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Version: Version of Record

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Greenwich papers in political economy

An Investment and Equality-Led Sustainable Development Strategy for Europe

Özlem Onaran, Lars Andersen, Giovanni Cozzi, Signe Dahl, Thea Nissen, Thomas Obst, Daniele Tori

Abstract

Austerity policies coupled with rising inequality in Europe have resulted in a prolonged stagnation and a vicious circle of chronically low demand, slow down in investment and productivity, and economic, social and political instability. In order to end this vicious cycle, Europe needs directed public investment policies accompanied by industrial policy, higher equality, stimulated demand, and regulation of finance and corporate governance. Our research presents strong empirical evidence that expansionary fiscal policy is sustainable when wage and public investment policies are combined with progressive tax policy; the impact is stronger when these policies are implemented in a coordinated fashion across Europe due to strong positive spill over effects on demand. A strong investment performance also requires a process of de-financialization of the economy and a new approach to corporate governance.

Year: 2017

No: GPERC 46

Keywords: public spending, tax policy, wage share, growth, financialization, investment, non-financial sector, financial development, social infrastructure, physical infrastructure, sustainable development, Europe

Acknowledgments: This paper is part of the project titled “An Investment and Equality-Led Sustainable Growth Model for Europe” which is carried out jointly by the Greenwich Political Economy Research Centre (GPERC), the Foundation for European Progressive Studies (FEPS), Think-tank for Action on Social Change (TASC) and Economic Council of the Labour Movement (ECLM). We would like to thank Mehmet Ugur and Jeff Powell for helpful comments. The usual disclaimers apply.

JEL codes: E12, E22, E25, E62, C23, D22, G31

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1. Introduction

During the past 20 years investment across Europe has drastically declined with severe negative consequences for growth and employment opportunities. Europe has also lagged behind in terms of innovation and technological development in comparison to other developed countries such as the US and Japan. The Great Recession and harsh austerity measures implemented across Europe has further aggravated these problems and has led to a further retrenchment of investment, increase in unemployment and a growth collapse.

Austerity policies coupled with rising inequality in Europe have resulted in a prolonged stagnation and a vicious circle of chronically low demand, slow down in investment and productivity, and economic, social and political instability. In order to end this vicious cycle Europe requires coordinated public investment and incomes policies in all the EU Member States as well as a reform of corporate governance and finance.

This paper summarizes the findings of four recent reports by Obst, Onaran and Nikolaidi (2017), Tori and Onaran (2017), Cozzi (2017) and Andersen, Dahl and Nissen (2017) and derives the policy implications. The rest of the paper is organised as follows. Section 2 presents the stylised facts of rising inequality, increasing financialization and stagnation in growth. Section 3 discusses a wage and fiscal policy mix and its implications for growth, private investment, trade balance, budget balance and price stability. Section 4 analyses the role of de-financialization in order to reinstate the link between private investment and profits. Section 5 presents simulation results regarding the impact of public investment in social and physical infrastructure with the win aims of decarbonising the economy and achieving higher gender equality. Section 6 presents the details of an alternative green-social investment plan in Europe. Finally, section 7 concludes with policy implications.

2. Falling wage share, increasing financialization and stagnation in growth

At the core of the slowdown in growth rates along with higher volatility in Europe lies the missing link between profits and investment, which in turn is close related to rising inequality and financialization.

In the last three and a half decades, inequality has increased substantially and the share of national income that goes to wages has fallen dramatically across the world as a result of a significant fall in trade union density and collective bargaining coverage along with globalization, financialization, and welfare state retrenchment (Guschanski and Onaran, 2016; Onaran and Galanis, 2014; Stockhammer, 2016).

Figure 1 shows the developments in the share of wages in national income (labour compensation, adjusted for the labour income of the self employed, as a ratio to GDP at factor cost) along with the rate of growth of GDP in the 15 Western European Member States of the EU (EU15).¹ In Europe (the EU15), the share of wages declined from 72.8% in 1975 in their peak to 62.6% in 2007. While in the early years of the recession, the wage share in the EU15 has increased slightly, there has been a 1%-point fall during 2009-2011, since when the wage share has been stagnant. Growth performance of the EU15 has been disappointing along with the secular fall in the wage share: average annual growth has fallen from 4.7% during 1961-1974 to 1.9% during 1960-1974.

Figure 1

Wage stagnation has fuelled increasing profits, but this has led to bleak prospects in terms of demand. While this is a puzzle from a neoclassical point of view, it is not unexpected for Post-Keynesian/Kaleckian economics, which highlight the dual role of wages as both a cost item and source of demand. Econometric findings in the Post-Kaleckian research shows that a lower share of wages in national income leads to a lower GDP in the majority of the large countries (Obst, Onaran, Nikolaidi, 2017; Onaran and Obst, 2016; Onaran and Galanis, 2014; Onaran, Stockhammer, Grafl, 2011; Hein and Vogel, 2008; Naastepad, and Storm, 2006; Stockhammer and Onaran, 2004), and the negative impact is amplified when wage stagnation policies are imposed in an integrated region such as the EU via the European Commission policies (Onaran and Galanis, 2014; Onaran and Obst, 2016; Stockhammer, Onaran, Ederer, 2009). Hence the demand regime is wage-led in the majority of the large countries and in large economic regions such as the EU or globally. This is not only because a pro-capital redistribution of income leads lower domestic consumption demand, but also the stimulus to private investment due to higher profits remain weak, if any at all, while private investment responds strongly to demand. Obst, Onaran, Nikolaidi (2017) show that despite increasing profits, private investment decreased in the majority of the EU15 countries due to the substantially negative impact of the simultaneous fall in the wage share on demand across the EU15. Firms' directing their profits to financial speculation in the absence of a healthy growth in demand is a result of this process as much as it contributes to the lack of demand. The much celebrated impact of wage stagnation on external demand is rather weak in the case of large, relatively closed economies, and the impact is diminished substantially when all

¹ EU15 currently includes the UK. Despite the Brexit decision we keep the UK as part of our analysis for Europe, as policy coordination issues we discuss in the paper can be implemented even when countries are not part of a political union, although we recognise the importance of political union to facilitate such policy coordination.

countries implement the same international competitiveness policies based on labour market flexibility and cuts to labour costs. This leaves countries with the net negative impact of rising inequality on domestic demand, i.e. the sum of the effects on domestic consumption and private investment. Moreover, a small country, e.g. Belgium in the EU15, which has a profit-led demand regime, i.e. a country, which could grow along with an increasing profit share (a falling wage share) if it is the only country experiencing this shift in income distribution, also starts experiencing lower demand and growth, when its trade partners also implement similar wage moderation policies (Obst, Onaran, Nikolaidi, 2017). There is a fallacy of composition both at the national level between the rational of the firm vs. the aggregate economy, and at the European level between the national rational of a small economy vs. the European economy.

In the aftermath of the Great Recession, the lack of a full recovery in wage income continues to be a drag on household confidence and demand, which in turn discourages business investment in the absence of a healthy growth in domestic demand. In the past, countries such as the UK in the core, or Spain and Ireland in the European Periphery relied on household debt to maintain consumption levels in the absence of a healthy growth in their wages and salaries. The mirror image of this debt-driven growth model was the export-led growth model of Germany, or Austria in the core, where countries tried to export their way out of the problem of deficiency of domestic demand faced with a declining wage share. After the crisis, Europe's economic model is still based on the same shaky grounds of this dual model, and we are far from correcting the European imbalances.

The second important reason behind the weak private investment performance in Europe, despite increasing profits, is the impact of financialization on firms' decisions. Figure 2 shows the trends in investment (the additions to fixed assets) as a ratio to operating income in publicly listed non-financial corporations in both Europe as whole and selected economies. A common feature of the last twenty years has been a reduction in the reinvestment of the profit of the non-financial corporations (NFCs) in the majority of the countries between 1995 and 2015 (Tori and Onaran, 2017). Overall, the slowdown in investment has been remarkable in Europe, with a 32% decline in the re-investment rate on average, where NFCs are investing about 33% of their profits as of 2015; this ratio was 50% in 1995. The highest fall is in Sweden (-49%), the UK (-32%), and Italy (-28%).

NFCs have been engaging in non-operating activities, i.e. accumulating financial assets, to an increasing extent. As can be seen in Figure 3, the ratio of financial assets to fixed assets clearly increased albeit with some differences: on average in Europe, the ratio increased

by 93%; as of 2015 NFCs financial assets are 3.3 times their fixed assets in Europe (Tori and Onaran, 2017). The UK, Germany and Sweden experienced the strongest rise in this ratio.

Figure 4 shows that during 1995-2015 the NFCs' rate of accumulation (I/K) has been stagnant around an average value of 24% (Tori and Onaran, 2017). At the same time, NFCs' financial payments (dividends plus interests as a ratio to fixed assets) have been increasing significantly. There is also a sharp increase in the level of non-operating incomes (as a ratio to fixed assets) before the crisis (173%). The 2007-8 crisis has led to a reversal in the NFCs' financial incomes, although they are slowly recovering towards the levels of the early 2000s.

Figure 2

Figure 3

Figure 4

In the absence of strong investment performance and stagnant demand, it is no wonder that Europe is in a phase of secular stagnation with low productivity and low potential growth. Productivity has two components (Onaran, 2016): one is simply actual productivity, which is related to demand as output is demand driven. The second component is about technological change, which is related to both investment and wage costs. Investment responds to demand; lower wages not only leads to lower demand and affects investment through the demand channel, but also makes firms less reluctant to invest due to a tendency to exploit low labour costs.

3. The impact of a coordinated mix of public investment and incomes policies on growth, private investment and budget balance

Recent research by Obst, Onaran and Nikolaidi (2017) presents the impact of a coordinated policy mix of increased public investment together with more progressive taxation and labour market policies to improve income distribution in Europe.

Based on an econometric model for 15 individual EU Member states, Obst, Onaran and Nikolaidi (2017) set out an alternative scenario of a policy mix that includes 4 policies implemented simultaneously in each country: (a) a pro-labour wages policy and expansionary fiscal policy based on 1%-point increase in the pre-tax wage share and a 1%-point increase in public spending (column A in Table 1); (b) a progressive tax policy based on a 1%-point fall in the tax rate on wages; and a 1%-point increase in the tax rate on profits (column B in Table 1), and (c) a policy mix that combines the effects of all 4 policies (column C in Table 1). The outcome of the latter, i.e. pro-labour pre-distribution and redistribution and fiscal expansion is 6.6% higher GDP in the EU.

Table 1

As a result of this mix of four policies, private investment increases as well by 1.5% as a ratio to GDP (on average in Europe); i.e. overall public spending does not crowd out but rather crowds in private investment despite a rise in tax rates on profits (Obst, Onaran and Nikolaidi, 2017, column D in Table 1).²

Table 2 outlines the results of these policies simultaneously implemented in all countries on the budget balance. Despite the rise in public spending, the budget balance in Europe improves (by 0.8% as a ratio to GDP) because the beneficial fiscal effects of higher economic growth and higher tax rates on capital prevail (Obst, Onaran and Nikolaidi, 2017).

Table 2

The concerns regarding the inflationary effects of wage increases are also not supported by empirical evidence. Our policy mix leads to only a modest 1.5 % increase in the price level in Europe on average (Obst, Onaran and Nikolaidi, 2017). In fact, a wage stimulus would help to keep the European economy away from deflation and closer to the inflation target of the ECB.

Growth, private investment and budget balance improves both in the periphery and core countries of Europe.³ The effects of this policy mix on GDP are strongest in Finland (11.7%), Greece (14.5%) and Spain (15.5%).⁴ GDP increases by more than 2% in all countries: e.g. by 5.8% in Denmark, 6.6% in Germany, 5.1% in France, 2.68% in Ireland, 3.8% in Italy, 7.3% in Portugal, 9.7% in Sweden and 4.5% in the UK.

4. De-financialization of the economy and reinstating the missing link between private investments and profits

Recent research by Tori and Onaran (2017) analyses the impact of financialization on private investment in Europe. Based on the balance sheet data of publicly listed non-financial corporations (NFCs) in Europe, Tori and Onaran (2017) show that financialization has led to an increasing orientation towards external financing and

² The effects on investment are strongest in countries with significant effect of G on I; for instance (I/Y) increases by 2.1%-points in Austria or 4.2%-points in Finland. The effects are weaker in countries without significant effect of G on I and/or with significant negative effect of public debt such as in Belgium (0.8%-points), in the UK (0.8%-points), Denmark (0.8) and Ireland (1.6).

³ Only in Greece and Ireland this policy mix does not improve the budget balance, though the impact on the budget is negligible, and the gains in terms of growth and private investment are substantial in these countries too.

⁴ These countries had high differences in marginal propensity to consume, no significant effect of profit share but significant government expenditure effects on private investment. See Table 9 in Obst, Onaran, Nikolaidi (2017) for details.

shareholder value orientation as well as the substitution of fixed investment by financial activity. Both aspects of financialization had a fundamental role in suppressing investment in the NFCs. On the one hand, the increase in financial payments (both interest and dividend payments) have a negative effect on investment. On the other hand, the rise in financial activities in search for short term financial profits crowd out investment in physical machinery and equipment. Perversely financial activities do not provide more funds for productive activity.

Based on econometric estimations by Tori and Onaran (2017), Table 3 presents the economic impact of financialization.⁵ The rate of investment by the NFCs in Europe would have been 27% higher without the rise in interest and dividend payments (financial payments), and 10% higher without the crowding-out effect of increasing financial incomes.

Table 3

The growth of the financial markets and intermediaries delinked from the financing requirements of NFCs has been incentivizing firms to heavily engage in non-operating (non-core) activities, ultimately leading to stagnant levels of investment. Results by Tori and Onaran (2017) suggest that, even though at low levels of financial development, an increase in financial development has a positive effect on investment in small companies through enhanced resource allocation, in countries with high levels of financial development a perverse effect on investment dominates.

Table 4 presents the economic effects of financialization accounting for the differences in the companies' sizes and levels of financial development of the country based on (Tori and Onaran, 2017). Financial incomes have a positive effect on investment only for the small companies in countries with low levels of financial development, but a significant negative effect in the large as well as small companies in countries with high levels of financial development. It has to be noted that larger companies create the vast majority of capital, and the crowding-out of physical investment of these companies by financial activity is a substantial drag on the investment performance and productivity of the European countries. The crowding-out effect of financialization has not been addressed carefully by policy makers so far, in

⁵ Economic effects are calculated as follows: First, the long-run elasticities are calculated by dividing each short-run elasticity by one minus the coefficient of the lagged dependent variable. Multiplying the long-run elasticity by the actual cumulative change in each variable for the estimation period, we get the corresponding economic effect. The economic effects are computed based on elasticities estimated for the period 1995-2007, thus excluding the impact of the financial crisis, after which financial activities have been severely affected.

particular because of the strength of the conventional idea that ‘every additional fund is good for investment’ (Tori and Onaran, 2017).

Table 4

Looking at some country cases, in the UK, in large NFCs, investment rate would have been 16% higher without the rise in financial payments, and 41% higher without the increasing financial incomes, and in the small NFCs, investment would have been 35% higher without the rise in financial incomes. In Ireland and Denmark, in large NFCs, investment rate would have been 14% and 33% higher without the rise in financial payments; in these countries there is a positive impact of financial incomes only on the small NFCs.

A process of de-financialization of the non-financial sector is a pre-condition for a stable and vigorous investment performance.

5. The role of public and private investment in creating an equitable and green recovery in Europe

Since the Great Recession, the process of domestic financialization – underway before the crisis – has been deepened, with excess financial capital diverted to unproductive purposes, including consumer credit and real estate speculation. Productive sectors within many parts of Europe have been constrained by unmet credit demand despite this massive financial growth. The shortfall is especially profound in the area of the financing of new long-term investment projects. To make matters worse, intermediaries with historically-important roles in financing industrial and commercial growth, such as the German *Landesbanken* (regional banks) and Spanish *Cajas* (savings banks), have had a reduced capacity to perform this function, due to crisis-linked insolvency problems and stricter capital/asset requirements.

In order to put Europe on a new developmental trajectory where equitable and sustainable growth and employment take centre stage it is essential to boost both public and private investment and re-direct resources towards both employment-focused and sustainable (e.g. in terms of energy efficiency) activities.

Using the Cambridge Alphametric Model of the World economy (CAM), Cozzi (2017) presents and discusses the characteristics of an investment-led strategy for equitable and sustainable economic recovery as an alternative to economics of austerity. This paper contrasts and compares three alternative policy scenarios for Europe for the period until 2025. The focus of analysis is the Eurozone (divided in North Eurozone – which includes Germany,

France, The Netherlands, Belgium, and Austria and South Eurozone – which includes Spain, Portugal, Greece, Ireland and Italy) and the United Kingdom. The first scenario assumes the continuation of past trends and current austerity policies (continued reduction in government expenditure) without any significant innovation in European politics and a mild increase in private investment as a result of the implementation of the 315 bn Euro Investment Plan for Europe (*Austerity Scenario*). This scenario also includes a significant devaluation of the British pound as a result of the planned departure from the EU. The austerity scenario is then contrasted with two alternative scenarios. The first alternative scenario (*Expansionary Macroeconomic Scenario*) assumes that government expenditure and private investment are the key strategy to increasing employment and economic growth. As such, we marshal government spending towards employment generation. In other words, the increase of government expenditure is calibrated in order to achieve a desirable and feasible ratio of the employed to working age-population (75% in the United Kingdom, 73% in the North Eurozone and 60% in the South Eurozone by 2025). This scenario also assumes a boost in government net revenue in conjunction with the projected increase in government expenditure. This allows for a containment of future government deficits and for a further stimulus to aggregate demand. Finally, the expansionary scenario assumes an annual investment boost of 0.4% of the GDP of the EU in 2015, on top of existing investment resources and the Investment Plan for Europe, over the period until 2025. As a result of this major boost, investment as percentage of GDP is set to reach 22% in the Eurozone and in the United Kingdom by 2025.

The second alternative scenario (*Sustainable and equitable macro scenario*) also assumes that private investment and government expenditure are the key drivers for stimulating future growth and for generating jobs for both men and women. As such, this scenario specifies the same assumptions as those of the expansionary macroeconomic scenario. However, this scenario has two unique and novel features:

1. *Investment in social infrastructure*: In this scenario investment in both physical and social infrastructure (i.e. investment in nurseries, hospitals, and housing and more generally on services providing care, health, education and training) are key drivers for economic recovery. Here, both types of investment are deemed to be necessary to cure low aggregate demand in the short term and to increase potential output, bring about innovation, improve gender relations and reduce gender inequality in the labour market in the long-term (Bargawi and Cozzi 2017). To achieve this objective, this scenario assumes that government expenditure is re-

directed towards the creation of more jobs for women than men so that the ratio of female employment to male employment increases over time (Table 5).

Table 5

In other words, this scenario assumes a disproportionate increase in female employment vis-à-vis male employment. By disproportionately directing government expenditure towards supporting female employment this scenario assumes that women will benefit the most from the expansion of productive capacity. Investment in both physical and social infrastructure has the potential to enable more women to re-entering the labour market. This is of particular importance given the low levels of female employment in many south Eurozone countries and because women were hit the most by austerity measures.

2. *Decarbonisation and investment in low-carbon productive sectors*: in this scenario, the second key driver for economic recovery in Europe is investment to facilitate a European process of decarbonisation. Such a process, coupled with government strategies to transition towards a greener economy (at least in terms of improvements of energy efficiency, conservation and smart use of natural capital, investment in local productions and non-import intensive sectors of the economy, etc.) would allow for an expansion of output in a sustainable manner, create jobs and at the same time address the environmental crisis (Campiglio 2014, Ilkcaracan 2017). To achieve this objective this scenario assumes that part of the increase in public and private investment is re-directed towards the creation of more renewable energy so that the share of non-carbon energy to total energy production increases overtime (Table 6). In addition in order to facilitate the process of decarbonisation and to generate resources for low-carbon investment this scenario also assumes the introduction of a progressive *carbon tax*.

Table 6

Results generated by CAM model shed light on the importance of increasing both private and public investment across the European Union and of re-directing this investment both towards employment generating activities (e.g. by boosting investment in social infrastructure and in other labor-intensive sectors of the economy) and towards innovation, decarbonisation and energy efficiency.

What is the macroeconomic impact of these three scenarios? Cozzi (2017) presents the projections produced under the assumptions described for each of the three scenarios. First, with regards to economic growth (Table 7), under the austerity scenario GDP growth is

projected to stagnate both in the south Eurozone and in the United Kingdom, whilst it only marginally increases in the north Eurozone. Thus, it is possible to argue that the combination of continued austerity policy and a mild investment plan is not sufficient to generate economic growth in Europe.

Table 7

A comparison of the two alternative scenarios reveals that similar rates of economic growth are achieved in both the North Eurozone and in the United Kingdom. However, the South Eurozone achieves higher growth rates under the expansionary scenario compared to the sustainable and equitable scenario. If these two alternative scenarios were assessed solely on the basis of output growth, one would discount the sustainable and equitable scenario. However, once other macroeconomic and environmental indicators are taken into consideration, the sustainable and equitable scenario achieves much better results in terms of equitable job creation for both women and men and also better results in terms of CO2 emissions.

Furthermore, when government deficit and government debt are taken into consideration the expansionary macroeconomic scenario is discounted on the basis of unrealistic levels of government spending (Table 8), high levels of fiscal deficits and government debt, especially for the South Eurozone.

Table 8

The results regarding government spending reveal that it is much more cost effective to invest in both physical and social infrastructure compared to a scenario where investment in physical infrastructure is the main investment strategy. In addition, this investment strategy leads to higher employment levels both for women and men. Indeed, whilst under the austerity scenario there are poor gains in terms of employment creation, both alternative scenarios lead to higher levels of employment (e.g. under both scenario total employment in the south Eurozone would increase from 51 million in 2015 to almost 57 million in 2025). What is interesting to note is the difference in employment creation for women under the two alternative scenarios. Whilst results on total employment are similar the distribution of jobs between men and women is different. Under the equitable and sustainable scenario 1.4 million more jobs for women are created in the Eurozone and in the United Kingdom compared to the expansionary scenario (and 7.4 million more jobs for women compared to the austerity scenario). Thus, it is possible to conclude that the equitable and sustainable scenario can lead to important gains in terms of female employment across Europe and has the potential to narrow the employment gap between women and men, in particular in the south Eurozone.

Furthermore, under the sustainable and equitable macroeconomic scenario, re-directing investment towards non-carbon energy and the implementation of a carbon tax also leads to significant environmental gains. Annual CO₂ emissions are the lowest under the austerity scenario and the highest under the expansionary macroeconomic scenario, whilst the sustainable and equitable scenario has slightly higher CO₂ emissions compared to the austerity scenario. However, the analysis of emission intensity -i.e. CO₂ emissions per dollar of GDP (Table 9)- shows that emission intensity significantly reduces under the sustainable and equitable scenario compared to both the expansionary and the austerity scenarios. Thus, the sustainable and equitable scenario leads to much higher growth compared to the austerity scenario and at the same time emission intensity is significantly reduced.

In sum the analysis presented in Cozzi (2017) demonstrates that continued austerity policies are doing more harm than good for the economies and societies of Europe. In addition, it also demonstrates the importance of adopting expansionary macroeconomic policies for Europe which puts at center stage investment in social infrastructure as well as physical infrastructure and decarbonisation as key features for a sustainable and equitable economic recovery for Europe.

6. A Green-Social Investment Plan can create jobs and wealth all over Europe

Since the economic crisis started almost 10 years ago, many European countries have faced a number of severe economic problems, among these low levels of investment. Both public and private investments have decreased the last decade. In times of crisis, the national governments should step in and help the economy back on track with fiscal policies and public investments, but this has not been the case. It leaves us in a situation where there is a major need to increase the European growth potential in the medium and long run for Europe to regain momentum in growth.

The fall in investment is connected to a fall in demand, an increase in insecurity and low growth expectations for the future. Some fear that it is the start of a vicious circle. If the necessary investments to secure future economic growth are not made, it is hard to see how the economy can reach its full growth potential. This can lead to further insecurity, which in the worst case means a continuation of the low level of investments. On the other hand, the government can take the first step to ensure future growth because public investments can lay the foundation for private investment and growth in general. Unfortunately, this has not been the case.

The European countries lead different fiscal policies of which most have been and are still biased towards austerity at a national level. Whereas in some cases, the national government is to be blamed for the lack of public investment, the EU has been the limiting factor in other cases. Currently, the interest rates are at very low levels, but this has not been sufficient to stimulate private investments. Since the low interest rates of course also apply to public borrowers, it is a good time for a public investment initiative across Europe – both nationally and across countries.

In Andersen, Dahl and Nissen (2017) an investment plan with a green and social focus is presented. The investment plan is based on calculations on the FEPS-ECLM International Input-Output Model Andersen and Dahl (2016).⁶

Andersen, Dahl and Nissen (2017) presents an investment plan that specifically focuses on green investments in construction, research and development (R&D) and social investments in education and childcare. These areas of investments are very important for future growth. There is general agreement and concern about the climate changes and action is required to change to a production based on a high degree of green energy. Combining the green investments with the social investments we can both improve the education level and the framework conditions for more women to enter the labour force. By implementing a simultaneous investment strategy across the European Union, we can obtain higher economic growth, productivity and prosperity.

The effects of the Green-Social Investment Plan are calculated based on the FEPS-ECLM International Input-Output Model. It is assumed that the investment level is increased by 1 percent of GDP in all 27 EU countries. The investment plan is decomposed into a green part and a social part that both add up to half of the invested amount, i.e. $\frac{1}{2}$ percent of GDP is invested in green investments and $\frac{1}{2}$ percent of GDP is invested in social investments.⁷

In the following, we dig deeper into the effects of the Green-Social Investment Plan on employment and GDP. Figure 5 gives an overview of how many jobs are created for men and women by the green and the social investments, respectively. Overall, the figure shows that while the green investments create most jobs for men, the social part of the investment plan creates most jobs for women. The green investments create around 800,000 jobs for men, but it only creates 370,000 jobs for women. On the other hand, the social investments create

⁶ For more details about the model, see FEPS-ECLM: International Input-Output Model Documentation, Andersen and Dahl (2016).

⁷ For more technical details about the Green-Social Investment Plan see Andersen, Dahl and Nissen (2017)

340,000 jobs for men, but more than a million jobs for women. In other words, the share of women is much larger in the “social” sectors compared to the “green” sectors.

In total, more than 1.3 million male jobs and 1.4 million female jobs are created, so the investment plan creates slightly more jobs for women than for men and thereby improve the gender balance in the labour market. In total the Green-Social Investment Plan will create 2.8 million jobs in EU-27.

Figure 5

Figure 6 divides the job creation from the green and social part of the investment plan into jobs for low-, medium- and high-skilled workers. The figure shows that overall, most jobs are created for medium-skilled workers, who experience an increase of more than 1.1 million jobs. This is followed closely by the job creation for high-skilled, which is of almost 1.1 million. Finally, almost 550,000 jobs are created for low-skilled workers.

Of course, the two parts of the investment plans have different focuses and create more jobs for differently skilled workers. For the low-skilled, the largest part of the jobs is created from the green investments. For the medium-skilled around half of the jobs come from green investments and the other half from social investments. Finally, for the high-skilled, almost 4/5 jobs are created thanks to the social investments. As the figure shows, most jobs are created for the medium- and high-skilled and this underlines the importance of the social part of the investment plan, where education and further training is key.

Figure 6

In table 10, the effects of the Green-Social Investment Plan are considered in the specific sectors in which the investments are undertaken. Further, the spillover effects on other sectors are considered. These spillover effects happen because the different sectors in the economy are connected and when the activity increases in one sector, it spreads like ripples in a pond to other sectors. In table 3, the effects are divided into direct effects and indirect effects. The direct effect is the effect of investing directly in that specific sector. The indirect effect is the effect of an increase in demand in industries that deliver input into the sector that we invest in directly. The induced demand in these industries will again spur demand for intermediate input from other industries.

The green investments are made in the construction sector and in the R&D sector, which is clear because it is the only sectors, where the green investments have a direct effect. As an example, the direct effect of the investments in construction accounts for almost 500,000 jobs, an increase of 3.2 percent of GDP compared to the level the sector had before and a growth contribution of 0.19 percentage points to total GDP, i.e. one fifth of the total

GDP effect of 1 percent. As for the indirect effect, the employment increases with almost 100,000 jobs indirectly in the construction sector. In the R&D sector, the difference between direct and indirect effect on employment is much smaller. While the direct effects of the investments create 151,000 jobs, 125,000 jobs are created indirectly in the sector. The increase in GDP that occurs indirectly in the sector is just as big as the one that occurs directly. The spill-over effects from the green investments on other sectors create 300,000 jobs and a growth contribution to GDP of 0.15 percentage points.

The social investments are also spread out on two sectors: Education and health and social work. In these sectors, more than 1.3 million jobs are created directly, and the direct growth contribution to GDP is of 0.42 percentage points. On the other hand, the indirect effect is quite small. Less than 60,000 jobs are created indirectly in the two sectors, but the spillover effects account for almost 200,000 jobs created in other sectors.

Overall, the table shows that while the direct effects on employment and GDP are largest, the indirect effects are of such a size that they should not be neglected.

Table 10

The input-output model gives a very detailed analysis of the direct- and indirect effects, disaggregated by country-, sector-, gender-, and educational distribution. But the results from the input-output model in Andersen, Dahl and Nissen (2017) does not take into account the effect of extra spending power, meaning the effect that the effect of higher employment from the investment plan will lead to a higher overall income level of households, and this in turn will lead to higher private consumption and higher investments, which further stimulates the GDP.

To illustrate the effects of the extra spending power, Andersen, Dahl and Nissen (2017) compare the multiplier from the international macroeconomic model Heimdal (see Bjørsted and Dahl (2012)), with the results from the input-output model. By comparing the two different multipliers it is seen that the final effect of the Green-Social Investment Plan might be as much as double the size of the effects when the extra spending power is included.

The results above clearly show that after a decade with falling investment levels and weak growth, implementing the Green-Social Investment Plan could be an important step in the right direction, finally raising the level of investment across the EU and improve and secure future growth.

7. Policies for an investment and equality-led sustainable development strategy in Europe

To reinstate the missing link between private investments and profits, Europe needs directed public investment policies accompanied by a properly designed industrial policy, higher equality, stimulated demand, and regulation of finance and corporate governance.

Our research presents strong empirical evidence that expansionary fiscal policy is sustainable when wage and public investment policies are combined with progressive tax policy; the impact is stronger when these policies are implemented in a coordinated fashion across Europe due to strong positive spill over effects on demand (Obst, Onaran, Nikolaidi, 2017). Such a coordinated policy mix, along with a properly designed industrial policy can ensure genuine regional convergence and social cohesion in Europe.

A wage-led development strategy as part of a macroeconomic economic policy package requires the use of both pre-distributive as well as re-distributive policies. Pre-distributive policies can aim at improving the market distribution of income by a variety of policies to build institutions and re-regulate the labour market, improve the union legislation, increase the coverage of collective bargaining, and enforce equal pay legislation more effectively.⁸

Coordination of wage policies at the European level is crucial to ensure that wages increase in line with historical increases in productivity to stabilize effective demand, avoid counter-productive beggar thy neighbour policies, and prevent a race to the bottom. In the Euro area, this implies that wage policy has to take into account current account surpluses as much as deficits and coordination must aim at avoiding a deflationary adjustment with substantially higher wage growth in the surplus countries, while also aiming at convergence in productivity through active investment policies (Onaran and Stockhammer, 2016).

Combining egalitarian labour market and tax policies with public spending policies are important not only for achieving higher growth, investment and sustainable debt levels but also for other important social targets, such as lowering carbon emissions via green investments or improving gender equality via public spending in social infrastructure (Obst, Onaran, Nikolaidi, 2017; Cozzi, 2017). Similarly, public investment policies are key to

⁸ Guschanski and Onaran (2016) estimates that a rise in minimum wages, or changes in labour market and trade union and collective bargaining legislation to increase the bargaining power of unions are very effective policies to offset the negative impact of technological change or globalisation on the wage share in Europe. The results are robust, if the wage share excluding the income of the top 1% of the waged and salaried people are used as the dependent variable.

achieving structural change, higher productivity in tradable sectors and keeping trade balance under control while still managing an egalitarian economic model.

A strong investment performance also requires a process of de-financialization of the economy (Tori and Onaran, 2017). Managers' short-termist behaviour and decisions exclusively aimed at maximizing dividends distributed to the shareholders should be disincentivized. What is needed is the provision of an institutional setting for the NFCs that encourage management orientation towards long term growth and, more generally, 'stakeholder value'. This should be addressed in particular in the case of larger corporations.

The focus of corporate governance should be on the destination of the funds. The corporation today is an institution composed of different layers of productive and non-operating activities. Policies should aim at favouring a productive destination of NFCs' internal funds, e.g. higher rate of taxation on profits which are not invested (Tori and Onaran, 2017).

Given the negative effect of excessive financial development on NFCs' investment, the policy recommendation for countries with low levels would be to prevent further de-regulation of financial markets and/or intermediaries in order to avoid the negative effect associated with high levels of financial development (Tori and Onaran, 2017).

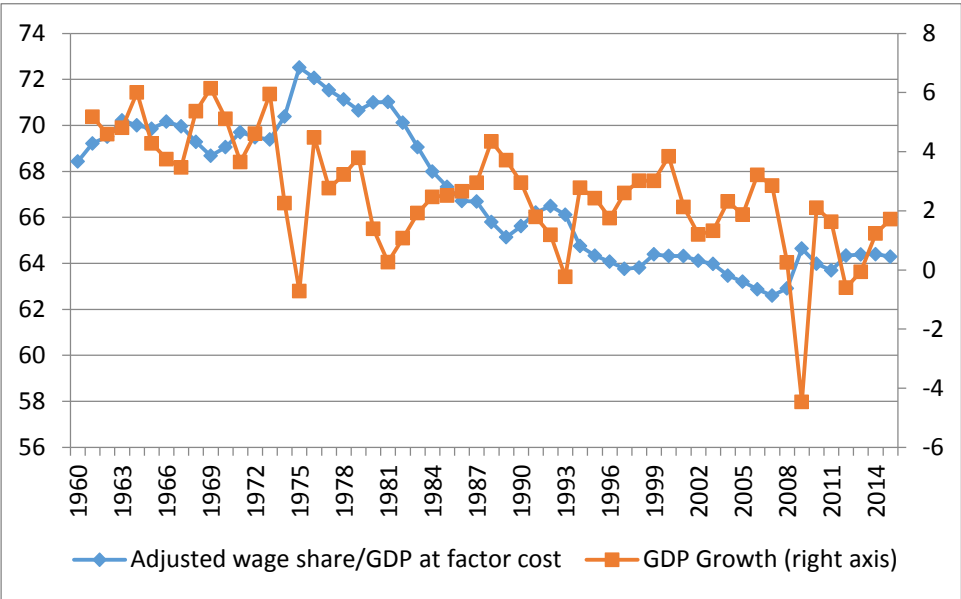
Last but not least, a well designed public investment programme can be effective in reversing the financialization-led investment depletion. Alongside the re-regulation of the financial sphere of our economies (both at the macro and at the corporate levels), the reform of a Financialised system needs coordinated public investments. In fact, the public sector can act as the catalyst and driver of a new phase in which NFCs' objectives are essentially brought back to productive and stable capital accumulation. The various waves of liberalization and privatisation of large part of the economics systems fostered the emergence of behaviours detached from the objectives of equality and prosperity. The evidence speaks in favour of a vast program of public investment that can provide a consistent and sustainable 'direction' to the private investment. Under the guidance of a macroeconomic policy framework focused on full employment and equality, which helps to define and improve the vector of choices of firms, private shareholders themselves could see the long-term stability of the corporation as their main goal once again.

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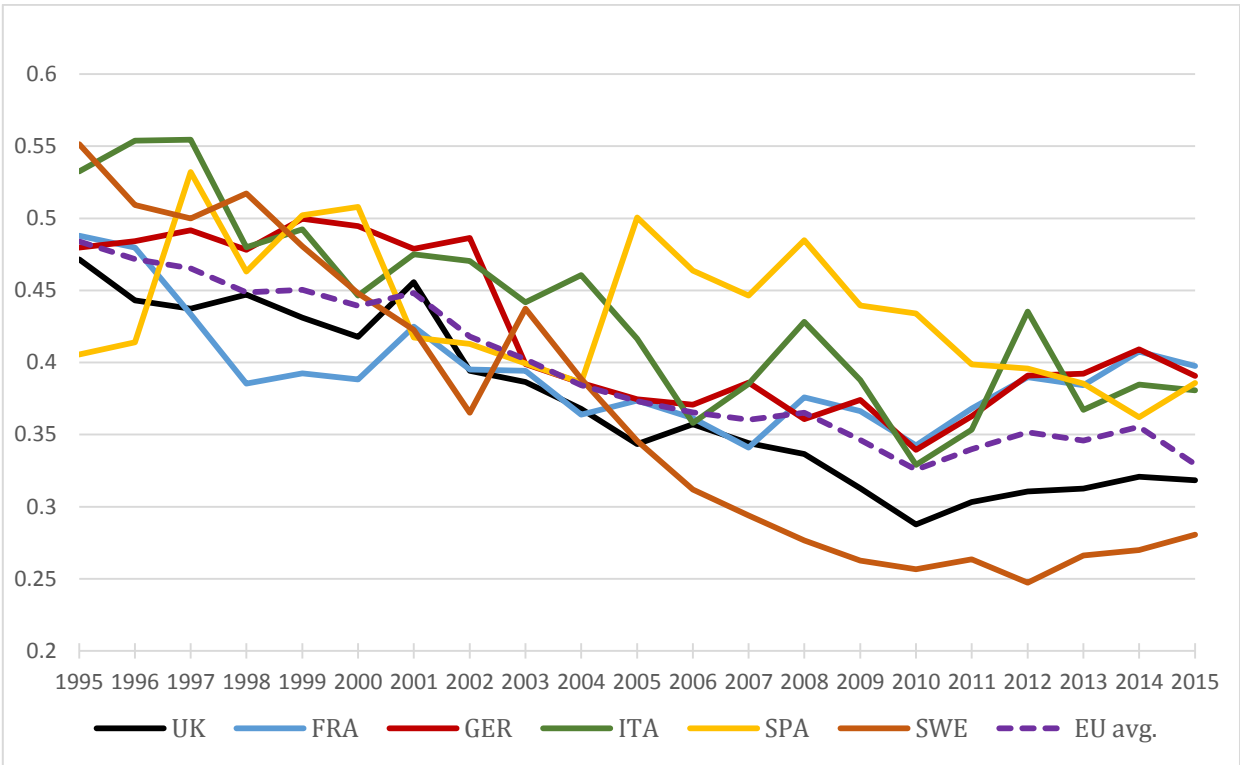
Tori, D., and Onaran, Ö. (2017), The effects of financialisation and financial development on investment: Evidence from firm-level data in Europe, Greenwich Papers in Political Economy, No44

Figure 1: The share of wages in GDP* and Growth of GDP in the EU15, 1960-2015



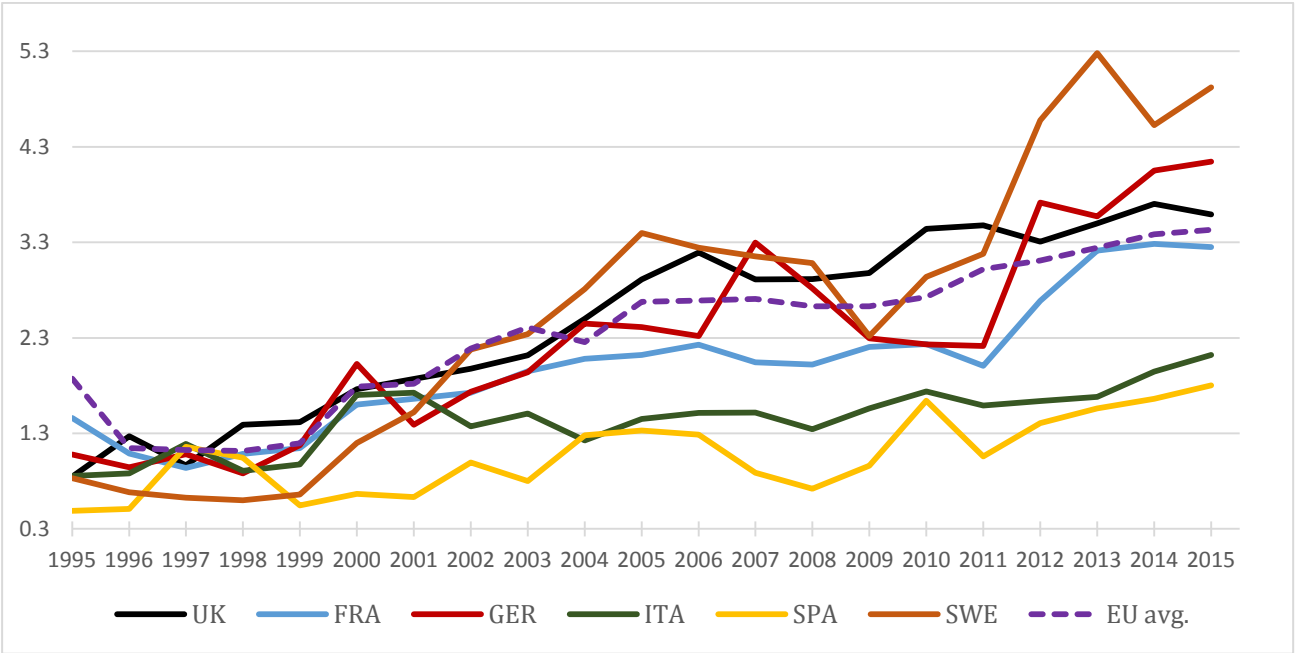
Note: Labour compensation adjusted for the labour income of the self employed as a ratio to GDP at factor cost; 2014 and 2015 are provisional data. (Source: AMECO).

Figure 2. Additions to fixed assets/operating income (I/π), NFCs, Europe14 and selected countries, 1995-2015



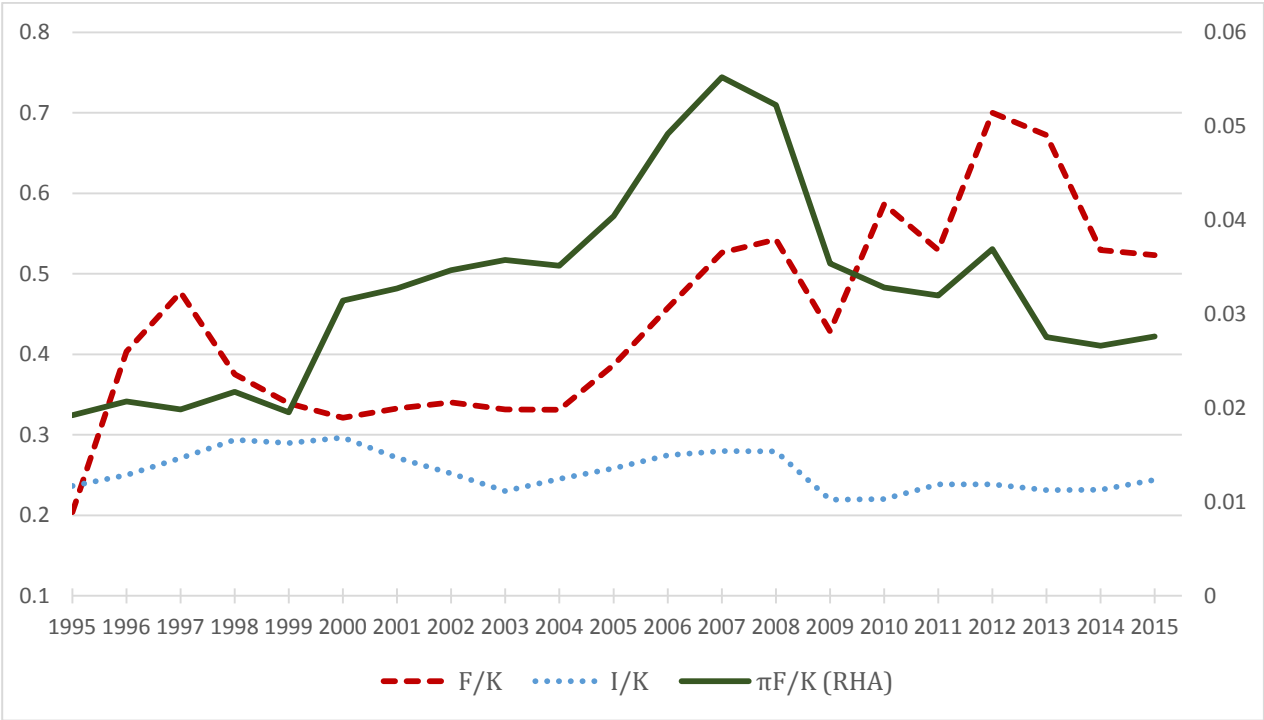
Source: Tori and Onaran (2017) based on Worldscope data.

Figure 3. Financial assets/fixed assets (FA/K), NFCs, Europe14 and selected countries, 1995-2015

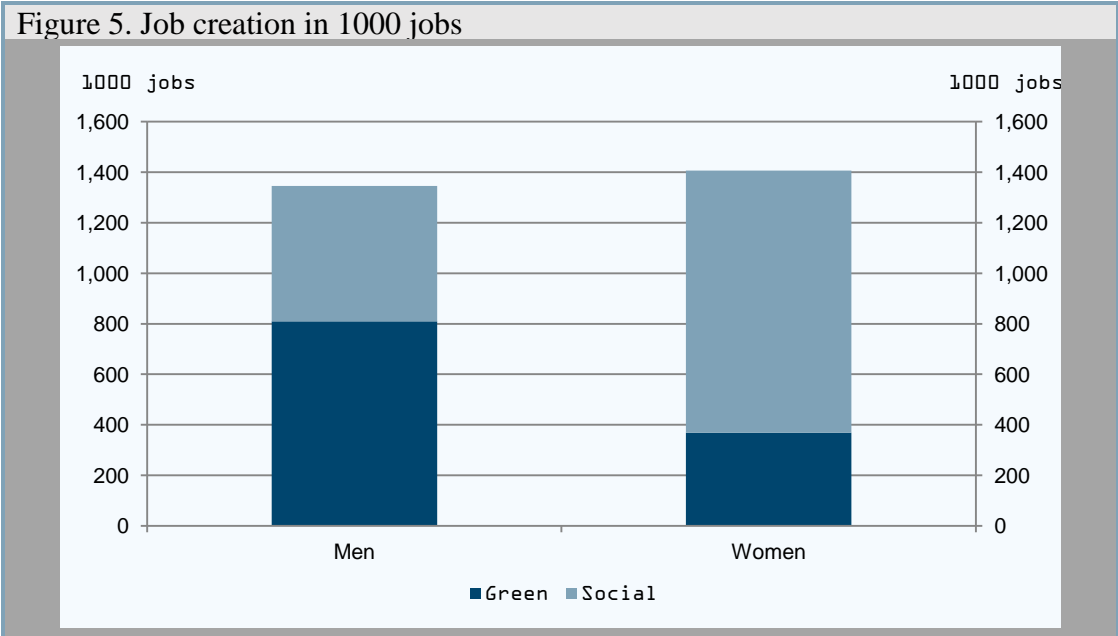


Source: Tori and Onaran (2017) based on Worldscope data

Figure 4. Investment/Fixed Assets (I/K), total financial payments/fixed assets (F/K), and total financial profits/fixed assets ($\pi F/K$, RHA), NFCs, Europe, 1995-2015

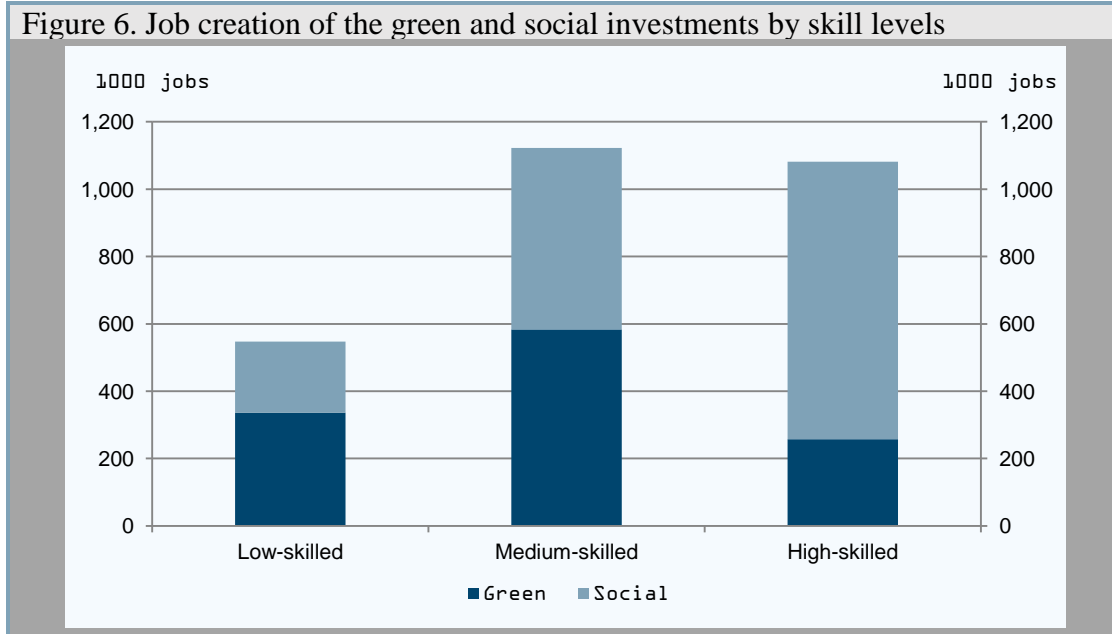


Source: Tori and Onaran (2017) based on Worldscope data



Source: Andersen, Dahl and Nissen (2017) based on the FEPS-ECLM International Input-Output Model.

Figure 6. Job creation of the green and social investments by skill levels



Source: Andersen, Dahl and Nissen (2017) based on the FEPS-ECLM International Input-Output Model.

Table 1. The effects of a simultaneous change of the policy mix in all countries

| | The effect of a simultaneous 1% point fall in profit share and a 1% increase in public spending on equilibrium aggregate demand of each national economy $\Delta Y/Y$ | The effect of a simultaneous 1% point fall in ITR on labour income and a 1% point increase in ITR on capital income on equilibrium aggregate demand of each national economy $\Delta Y/Y$ | Total European multiplier effect of a simultaneous combined change in income distribution, government expenditures and taxation on capital and labour income on equilibrium demand of each national economy $\Delta Y/Y$ | Total European multiplier effect of a simultaneous combined change in income distribution, government expenditures and implicit tax rate on capital and labour income on private investment of each national economy $\Delta I/Y$ |
|------------------|---|---|--|---|
| | <i>A</i> | <i>B</i> | <i>C**</i> | <i>D**</i> |
| A | 6.41 | 1.49 | 7.75 | 2.06 |
| B | 2.81 | 0.69 | 3.28 | 0.82 |
| DK | 4.73 | 1.21 | 5.83 | 0.85 |
| FIN | 13.68 | 2.17 | 11.72 | 4.19 |
| F | 4.35 | 1.38 | 5.13 | 1.01 |
| D | 5.28 | 1.46 | 6.63 | 1.47 |
| GR | 12.82 | 1.87 | 14.48 | 3.34 |
| IRL | 2.29 | 0.52 | 2.68 | 1.61 |
| I | 3.25 | 0.63 | 3.78 | 0.57 |
| L | 3.85 | 0.91 | 4.56 | 0.69 |
| NL | 8.89 | 2.17 | 10.74 | 2.02 |
| P | 6.12 | 1.79 | 7.29 | 2.92 |
| E | 12.96 | 3.22 | 15.49 | 3.84 |
| S | 9.12 | 1.63 | 9.67 | 2.54 |
| UK | 3.55 | 1.14 | 4.49 | 0.85 |
| EU15 GDP* | 5.57 | 1.43 | 6.64 | 1.46 |

Source: Obst, Onaran, Nikolaidi (2017) Table 9. Note: Regressions for Luxembourg are based on estimation in Onaran and Obst (2016). A = Austria, B = Belgium, DK = Denmark, FIN = Finland, F = France, D = Germany, GR = Greece, IRL = Ireland, I = Italy, NL = Netherlands, P = Portugal, E = Spain, S = Sweden, UK = United Kingdom.

* Change in each country is multiplied by its share in EU15 GDP.

** Combines both policy mixes of column A and column B - A 1% point fall in profit share; a 1% point increase in public spending; a 1% point fall in ITR on labour income; and a 1% increase in ITR on capital income.

Table 2. Total effects of a policy mix on budget balance following a simultaneous change in all countries

| | <i>1%-point fall in profit share</i> | <i>1%-point increase in public spending</i> | <i>1%-point increase in taxation on capital income</i> | <i>1%-point fall in taxation on wage income</i> | <i>Combined effect on budget balance</i> |
|------------|--|---|--|---|--|
| | <i>A</i> | <i>B</i> | <i>C</i> | <i>D</i> | <i>E</i> |
| A | 0.254 | -0.222 | 0.219 | 0.900 | 1.150 |
| B | 0.046 | -0.735 | 0.253 | 0.725 | 0.290 |
| DK | 0.192 | -0.450 | 0.243 | 0.818 | 0.803 |
| FIN | 0.171 | -0.017 | 0.228 | 0.874 | 1.257 |
| F | 0.154 | -0.510 | 0.190 | 0.908 | 0.742 |
| D | 0.342 | -0.362 | 0.257 | 0.932 | 1.168 |
| GR | 0.007 | -0.981 | 0.358 | 0.554 | -0.062 |
| IRL | 0.012 | -0.972 | 0.303 | 0.602 | -0.055 |
| I | 0.049 | -0.673 | 0.290 | 0.702 | 0.367 |
| L | 0.050 | -0.851 | 0.397 | 0.582 | 0.178 |
| NL | 0.208 | -0.142 | 0.183 | 1.002 | 1.250 |
| P | 0.115 | -0.406 | 0.227 | 0.911 | 0.847 |
| E | 0.617 | 0.359 | 0.227 | 1.209 | 2.412 |
| S | 0.114 | -0.561 | 0.272 | 0.650 | 0.475 |
| UK | 0.119 | -0.801 | 0.256 | 0.742 | 0.317 |
| | | | | | <i>0.839</i> |

* Change in each country is multiplied by its share in EU15 GDP

Source: Obst, Onaran, Nikolaidi (2017) Table 10.

Table 3. Economic effects by country, disaggregation by level of financial development (FD) 1995-2007

| Country | FD | S/K | | | π/K | | | π_F/K | | | F/K | | | $\Delta TD/TA$ | | |
|-----------------|----|----------------------|--------------------------|-----------------|----------------------|--------------------------|-----------------|----------------------|--------------------------|-----------------|----------------------|--------------------------|-----------------|----------------------|--------------------------|-----------------|
| | | Long-run Coefficient | Actual cumulative Change | Economic Effect | Long-run Coefficient | Actual cumulative Change | Economic Effect | Long-run Coefficient | Actual cumulative Change | Economic Effect | Long-run Coefficient | Actual cumulative Change | Economic Effect | Long-run Coefficient | Actual cumulative Change | Economic Effect |
| Germany | HD | 0.293 | 0.747 | 0.219 | 0.018 | 2.911 | 0.052 | -0.368 | 1.319 | -0.485 | -0.129 | 0.442 | -0.057 | -0.048 | 0.029 | -0.001 |
| Spain | HD | 0.293 | 0.135 | 0.040 | 0.018 | 0.536 | 0.010 | -0.368 | 0.713 | -0.262 | -0.129 | 0.517 | -0.067 | -0.048 | 0.391 | -0.019 |
| Finland | HD | 0.293 | 1.227 | 0.360 | 0.018 | 1.140 | 0.021 | -0.368 | 0.771 | -0.284 | -0.129 | 1.017 | -0.131 | -0.048 | -0.300 | 0.014 |
| France | HD | 0.293 | 0.783 | 0.229 | 0.018 | 1.003 | 0.018 | -0.368 | 0.423 | -0.156 | -0.129 | 0.508 | -0.065 | -0.048 | 0.050 | -0.002 |
| The Netherlands | HD | 0.293 | 0.614 | 0.180 | 0.018 | 0.412 | 0.007 | -0.368 | 0.789 | -0.290 | -0.129 | -0.044 | 0.006 | -0.048 | 0.070 | -0.003 |
| Sweden | HD | 0.293 | 1.830 | 0.536 | 0.018 | 1.391 | 0.025 | -0.368 | 1.927 | -0.709 | -0.129 | 1.866 | -0.241 | -0.048 | -0.051 | 0.002 |
| UK | HD | 0.293 | 0.842 | 0.247 | 0.018 | 1.273 | 0.023 | -0.368 | 1.367 | -0.503 | -0.129 | 1.029 | -0.133 | -0.048 | 0.233 | -0.011 |
| Belgium | LD | 0.293 | 0.509 | 0.149 | 0.369 | 1.428 | 0.527 | 0.196 | 0.387 | 0.076 | -0.209 | 0.727 | -0.152 | 0.000 | 0.042 | 0.000 |
| Denmark | LD | 0.293 | 0.714 | 0.209 | 0.369 | 0.675 | 0.249 | 0.196 | 0.183 | 0.036 | -0.209 | 1.226 | -0.256 | 0.000 | 0.108 | 0.000 |
| Greece | LD | 0.293 | -0.211 | -0.062 | 0.369 | -0.284 | -0.105 | 0.196 | 0.099 | 0.019 | -0.209 | -0.301 | 0.063 | 0.000 | 0.289 | 0.000 |
| Ireland | LD | 0.293 | 1.315 | 0.385 | 0.369 | 1.333 | 0.492 | 0.196 | -0.015 | -0.003 | -0.209 | 0.910 | -0.190 | 0.000 | -0.049 | 0.000 |
| Italy | LD | 0.293 | 0.861 | 0.252 | 0.369 | 1.050 | 0.387 | 0.196 | 0.276 | 0.054 | -0.209 | 0.575 | -0.120 | 0.000 | -0.012 | 0.000 |
| Austria | LD | 0.293 | 0.067 | 0.020 | 0.369 | 1.004 | 0.370 | 0.196 | 0.168 | 0.033 | -0.209 | 1.273 | -0.266 | 0.000 | 0.055 | 0.000 |
| Portugal | LD | 0.293 | 0.749 | 0.219 | 0.369 | 0.165 | 0.061 | 0.196 | 1.300 | 0.255 | -0.209 | 0.514 | -0.107 | 0.000 | 0.455 | 0.000 |
| <i>Europe</i> | | 0.847 | 0.727 | 0.616 | 0.000 | 1.003 | 0.000 | -0.150 | 0.693 | -0.104 | -0.374 | 0.733 | -0.274 | -0.037 | 0.093 | -0.003 |

Source: Tori and Onaran (2017), Table 3. S/K: Sales/Fixed Assets; F/K: total financial payments/fixed assets; π/K : operating income/fixed assets; π_F/K : total financial profits/fixed assets; $\Delta TD/TA$: change in total debt/total assets; HD: high financial development; LD: low financial development. The economic effects for single countries are based on estimated elasticities in Table 2, Column 2, specification 3 in Tori and Onaran (2017). The economic effects for Europe are based on estimated elasticities in Table 1, Column 2, specification 1 in Tori and Onaran (2017).

Table 4. Economic effects by country, disaggregation by level of financial development (FD) and by size, 1995-2007

| Country | FD | SIZE | S/K | | | $(\pi\text{-CD})/K$ | | | π_F/K | | | F/K | | | $\Delta\text{TD}/\text{TA}$ | | |
|-----------------|----|-------|----------------------|--------------------------|-----------------|----------------------|--------------------------|-----------------|----------------------|--------------------------|-----------------|----------------------|--------------------------|-----------------|-----------------------------|--------------------------|-----------------|
| | | | Long-run Coefficient | Actual cumulative Change | Economic Effect | Long-run Coefficient | Actual cumulative Change | Economic Effect | Long-run Coefficient | Actual cumulative Change | Economic Effect | Long-run Coefficient | Actual cumulative Change | Economic Effect | Long-run Coefficient | Actual cumulative Change | Economic Effect |
| Germany | HD | LARGE | 0.467 | 0.747 | 0.349 | 0.022 | 2.911 | 0.064 | -0.359 | 1.093 | -0.392 | -0.159 | 0.358 | -0.057 | -0.043 | 0.029 | -0.001 |
| | | SMALL | | | | | | | -0.204 | 1.755 | -0.358 | 0.000 | 0.466 | 0.000 | | | |
| Spain | HD | LARGE | 0.467 | 0.135 | 0.063 | 0.022 | 0.536 | 0.012 | -0.359 | 0.588 | -0.211 | -0.159 | 0.569 | -0.091 | -0.043 | 0.391 | -0.017 |
| | | SMALL | | | | | | | -0.204 | 1.444 | -0.294 | 0.000 | 0.287 | 0.000 | | | |
| Finland | HD | LARGE | 0.467 | 1.227 | 0.573 | 0.022 | 1.140 | 0.025 | -0.359 | 0.720 | -0.258 | -0.159 | 1.261 | -0.201 | -0.043 | -0.300 | 0.013 |
| | | SMALL | | | | | | | -0.204 | 1.193 | -0.243 | 0.000 | 0.891 | 0.000 | | | |
| France | HD | LARGE | 0.467 | 0.783 | 0.366 | 0.022 | 1.003 | 0.022 | -0.359 | 0.449 | -0.161 | -0.159 | 0.412 | -0.066 | -0.043 | 0.050 | -0.002 |
| | | SMALL | | | | | | | -0.204 | 1.760 | -0.359 | 0.000 | 0.933 | 0.000 | | | |
| The Netherlands | HD | LARGE | 0.467 | 0.614 | 0.287 | 0.022 | 0.412 | 0.009 | -0.359 | 0.684 | -0.245 | -0.159 | 0.189 | -0.030 | -0.043 | 0.070 | -0.003 |
| | | SMALL | | | | | | | -0.204 | 1.070 | -0.218 | 0.000 | -0.745 | 0.000 | | | |
| Sweden | HD | LARGE | 0.467 | 1.830 | 0.854 | 0.022 | 1.390 | 0.031 | -0.359 | 1.310 | -0.470 | -0.159 | 1.670 | -0.266 | -0.043 | -0.051 | 0.002 |
| | | SMALL | | | | | | | -0.204 | 2.417 | -0.493 | 0.000 | 2.129 | 0.000 | | | |
| UK | HD | LARGE | 0.467 | 0.842 | 0.393 | 0.022 | 1.273 | 0.028 | -0.359 | 1.154 | -0.414 | -0.159 | 1.004 | -0.160 | -0.043 | 0.233 | -0.010 |
| | | SMALL | | | | | | | -0.204 | 1.715 | -0.350 | 0.000 | 1.381 | 0.000 | | | |
| Belgium | LD | LARGE | 0.467 | 0.509 | 0.238 | 0.432 | 1.428 | 0.616 | 0.000 | 0.394 | 0.000 | -0.277 | 2.232 | -0.618 | 0.000 | 0.042 | 0.000 |
| | | SMALL | | | | | | | 0.604 | 1.849 | 1.117 | 0.000 | 1.885 | 0.000 | | | |
| Denmark | LD | LARGE | 0.467 | 0.714 | 0.333 | 0.432 | 0.675 | 0.291 | 0.000 | -0.724 | 0.000 | -0.277 | 1.209 | -0.335 | 0.000 | 0.108 | 0.000 |
| | | SMALL | | | | | | | 0.604 | 0.325 | 0.196 | 0.000 | 1.284 | 0.000 | | | |
| Greece | LD | LARGE | 0.467 | -0.211 | -0.099 | 0.432 | -0.284 | -0.123 | 0.000 | 0.052 | 0.000 | -0.277 | -0.279 | 0.077 | 0.000 | 0.289 | 0.000 |
| | | SMALL | | | | | | | 0.604 | 0.926 | 0.560 | 0.000 | -0.264 | 0.000 | | | |
| Ireland | LD | LARGE | 0.467 | 1.315 | 0.614 | 0.432 | 1.333 | 0.575 | 0.000 | 0.578 | 0.000 | -0.277 | 0.518 | -0.143 | 0.000 | -0.049 | 0.000 |
| | | SMALL | | | | | | | 0.604 | 3.674 | 2.219 | 0.000 | 1.727 | 0.000 | | | |
| Italy | LD | LARGE | 0.467 | 0.861 | 0.402 | 0.432 | 1.050 | 0.453 | 0.000 | -0.048 | 0.000 | -0.277 | 0.475 | -0.131 | 0.000 | -0.012 | 0.000 |
| | | SMALL | | | | | | | 0.604 | 0.990 | 0.598 | 0.000 | 1.503 | 0.000 | | | |
| Austria | LD | LARGE | 0.467 | 0.067 | 0.031 | 0.432 | 1.004 | 0.433 | 0.000 | 0.210 | 0.000 | -0.277 | 1.064 | -0.294 | 0.000 | 0.055 | 0.000 |
| | | SMALL | | | | | | | 0.604 | -0.681 | -0.411 | 0.000 | 2.205 | 0.000 | | | |
| Portugal | LD | LARGE | 0.467 | 0.749 | 0.350 | 0.432 | 0.165 | 0.071 | 0.000 | 1.261 | 0.000 | -0.277 | 0.555 | -0.153 | 0.000 | 0.455 | 0.000 |
| | | SMALL | | | | | | | 0.604 | -0.205 | -0.124 | 0.000 | 0.179 | 0.000 | | | |
| Europe | | LARGE | 0.997 | 0.727 | 0.725 | 0.053 | 1.003 | 0.054 | -0.179 | 0.560 | -0.100 | -0.077 | 0.802 | -0.062 | -0.025 | 0.093 | -0.002 |
| | | SMALL | | | | | | | 0.242 | 1.302 | 0.315 | -0.270 | 0.990 | -0.268 | | | |

Source: Tori and Onaran (2017), Table 4. S/K: Sales/Fixed Assets; F/K: total financial payments/fixed assets; $(\pi\text{-CD})/K$: (operating income-cash dividends)/fixed assets; π_F/K : total financial profits/fixed assets; $\Delta\text{TD}/\text{TA}$: change in total debt/total assets; HD: high financial development; LD: low financial development. The economic effects for single countries are based on estimated elasticities in Table 2, specification 4 in Tori and Onaran (2017). The economic effects for Europe are based on estimated elasticities in Table 1, Column 3, specification 2 in Tori and Onaran (2017).

Table 5. Female employment as % of male employment

| | Historical | | | Projections | | Scenario |
|----------------|------------|-------|-------|-------------|-------|--------------------------------------|
| | 2000 | 2008 | 2015 | 2017 | 2025 | |
| South Eurozone | 60.66 | 70.62 | 71.5 | 70.7 | 68.37 | Austerity |
| | | | | 71.63 | 72.16 | Expansionary |
| | | | | 72.98 | 75.76 | Sustainable & Equitable Expansionary |
| North Eurozone | 77.85 | 84.29 | 86.82 | 87.03 | 87.77 | Austerity |
| | | | | 86.97 | 88.8 | Expansionary |
| | | | | 87.32 | 89.9 | Sustainable & Equitable Expansionary |
| United Kingdom | 83.78 | 84.89 | 85.63 | 85.97 | 86.07 | Austerity |
| | | | | 85.61 | 87.37 | Expansionary |
| | | | | 85.94 | 88.33 | Sustainable & Equitable Expansionary |

Table 6. Non-carbon energy as a share of energy production

| | Historical | | | Projections | | Scenario |
|----------------|------------|-------|-------|-------------|-------|--------------------------------------|
| | 2000 | 2008 | 2015 | 2017 | 2025 | |
| South Eurozone | 28.19 | 38.79 | 46.1 | 46.7 | 50.5 | Austerity |
| | | | | 46.19 | 52.12 | Expansionary |
| | | | | 56 | 59.57 | Sustainable & Equitable Expansionary |
| North Eurozone | 32.18 | 31.21 | 34.37 | 37.78 | 47.97 | Austerity |
| | | | | 37.89 | 48.62 | Expansionary |
| | | | | 41.8 | 52.96 | Sustainable & Equitable Expansionary |
| United Kingdom | 3.79 | 4.23 | 10.53 | 12.14 | 18.28 | Austerity |
| | | | | 11.98 | 18.98 | Expansionary |
| | | | | 16.04 | 21.66 | Sustainable & Equitable Expansionary |

Source: Cozzi, 2017

Table 7. Average GDP Growth (%)

| | Historical | | Projections | Scenario |
|----------------|------------|-----------|-------------|--------------------------------------|
| | 2000-2007 | 2008-2016 | 2017-2025 | |
| South Eurozone | 2.68 | -0.82 | 0.62 | Austerity |
| | | | 2.99 | Expansionary |
| | | | 2.05 | Sustainable & Equitable Expansionary |
| North Eurozone | 2.05 | 0.72 | 1.33 | Austerity |
| | | | 2.34 | Expansionary |
| | | | 2.27 | Sustainable & Equitable Expansionary |
| United Kingdom | 3.06 | 0.89 | 0.74 | Austerity |
| | | | 2.81 | Expansionary |
| | | | 2.66 | Sustainable & Equitable Expansionary |

Table 8. Government spending as % of GDP

| | Historical | | | Projections | | Scenario |
|----------------|------------|-------|-------|-------------|-------|--------------------------------------|
| | 2000 | 2008 | 2015 | 2017 | 2025 | |
| South Eurozone | 20.12 | 22.4 | 20.34 | 19.48 | 19 | Austerity |
| | | | | 22.21 | 26.7 | Expansionary |
| | | | | 21.49 | 23.31 | Sustainable & Equitable Expansionary |
| North Eurozone | 22.06 | 22.4 | 22.9 | 22 | 21.06 | Austerity |
| | | | | 22.36 | 21.49 | Expansionary |
| | | | | 22.34 | 21.59 | Sustainable & Equitable Expansionary |
| United Kingdom | 18.86 | 23.37 | 20.76 | 19.61 | 17.59 | Austerity |
| | | | | 20.16 | 22.85 | Expansionary |
| | | | | 19.92 | 22.17 | Sustainable & Equitable Expansionary |

Source: Cozzi, 2017

Table 9. Emission intensity: CO2 emissions per \$ of GDP (Kg per \$)

| | Historical | | | Projections | | Scenario |
|----------------|------------|-------|-------|-------------|-------|--------------------------------------|
| | 2000 | 2008 | 2015 | 2017 | 2025 | |
| South Eurozone | 0.291 | 0.256 | 0.229 | 0.224 | 0.191 | Austerity |
| | | | | 0.219 | 0.185 | Expansionary |
| | | | | 0.203 | 0.168 | Sustainable & Equitable Expansionary |
| North Eurozone | 0.276 | 0.236 | 0.222 | 0.21 | 0.165 | Austerity |
| | | | | 0.2 | 0.161 | Expansionary |
| | | | | 0.2 | 0.155 | Sustainable & Equitable Expansionary |
| United Kingdom | 0.302 | 0.238 | 0.222 | 0.215 | 0.181 | Austerity |
| | | | | 0.221 | 0.175 | Expansionary |
| | | | | 0.199 | 0.157 | Sustainable & Equitable Expansionary |

Source: Cozzi, 2017

| Table 10. Employment and GDP effects of the Green-Social Investment Plan | | | | | | | | | |
|--|-----------------------|--------------------|-------|---|--------------------|-------|--|--------------------|-------|
| | Employment, 1000 jobs | | | GDP, percent (pct. change in sector) | | | GDP, percentage points (growth contribution to pct. change in total GDP) | | |
| | Direct effect | Indirect effect | Total | Direct effect | Indirect effect | Total | Direct effect | Indirect effect | Total |
| Green Investments: | | | | | | | | | |
| Construction | 498 | 97 | 595 | 3,2 | 0,6 | 3,8 | 0,19 | 0,04 | 0,22 |
| Renting, R&D and other Business Activities. | 151 | 125 | 276 | 0,5 | 0,5 | 1,0 | 0,07 | 0,06 | 0,12 |
| Spillovers from green investments on all other sectors | 0 | 307 | 307 | 0,0 | 0,2 | 0,2 | 0,00 | 0,15 | 0,15 |
| Total Green | 649 | 528 | 1178 | 0,3 | 0,2 | 0,5 | 0,25 | 0,24 | 0,49 |
| Social Investments: | | | | | | | | | |
| Education | 864 | 31 | 895 | 5,4 | 0,2 | 5,6 | 0,28 | 0,01 | 0,29 |
| Health and Social Work (child care) | 459 | 28 | 487 | 2,0 | 0,1 | 2,1 | 0,15 | 0,01 | 0,16 |
| Spillovers from social investments on all other sectors | 0 | 192 | 192 | 0,0 | 0,1 | 0,1 | 0,00 | 0,09 | 0,09 |
| Total Social | 1323 | 251 | 1574 | 0,4 | 0,1 | 0,5 | 0,42 | 0,11 | 0,54 |
| Total investment plan (Green+Social) | 1973 | 779 | 2752 | 0,7 | 0,4 | 1,0 | 0,68 | 0,35 | 1,03 |

Source: ECLM based on the FEPS-ECLM International Input-Output Model, Andersen, Dahl and Nissen (2017)