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Costs of Austerity

Squandering our Productive Resources

– A short study –

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Executive Summary

Austerity policies are not only practiced since the 2008 global financial crisis, but have been implemented for over 30 years. Many countries are living below their potential because they do not use their existing production capacities, creating idle real capital and large-scale unemployment. Methodologically, neoclassical economic theory can neither explain mass unemployment nor unused production capacities. In this study a heterodox approach has been selected to explain the under-utilisation of productive capacities in a real world market model. It indicates that additional demand frequently results in additional production rather than increased prices. Absurdly, while living below our economic potential we are living above the means of our finite raw materials and produce excessive CO₂ emissions. The win-win response is to reduce our CO₂ emissions and our over-consumption of finite raw materials by utilising our free productive capacities to expand renewable energies and redesign our production, as far as possible, according to the "Cradle to Cradle" principle of closed loops.¹ In this study we calculate the global costs of under-using our productive resources, i.e. the economic losses caused by austerity policies, to be at least US \$2.3 trillion a year. In the Eurozone the annual costs of austerity are estimated at 580 billion Euros. These amounts show the extent to which we live below our potential by not using available productive resources. A gradual closing of this production gap would neither overtax the existing production potential nor cause dangerous inflation.

¹ For further information on the "Cradle to Cradle" principle, see the website of the Cradle to Cradle Product Innovation Institute, <http://www.c2ccertified.org/>.

Introduction

For three decades most industrialised countries have practised austerity policies of varying strictness. This self-imposed restriction in our use of available productive potential has not only caused much unnecessary human suffering but has also postponed dealing with the great ecological challenges of resource constraints and climate change.

The meaning of the term austerity has undergone a significant transformation. It was originally used in Britain during the Second World War when the challenge was how to maximise the output of war materials and how to ration popular consumption. Today the term stands for an economic policy, which from a microeconomic standpoint has become a savings policy for the national economy. The national economy as a whole can save by cutting public expenditure in a crisis like economies on the micro level (i.e. households) can. However, what is applicable on the micro level is not directly transferable to the macro level.² On the contrary, spending cuts worsen economic crises. In a recent study the IMF estimates fiscal multipliers to be considerably in excess of one, meaning that reduced public expenditure causes a relatively stronger depression/reduction of economic productivity.³

Thus the available productive potential of labour and real capital is grossly underutilised.⁴ Austerity policies create scarcity that is then used to justify more savings. The implementation of austerity becomes its own justification.

We live below our human potential because we fail to use all the productive resources available to us and, as a result, over 200 million people are unemployed around the world. On the other hand we live above our natural limits because we use more natural and finite resources than is sustainable. A huge opportunity thus presents itself: by employing even a part of the 200 million global unemployed and implementing a better degree of utilisation of available real capital, we can increase our economic potential to make significant investments in the transformation of our energy consumption away from burning finite climate-destabilising fossil fuels to tapping the full potential of renewables.⁵

This would also allow the restructuring of our production-systems to optimise raw material use loops based on "Cradle to Cradle" design systems. Food security, energy shortages, the right to clean water, sanitation and education needs could be met through the utilisation of our fallow economic resources.

² In German literature in particular Stützel has expanded on the concept of macroeconomic accounting and the necessity to differentiate between individual and national economic viewpoints. See Stützel, Wolfgang; Volkswirtschaftliche Saldenmechanik, Tübingen, 2011 (first in 1958).

³ See Blanchard, Olivier; Leigh, Daniel; IMF Working Paper, Growth Forecast Errors and Fiscal Multipliers, WP/13/1, January 2013.

⁴ A significant increase in unemployment occurred in the mid-70's reversion from full-time employment policies. In Europe, after the financial crisis, a second austerity shock led to another dramatic increase in unemployment. We do not claim that austerity measures are to be blamed for all unemployment.

⁵ See a previous paper of the World Future Council: Kroll, Matthias; The Monetary Cost of the Non-Use of Renewable Energies, January 2013. Available online at www.worldfuturecouncil.org.

This study will establish initial calculations to show to what degree we are living below our potential. In other words: how many productive resources are available that, due to the primacy of austerity policies, are idle in the face of our unmet needs? These calculations can be termed as “the costs of austerity”.

Growth and Finiteness: A question of the short and the long term

The aim of this research is to establish the unutilized potential of labour and real capital with which additional goods and services could be produced. The increased input of paid labour also means an increase in economic performance (GDP). This increase is essential in the short term. Firstly, in the poorer sections of the population, in many nations, there are significant unmet material needs. These range from social security to medical care, education, clean water and electricity. Secondly, the urgent necessity to rebuild our economies into sustainable production-systems requires significant investments in real capital. So this growth is not an end in itself but enables the ecological transformation and the creation of sustainable prosperity. Without this, economic growth turns into un-economic growth (Herman Daly), which increasingly consumes its own foundations. In the long-term we need policies of sufficiency where the potential for growth resulting from advancements in productivity is translated into shorter working hours. This does not mean that humanity is heading for early retirement. As the second report of the Club of Rome was titled, there are “No Limits to Learning”.

1. Artificial scarcity and living below our potential

In this research we use aggregated data, because the conclusions apply to the entire world (respectively to the Eurozone). To visualise the problem in a more concrete manner, some examples will show what is meant by “life under these conditions”. A (global) society lives below its economic potential when it avoids addressing major challenges and mitigating deficiencies even though the productive capacities for action are present. The reason lies in an economic system that delivers false incentives and has been deprived of monetary finance opportunities. The available productive resources are a labour force, which is involuntarily under-employed, and free real production potential (real capital). In such a situation a scarcity that prevents mitigation and problem-solving is an artificially created scarcity.

Examples for global additional demand of goods and services that are not produced because we live below are economic potential are:

– Climate protection investments

In the global climate protection debate it is generally accepted that annual investments of three figure billions of dollars are needed to transform our energy production from burning CO₂-heavy, fossil raw materials to using renewable energies. It is also clear that the slow speed of this transformation is not due to limited industrial production capacities – for example, in the photovoltaic branch about half the world's 60 Gigawatts of production capacity stands idle – or a lack of qualified labour.⁶

⁶ See Leggett, Jeremy; *The Energy of Nations: Risk Blindness and the Road to Renaissance*, Routledge, September 2013.

– Investments in a green industrial revolution

The key to an ecological transformation of production lies in the use of raw materials in – as far as possible – closed material circuits as in the "Cradle to Cradle" model. Failure to implement this is not because we do not have enough engineers or scientists but because of ineffective regulation and insufficient financing.

– An efficient health sector

Sufficient trained medical personnel, technical equipment and medication are the foundations of an efficient health sector. There are no objective reasons why these cannot be supplied. But health sector resources have been cut in many countries due to self-imposed austerity.

– Meeting global educational needs

The education sector requires adequate schooling facilities, sufficient teachers, professors and other education staff. A fundamental lack of productive resources that hinders the expansion of the education sector cannot be identified.

– Ensuring food security

To ensure adequate nutrition for all necessitates sufficient food production and a functioning distribution infrastructure. Insufficient resources to provide this have not been identified.

These examples are not exhaustive. They show that solutions to some of the most significant global challenges are not being thwarted by a lack of productive resources but by a lack of financing facilities. However, monetary resources are not *per se* a scarce resource but a good which can be produced at will. The international banking sector has shown that the provision of monetary resources in large quantities is possible. First it financed unproductive and speculative spending on a massive scale and in doing so created a financial bubble. Once this bubble burst the central banks tripled their money creation to prevent the financial system from collapsing. It would of course be more effective to use part of this money creation to finance real investments that help solve the acute humanitarian and environmental challenges the world faces.

2. Methodological approach to establish the economic potential of labour

Key assumptions

To reach an assessment on the lost production of goods and services through the unemployment of part of the labour force, the global number of unemployed persons needs to be determined. Furthermore the methodological process for the assessment of average per-capita-production must be established.⁷

Explanation of unemployment and productivity in neoclassical theory

The methodological assumption of this study is only valid if it can be shown that those not in paid employment are out of work due to lack of demand – and not because their wage demands are too high in relation to their productivity. Under the theoretical assumptions of neoclassical economics, people are in principle always unemployed because their wage demands are higher than their personal productivity. The assumption of this theory is that unemployment is a voluntary act as everyone would be able to find a job if he or she lowered her wage demand. This assumed voluntary unemployment also leads to the assumption that more people can be absorbed into the workforce if the employers are willing to pay higher wages. With a set productivity rate this would, however, lead to a rise in prices. As achieving increased productivity in most cases takes time, the short-term solution of neoclassical theory to the problem of unemployment is a lowering of wages.

A heterodox approach

The approach applied here orientates itself on the real behaviour of actors in the labour market. The approach assumes that people offer their labour to earn wages which secure their existence and provide them with a living standard that allows them to live a life integrated in their community.

The level of productivity⁸ is a product of the professional qualification of the workforce and the technical equipment of the workplace. Both aspects are interdependent: no business would invest in production technology that no employee or prospectively trained employee would be able to use. But even the most qualified of employees cannot reach high productivity levels without the necessary technical equipment.

Productivity is influenced by work experience. Years of unemployment reduce the perceived value of acquired qualifications. When unemployed persons fail to find reemployment quickly there is a risk that social stigma, a loss of self worth and depression or other health issues will reduce employability.

⁷ To calculate averages there are a variety of statistical methods. The applied arithmetical method here ensures that the actual size of the production gap is captured. The assumptions made later in the study ensure that a figure is determined that is inclusive of unemployment in both industrialised and less industrialised countries.

⁸ Productivity is defined as the work productivity of output of one employee per unit of time.

Additional significant pre-conditions for achieving good levels of productivity are infrastructure (energy provision, telecommunications, transport), as well as administrative and law enforcement capacities. It can be assumed that the potential productivity of a currently unemployed person is in most cases the average individual work productivity of his or her country.

2.1. Establishing levels of unemployment

Levels of under- and un-employment are measured differently from country to country. Many underemployed are not included in the official unemployment figures because they do not claim welfare. The official unemployment figures are significantly below the total number of underemployed (unemployed plus underemployed). A conservative estimate of purely the unemployed will be used here based on international standardised figures as used by the International Labour Organisation (ILO).

According to the ILO the global unemployment figure for 2011 is about 203 million people (6.1%).⁹ This gives an employment figure of 3,12 billion. These 3,12 billion workers created a global GDP of about US \$70 trillion,¹⁰ which equals an average per capita production of US \$22.400. The theoretical total potential of goods and services that are not being produced because the labour of 203 million people is not utilised can consequently be calculated at US \$4,55 trillion.

Labour productivity varies significantly by country. Due to this, and because it must be expected that qualifications cannot be perfectly married to demand, it can be assumed that, if all 203 million unemployed were employed, an average per-capita production of US \$22.400 would not immediately be achieved. It must also be taken into account that lack of demand is not the sole reason for unemployment.¹¹ To incorporate these effects in the assessment and to reach an authoritative yet conservative estimate we will make some further assumptions. To provide more or all the unemployed with jobs will require a longer time period for training and qualification. The time for the newly employed to reach the average productivity of US \$22,400 is estimated to be several months up to a maximum of three years.

A recent study by the Hamburg Institute of International Economics (HWWI) estimated that 2.2 million additional persons could be easily integrated into the German labour market.¹² With an official German unemployment figure of about 3 million people this would be a 73% intake. These German figures for a mature industrialised country are not directly transferable to the international average but can be used as a reference point. We very conservatively estimate that half of the global unemployed could attain employment that would bring them up to the average per capita production cumulatively over the course of three years.

⁹ ILO http://www.ilo.org/global/about-the-ilo/media-centre/press-releases/WCMS_150581/lang--en/index.htm

¹⁰ World Bank, 15 April 2013; <http://static.rasset.ie/documents/news/world-bank-gdp-table.pdf>

¹¹ Literature on this recognises e.g. the actively searching unemployed, the seasonally unemployed and the mismatch-unemployed.

¹² Hamburg-Welt-Wirtschafts-Institut (HWWI); Ungenutzte Arbeitskräftepotenziale in Deutschland: Maßnahmen und Effekte, Hamburg, 03.06.2013, p. 72 f.

This equals 102 million additional gainfully employed persons that, after the training/qualification period will be creating an average per-head productivity of US \$22.400 of additional goods and services.

2.2. Ascertaining the potential additional global production by this additional labour force

Under the very conservative assumptions that a half of the unemployed can become gainfully employed and achieve the global average per-capita productivity, the following estimates can be made:

- **Additionally employed: 102 million people**
- **Estimated per-capita production: US \$22.400 per annum**
- **Potential additional total production of goods and services: US \$2,28 trillion per annum**

As elaborated above, a time-frame of maximum 3 years is estimated for the newly employed to reach the average per-capita production of US \$22,400 per annum and the full amount of additional total production.

2.3. Ascertaining the possible additional production in the Eurozone

The Eurozone is currently pursuing particularly stringent austerity policies. Using the same methodology we will assess the resulting losses, i.e. the goods and services not produced.¹³ In the Eurozone (17 countries) there are currently 146.2 million employed persons (2012)¹⁴, who have created a GDP at market prices of €9,490 billion,¹⁵ i.e. an average GDP per employed person of €64,911 per annum.

With the employment of the total 18 million unemployed (2012)¹⁶ products and services worth an additional €1,218 billion could be produced.

Under the previous assumption that only a half of the currently unemployed could find employment at the average per-capita GDP¹⁷ the following calculations can be made:

- **Additional employed: 9 million**
- **Estimated per-capita production: €64,911 per annum**

¹³ To avoid possible distortions from currency fluctuations in relation to US Dollars all the following monetary units for the Eurozone will be given in Euro.

¹⁴ See ECB, Monthly Bulletin, July 2013, p. 54 (Euro Area Statistics).

¹⁵ See Eurostat; Gross domestic product at market prices, Euro area (17 countries), <http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&language=en&pcode=tec00001&plugin=1>

¹⁶ See: ECB, Monthly Bulletin, July 2013, p. 55 (Euro Area Statistics).

¹⁷ These numbers can be adjusted on the assumption that those who have only become unemployed since the 2008 financial crisis are more easily reintegrated into the labour market.

– **Potential additional total production of goods and services: €584 billion per annum**

The maximum 3-year training/qualification period is also applied in this case to reach the average productivity and the full amount of additional total production.

2.4. Reduced qualifications and productivity as an effect of austerity policies

The above assumption that, at average productivity levels, only a half of the currently unemployed can be employed is based on the fact that not all unemployed have a fitting qualification or work experience or may be unemployed for health reasons. These effects have partly been caused by recent and current austerity policies. This is an additional factor to be added to the costs of austerity.

The costs of austerity policies for professional qualifications and on physical and mental wellbeing are difficult to capture methodically. There have, however, been various attempts at quantification:

In a comprehensive study, David Stuckler and Sanjay Basu listed and summarised the health strains and negative consequences that austerity policies created in the last five years.¹⁸ They estimate that in Europe and the United States the austerity policies implemented post the 2008 financial crisis led to an additional 10.000 suicides and up to a million additional cases of depression.¹⁹ In theory these findings can be counted as loss of labour with the average per capita production financially assessed as a loss to the national economy. But this creates a moral dilemma. By monetising human suffering, a price for human suffering is set. As soon as a price is set, the risk arises that it is argued that it is cheaper to accept the suffering of a certain group of people over another instead of sacrificing something assessed to be worth more in monetary terms.

Thus the quantitative monetisation of these additional costs is replaced by a qualitative assessment.²⁰ The additional costs result from, e.g.:

- reduced qualifications when children, youth and young adults are not provided with access to sufficient education and professional training,
- loss of newly acquired professional qualifications and knowledge when a newly trained individual cannot find suitable work or experience to put the learning into practice,
- social stigma, exclusion and the loss of self worth that can devalue the achieved level of qualification when unemployment is persistent,
- the misallocation when highly qualified and educated persons work in professionally foreign environments and thus lack the skills needed for such jobs, whilst their knowledge in their qualified profession goes to waste.

¹⁸ See Stuckler, David; Basu, Sanjay; *The Body Economic – Why Austerity Kills*, New York, 2013.

¹⁹ See Stuckler, Basu in http://www.democracynow.org/2013/5/21/why_austerity_kills_from_greece_to#

²⁰ A staff paper of the Federal Reserve Bank of Dallas that assessed the costs of the financial crisis for the USA follows the same methodology. The authors found that increased unemployment not only causes loss of output but also significant further social costs. These were, however, not included in the final calculations due to problems of monetary assessment. See Atkinson, Tyler; Luttrell, David; Rosenblum, Harvey; *How Bad was it? The costs and consequences of the 2007–09 Financial Crisis*; Dallas FED Staff Papers, No. 20, July 2013, p. 11.

These additional costs of austerity thus emerge on two levels: on the one hand through a qualitative worsening of life quality, through personal suffering, loss of income, social stigma and exclusion; on the other through the reduction of qualifications of the labour force which in turn lowers productivity.

Even when an exact monetary assessment cannot be made for the reasons given above, it can be concluded that austerity policies lead to a lowering of overall welfare. Through the reduction of the labour potential it also causes a loss of production, created *by* the austerity policies that were introduced as a reaction to an alleged scarcity.

3. Methodological approach to value the economic potential of the freely available capital stock

An additional entry of 102 million persons in the labour market globally and 9 million new workers in the Eurozone is only possible if the capital stock is available. Only then can additional labour input lead to an actual increase in production. Thus it must be calculated how large the free production capacities of the economy are that could immediately be utilised for new production.

Establishing the available capital stock for additional production

The central bank of the United States (FED) as well as the European Central Bank (ECB) have established data on the degree of capacity utilisation of industrial production capacities.²¹ Both find long-term average degrees of capacity utilisation of around 80% (FED) and 81% (ECB). Due to the crisis both lowered their estimations to 70%. It should be noted that the degree of capacity utilisation even under boom conditions never rose above 85%.

The FED and ECB valuations for the degree of capacity utilisation in the industrial sector can be viewed as representative of the service sector as well, as service providers are subject to similar market characteristics and profit-maximisation strategies. The same applies to country comparisons. It can be assumed that other industrialised countries and emerging economies behave similarly to the United States and the Eurozone. Uncertainty arises with the assessment of the degree of capacity utilisation in the less industrialised countries. These uncertainties can be ignored for the purposes of this study as the GDP of these countries is comparatively small and thus will not critically impact on the results of this study.

4. Combination/Consolidation of the free labour forces and the available capital stock

Global GDP is estimated at US \$70 trillion, with a rate of utilisation of 80%. With an additional production through new employment at the value of US \$2.28 trillion the rate of utilisation jumps to

²¹ See FED, Board of Governors of the Federal Reserve System:
<http://www.federalreserve.gov/releases/G17/Current/default.htm>

ECB figures can be found at ECB, Monthly Bulletin, Euro Area Statistics, Euro Area Overview, Capacity utilisation in manufacturing (various years).

82.6%. These figures are unproblematic in terms of excessive demand and inflationary risks. With an assumed global distribution of initial new demand for labour and the spread of demand across many sectors no excessive demand is to be expected.

As it is assumed that the additional production builds up in the course of 3 years, we can deduce that business will have time to expand their capacities and the rate of utilisation increase is consequently smaller.

Income multiplier effects

It has to be established what initial amount is required to finance e.g. climate protection measures, poverty alleviation and other sustainability measures without creating excess demand.

This requires estimating the income multiplier which determines by how much the initial spending will be increased when the additional income is spent anew. An empirically common income multiplier of two is used here. Thus, if the total production potential is US \$2.28 trillion, the required initial allocation is US \$1.14 trillion per annum. When the recipients of additional loans and income spend these on consumer and investment-goods (the multiplier effect) the increased demand for goods and services is spread across many sectors, so the danger of an excessive demand in single sectors is reduced even further.

Figures in the Eurozone

The unemployment rates are higher and the under-utilisation of production potential is more pronounced than the global average. The calculated additional GDP that can be created by 9 million of the total 18 million unemployed is €584 billion. The gap between the utilisation level of 77.3% (2012) and the long-term average of 81% represents an unused production potential of €455 billion. Also, in the assumed 3 catch-up years to complete the additional employment, the production potential will adjust towards the increasing demand. Continuing to use an income multiplier of two the required initial allocation would be around €292 billion.

Possible mismatch from a change in demand structure

There may be a mismatch between the free reserves of real capital, the qualifications of the currently unemployed and the structure of the new demand. A social market economy, with businesses in competition, is designed to absorb and balance such changes. Therefore it is to be expected that additional and often new demand structures emerge, creating a corresponding change in the supply structure. Initial mismatches are thus quickly dispersed.

Financing the initial new employment

Alongside targeted taxation and self-financing public sector borrowing on the private finance markets (when nominal growth lies over nominal interest) we recommend introducing the possibility of interest- and amortisation-free borrowing from the central bank. As long as such new money creation is linked to higher additional production through new employment, any inflationary dangers can be contained.

5. Findings

The costs of austerity in the form of lost production of goods and services that have resulted from the current under-utilisation of productive reserves can be conservatively estimated at US \$2.28 trillion per annum. For the Eurozone the estimate is 584 billion. These figures are very conservative because only a half of the unemployed are calculated as available labour potential. Labour potential outside official unemployment figures was not included. Also not included is the human suffering and the social costs including loss of life, health, self-worth and skills caused by unemployment which it would be unethical to monetise. There are huge global un-utilised productive resources that - with an income multiplier of two - can generate initial job-creating projects for the sustainable transformation of our energy and production systems at a cost of US \$1,14 trillion per annum. Excessive demand and inflationary dangers would not occur even if these projects were funded with newly created money as the new production would absorb this.²²

²² The financing possibilities through new money creation will be examined in a further study.

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