# Decent work and ecological sustainability – a question of distribution?

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**Abstract**

*This paper discusses the problem of resource distribution and its relationship to employment. The paper starts by considering the importance of work as a tool in social welfare. It discusses the problem of environmental sustainability and the dilemma this poses for traditional employment creation policy. The second part of the paper looks in more detail at the the world distribution of environmental and economic measures, particularly those that relate to decent standards of employment. Based on these results, the final section of the paper considers environmental approaches to employment creation and what the implications of these might be for public policy.*

## Introduction

With the fallout of the 2008 financial crisis still reverberating through the world economy, it is clear that the world urgently needs new economic strategies. This paper is an attempt to bring together discussions of two long unresolved issues in modern economics: how do we provide welfare and quality employment for all? and how do we build economies that live within sustainable environmental limits? On their own these questions are enormous and complex, the paper therefore does not seek to offer definitive solutions to them. Its main premise, though, is that these problems are two sides of the same coin and that any attempted solution to one must also include solutions to the other. As it stands statistics point to the fact that economies that produce the most welfare and employment for their citizens are also invariably those that consume the lion's share of the world's resources and create the most environmental damage. This begs the question as to whether a fairer distribution of resources could provide greater welfare to more people and more sustainable economies?

The paper starts by considering the importance of work as a tool in social welfare. It discusses the problem of environmental sustainability and the dilemma this poses for traditional employment creation policy. The second part of the paper looks in more detail at the the world distribution of environmental and economic measures, particularly those that relate to decent standards of employment. Based on these results, the final section of the paper considers environmental approaches to employment creation and what the implications of these might be for public policy.

## 1. Background

### 1.1. Work and welfare

The demands for welfare, work and decent conditions of employment are central to labour and social struggles across the world. Access to decent work is enshrined in the Universal Declaration of Human Rights (Article 23.1) however in many cases across the world this right is not realised. The ILO estimates that globally there were over 200 million people officially unemployed in 2010 (ILO, 2011). It estimates that, in 2009, 1.53 billion workers were in vulnerable employment and 630 million workers (20.7 per cent of all workers in the world) were living with their families at the extreme level of poverty (US$ 1.25 a day - ILO, 2011). These figures understate the true extent of the problem. They do not account for family members and dependencies that also suffer and make no mention of illegal forms of work such as child and forced labour. In addition they do not count many people working long hours at low productivity, many people in casual or precarious employment, or those excluded from the workforce without being counted as unemployed (hidden unemployment).

Access to employment has objective value as a social good, be it in reducing poverty, increasing personal empowerment and self-esteem, reducing social problems like crime and social exclusion, or increasing consumption and government revenues through taxation income (ILO, 2001). Of course quality and conditions of employment also matter to social welfare, family life and health. It is this that was the motivation for the development of the idea of “decent work” as a concept for improving human welfare (ILO, 1999). The premise being that it is work and job creation that is the best driver of improvements to human welfare.

### 1.2. Employment and environmental limits to growth

The relationship that employment has with GDP growth is at the heart of tackling this issue. In its simplest form GDP growth has a strong and positive relationship with employment rates (Okun, 1962, Knotek, 2007, IMF, 2010). While employment rates are affected by various political, demographic and labour market conditions, crucially they will only rise if economic growth rates outstrip population and labour productivity increases (Walterskirchen, 1999). At the same time there is a strong relationship between GDP, population and resource extraction, waste and emissions (UNDP, 2007, Ewing et al, 2010a). Ecological economics has illustrated that there are limits to the rate at which the planet can absorb waste and replace resources (Georgescu-Roegen, 1971, Daly, 1996).

When the rate of resource consumption (through-put) exceeds these limits the economy starts consuming more resources than the world can sustain or reproduce. Over-fishing, deforestation and climate change are all examples of such limits. If humanity has been able to consume at a rate faster than this at the moment, it is only because we are consuming the energy and resources saved-up from the billions of years before human activity. This implies that eventually economic activity will lead to trade-offs between welfare produced by environmental services and that produced by economic services. In fact studies now suggest that the global economy has already substantially surpassed these limits (Ewing et al, 2010a, Jackson 2009). Daly argues that if the net welfare produced in the trade-offs is negative then that growth is better described as “uneconomic growth” as it makes no economic sense (Daly, 1996).

There is therefore a major dilemma for labour movement economists. GDP growth is required to provide welfare and create employment, while at the same time high GDP and associated resource consumption is reducing welfare by pushing economies over world environmental limits. In order to deal with such a dilemma, two main concepts must be considered: i) new ways to measure economic success; ii) the global distribution of resources and wealth.

### 1.3. The measure of GDP

A more detailed look at GDP accounting illustrates why this dilemma comes about. The GDP and GNP indices were first developed in order to build a set of national accounts of economic activity to help policy-makers better understand the workings of the economy, i.e. where activity was taking place. This was particularly useful following the post depression and Second World War Keynesian consensus, when government used state investment to stimulate parts of the economy in order to guarantee full employment. GDP allowed them to better understand when sectors of the economy needed interventions (Cobb, Halstead and Rowe, 1995).

By looking only at financial transaction activity, however, GDP obscures many important qualitative factors in the economy (Cobb, Halstead and Rowe, 1995). For example GDP totally ignores issues such as the distribution of income, leisure time or family. It also disregards the environment, ignoring the role, value and services that the environment provides. In fact GDP includes many social and ecological ills on the wrong side of the balance sheet. If we first pollute and then pay to clean up the mess, both activities add to

GDP. Matters like divorce, crime, natural disasters and pollution appear as gains in GDP as they lead to increased economic activity, such as legal fees, house buying, the security industry, rebuilding work, media, medical bills, clean-up operations and increased policing. The inventor of GDP, Simon Kuznets, emphasised this point by saying that "*distinctions must be kept in mind between quantity and quality of* [GDP] *growth, between costs and returns, and between the short and long run. Goals for more growth should specify more growth of what and for what*" (Kuznets, 1962).

If GDP is so flawed, why then do we still use it? In short because despite numerous attempts (Nordhaus and Tobin, 1972; Cobb and Daly, 1989; Cobb, Halstead and Rowe, 1995; Anielski and Rowe,1999; UNDP, 2000; WWF, 2001; NEF, 2006) nothing better has yet been found or widely accepted. GDP is therefore still with us and, despite its drawbacks, still has its uses as long as it is not assumed to be the sole index of economic success. It is better used as part of a basket of indices that contribute to a more nuanced understanding of economies (Shmelev and Rodriguez-Labajos, 2009).

### 1.4. Global inequality of consumption

The most widely used indices of resource consumption is the ecological footprint (EF), which measures the global demand of natural resources in global hectares per person (Rees, 1992; Wackernagel, 1994; Wackernagel and Rees, 1996). Several studies have shown the unequal distribution of EF in the world (Bagliani et al., 2008; White, 2007; Dinda, 2004). Global wealth inequality is widely recognised and this has a large influence on global ecological impacts. For example the UNDP HDI report 2007/08 strongly emphasised the inequality of contribution to the global climate change crisis. It highlights that while the problem is primarily being caused by the wealthy, suffering from the global climate change crisis will be most felt by the poorest (UNDP, 2007). This theme has also been developed by the Footprint Network's Ecological Footprint Atlas 2010 (Erwing et al, 2010b). The report highlights the paucity of countries living within the dual global aims of a high level of development with HDI score of 0.8 or higher and living within the planetary resource regeneration limits of 1.8 global hectares per person or lower. Using World Bank classifications of countries by income groups, the report concluded that within the three income groups there were differing trends in the time period since the 1960s. High-income countries were characterised by a consistent increase in the average per person ecological footprint, from 3.8 global hectares to 6.1 global hectares, but with a relatively small increase in population. This illustrates the economic growth and improvements in

quality of life experienced in these countries and how population and affluence are major contributors to a country's total ecological footprint. Low-income countries in contrast had seen small increases in consumption and ecological footprint per person, but larger population growth. The report pointed out that much of the increase in ecological footprint for high-income countries had come from increases in the emissions of carbon dioxide, which had more than compensated for a decrease in the share of cropland footprint.

In order to understand the distribution better, Thomas J. White tested the spread of ecological footprint across the globe (White, 2007). White used inequality indicators (Gini and Atkinson index) for total ecological footprint to show how inequality in the ecological footprint is related to the inequality of income and environmental intensity (White, 2007). The author concluded that there was a large overall inequality in ecological footprint across the globe, but that some of the different elements that make up the ecological footprint (see section 2) are more unequally distributed than others. For example energy use is far more unequal compared to food consumption. He also concluded that inequality of income was greater than inequality of environmental intensity. This suggests that while the latter may be easier to reduce it is unlikely to be effective in reducing EF without also reducing global income inequality.

White's conclusions are mirrored by two studies of embedded carbon footprints in the UK (Papathanasopoulou and Jackson, 2008 and Druckman and Jackson, 2009). Both studies highlight that the carbon footprint of different segments of the UK population shows wide variation: the segment with the highest carbon footprint emitted 64% more $CO_2$ than the segment with the lowest in 2004 (Druckman and Jackson, 2009). Between 1968 and 2000 the Gini coefficient for total fossil resource consumption grew by 24%. By comparison the Gini coefficient for overall household expenditure rose by only 13%. The analysis also showed that the Gini coefficient for "direct" fossil resources (such as fuel, lighting and car use) was lower and rose less steeply than the Gini coefficient for fossil resources embodied in other goods and services with indirect fossil resource requirements (Papathanasopoulou and Jackson, 2008). This highlights the issue of outsourcing of ecological impacts to other parts of the world - often described by the labour movement as *carbon leakage*. Both papers suggest that policies should be targeted towards segments of society responsible for the highest carbon footprints rather than universally across all sections of society. This inequality of consumption patterns is likely to be much higher in countries such as Brazil and India where inequality of wealth is much greater.

## 2. Material and Methods

In order to highlight the huge inequality of economic success and environment impacts in the world, the second section of this paper looks in more detail at the distribution of employment indicators and measures of environmental sustainability. Environmental statistics are based on the EF and BC indicators. EF accounting is designed to represent human consumption of natural resources and generation of wastes by defining the ecosystem area required to sustain it. This in turn can be compared to the biosphere's productive capacity in a given year, referred to as BC. These measures can be used to assess the total consumption by a given population, state, city or even by the whole planet (for a discussion of the accuracy of EF and BC see Kitzes et al, 2009).

EF and BC calculation covers six land use types: cropland, grazing land, fishing ground, forest land, built-up land, and the uptake land to accommodate the carbon footprint. For each land use type, the demand for ecological products and services is divided by the respective yield to arrive at the footprint of each land use type. EF and BC are scaled with yield factors and equivalence factors to convert this physical land demand to world average biologically productive land, expressed in global hectares (gha) (Ewing et al, 2010b). This allows for comparisons between various land use types with differing productivities.

In addition to the EF and BC measurements, the macroeconomic measurements of GDP, the balance of trade and both labour and resource productivity are considered. Employment indicators such as unemployment and employment by broad economic sector are also included. Data was collected from the World Data Bank (WDB)[1], the International Labour Organization´s Key Indicators of the Labour Market database (KILM)[2] and from the Global Footprint Network (GFN)[3]. Employment statistics such as unemployment can be difficult to compare and hide many details about job quality and types of work. Unfortunately a full database of ILO decent work statistics is not yet available. The analysis therefore attempts to touch on the issue of job quality through reference to working poverty and working time. The primary indicators analysed are presented on Table 1

[1] Available at http://data.worldbank.org/. Access on April, 2011.
[2] Available at http://kilm.ilo.org/KILMnetBeta/default2.asp. Access on April 2011.
[3] Available at http://www.footprintnetwork.org/en/index.php/GFN/page/footprint_for_nations/. Access on April 2011.

Table 1 – Environmental and economic indicators

| Variable | Description | Year | Unit | Source |
|---|---|---|---|---|
| EF | Total and pr capita (pc) ecological footprint | 2007 | gha (pc) | GFN |
| Cropland | Area required to grow all crop products, including livestock feeds, fish meals, oil crops and rubber, livestock | 2007 | % of EF pc | GFN |
| Grazing | Area of grassland used in addition to crop feeds to support livestock | 2007 | % of EF pc | GFN |
| Fishing | Annual primary production required to sustain a harvested aquatc specie | 2007 | % of EF pc | GFN |
| Forest | Annual harvests of fuelwood and timber to supply forest products | 2007 | % of EF pc | GFN |
| Built land | Area of land covered by human infrastructure: transportation, housing, industrial structures and reservoirs for hydroelectric power generation | 2007 | % of EF pc | GFN |
| Carbon | The uptake land to accommodate the carbon Footprin | 2007 | % of EF pc | GFN |
| BC | Total and per capia (pc) biocapacity | 2007 | gha (pc) | GFN |
| Population | Total population | 2007 | persons | WDB |
| GDP | Total and per capita (pc) Gross Domestic Product | 2007 | Current US$ | WDB |
| Import | Imports of goods, sevices and income | 2007 | Current US$ | WDB |
| Export | Exports of goods, sevices and income | 2007 | Current US$ | WDB |
| Balance | (Export - Import) / GDP $\times$ 100 | 2007 | % | WDB |
| Natrual Resources Productivity | Natural resource productivity measured by GDP per unit of energy use | 2007 | Constant 2005 PPP $ per kg of oil equivalent | WDB |
| Labor Productivity | Labor productivity measured by GDP per person employed | 2007 | Constant 1990 US$ | WDB |
| Unemployment | Unemployment to Economically Active Population ratio | LA | % | KILM |
| Employment | Employment to total population ratio, 15 years or older | 2007 | % | KILM |
| Working Hours | Week work hours | LA | | KILM |
| Primary | Employment in the agricultural, forestry, fishing, mining and quarrying to total working population | LA | % | KILM |
| Secondary | Employment in the manufacturing industry to total working population | LA | % | KILM |
| Tertiary | Employment in the service sector to total working population | LA | % | KILM |
| Working Poor | Employed population with wage lower than 2 dollars per day to total working population | LA | % | KILM |

[1] LA is Last Available year before 2007

For analytical purpose, countries were divided in four groups according to the World Bank's main criterion for classifying economies, gross national income (GNI) per capita. According to the 2010 GNI per capita, calculated using the World Bank Atlas method, the groups were: low income, US$1,005 or less; lower middle income, US$1,006 - US$3,975; upper middle income, US$3,976 - US$12,275; and high income, US$12,276 or more.

## 3. Results

Table 2 presents the world distribution of selected environmental and economic measures according to income groups.

**Table 2: Environmental and economic measures according to income groups**

| Indicator | Income Group | | | | | |
|---|---|---|---|---|---|---|
| | **Low Income** | **Low Middle** | **Upper Middle** | **High Income** | **Null** | **Total** |
| Countries (N) | | | | | | |
| Number | 46 | 42 | 27 | 35 | 50 | 200 |
| Population (%) | 18.7 | 53.0 | 12.3 | 15.4 | 0.5 | 100.0 |
| Ecological Footprint | | | | | | |
| Per capita (gha) | 1.2 | 1.6 | 3.3 | 6.1 | | 2.4 |
| Total (%) | 9.5 | 35.3 | 16.6 | 38.5 | | 100.0 |
| Components of EF (column %) | | | | | | |
| Cropland | 38.4 | 29.2 | 23.7 | 16.8 | | 24.4 |
| Grazing | 9.3 | 5.9 | 11.8 | 3.8 | | 6.4 |
| Fishing | 5.3 | 6.0 | 4.5 | 4.3 | | 5.0 |
| Forest | 20.5 | 8.5 | 13.6 | 11.4 | | 11.6 |
| Built land | 5.5 | 4.5 | 2.2 | 1.7 | | 3.1 |
| Carbon | 21.0 | 45.9 | 44.2 | 62.0 | | 49.4 |
| Biocapacity | | | | | | |
| Per capita (gha) | 1.1 | 1.0 | 4.6 | 3.1 | | 1.8 |
| Total (%) | 11.9 | 30.1 | 31.5 | 26.5 | | 100.0 |
| GDP | | | | | | |
| Per capita (1000 US$) | 0.6 | 2.1 | 8.2 | 39.3 | 14.1 | 8.4 |
| Total (%) | 1.4 | 13.2 | 12.1 | 72.5 | 0.8 | 100.0 |
| Balance of Trade | | | | | | |
| Percent of GDP | -5.6 | 3.9 | 2.0 | -0.4 | 8.9 | 0.5 |
| Imports (%) | 1.7 | 13.1 | 11.6 | 70.0 | 3.5 | 100.0 |
| Exports (%) | 1.5 | 14.6 | 12.2 | 68.0 | 3.7 | 100.0 |
| Nat. Res. Productivity (US$ / kg oil) | 3.5 | 4.7 | 6.0 | 7.1 | 11.4 | 6.6 |
| Labor Productivity (1000 US$ / worker) | 4.7 | 9.9 | 18.9 | 52.1 | 37.8 | 41.7 |
| Unemployment ( % of EAP) | 4.9 | 7.2 | 8.8 | 8.0 | 11.1 | 7.3 |
| Employment (% of EAP) | 60.9 | 61.1 | 56.0 | 57.8 | 60.9 | 58.0 |
| Working hour (h/week) | 39.5 | 40.3 | 34.9 | 33.3 | 42.0 | 35.1 |
| Employment (column %) | | | | | | |
| Agriculture | 59.0 | 47.8 | 15.2 | 3.1 | 8.8 | 36.1 |
| Industry | 12.5 | 21.0 | 25.4 | 24.5 | 20.8 | 21.1 |
| Services | 28.4 | 31.2 | 59.4 | 72.4 | 70.5 | 42.8 |
| Working Poor (%) | 80.1 | 54.6 | 12.0 | 20.6 | 52.4 | 53.7 |

Table elaborated by the author using data from WDB, KILM and GFN

This process highlights a huge concentration of the demand for natural resources in specific groups of countries. Those 35 countries with higher per capita income were responsible for 38 percent of the total demand for global resources. At the same time they share just 15 percent of the global population while accounting for 72 percent of the world's GDP. This group represents mainly European, North American and wealthy oil producing countries such as Qatar (Figure 1). The vast majority of countries in such group are also those with the highest carbon footprints.

In contrast the bottom three income groups represent 85% of the total world population. At the same time they represent just 27% of global GDP and 61% of global EF. Dissecting these results shows that the 88 poorest countries in the low income and low middle income represent the closest to a fair distribution of resource consumption, with a per capita EF lower than the BC availability in the world. They account for 45 percent of global demand for resources (EF) and 72 percent of global population.

Results also suggest that while EF per capita increases along with GDP per capita, GDP per capita grows faster, which suggests some decoupling is possible. Countries with the highest EF per capita have higher average natural resources productivity which is beneficial for sustainability, but their average labour productivity is also substantially higher than in other countries. This would cancel out any employment benefits of resource productivity and helps explain the need for high GDP rates in these countries in order to keep unemployment low. These same countries tend to show lower working poverty rates, substantial dependence on service sector activity and concentration of nearly 70 percent of global trade. They also have on average the shortest working hours.

Despite such a large asymmetry of global demand for natural resources, it is important to highlight that 62 countries (41 percent) had an EF per capita within the planetary resource regeneration limits of 1.8 global hectares per person or lower. At the same time 48 countries (32 percent) had a biocapacity per capita higher than their EF per capita. These countries, which tend to exhibit the worst socio-economic indicators, could still use their natural resources in order to improve their level of economic development. Due to the level of demand from the more developed countries this possibility is globally unsustainable, emphasising a need for redistribution. The problem is that, as it currently stands, those people living in rich countries are consuming far more than their equal global share of EF. Worse still, redistribution systems such as trade and migration are being regulated in order

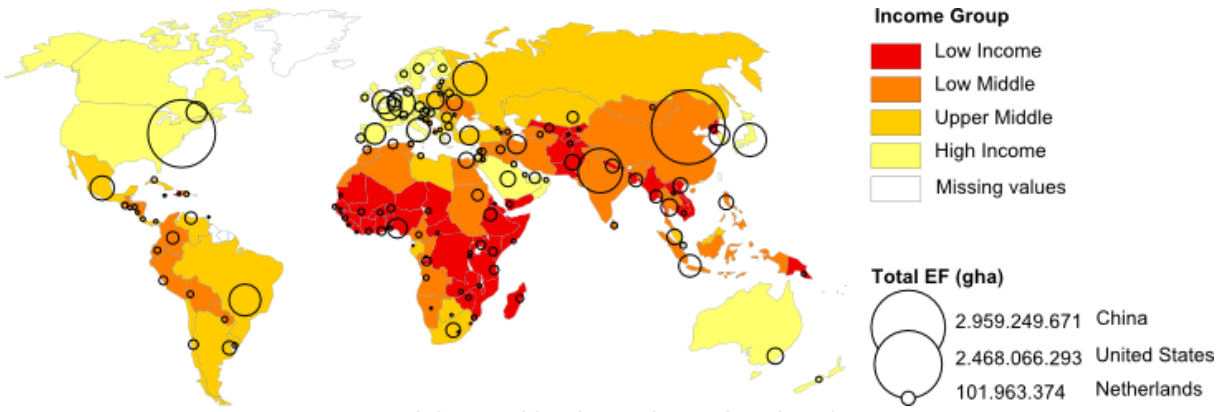
to protect that privilege. The implication is that if poor countries seek to improve their standard of living, wealthy countries will have to reduce their resource consumption in order for the economy to stay within environmental limits.

It is important to stress that a truly fair distribution of resources would not be based on artificial political borders but on population, a factor that is obscured by a single country analysis. The issue of historical justice should also figure in this discussion. Poorer countries clearly should be allowed to grow their economies in order to create jobs and improve the living conditions of their populations. This should, however, be justified as part of the "just transition" and redress of historical injustice, rather than due to accidental possession of more natural resources.

One recommendation for further study would therefore be for an evaluation of how many people are living within the planetary resource regeneration limits. This would highlight the considerable inequality within countries as well as between them and would avoid some of the statistical anomalies encountered due to highly populated countries like India and China.

The spatial distribution of the most polluting countries in the world is well known (Figure 1). Higher EF per capita is observed in the world´s richest countries such as the USA, Japan, Qatar and countries in Europe. Although China represents the highest total EF, its EF per capita is relatively low in comparison with the other countries. This is predominantly due to the lower standard of living of many Chinese people, high population and the fact that its economy is still predominantly geared towards agriculture and industrial exports.

**Figure 1: World distribution of countries according to income groups.**




Map elaborated by the author using data from GFN.

Cartographic source: Philcarto

The distribution of the components of EF also allows us to draw some key conclusions. Firstly, different countries contribute to the ecological footprint in different ways. Different industries and economic structures have different impacts on the environment and by grouping similar countries it should be possible to work towards solutions for different kinds of resource problems. For instance, low and middle income countries (for example Brazil) may be able to improve the efficiency of their livestock industries, while high income countries (like the USA or Qatar) could develop strategies to better manage their carbon emission. Similarly some specific countries, such as Norway, have a very high fishing footprint. Carbon consumption is by far the most significant of these factors at around 49 percent of global EF. This means that in order to bring the economy down within global ecological limits, the main focus should be on reducing carbon footprint.

The implication for employment is not entirely clear. Most of the countries with high service sector activity tend to have a higher GDP per capita, higher labour productivity, lower working hours and less poverty. These also tend to be countries with high EF per capita and high carbon consumption. This implies that better quality employment, i.e. higher paid with lower hours, has a relationship with increased carbon consumption.

Countries with a higher participation of workers in primary activities tend to consume lower quantities of natural resources. Most countries with high levels of agricultural and extraction industries, however, also tend to have high levels of poverty. They tend to be either producing for subsistence or exporting resources to wealthy countries. This suggests that they are neither providing decent employment nor sustainable economic activity, as export sectors can be characterised as part of wealthy countries consumption.

Similarly, countries with a higher share of service sector workers tends to have a higher EF per capita. This is because such countries tend to be the wealthiest in the world and therefore EF is related to the increasing demands for other forms of resources consumption such as transport and leisure. There are several examples of countries that have a large service sector but not a high EF or standard of living. Most of these economies are in Latin America, the Middle East and Africa. For example Argentina has over 75 percent of its population working in the service sector, but an EF per capita of only 2.6. Such countries are marked by lower GDP per capita than other countries with a similar sectoral division of employment. They are also the economies with the most inequality (Gini coefficients of between 45 and 55) and the only countries with high service sectors to

have working poverty. This suggests that many of those employed in the service sector are working in informal economy jobs or low paid personal services such as cleaners or maids.

It can therefore be concluded that it is standard of living that is driving Ecological Footprint. This is not, however, as straight-forward a relationship as it first seems. A more detailed comparison of GDP per capita with EF shows that there are marked differences in consumption patterns. For example Norway and Japan both have higher GDPs per capita than the USA but considerably lower EF figures. This is primarily due to the USA´s high carbon footprint. Qatar, Denmark, Canada and the United Arab Emirates all have considerably worse EF figures than countries with similar GDP per capita such as the UK, France and Germany. This difference may hold some clues to how changes to consumption trends could be made while maintaining high standards of living, despite all of these countries having an EF per capita much higher than their fair share (1.8 global hectares per person). These statistics therefore reinforce questions about the way GDP conflates many types of activity, both positive and negative and that interrogating these subtleties may hold the key to solutions. Improving statistical methods for measuring welfare may help to further explain differences.

These relationships should be explored in more detail if ways to move towards more sustainable economies without declining employment are to be found. In particular a greater understanding of the relationship carbon consumption has with different kinds of employment activity, as well as a more sophisticated methodology to measure decent work and welfare, would help improve our understanding of the issue.

## 4 Solutions under discussion

This statistical analysis illustrates just how much more detailed work is needed to really understand these problems. This final section will look at some of the proposed solutions to the dilemma. These can be largely grouped under Environmental Keynesianism and Growthless economies. The essence of this discussion is the question of whether it is possible to decouple environmental damage from employment creating growth. It should be noted that neoclassical economics has largely ignored this issue. The exceptions, such as Julian Simon, have argued that the best solutions to employment and environmental problems is to rely on human rationality and unimpeded markets to solve the problem (Simon, 1998). This kind of approach can also be found in Environmental Kuznets Curves theories (Dinda, 2004) that argue that there is an automatic decoupling point above which

economic activity pollutes less. In other words the solution to environmentally destructive consumption is to increase GDP activity and let the market solve the problem. These theories imply a business as usual model that, in the context of the financial crisis, seems overly optimistic. The analysis below therefore concentrates on the alternative policies that have been proposed.

### 4.1 Environmental Keynesianism

Decoupling environmental damage from employment and growth is the aspirational behind "green" Keynesianism policies (Elliott et al. 2008, Steiner and Sukhdev, 2009, Barbier, 2010). The idea is to use public investment and other state policy instruments to focus growth onto activities that reduce environmental damage and provide jobs. The use of environmental taxes, for example, has been shown to make some difference in changing behaviour and off-setting job losses with new jobs (Bosquet, 2000, OECD, 2004, Patuelli et al. 2005, ILO, 2010). One of the most comprehensive green growth models to date is the UNEP Green Economy Project (UNEP, 2011). The UNEP report calls for prioritizing government investment and spending in areas that stimulate the greening of economic sectors. In particular it argues for reforming systems of subsidies to dirty industries and using policy instruments, such as taxes, incentives and trade-able permits to promote green investment and innovation. It recommends investment in public services that redistribute consumption, capacity building, training and education for new skills, and strengthening international governance and global mechanisms that support a transition. The UNEP report argues that much of the investment should be allocated to natural capital sectors such as forestry, agriculture, freshwater and fisheries. In these sectors, in particular, new jobs are expected to exceed job losses. It concludes that the transition to a green economy not only can decouple growth from environmental damage, but can produce higher growth in GDP and GDP per capita than business as usual scenarios. This would mean greater welfare and employment for more people.

### 4.2 Economies without growth

Green growth models are not without their critics. For example Jackson argues that so far there has been no evidence of decoupling resource use from GDP growth on a global scale (Jackson, 2009). As resource productivity per unit of activity has increased, so too have rates of activity. This is what Schneider refers to as the "rebound effect," i.e. efficiency savings negated by increased total consumption *(*Schneider, 2009). Such critics therefore conclude that decoupling growth from environmental damage is not possible.

They argue instead that a more realistic policy should be to try to decouple employment from growth itself. This would involve the creation of economies without growth, such as a steady state economy (Daly, 1996) or ideas of sustainable de-growth (decroissance) (Rijnhout and Schauer, 2009, Martínez-Alier et al. 2010, Kerschner, 2010, Kallis, 2011).

Such theoretical models envision economies that maintain or reduce overall resource through-put caused by economic activity in order to keep economies within environmental limits. The aim is therefore to improve the quality of economic activity rather than the quantity. Studies by Victor (Victor, 2008) and Spangenberg, Omann and Hinterberger (Spangenberg et al. 2002) have shown that a successful economy with low or no growth is potentially possible, at least for a highly developed country such as Canada or Germany. Such changes however would require a radical rethink of current economic policies, including changes to world trade, redistribution, the replacement of private consumption with more public goods and services, controls on population, as well as caps on resource use and protections for environmental service.

Significantly steady state and degrowth theorists argue that employment levels in such economies could be maintained by redistributing the benefits from productivity gains to workers in the form of shorter working hours and more leisure time (Jackson, 2009, Spangenberg, 2010, Martinez-Alier, 2009, Victor, 2008, Forstater, 2003, Spangenberg et al, 2002, Altvater, 1999, Gorz, 1999). Cutting hours would improve welfare for workers and also open space for full employment by using more workers to do the same amount of work. This extra leisure time could involve other benefits such as greater parental leave, time off for studying, training and volunteering, longer retirement or more time for political engagement (Jackson, 2009). Others have further argued that the right to receive welfare and remuneration should be delinked from work itself (Martinez-Alier, 2009, Forstater, 2003 and Gorz 1999). This, they argue, would help reduce pressure for employment and providing welfare and remuneration as a universal human right, something that current systems of economics fail to do.

While these ideas sound utopian, they are not so far removed from concepts like paid sick leave, maternity pay, unemployment benefits or universal education. With carefully thought-out policies, it is possible to imagine this salary being conditional on incentivised positive activities, such as exercise to improve national health, urban agriculture, education and learning, democratic participation, care work or cultural activities like music,

art, and literature. It could be argued that shorter working hours coupled with financial incentives to contribute to the common well-being could be justified, not only based on environmental concerns but also on a new vision of the “good life” (Jackson, 2009).

## Conclusions

This paper has shown that there are potential contradictions in current models of economics between environmental sustainability and employment and welfare creation. Globally unsustainable consumption patterns sits astride structures of extreme inequality both between countries and within them. Discussion of this problem needs to be part of any new global economic settlement following the fallout of global financial crisis. Proposed solutions to these environmental concerns have reinforced many of the demands traditionally associated with the labour movement and left of centre economics. If there is a limit to the global pot of wealth then how that pot is distributed must become the focus of the debate. In particular discussions in this paper have emphasised the need for greater redistribution of resources and new industrial strategies. These would include the use of incentives and innovations that focus economic activity on job creation and environmental concerns rather that neoclassical models of trickle down free-market accumulation. Global resource limits and statistics of inequality in resource consumption highlight that redistribution and cooperation must be back on the agenda in any future economic models. One of the ways to do this could be through a focus on resource productivity and a refocus of consumption on to public services and other collective goods. Similarly productivity gains could be refocused so that they are redistributed to workers as more leisure time, personal development, and community and political engagement. Such discussions therefore resurrect wider questions about our definitions of economic success and the pursuit of the good life.

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