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Fostering Inclusive Growth in Europe post-Covid

Introduction

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This paper consists of two main parts. In the first part, we argue that the lack of protection and inclusiveness of the US model is not a necessary price to pay for greater innovation, nor is the lack of innovation in Europe a necessary price to pay for greater inclusiveness and better social protection. We emphasise three policies that should both stimulate innovation-based growth and make growth more inclusive and/or more protective: competition policy, education, and the Danish flexsecurity system.

In the second part of the paper, we argue that Europe can invest more in its innovation ecosystem while remaining within the framework of the Maastricht treaty. More specifically, we know that the higher the difference between the growth rate and the interest rate, the easier it is to reduce our public debt in the long run. This in turn implies that one should not evaluate growth-enhancing investments in the same way as we do other types of transfers when assessing their long-term effects on public debt. What matters is not so much the total amount of public spending, but rather the composition and governance of public spending. Using the European Covid stimulus funds to invest in greener and more-inclusive growth should also help reduce the level of public debt in the long run, provided these investments are properly governed and monitored, and provided adequate reforms of the state and the overall public spending system are pursued at the same time.[1]

1 We thank John Hassler and an anonymous referee for helpful comments and suggestions.

Fostering both innovation *and* inclusion

In this section, we focus on three types of policies that help move capitalism, both towards more innovation and towards more protection or inclusiveness: namely, competition policy, education, and flexsecurity in the labour market.

Competition policy

How can we explain that an economy as innovative as the US, which pioneered the IT and AI revolutions, has experienced declining productivity growth over the past two decades?

Among various candidate explanations for the decline, two have emphasised a competition problem. First is the work of Thomas Philippon (2019), who hypothesised that the main reason growth slowed in America was the weakening of antitrust policies.[2] According to his argument, weaker antitrust policy led to greater concentration in many sectors of the economy and to a decline in business dynamism, and especially in the creation of new firms.

Aghion, Bergeaud, Boppart, Klenow, and Li (2020), ABBKL, develop an alternative explanation which also features inadequate competition, but is centred around the IT revolution and consistent with the above facts. In a nutshell, the IT revolution has enabled superstar firms – firms that have accumulated social capital and know-how that is difficult to imitate and/or have developed strong networks – to control a larger fraction of sectors in the economy. This explains the observed increase in the rate of productivity growth between 1995 and 2005, especially in IT sectors. In the longer term, however, in all the product lines they control, superstar firms will discourage innovation by non-superstar firms: the reason is that in order to win over a superstar firm, a non-superstar firm has to drastically reduce its prices and thus its innovation rents. Hence, by increasing the number of product lines controlled by superstars, the IT revolution ends up reducing innovation and growth in the overall economy in the long run.

This latter story in turn implies that competition policy needs to be reformed if we want to maximise the growth potential of the IT revolution: in the absence of regulations on mergers and acquisitions the IT revolution ends up being detrimental to growth as this helps superstar firms grow and control ever more sectors, thereby discouraging entry and innovation by non-superstar firms in the economy.

Reforming competition policy so as to better take into account the effect of mergers and acquisitions on future innovation and entry[3] should both foster innovation-led growth and make growth more inclusive by allowing new innovative entrepreneurs to enter the market. That innovation, and particularly entrant innovation, should foster social mobility is shown by Aghion et al (2018).[4]

2 Philippon, Thomas (2019), The Great Reversal: How America Gave Up on Free Markets, Harvard University Press.

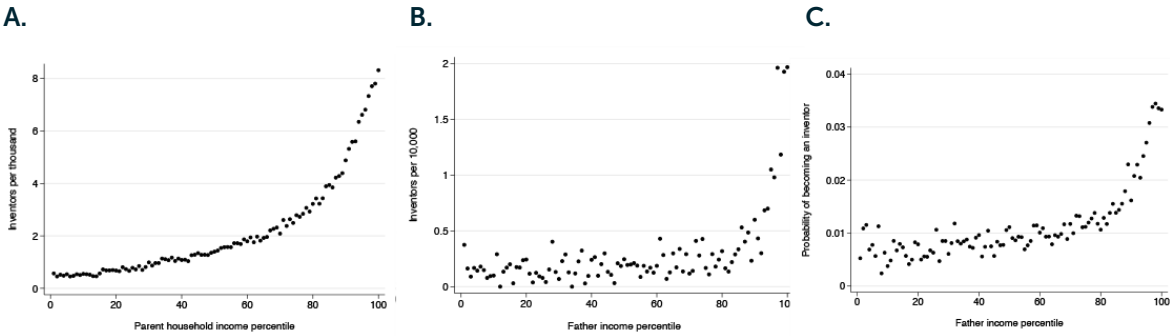
3 Such reform is advocated by Richard Gilbert in his recent book Innovation Matters: Competition Policy for the High-Technology Economy, 2021, MIT Press.

4 See Aghion, Akcigit, Bergeaud, Blundell, and Hemous (2018) and Aghion, Antonin and Bunel (2021), chapter 5.

Education investment

Figure 1 below shows the relationship between an individual's probability of inventing and her parents' income, respectively, in the US over recent decades (A), in the US over a longer history (B), and in Finland over recent decades (C). Particularly striking is the similarity between Finland and the US, given that among developed countries, Finland is among the most inclusive worldwide (i.e. with lower global inequality and higher social mobility), whereas the US is among the least inclusive, as we have seen above. Schools are completely free and of very high quality in Finland.

Figure 1.



Sources : Bell, Chetty, Jaravel, Petkova et Van Reenen (2019) ; Akcigit, Grigsby et Nicholas (2017) ; Aghion, Akcigit, Hyytinen et Toivanen (2017).

Aghion, Akcigit, Hyytinen, and Toivanen (2021) shows that parental education accounts to a large extent for this J relationship between parental income and innovation in Finland. More precisely, when controlling for parental education, the authors show that J curve is substantially flattened, especially at high levels of parental income.

Overall, what the analysis in Aghion et al suggests, is that sustained public investment in high-quality education over several generations should both spur innovation-led growth and make growth more inclusive, simply by allowing more talented individuals to become innovators. Indeed it should take several generations of high investment in education before the J-curve flattens out, i.e. before social origins will cease to determine an individual's probability of becoming an inventor.

Flexsecurity in the labour market

In their article entitled "Mortality and Morbidity in the 21st Century", Angus Deaton and Anne Case show that, following a long period of decline, mortality within the middle-aged (aged 50 to 54), non-Hispanic white population in the United States began to rise in the early 2000s, with a distinct acceleration since 2011-2012.[5] Particularly striking has been the increase in so-called "deaths by despair", meaning deaths resulting from suicide or substance abuse. The rapid increase in deaths by despair, which primarily affects low-skilled individuals, has no equivalent in other developed countries.

5 Case, Angus and Anne, Deaton (2017), "Mortality and Morbidity in the 21st Century, Brookings Papers on Economic Activity (1), pp. 397-476.

The authors' explanation for this trend reversal in the mortality of non-Hispanic whites is the mounting job insecurity associated with creative destruction, which often results in increased family instability: namely, we have moved from a world where people could expect to spend their entire careers doing the same job in the same company, with the certainty of an upward trajectory, to a world where creative destruction has become the norm.

Is it possible to design a system that makes creative destruction a smoother ride for individuals by allowing them to experience periods of unemployment with greater serenity and in a way that benefits the economy as a whole? An important study by Alexandra Roulet suggests that Denmark may have found the right martingale.[6]

Roulet shows that when a country adopts good safety nets to protect people in the event of job loss, being laid off has no negative effect on health.

"... when a country adopts good safety nets to protect people in the event of job loss, being laid off has no negative effect on health."

A noticeable difference between Denmark and the United States is that in 1993, Denmark introduced a new system called flexicurity to regulate its labour market. This system has two pillars. First, the labour market was made more flexible by simplifying dismissal procedures for firms. To offset this flexibility, there are both first generous unemployment benefits, and massive government investment in professional training to provide workers with the skills they need to re-enter the labour market.

Roulet compares the health of workers whose place of employment closed between 2001 and 2006 with that of workers that are identical in all respects (such as age, experience, and skills) but whose employing firm did not close.

The findings are striking: firm closure does not impact the various health indicators, in particular the consumption of antidepressants or the probability of consulting a general practitioner. Nor does firm closure affect the mortality of workers at the firm.

In fact, by establishing its flexsecurity system, Denmark achieved two goals at the same time. First, it fostered innovation-led growth by making creative destruction easier to implement, and also more efficient thanks to the accompanying public investment in job search and training. Second, it made innovation-led growth more protective and also more inclusive by facilitating laid off individuals' re-entry into the labour market.

6 Roulet, Alexandra (2017), "The Causal Effect of Job Loss on Health: The Danish Miracle," in "Essays in Labor Economics" doctoral dissertation, Harvard University.

Maastricht and the management of public debt: a rethink

The Covid crisis has acted as a wake-up call for European countries to markedly strengthen their innovation ecosystem and their investments in innovation in order to stop losing market share and the technological race against the US and now against China. In particular, Europe should soon generate equivalents of the American DARPA, ARPA-Energy and BARDA agencies to foster innovation in the digital, energy and health sectors. At the same time, in the previous section, we emphasised the importance of public horizontal investments in education, research, and active labour market policies to boost innovation-led growth while making it even more inclusive. The issue then is: how can European countries engage such investments when Covid has already boosted public debt substantially, and despite the Maastricht Treaty which is there to tightly monitor countries' levels of public debt?

The Draghi plan

Despite the level of public debt in Italy (158% of GDP), the Italian Prime Minister Mario Draghi has made the bold move to use the funds from the EU recovery plan to further borrow so as to finance an ambitious growth investment plan. Very much in line with the Biden administration, the new investment expenditures planned by Mario Draghi, amount to 10% of GDP over 5 years, 4% of which will be financed by the EU grants and the remaining 6% will be financed by loans that are leveraged on this grant.

These new investments are all meant to foster innovation-led growth and to make it greener and more inclusive: horizontal investments in education, research, infrastructure, inclusion, and vertical investments in digital, health and decarbonization.

How can we defend Mario Draghi's approach in front of a macroeconomist or a European decision maker who believes in the virtues of the Maastricht Treaty?

A new way of thinking about investments and public debt

So far, when thinking about the dynamics of public debt, researchers and policy makers have always taken the long-run growth rate of (per capita) GDP as exogenous. Consequently, they would not distinguish between public investments (education, research, infrastructure, industrial policy) that might be growth-enhancing and other uses of public spending (for example to finance the deficit of the pension system). This particularly applies to the so-called Maastricht criteria, which sets an upward limit for a country's public deficit at 3% of its GDP, and an upward limit to a country's level of public debt at 60% of its GDP, no matter the composition of public spending or the use of public debt.

However, unlike other types of public spending, public investments that foster long-term growth help reduce a country's level of public debt in the long-run, by increasing the difference between the growth rate of GDP and the interest

rate, and this endogenous growth effect is particularly important when interest rates are low as it is currently the case: the more it can increase the difference between its growth rate and the interest rate by engaging properly designed growth-enhancing investments, the sooner will a country be able to stabilise and then reduce its level of public debt.

In the remaining part of this section, we perform rough back-of-the-envelope simulations to get a sense of the effects on the long-run growth rate and the level of public debt of (re)allocating public funds towards potentially growth-enhancing investments. The simulations are rough, in particular because we use Akcigit et al's (2020) growth elasticities of education and R&D spending in Denmark using Danish micro data, which we then simply transpose to France, Italy, and Sweden.

The formal reasoning

Suppose that the government decides a permanent additional increase in education investment (ne) and a permanent additional increase in public R&D investment (n_r). This will increase the growth rate according to:

$$G = g_0 (1+\lambda_e n_e +\lambda_r n_r),$$

where the elasticities λ_e and λ_r first increase over time but then converge to constant values in the long run (see Table below).

Growth in turn affects the dynamics of public debt (see Blanchard, 2019). If B_t denotes the ratio of public debt over GDP at date t, r denotes the interest rate, and D_t denotes the ratio of public spending over GDP at date t, public debt over time will decrease faster the higher the difference G - r between the growth rate and the interest rate, and public debt will increase faster the higher the level of public spending D.

More formally, the dynamics of public debt is governed by the equation:

$$B_t - B_{t-1} = - ((G-r)/(1+G))*B_{t-1} + D_t$$

We now depart from the existing literature on public debt by considering the composition of public spending. We assume that public spending is the sum of growth-enhancing investments – in education and R&D – and of transfer spending (T) for example to finance the deficit of the pension system, namely:

$$D_t = n_e + n_r + T.$$

What are the long-term effects on public debt of: (i) reducing T and simultaneously raising n_e or n_r so as to keep D constant; (ii) simply raising n_e or n_r.

Reallocating public spending towards education or R&D

Here we maintain D constant and simply change the composition of public spending.

We first look at France and assume a constant interest rate equal to the interest rate on the French long-term debt in 2019, and a value of D equal in absolute value to the French public deficit prior to the Covid crisis.

Consider first the effect of reducing T by 10 billion euros, while at the same time increasing education or public R&D investment so as to keep D constant. This reduction in T can be achieved for example by delaying the retirement age by two years (from 62 to 64).

Under what we call the «education plan», the reduction in T finances a permanent increase in education spending n_e. Under the «innovation plan», the reduction in T finances a permanent increase in public R&D spending n_e.

What happens to growth and the ratio of public debt to GDP under these two plans? To answer this question we need values for the elasticities of growth with respect to education and R&D investment. Here we draw from Akcigit et al (2020) which inform us on how these elasticities evolve over time. More precisely, based on Danish microdata, Akcigit et al (2020) show that initiating a permanent increase in public investment, by an amount corresponding to 0.5% of GDP, respectively in R&D or education, generates growth rate increases that are described by the following table:

Table 1.

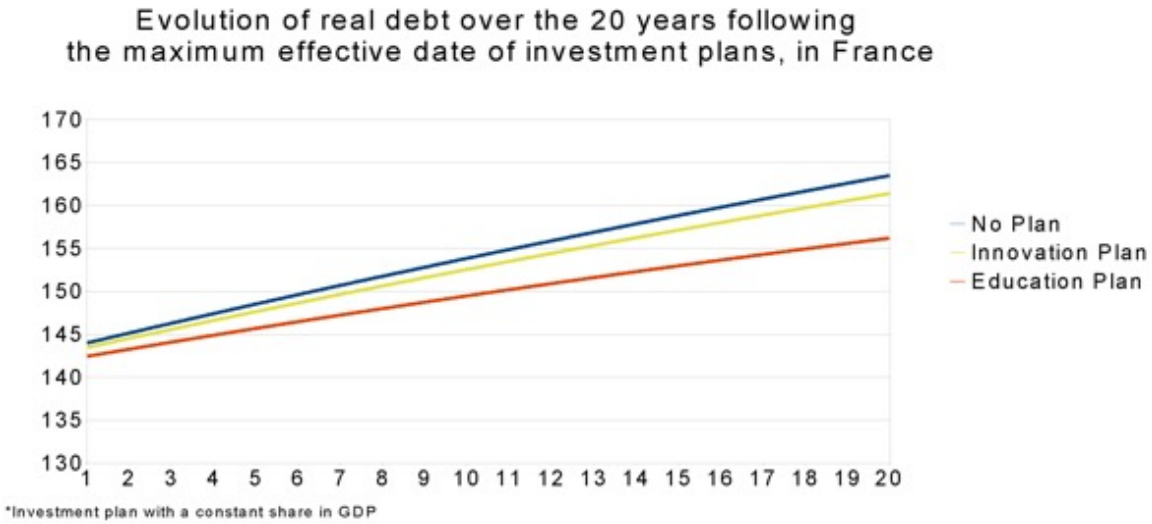
	1 year	5 years	10 years	steady state
R&D subsidy	0.58%	0.76%	1.19%	5.44%
Education subsidy	0.01%	0.70%	2.38%	20.12%

In particular, adding 0.5% of GDP to public spending in education every year, leads to a long-run growth rate G which is 20.12% higher than if no such increase in education spending had taken place.

Using this table, and assuming an initial growth rate of GDP equal to 1.5%, we find that the above «education plan» brings an additional 0.25 percentage points to annual growth in France in the long run, hence the potential growth rate would increase from 1.5% to 1.75%. Similarly, the «innovation plan» brings an additional 0.07 percentage points to annual growth. This may look small in growth terms, but the cumulated effects on GDP levels become substantial in the long run.

Figure 2 below shows the long-term evolution of French public debt with the education plan versus the status quo, assuming a growth rate of 1.5% in the status quo.

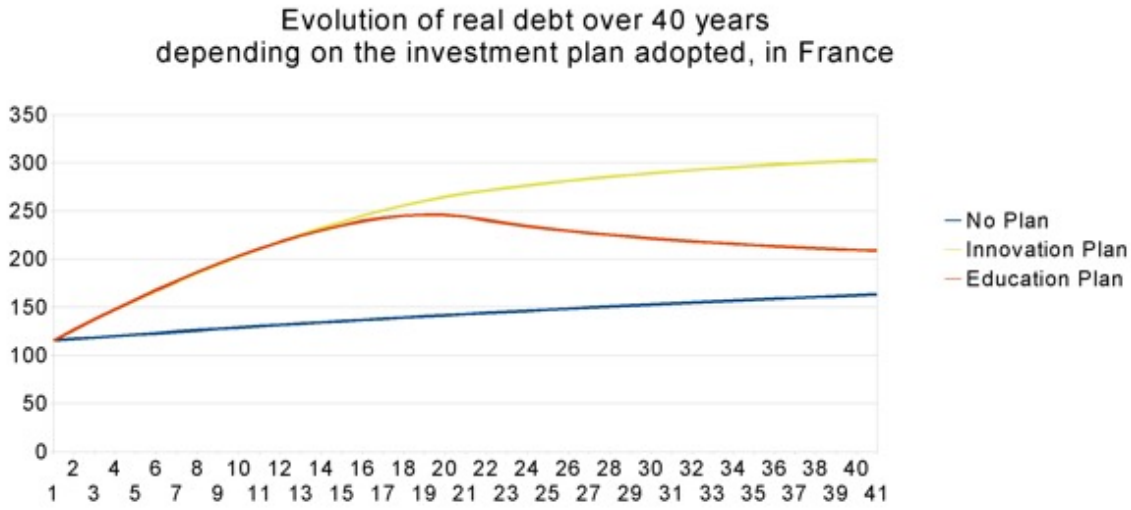
Figure 2.



We see that the education plan ends up slowing down public debt accumulation compared to the status quo.

Figure 3 shows the dynamics effects on public debt from a 10% of GDP extra investment in education combined with the same reduction in retirement spending as before. We see a reduction in public debt in the long run, i.e. a reversal in the dynamics of public-debt dynamics.

Figure 3.

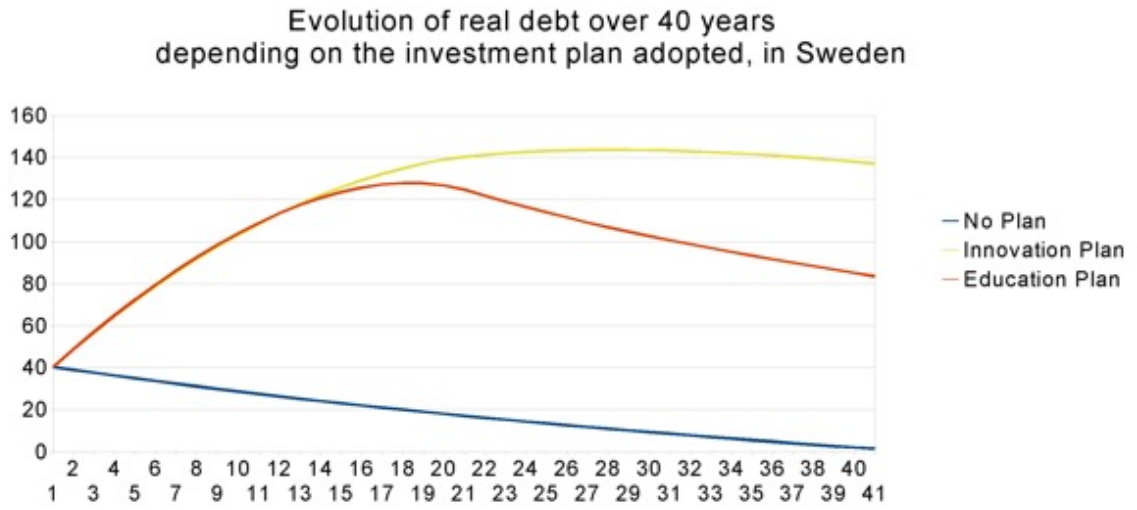


Uncompensated public investments

Here we look at the effects on long-term public debt of uncompensated increases in public investments, i.e. where we keep T constant. We look at the evolution of public debt in Sweden if it were to emulate Draghi's policy of increasing investment by 10% of GDP, financed partly by the EU recovery funds and partly by additional borrowing leveraged on these funds, and assuming all these funds are devoted to education.

Figure 4 shows the effect on the dynamics of public debt in Sweden if the country were to invest an additional 10% of its GDP, entirely financed by new loans, in the education plan. Unlike Italy and France, Sweden has already undertaken sweeping reforms of the State and of its retirement system, which has contributed to lowering public debt down to 40.3%. This in turn explains why Sweden does not need to compensate the increased investment in education by further reductions in public spending in order to generate the long-term reduction in public debt we observe in Figure 4.

Figure 4.



While the case for innovation-enhancing investments is easy to make in Italy and France, the debate on the need for similar investments (education, research, infrastructure, digital, health, energy) in Sweden remains open. Yet the current low interest rates makes such investments particularly attractive at the present time.

Conclusion

The Covid crisis has shed a harsher light than before on weaknesses of capitalism, which varies across countries and regions. In the US, it has revealed a social model that is insufficiently inclusive and does not properly insure individuals against the risk of a job loss and against macroeconomic shocks. In Europe, the pandemic has shown the limits of an inadequate innovation ecosystem.

In this paper, we argued in favour of a model of capitalism that combines the innovative side of the US model with the inclusive and protective side of a more "Danish" model. Departing from the view that more innovation necessarily comes at the expense of inclusiveness and protection, and that conversely more inclusiveness and protection comes at the expense of innovation, we emphasised three policy levers that have the potential to both, stimulate creative destruction and thereby innovation-led growth, and make it more protective and/or inclusive: namely, competition policy, education policy, and "flexsecurity" in the design of labour-market policy.

Finally, we have argued that the Covid crisis, combined with low interest rates, provides European countries with an opportunity to revisit the issue of how to reconcile the need for more growth-enhancing investments with the commitment to controlling the level of public debt. In particular, we showed that, when combined with structural reforms, or when implemented after such reforms have been made (as in Sweden), investments can be made without public debt running out of control in the long run.

Do that mean that we ignore ECFIN's recommendations, and that eurozone countries should abandon the Maastricht Treaty? Our answer is clearly no: we need its benchmarks to discipline budgetary policy by member states. But one should innovate in the implementation of the benchmarks and Treaty, in two major respects. First, the European Commission should look not only at total public spending, but also at the composition of public spending, and distinguish between growth-enhancing investments and other types of public transfers. Second, to limit the danger that any kind of public investments spending might be presented by member states as being "growth-enhancing", both the governance of and the results from those investments, should be closely monitored by European authorities: in particular PISA tests and employment rates for education investments; grants and citation-weighted papers and patents for research; and the actual effect on entry, innovation, and productivity growth, for the more targeted (vertical) investments.

Appendix

Construction of our simulation

In this appendix, we spell out the assumptions underlying our simulations. These analyze the effect on the public debt dynamics of a permanent increase in education investment ("education plan") or innovation investment ("innovation plan") by a fixed amount of 10% of 2021 GDP. Using the growth estimates generated by Akcigit et al (2019) for Denmark, and assuming that the same estimates apply for Sweden, France, and Italy, we look at how the education and innovation plans affect the dynamics of public debt in those three countries. We consider year 20 in our simulations to correspond to the "steady-state" in Akcigit et al (2019). To the extent that the elasticities of growth to innovation and education increase with wealth and income inequality, and that inequality is smaller in Denmark than in France and Italy, our extrapolating from Denmark amounts to underestimating the true effect of the innovation and education plans on growth in these two countries, and therefore the extent to which those plans can reduce public debt in the long run. In future research, we should try to directly estimate growth elasticities for France and Italy. Another assumption we make is that the interest rate remains constant at its 2021 level. Finally, we abstract from the Covid crisis by estimating structural public deficit and growth at their pre-Covid level (2019).

Alternative scenarios

Here we extend our simulation analysis by looking at the effects on long-term public debt of scaling down investment plans from 10% to 5% of GDP, respectively, in Italy, France and Sweden. We find that this scaling down does not qualitatively affect the dynamic evolution of public debt in those three countries.

Figure A1 focuses on Italy, and shows the effect of a scaled down version of the Draghi plan where the funds from the European recovery plan are used to increase investments by an extra 5% of GDP instead of 10%. In particular we see that in the long run, the 5% education plan leads to a public debt which is lower than is the baseline scenario.

Figure A1.

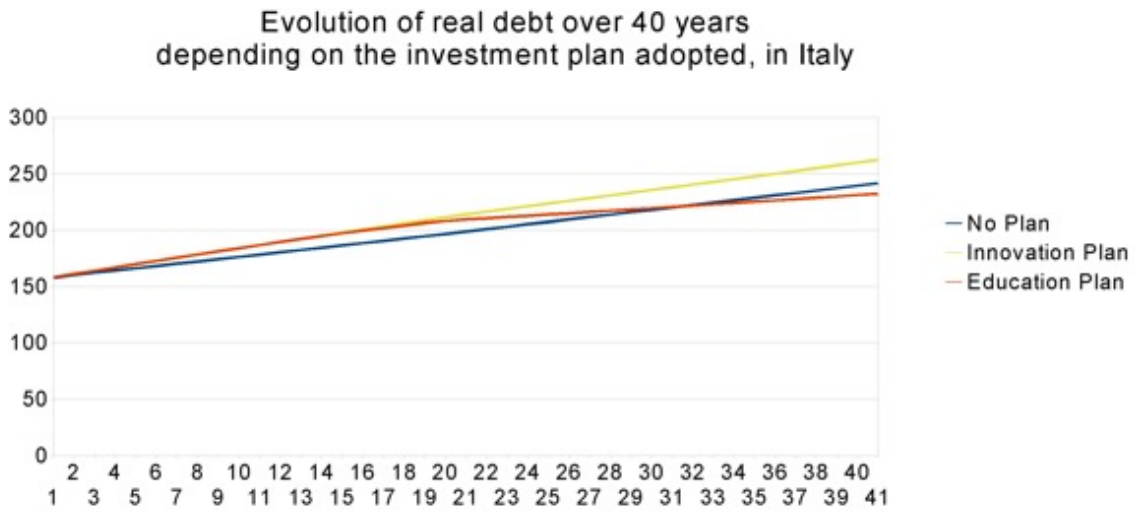
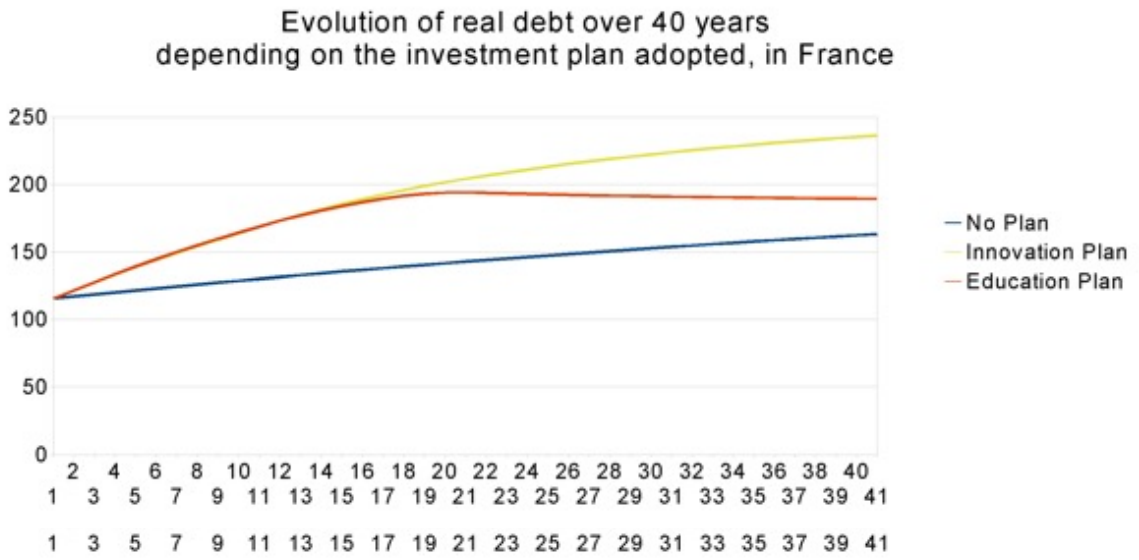


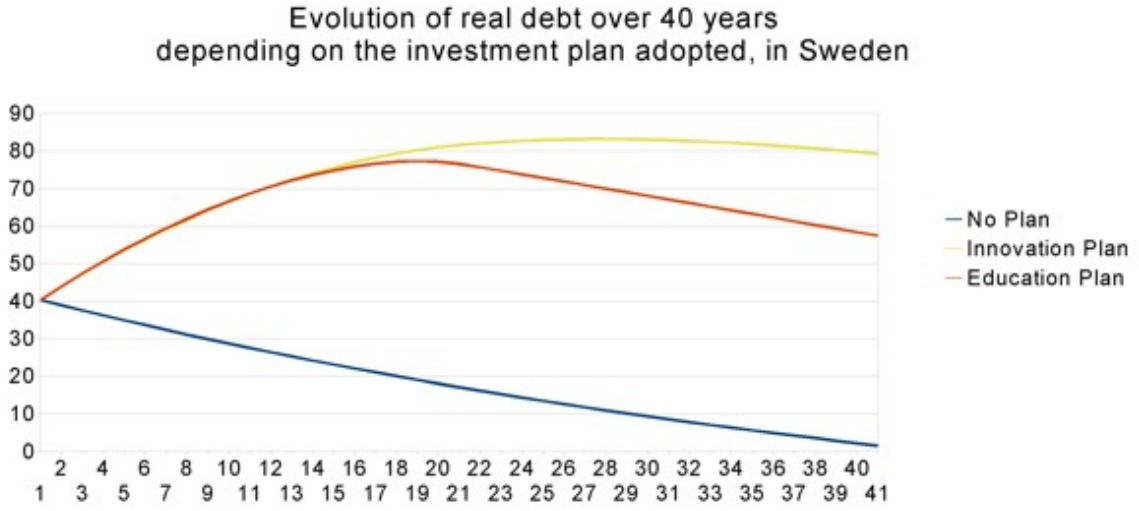
Figure A2.



The effects are qualitatively the same as under the 10% investment plan.

Figure A3 shows the effect on the dynamics of public debt in Sweden if the country invests an additional 5% of GDP instead of 10%. Even this lower investment plan generates a long-term reduction in public debt.

Figure A3.



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