broad focus on full employment to a narrow focus on inflation targeting and tight fiscal and monetary policy in the post-1980s has been detrimental for growth, as well as labour's bargaining power and equality. Reorienting macroeconomic policies towards full employment is important for not just rebalancing power relations but also for rebalancing the economy. For sustainable and egalitarian development, we need to mobilise all of the tools of economic policy and public spending with an aim to achieve full employment, ecological sustainability, and equality. This is an important entry point which allies the agenda for green development with gender equality. The reconciliation of full employment with a low carbon economy requires three policies: creating more labour-intensive jobs, shorter working hours, and ecological investments. This defines a key role to the government regarding public spending and working hours regulations.

First, public investment should fill in the big gap in social infrastructure; i.e. in health, education, childcare, and elderly care, which cannot be provided adequately by private investment based on profit motive. The need for social services is not met under the present circumstances, where they are provided either at very low wages (to ensure an adequate profit), or as a luxury service for the rich, or via invisible unpaid female labour within the gendered division of labour in the private sphere. To avoid this deficit they can be provided by the state or by non-profit/community organisations. Public investment and spending in social infrastructure would generate public employment in labour-intensive social services, and be a vehicle for generating full employment with lower rates of growth, a target more consistent with low carbon emissions. This could also hit another target of increasing female labour force participation rates via socialising the invisible and unpaid care work done by women. Ilkcaracan (2013) calls these purple jobs. However, these jobs need to be made attractive for all by improving pay and working conditions in these industries. Thus a new orientation towards high-skilled, decent service-sector jobs should be promoted instead of the current reliance on low-pay service jobs with weaker labour

unions. These policies put gender equality in pay and employment at the heart of a wage-led development strategy. If women are concentrated in the types of paid work where the prospect of higher wages does not exist, these policies may still be insufficient for significantly improving women's incomes. Wage policies should reflect the added value of social infrastructure for the society; and also gradually policies should target overcoming occupational segregation. This is a clear break from the current policies and imposing pay freezes on public sector workers, who are predominantly women. The severe austerity policies since 2010 have been not only about shrinking the state and slashing welfare spending, but have also been an agenda for eroding the power of labour unions in the public sector, and imposing pay freezes on public sector workers. The pretext of these policies has been defending jobs. However, the dilemma of pay versus jobs is not empirically validated for a wage-led economy like Europe. Austerity policies with further detrimental effects on the wage shares will only bring further stagnation. Public sector wage setting has a strong signal effect on the wage bargaining process in the private sector as well. Reversing the regressive wage policies in the public sector is an important start to initiate an equality-led recovery strategy.

Second, a key policy measure to maintain full employment along with low carbon emissions and a more equal income distribution is a substantial shortening of working time in parallel with the historical growth in productivity. Reduction in weekly working hours should take place without loss of wages in particular in the case of low/median wage earners, which means an increase in hourly wages as well as wage share. Again this is not unrealistic. Compared to the 19th century, we are all working part-time today. But the shortening of working hours has slowed down since the 1980s, with the notable exception of France. More equal countries have shorter working hours (Schor, 2010). The shortening of hours over the past decades has also been associated with higher hourly productivity (Bosch and Lehndorff, 2001). Shorter working hours do not only create more growth but increase the job creation potential of a given rate of growth. The UK and the US have much longer hours than Germany and Netherlands (Schor, 2010). This means that an

employer in the UK needs more demand than the German employer to create an additional job, which is particularly an issue in the post-crisis era of high and persistent unemployment. The implications of shorter working hours for gender equality are twofold: i) Shorter hours with wage compensation for the lower wage earners will imply a narrowing of gender wage gaps. ii) A proper shortening of the working hours should address daily care responsibilities, and work-life balance based on the perspective of gender equality in the division of labour in the household; e.g. this requires shorter daily working hours as opposed to more holidays or longer weekends.

Finally, for the purpose of ecological sustainability, there is need for a shift in the composition of aggregate demand towards long-term green investments; this cannot be achieved without new strategic tasks for active public investment. Public investment in ecological maintenance and repair, renewable energy, public transport, insulation of the existing housing stock and building of zero-energy houses can create jobs as well as a low carbon economy.

Our equality-led growth strategy has to emphasize the complementarities between the green and purple jobs to solve the multiple crises of climate change, inequality and care.

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