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Edinburgh University Economics Magazine

Conflict:

A Son Rises in the East

Scottish Independence

The Meaning of Green

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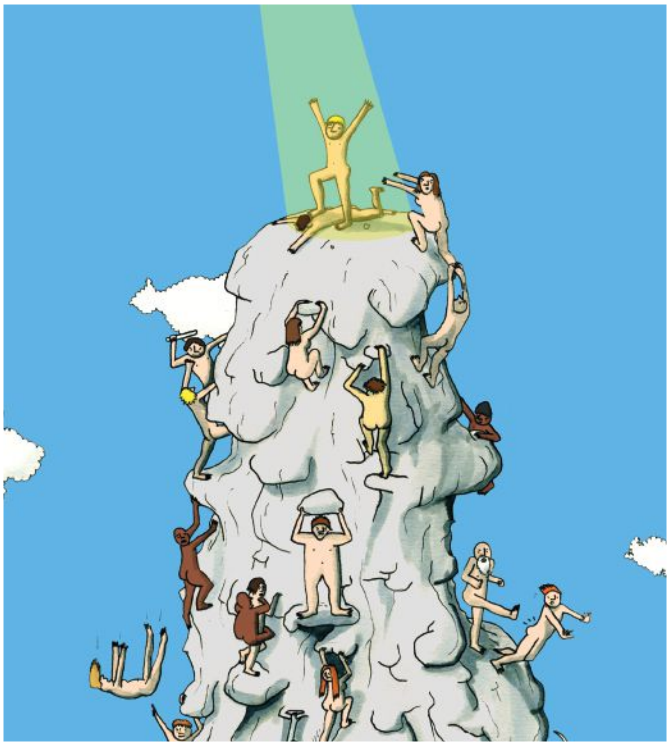

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Editor's Note

And so here we are again, with semester two's offering of *Insight*. This time, we are focussing on the issue of 'conflict', in all its many comprehensions. We've got articles concentrating on traditional conflict, including competing superpowers, new supreme leaders and the rationality of war. But we've also looked at conflict within our societies, whether that be within the political system, such as the Tea Party and Occupy movements, or the very topical subject of Scottish independence. For the purpose of objectivity of course, we've got both sides to that story. Other interpretations have explored the conflict between us and our environment, another very relevant issue as the Earth Summit in Rio looms. It seems evident that the tension between human prosperity and the sustainability of the planet is one that needs addressing, and fast.

Our Comment section is also full to the brim with interesting articles for you to enjoy, with articles ranging from a critique of modern economic theory, to the economics of baseball and even a quick lesson on nuclear fusion. And for a professional view on that conflict between growth and climate change, see our interview with Professor Sayer in the academic section. All in all, a perfect distraction from fast approaching deadlines and exams.

Of course, all of this has only been possible due to the fantastic work of our editorial team, devoted designers and illustrators from ECA, and naturally contributions from a wide range of students at the University. I'd like to thank all of you for your hard work and dedication which allowed us to produce this magazine to such a high standard. Thanks also go to our sponsors and financiers, the Economics Society and the School of Economics. Sadly, this issue also marks the end of the *Insight* journey for most of the editorial team, as they graduate and move on to pastures new. I'd just like to thank them once again for all they've done for the magazine over the year and wish them all the luck in the future!

It's been great fun as always putting together this newest issue, and if you'd like to be involved in any part of the process next year, or have any feedback on this issue, do get in touch – an email is provided on the opposite page. We're always on the hunt for eager new writers and illustrators for future editions.

So on behalf of everyone at *Insight* HQ, let me invite you to sit back, relax and enjoy our latest offering. Thank you for reading.

Shira Lappin
Editor-in-Chief

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Focus: Conflict

Better Together?

The idea of an independent Scotland should not be dismissed so quickly, argues Alexandra Taylor

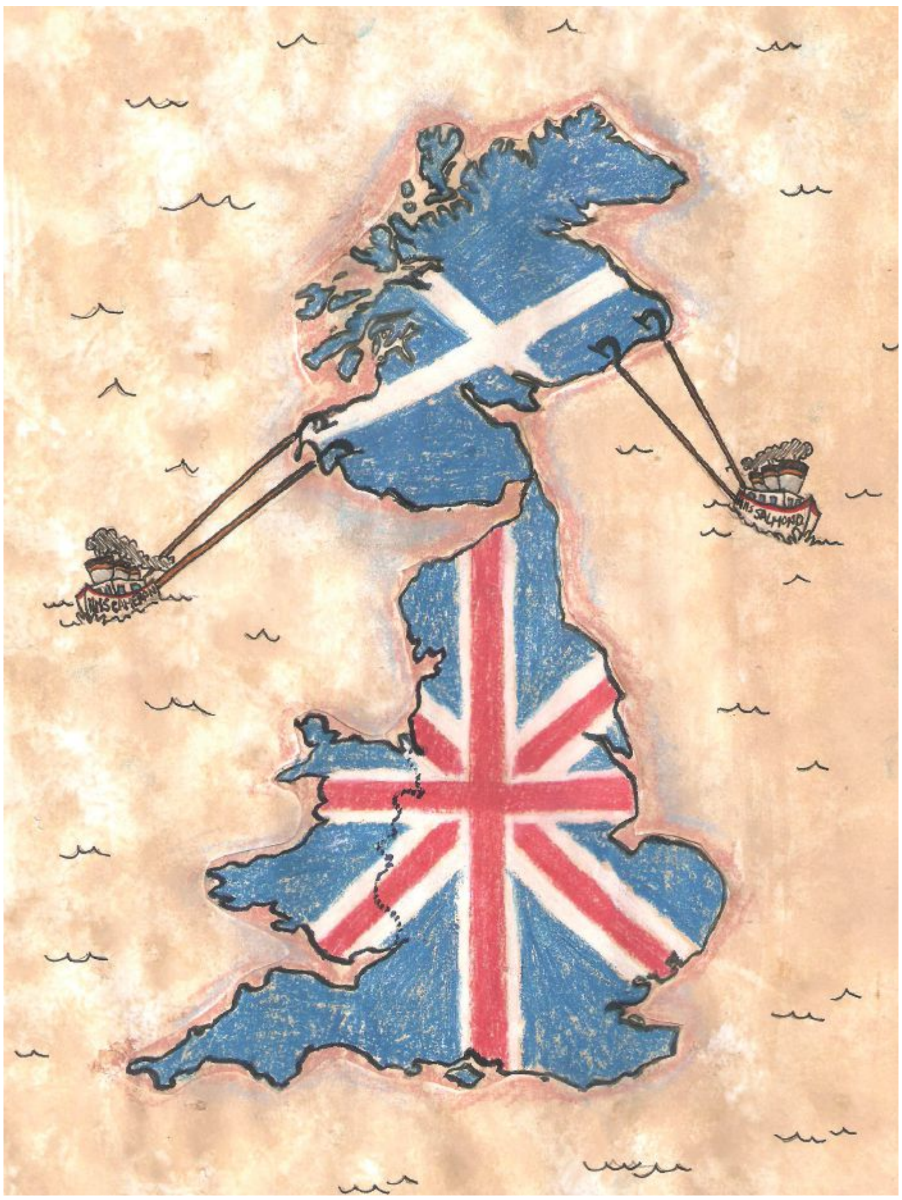
The Scottish economy is far from weak: in 2009-10, Scotland ran a net fiscal deficit of 10.6% relative to an 11.1% deficit in the UK; in terms of trade, Scotland is the richest region after the South East and London; and Scotland was able to recover from the recession much faster than the rest of the UK.

A major reason people are in favour of independence is that, like many areas in the north of the UK, Scotland's economic interests are often side-lined by policies designed to benefit South East England and Greater London. As a smaller nation, Scotland would be able to dictate its own economic policy, which could have favourable impacts on growth. Of course, this would rely on attracting the most skilled economists, choosing viable business projects, funding profitable entrepreneurs and providing the conditions to attract big companies. Scotland has already shown that it is capable of doing this, by drawing in big businesses like Michelin, Samsung, Hewlett-Packard, Amazon and Mitsubishi. There has also been talk of reducing its levels of corporation tax to increase business' profitability and attract even more organisations. Ireland has already done something similar, reducing tax from 25% to 12.5% and has seen an economic boost as a result. Furthermore, along with pulling in international business, Scotland has a stable export market of its own. This includes local products like alcoholic beverages and financial services, and is worth £22bn at present.

Independence might also lead to more UK companies 'agglomerating' their head offices in the Scottish capital instead of in London to be nearer key policymakers and to build a self-sustaining business ecology in the north. This would help Scotland retain its educated and skilled workforce, instead of them having to migrate south for the best-paid jobs.

In the long run, Scotland's self-sufficiency depends crucially on oil. Alex Salmond contends that Scotland is geographically entitled to claim around 90 per cent of North Sea oil and gas reserves, although this is by no means assured. Acquiring the bulk of this booming resource would generate around £30bn in tax revenue over the next twenty years. The resource would provide significant revenue and could perhaps help to fund investment in Scotland's renewable energy sector, which has huge potential. This sector already received £750m of private sector investment last year and with the right energy experts and investment, Scotland could become a dominant player in renewable energy markets.

Of course, oil prices are notoriously volatile. This is illustrated in data from HMRC which shows that in the 2008-09 financial year oil tax revenue reached a record of £12.9bn, but only half that amount (£6.bn) in the following year. Moreover, as a smaller country, Scotland would be more vulnerable to these price fluctuations and, as there are only 24 billion barrels left to extract over the next thirty years, one might question whether Mr Salmond is right to pin the vision of an independent Scotland on oil alone. However, while the income volatility might be unavoidable, there is the suggestion that perhaps oil will not run out as quickly as previously envisaged and, since Middle Eastern tensions are



Hannah Carr

pushing up the benchmark price of Brent Crude (it almost hit $120 per barrel this February), there is still a lot of money to be made in the oil markets. Also, any fluctuations would be offset by the high tax rates and overall buoyant revenues could be expected, much like the success seen in Norway where the oil-fuelled state pension fund hit the 3 trillion kroner (£324bn) mark this year.

A final concern is the manner in which the UK national debt would be divided. Essentially, if Scotland were merely taking on its "fair share" of debt, it should not need to generate any further income to pay this off. However critics argue that it would need to service this debt by issuing bonds and, with no credit history, they might find it difficult to impress investors and thus may not be able to enjoy the same low rates as the UK. However, it is unclear why Scotland could not attain a similar rating to the UK given their economic similarities, as highlighted above, and so we should not be so quick to presume the response of credit rating agencies.

In this uncertain world we cannot know how the economy of an independent Scotland might fare, but that is not a strong enough reason to disregard the proposition altogether. Essentially, the case for going it alone depends on the revenues of North Sea oil and gas and the strength of economic policies of future governments at Holyrood.

But Matthew Markwick argues that independence would be foolish and unfeasible

The question has been posed, 'Do you agree that Scotland should be an independent country?' An answer is still some way off, but it is a proposition that should be approached with caution.

No one truly knows what the overall effect of independence would be. Rational, grounded reasons for pro-independence thought have not been presented in documents or discussion. With reference to the SNP's manifesto, one finds a series of generic ambitions, including some that are superficially desirable, without a solid indication of how any of them would be accomplished. It is especially unclear as to how independence would help to achieve these prospects.

It is sometimes argued that independence would empower the Scottish people, yet the referendum is not asking for more power for individuals, it is asking for more power for the Scottish administration. There is no reason to believe that the prosperity of Scots would be improved by a convoluted attempt at a hefty centralised state. Locally devolved power would be a possibility but ample opportunity for such is already offered by the United Kingdom.

The given economic case is unconvincing. North Sea oil production is declining and any tax returns will dry up with the wells. Even with the supply flowing, there would be a shortfall in respect to the subsidy currently granted from the rest of UK, while the volatile price of oil would make it difficult to predict how much income would be received in any one year. It would be imprudent to take oil revenue as a long term foundation for independence. The question of a lower corporation tax could be equally applied to the UK as a whole and in any case would not cause an economic boom of the magnitude to warrant the financial risks of independence. Ways in which Scotland could improve its competitiveness in other areas have not been adequately elucidated.

The issue of currency has not been fully addressed. The majority of Scottish voters would not be expected to want to use the Euro (this may also have the effect of making it difficult to become a member of the EU). The continued use of the Pound would be possible but Scotland would no longer have the right to influence the monetary policy affecting it. A Scottish Pound or variant would be another option, but it would be fraught with a great uncertainty in regards to its value and effect upon trade, both within the UK and abroad. In addition, the cumbersome and expensive process of a change of currency would most likely not be popular with the general population.

Dissolving the union would incur many other practical issues. Separatists are very quick to offer assurances but often these seem to be based on hopeful assumptions. Mr Salmond regularly laughs off concerns regarding some of these unanswered issues. There is a lack of clarification for everything from defence, passports, embassies, intelligence agencies, the UN, the EU, international treaties and agreements, right down to the various fundamental rights of individuals. These are serious matters of detail, certainly not something to scoff at. This also puts into question the SNP's claim that Scotland could be independent by 2016. It is doubtful that hesitant voters would think independence worthwhile if it incurred an extended period of complex transition. This would also have the effect of a continued uncertainty, damaging Scotland's economic potential.

Scotland is already in a good position. As British citizens we are guaranteed freedom and security, a strong influence on the world stage, increased trade both with the rest of the UK and the greater world, while retaining all that is great about Scotland. The interests of the United Kingdom are intrinsically tied to those of Scotland; in any realistic circumstance they do not contradict. Moreover, Scotland does not speak in one voice, just as England does not think with one mind. Britain is a diverse land of many individuals of innumerable opinions and lifestyles; a divisive political line would not separate out two distinct groups. Britain and Scotland are reflected within each other, there is no personified macro-separation, despite the ambition of some to create one.

The reasoning behind this referendum verges on farcical; no clear indication has been given of what would actually change to improve the prosperity of Scotland, let alone why Britain's successful and prosperous partnership should end. Any move towards independence would not leave Scotland irreparably desolate, but we would have denied ourselves the many continued advantages of being part of the United Kingdom. Is that a price worth paying for an unsubstantiated idea? Independence would be a reckless folly riddled with nationalistic delusion and little possible reward. When asked, I will be able to confidently say that 'No, Mr Salmond, I do not agree' and Scotland shouldn't either.

Fighting for a Reason?

Jonathan Dale asks if can you rationally wage war – or should you always ensure peace?

War is a massively divisive issue which rouses intense emotions inside many of us. You may meet protesters on the street raising money to support our soldiers' cause, but if you cross the road you'll find others campaigning to end war altogether. But whichever way you feel, it is difficult to deny the multitude of wars that today's world is confronted with, whether they make the news, or not.

If you listen to any western Head of State, they offer an almost universal justification - that they are fighting a war or invading a country for the good of the people, both home and abroad. Looking at Libya, Iraq or even Ireland from 30 years ago, the reason behind these wars appear to be all the same - that fighting in each nation is a last resort when peace was impossible. But is war a rational alternative to peace talks? And does war achieve the benefits that alternatives simply cannot deliver, with decisions being made with the best possible interests in mind?

In the notable case of Afghanistan, leaders would argue we are fighting primarily to defend ourselves and look after the interests of the Afghan people and indeed that attack is the best form of defence. It follows logically that by fighting, the worst possible outcome of leaving yourself exposed, open and 'dying without trying' can be avoided. Game theory and strategic decision making like this dictate many of our decisions in life, and so often by avoiding the worst possible outcome, we will be satisfied with any other result. However, the unequivocally best result, where each party benefits from peace, can never be achieved, and war simply leads to a stalemate of trying to get one up on the other.

A crucial assumption of game theory, which many countries seem to follow, is that little regard is paid to the opposing party. Right-wing Republican voices in the George W. Bush government paid little regard to Saddam Hussein's regime, with Donald Rumsfeld telling Bush he "had the power and so should use it." Whilst Iraq as a whole was screaming out for a resolution to their human rights crisis, many of the motives for the war instead centred upon American demands of oil, ending the threat of Weapons of Mass Destruction, and seemingly protecting American interests over that of the Iraqis. Maybe then game theory does suggest the root of all war, and the short-sightedness and failure of leaders to look at the other country extrospectively for their needs would show how wars start.

However a more practical defence of why war is rationally waged may come from the supposition that war is a good thing to win, but a bad thing to lose. Political and economic gains that could be made make war a very attractive proposition, and war will be impossible to end as long as the winner receives these lucrative benefits that justify the fighting. Scarcity of resources, wealth and power mean that conflict is inevitable and even rational, if the potential losses to a country are outweighed by the potential economic, political or commercial gains from winning. If the odds of winning the lottery were better than 1 in 10 million, then surely more people would play, and war could be seen in much the same light. A war that is likely to be won with little cost is an attractive proposition, whatever the overall end goal of the war may be for a nation. Many leaders see war as a risk worth taking, especially when so many benefits can be reaped from the battlefields. Some argue the Falklands war won Thatcher her 1983 election landslide and restored Britain's reputation as a military superpower. Similarly, despite many painful costs to each side, as is seen in any conflict, war can bring economic success and power to the victor, and therefore can be seen as a rational move to achieve otherwise unattainable goals. The removal of dictators and ending of regimes are ever-harder to achieve through talks alone.

However, reasons for why war is rational appear to go one step further. Let us assume that irrationality of rogue states leads to widespread concern globally. Iran, North Korea and Sudan all use secrecy to guard their activity. Often in life, the most hidden things are those that cause the most attention and fervour – whether something as trivial as seeing who celebrities are now dating, or something far more threatening, such as Iran's nuclear programme. Bounded rationality has a big part to play when well-meaning states are just left in the dark and can only make decisions of war or peace based on limited information. Even for those states simply in arms races, the misperception of onlookers who misjudge their intentions may make it rational for war to be waged against them, as potential threats from the arms race grow in size.

Basic human nature of wanting to 'know everything' leads us to war far quicker and whether right or wrong,

Nick Dowling

the rationality of wanting to uncover hidden secrets, and at all costs, avoid the problem of being left defenceless while under attack. In the case of this year's London Olympics, the security budget now stands at over £500 million (the equivalent of the Seychelles' GDP), with 'unknown potential threats' endangering the Games. Bounded rationality is important, whether concerning war or peace, or just a two week sporting event.

Currently, uncertainty and lack of foresight means war may never be fully justifiable and moral judgements that impact on decisions mean it may never be a wholly rational decision, at least in the economic sense. Moral groundings and biases of individuals will always affect decisions, and war will always be an issue where there is more to evaluate than simple costs and benefits, without necessarily a right answer.

Some scholars like Clausewitz may argue through rationality alone by suggesting war serves an important purpose in society, and is a vital tool of the state. He believed decisions of war ought to be made rationally, instrumentally and fought through nation states and entire nations should unite for rational wars bringing deserved benefits to the victor. However, others contest this view, and moral theorists such as Kant or Gandhi would argue there is no justification of the killings in war. Whilst it will always remain a contentious issue, it was Bertrand Russell who once put war into context by saying, "war is not about who is *right* – only who is *left*."

The Axis of Power

Could western China be the key player in the American downfall, asks Hossam Hashim

If you find yourself walking on the street, and randomly choose a by passer and asked them what they thought about China, they would probably flood your ears with stories that they have heard about the Chinese economic might. However, to what extent may that argument actually be valid, and what affects would further growth have on China's major economic rivals?

As many people around the world would agree, the United States is a well-established 'big player' when it comes to the global economy, but many also don't understand the true nature of the relationship between the Chinese and Americans, the strategic conflict in the Asian giants region, and what the Americans really fear.

When one speaks about China's glorious economy, many do not know about the regional diversity when it comes to their economic structure. Fundamentally, China is heavily reliant on its eastern provinces due to easy coastal access, and it is this area that produces the majority of their total economic output, leaving their western provinces relatively malnourished. The shocking statistic that Western China entails over 71% of Mainland China but only contributes to roughly less than 20% of the total output brings to mind the idea of what China may unveil if they start to develop their western regions further and awake the 'sleeping giant'.

Western China suffers from an acute case of claustrophobia; it is landlocked and doesn't enjoy easy access to any nearby ports or coastal facilities. This has hindered development in the region and may be the only thing bringing China down. This leads to the juicy part of our story. How would the story change if China manages to secure resources for its western side? Are there any nearby ports they can gain access to? Well, in theory, yes there is, but unfortunately these ports do not happen to be in China, they happen to be in the conflict-ridden neighboring country of Pakistan.

Gwadar situated in Pakistan's Baluchistan province is of high strategic importance to China, situated on some of the world's major oil lines, this region and the surrounding areas are home to over two thirds of the world's oil reserves. China has acknowledged that Gwadar's strategic value is no less than that of the Karakoram Highway, which helped cement the China-Pakistan relationship. Beijing is also intent in turning it into an energy-transport hub by building an oil pipeline from Gwadar into China's Xinjiang region (in Western China). The strategic pipeline will transport crude oil sourced from Arab and African states. Such carriage by pipeline will cut freight costs and also help insulate the Chinese imports from interdiction by hostile naval forces in case of any major war.

Gwadar happens to be one of the few deep-sea ports in that region, and is becoming of significant importance to world trade. Over the past 50 years China has been pouring investments of over $15 billion into the region trying to develop it further for their benefit. The region is also home to some of the major pipeline projects, including the Iran-Pakistan pipeline, carrying a maximum of 40 billion cubic metres of natural gas. Iran has been a major trading partner with China and in 2010 it was reported that China roughly invested $40 billion in Iran's oil and gas sector. Conflicting reports suggested that the U.S advised Pakistan to back away from these projects, which has brought about major controversy.

Turmoil in the Pakistani region may be due to several other reasons, but many argue that a reason is the US presence in the area. The Pakistanis are suspicious of US intentions. Recently, The Financial Times reported that, "Pakistan has asked China to build a naval base at its south-western port of Gwadar and expects the Chinese navy to maintain a regular presence there." China has also signaled that it would be interested in setting up foreign military bases, just as the United States has, and specifically is interested in such a base inside Pakistan. The aim "would be to exert pressure on India as well as counter US influence in Pakistan and Afghanistan." Many conspire that the US is responsible for the disruptions in the area and the destabilisation of Pakistan is claimed to be directed at wider strategic objectives for the west: namely the isolation of China in the region.

China does not consider the US to be one of its strategic partners, but rather as an obstacle in the path of its regional and global ambition. Just last year, reports were released stating that according to American policy makers, the US goal must be to derail Chinas quest to become a 21st hegemony. This statement, backed up with evidence of them trying to disrupt Chinas trade partners, and accusations of creating conflict in the region, must lead to one basic assumption – that Americans really do fear Chinese prosperity, otherwise, why should they care about China's development?

Firstly, further developments in the Chinese economy will not only affect the US, but all Western countries, which at one point were technologically more advanced. The fear stems from import substitution implemented by China leading to a more self-sufficient China. This enables them to increase production and simultaneously increase exports, flooding the international market with cheaper products. A declining overseas demand for US exports could lead to deterioration in the US terms of trade, resulting in the decline of real factor rewards for domestic inputs, particularly low skilled labor. Furthermore, increasing savings rates allows the Eastern giant to finance Western debt, as is seen within the U.S. Further imbalances in savings could lead to serious mistrust and increasing speculation. China has already started warning their investors about a potential dollar collapse and are insistent on changing the currency of trade away from the US Dollar. In the ultimate event that the dollar is no longer the international trading currency, the US would lose a huge amount of influence, power and dare I say "the justification for printing that ridiculous amount of bills".

Many already are speculating the downfall of the once great American economy and confidence in the US dollar has plummeted. Many countries in the area such as Sri Lanka, Pakistan and Bangladesh have adopted their local currencies in regional trade. A more prominent step was taken by ASEAN (Association of Southeast Asian Nations) to use their domestic currencies as the US Dollar was losing its weight as the world's international reserve currency. This shift of power is the last thing the U.S economy would want and China may have an even larger role to play in this than what has previously been anticipated. One thing is certain though: the West's gluttonous consumption of cheap Chinese exports is in no danger of dying out any time soon.

East vs. West

The rise of China as an economic superpower is a long run prospect, argues Liam Atkinson

For almost 70 years humanity has lived through a period characterised by the dominance of superpowers, initially the United Sates and the USSR, latterly just the USA. Two generations have been brought up in a world of polarised global power and it is through this prism that we view the current decline of the United States and rise of China. The prevalence of this conditioning in the public mind, combined with inaccurate simplifications in the popular press, has led us to a presupposed transition: an idea that the USA shall decline and China shall rise to take its place dominating global power. Yet the reality of the situation is much more nuanced.

Whilst the USA is indeed wallowing in a period of relative decline, behind the oft-quoted 9.2% Chinese growth figures of 2011 there lie signs of serious economic and political malcontent in the Middle Kingdom as well. In the very long-run it is almost undeniable that China shall come to dominate global power, but this is not the case for the immediate future.

The probability for the next 30 years is the gradual formation of a plateau of global power. A USA in economic decline and with an increasingly isolationist electorate will become unable to unilaterally drive the global agenda. Europe shall tread water in global affairs through their historical precedent and the scale of their domestic consumption, Russia will maintain a global role due to its vast natural resources (notably gas reserves) and the scale of its militarisation, and China shall at last truly ascend to the table, due in large part to its seemingly unstoppable economic growth. Indeed it could be argued that signs of this process are already starting to occur; in the on-going Arab Uprising, Europe has played a much more independent role than it has for some time, with America unwilling to commit itself due to budget cuts at the Pentagon and a noninterventionist electorate. While most would accept this future of a declining America and stationary Europe, it is the prediction of a Chinese slow-down which appears so counterintuitive and unexpected; we need to separate and view China's real potential troubles, best described in the categories of economic indicators and political and demographic issues.

In terms of economic data China presents a strong facade - that of relentless economic growth and a sizeable trade surplus - but beneath this there are three key problems: a rapid slowing in the housing boom in the aftermath of a previous lending spree, depressed demand in China's biggest international customer – Europe, and unidentified falls in its foreign exchange reserves. The sudden slowdown in the housing boom is itself a sign of greater problems; households are finding it increasingly difficult to secure mortgages as credit markets stutter. In December 2011 there was a 65% year-on-year fall in foreign capital, and this is all in the hands of policymakers who are ever more wary of the dangers of boosting the bad debt burden through increasing lending. Then we come to China's demand problems; currently heavily over-reliant on the American and European consumption markets, many manufacturers are facing dire times and the party's long-term plans to develop a domestic market for China's industries are just that: long-term. And whilst these demand problems are currently mitigated by a $630bn Chinese stimulus package, this cannot go on forever. Finally there are the unidentified falls in China's foreign exchange reserves. A common explanation is that 'hot money' is leaving the country as both the housing market and rate of economic growth falter. A bigger worry would be if China's richest were starting to smuggle their new wealth out of the country. And although in both these cases it is far too early for serious concern, with China's top 1% holding as much as $5 trillion in property and personal wealth, were it ever to happen it would present a disaster for the Chinese government. The long-term goal of Beijing is to supplant exports and government investment projects with domestic consumption as the source of growth, yet this will take a long time to achieve and there are some major economic obstacles to overcome first.

China's internal political problems can be broadly summarised into one main issue, that of discontent with the totalitarian regime of the party. This is currently driven by two core components: demographically induced pressures and internal turmoil within the party.

On account of the former, decades of the one child policy have left China with a significantly male majority in its younger generations. Alongside this, the authorities are struggling to control the adoption of the internet and, as news spreads ever faster and more profusely (90% of urban internet users are now micro-bloggers), this young and increasingly male population are becoming ever more disaffected with the regime. The party is acutely aware of this pressure; Zhang Musheng, an intellectual with connections to the leadership, published a book calling for a 'new democracy' with continued party rule but much greater freedom. A selection of top party officials have publicly supported the idea, this being a rare tacit acknowledgment of the party's clear need to appease the population.

Regarding the second component of discontent, the party is facing a troubling immediate future with a substantial change of leadership due later this year. While some of the very top positions appear to have an ordered succession prepared, there will be a lot of jostling for position lower down the scale, all taking place during an unfavourable economic climate (particularly for rural migrant workers) with an increasingly discontented electorate. The leadership are haunted by the idea of large-scale unrest; the last time such a change occurred within the party, at such a scale and in such an unfavourable economy, internal party strife broke out into public turmoil culminating in Tiananmen Square.

Overall, it is clear that China's rise to dominance is not a foregone conclusion, and the manner in which the party responds to internal economic and political pressures will act as a major benchmark for China's progress in the future. We are undoubtedly entering a period of economic conflict between China and the United States, and at times this may spill over into forms of indirect military conflict. But the results of this conflict, and the ascension of China, are by no means clear cut. Prior to the First World War humanity lived through a century of Great Powers (or the Concert of Europe); it was a finely balanced system consisting of a small group of powerful nations each with a global influence but lacking total dominance. Through orchestration within this group, spheres of influence would be carved out and 'total' war would be avoided as members formed allegiances to maintain a political balance in the lack of a unilateral dominance. In the words of Oscar Wilde, "history rarely repeats itself but it often rhymes", and it is from this perspective, not from the age of superpowers, that we should view the future balance of power.

A Son Rises in the East

What will North Korea's new supreme leader bring to the international stage, asks David Barron

The death of Kim Jong-il was an event that shook both North Korea and the international community, but in entirely different ways. Whilst North Koreans mourned the passing of their 'Dear Leader' with public displays of hysterical grief broadcast worldwide, markets opened that week on a subdued note. The main reason for this uncertainty is the matter of succession. By passing over his eldest son for his youngest, Kim Jong-un, observers worry Kim Jong-il has created a power vacuum within the regime, and remain anxious about what direction the country will take.

Scenarios range from the positive, such as Kim Jong-un breaking from the hostile isolationism of Juche, to the pessimistic, such as the utilisation of 'nuclear capabilities' to start a devastating conflict. To help assess the probabilities of such situations occurring, it might be useful to briefly overview the complex history of North Korea, its relationship with South Korea, and its current economic behaviour.

Korea's division into two states was the result of the breakdown in cooperation between the Soviet Union and the United States. They both occupied the Korean peninsula following Japan's surrender after the Second World War - the former occupying the region above the 38th parallel North, the latter the area below it. With neither side wishing to re-establish relations, the situation deteriorated, culminating in Kim Il-sung's invasion of South Korea in 1950. The Korean War's aftermath saw the establishment of a Demilitarised Zone (DMZ) that exists as a buffer between both countries. Subsequently, the countries became isolated from each other and influenced by opposing ideologies: North Korea, a race-based brand of communism; South Korea, a state-run variety of market capitalism.

As the North and the South followed different cultural and economic tenets, contrasts soon emerged between them. Following the Korean War, the North was left with greater natural resources and more heavy industry than the South. The South, meanwhile, possessed approximately two-thirds of the workforce. As North Korea operated under a centrally planned economy its GDP initially grew rapidly, being on a par with South Korea. This lead soon disappeared, with the North beginning to lag behind the South in the late 1960s. The continuing economic stagnation eventually evolved into a full-scale crisis after the collapse of its primary source of aid, the Soviet Union. This led to a massive country-wide famine during the 1990s.

> "By passing over his eldest son for his youngest, Kim Jong-un, observers worry Kim Jong-il has created a power vacuum within the regime, and remain anxious about what direction the country will take."

In contrast, South Korea focused on producing labour-intensive goods, which, accompanied by an influx of foreign capital, saw South Korean growth skyrocket from a GDP of $2.7 billion in 1962, to a whopping $230 billion in 1989. This phenomenal progress earned the state its label as one of the 'Four Asian Tigers'. Its rapid development is not set to slow down anytime soon either; it is listed by Goldman Sachs as one of the 'Next Eleven' countries possessing high potential to become the world's largest economies within the 21st century.

Economic initiatives have been undertaken by both states to mutually improve their economies. Of such programmes, perhaps the one yielding the most significant progress for North Korea is the Kaesong Industrial Park. Opening in December 2004, the Park has helped link the two countries together, with each state bringing its own resources to the table: able workers from North Korea and technological expertise from South Korea. North Korea is estimated to earn approximately $2 million per month from the arrangement, mainly by imposing 'social insurance taxes' and a 'socio-cultural fee' upon its workers' wages. Added to this are 'land lease fees'. The company Hyundai Asan, an affiliate of the South Korean conglomerate Hyundai Group, gave North Korea $12 million for a "50-year lease on the entire Kaesong site." Further augmenting this revenue is the exploitation of North Korea's previously mentioned natural resource abundance. For example, Korea Land Co. bought "sand and gravel and other raw materials" to aid its "site development at Kaesong". These deals have helped bring both Koreas together and provided a valuable revenue source for the economically disadvantaged North.

However, whilst the Kaesong Park has brought some economic success to both North and South Korea, and helped build ties between them; recent events demonstrate the fragility of the region. The sinking of the ROKS Cheonan on 26 March 2010 is one example. This incident was blamed on North Korea after an independent investigation concluded it was sunk by a torpedo manufactured by its government. Tensions rose even higher in November 2010 with the shelling of the South Korean island Yeonpyeong. North Korea fired upon the island, killing four people and injuring nineteen others. This was a response to South Korean artillery exercises that came too close to North Korea's territorial waters, prompting them to retaliate. Consequently, the South returned fire. These violent exchanges escalated tensions, with US ambassador Bill Richardson stating the conflict was "the most serious crisis on the Korean peninsula since the 1953 armistice which ended the Korean War." Both incidents endangered the Kaesong Park's future, with South Korean workers being banned from entering the SEZ, and some South Korean government officials calling for the complex to be shut down permanently.

On the other hand, relations between North Korea and its northern neighbor, China, have been contrastingly 'normal'. As with South Korea, a central aspect of North Korea's relationship with China is a special economic zone. Called the the Rajin-Sonbong Zone, it was started in 1991 and was the first SEZ to be created. It has encountered some difficulties since its inception, later losing its free trade status and having its party secretary executed on corruption charges. But the future looks brighter for this SEZ, with China recently agreeing to invest $3 billion in the area by constructing three new piers, an airport, and a 55 km rail link between Rason and the Chinese city of Tumen.

So what exactly do these economic relations between North Korean and its two neighbours tell us about the country's future? If anything, not much, as its behaviour can be described as rather inconsistent. Whilst some attempts have been made in recent years to engender economic reform and cooperation by the North, other actions have only been detrimental to these efforts. Cheong Seong Chang, a senior fellow at Seoul's Sejong Institute, states that there is "reason for cautious hope", as Kim Jong-un may be "building on small steps his father had taken." But for now at least, perhaps it is best if we do not become overly optimistic, and simply assume it is 'business as usual'.

Ruling with an Iron Fist

Andrea Schmidtova investigates the democratic deficit in Hungary, and its conflict with the EU.

If we were to define the world in the 2010s so far, we would probably use the word "unrest". Turbulent economic times are emphasised by protests that are taking place all over the world. Last December, 100,000 dissatisfied Hungarians marched through Budapest. Their motivation, however, substantially differed from fellow protesters on the continent who fight against austerity measures or ACTA. After the parliamentary election of 2010, Fidesz, a centre-right conservative party won in a landslide victory capturing 52.7% of the vote, and thus securing a constitutional two-thirds majority in the parliament. Such a situation could easily be abused anywhere in the world. According to the European Commission, the International Monetary Fund, and a growing number of protesters, such abuse is just the case in today's Hungary. They believe that legislation regarding the Central Bank, the media and judiciary system have pushed the country into totalitarianism while severely undermining basic democratic principles.

The global financial crisis of 2008 hit Hungary hard, bringing high unemployment and inflation. In the same year, the country received financial aid of 20 billion from the European Union and the World Bank to recover. The bailout wasn't effective, and the economy and national currency, the forint, have been sinking ever since. The export advantages of a weak currency and relatively cheap labour were outweighed by negatives such as imported inflation caused by soaring fuel prices and the increasing value of government debt, which is repayable in foreign currencies. A small, export-oriented economy is closely tied to the economic performance of its trade partners, and Hungary's partners have seen trouble too.

Following a common pattern in the country's modern history, the campaign of the newly-formed government lead by Viktor Orban built upon the nationalistic image of a sovereign and strong Hungary, which appealed mostly to the rural population. Mr Orban drew parallels between western banks and soviet tanks and often compared Brussels to Moscow. Any criticism that originated from across country borders was considered interference in domestic affairs. Therefore it is no surprise that comments made by the EU, IMF officials and even Hilary Clinton, the U.S. Secretary of State, were instantly disregarded in the early years of Orban government. However, it now seems that Mr Orban will have to find some common ground with them.

The core of the conflict between the EU, the IMF and Mr Orban lies in legislation that has been proposed or passed by the parliament. Many have referred to the 'Putinisation' of Hungary and the emergence of 'Orbanistan'. For example, the Hungarian PM proposed a merger of the Central Bank with a financial markets regulator. This merger entails that the governor and vice-governor of the Central Bank as well as the members of the Monetary Council are political nominees. Such an action undermines the independence of the institution that is responsible for creating the monetary policies needed to help Hungary out of the crisis. Needless to say, such legislation is a direct breach of EU treaties. The incumbent governor Mr Simor calls the merger a "total takeover" and his counterpart in the European Central Bank, Mr Draghi, expressed his concern about the independence of the Central Bank from political influences. Mr Draghi has also complained about the lack of communication between the two central banks.

Similarly, a controversial media law made Mr Orban the head of the Media Authority - an overseeing body in charge of imposing substantial fines for spreading information "unbalanced, immoral or offensive to human dignity." This clearly puts Mr Orban into a position in which he controls the media. Consequently, the broadcasting frequency of Klubradio has been suspended for promoting anti-Orban ideas, completely disregarding principles of a free press. To make matters worse, the independence of the judiciary system has also been put into question, as the mandatory retirement age of all judges was lowered to 62 from 70, forcing a large number of judges out of service and allowing for political appointments to be made.

The European Commission points out that the set of institutional checks and balances between the legislative and executive branches of government were abolished, as many overseeing bodies have been dissolved or taken over by the leading party. The EC also expresses worry about a set of fiscal laws that enshrine a flat personal income tax, nationalisation of pension funds and increased windfall taxes on the financial sector, telecommunications, energy, and retail. These inhibit the attraction of any foreign direct investment. The education system has also been fully nationalised with a standardised syllabus, completely outlawing private schools. Lastly, the dual-citizenship law under which every Hungarian in the Carpathian basin and around the world is granted citizenship, arguably creating enclaves of foreign citizens within foreign countries, is currently being evaluated in the European Court of Justice.

In 2010, despite the harsh economic situation, Mr Orban suspended talks with the IMF regarding another rescue package. However, after the Hungarian credit rating was downgraded to junk status by all three leading credit rating agencies, and the Société Générale recommended that investors sell their forints, the Hungarian PM reversed his position. He now wishes to re-open talks about financial aid in the form of an insurance-type agreement aimed to secure the precautionary credit line. Christine Lagarde of the IMF, however, has taken a stand and requires Hungary to demonstrate that tangible steps are being taken to ensure macroeconomic stability. The European Commission, on the other hand, has threatened to take Hungary before the European Court of Justice if a legally stable environment is not created, and soon.

Mr. Orban has reacted, in a limited way, to the EC and the IMF. He promised to drop the controversial merger of the central bank and financial markets regulator and retreated on some of the media law. He claims there may be room for negotiation on some points, but he will not give in to all demands. For example, he believes that the EU has no jurisdiction over judges' retirement ages. The main framework of the media law has also been left untouched.

It must be noted that the efforts of the European Commission and the International Monetary Fund have been effective in some instances. However, more cooperation between the institutions and stricter sanctions are necessary to push Hungary back on the democratic track. The main problem is that once a country is a member of the EU, there are few mechanisms to force it to step down from controversial legislation. This is true even when legislation is in direct conflict with democratic principles or EU treaties. Legal procedures can also drag on for years. Potential sanctions include suspension of voting rights in the European Parliament, or a temporary halt of the flow of development funds and other money into the country. The IMF has a tighter grip on Hungary than the EC, as the country desperately needs financial aid. Therefore, the fund should not step down from any of its demands. Even though there are seemingly more important issues to be resolved within the European Union, it is essential that decisive steps are taken as soon as possible by the IMF as well as the EC to avoid the complete democratic collapse of an EU country.

Maisie Shearring

Across the Spectrum

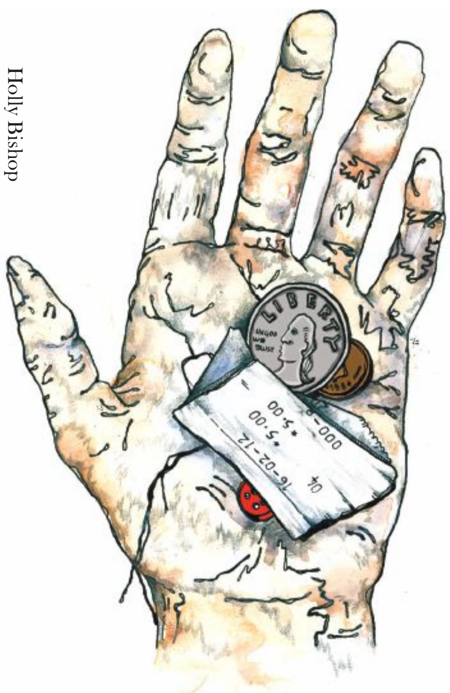
Briana Pegado explores the polarisation of American politics.

Turn on the news or read the headlines of any major newspaper and it is hard to miss the polarised undercurrent of international politics. Put your focus on the United States and that undercurrent, a slightly electrified charge, looks more like Zeus' thunderbolt or the heavens opening up to smite anyone in its political path. The polarisation of 21st century politics is unmistakable but is it unexplainable?

Though not directly comparable, the two extreme factions in the United States are the Tea Party and the Occupy Wall Street movement. The former is driven by far right liberal conservatives outside of popular American politics and the latter is an international movement situated on the far left of America's political spectrum. Occupy calls for recognition of the 99% majority in the world being taken advantage of by the privileged few. Both movements often criticised as being disjointed seem questionably coherent in one area – their economic agendas.

Research into the Tea Party movement drives you to certain conclusions. First, the Tea Party has neither a strong base nor visible ringleader. Second, the movement is in opposition to taxes of any kind. Wikipedia coins the term "backroynm" to describe what some argue the 'tea' in tea party stands for: Taxed Enough Already. (Backroynm refers to an acronym that has been constructed after the word or phrase has been put in use). A quick browse over the 'Tea Party Patriots: Official Home of the American Tea Party Movement' website looks like a badly laid out blog. No policy briefs, stratagems toward action, or statements made about the economic climate of the US are visible. The founding fathers of our country would shudder to see their great efforts associated with this utter mockery of action, this utter mockery of history.

At least, the Occupy movement owns up to its leaderless nature. It describes itself as a "leaderless resistance movement with people of many colours, genders, and political persuasions". It describes itself as the 99% that will no longer tolerate the "greed and corruption of 1%". The website describes that by using the "Arab Spring tactic" to "achieve its ends" and encourage nonviolence, the movement can "maximise the safety of all its participants." Its purpose it clearly spelled out on the first page of its website. (It seems the Tea Party could not even manage that.) However, what are its 'ends'? It does not describe what the 99% are striving for besides the fact that it will no longer tolerate the 1%. Once again no clear policy briefs, stratagems, or statements toward action are outlined here.



Holly Bishop

In contrast, the Tea Party movement may endorse reduced government spending, reductions in the federal budget deficit, national debts, and adherence to an 'originalist interpretation' of the American constitution but how will they support their agenda? The movement only seems to encourage a schism in politics that the United States has never seen before. They accomplish this by supporting political figures such as Sarah Palin, Rand Paul, and Ron Paul. The latter of which may not want to be associated with such a 'party' in the first place and the former of which may take any form of endorsement possible to raise her non-existent political profile.

On the other hand, the Occupy movement furthers its agenda by promoting protest. It has mobilised what may be millions of people in numerous countries around the world. It has become something bigger than itself promoting 'fair' economic policies and support of the 99% around the world. The movement has taken shape by commanding the airwaves and though it may not last it has made a point. Like Invisible Children's KONY 2012 campaign it has raised awareness for its cause. The movement of this awareness could be termed viral in its heyday. However, raising awareness is one thing and raising awareness for a cause that is clear in its intentions is another.

The discourse surrounding the Occupy movement exists within American politics but is not actively part of American political discourse. The Occupy movement is not a political party with a largely political agenda. It may or may not affect the presidential elections to the same extent the Tea Party may. The Tea Party has fed off of disillusionment with the current administration and given the disillusioned populous a forum to voice their grievances. In this process it has furthered its rather extremist agenda illustrated by nonsensical and at times prejudiced advertising campaigns. I have seen posters with my own eyes depicting Obama as Hitler certified with the Tea Party stamp of approval. It has mobilised voters to protest, like the Occupy movement, for a cause they believe in. It too has commanded the airwaves and has been the subject of debate. But what has it really accomplished?

We cannot deny that high levels of disrespect for the man in the oval office have existed in previous administrations. Watergate, the Monica Lewinsky scandal, and the War on Terror have left much to be desired in our leaders. However, many news anchors, historians, and Washington insiders claim that in Washington's recent history (a span of 40-50 years), the city has never seen this level polarisation driven by pure nastiness and disrespect for those in positions of power.

Some argue social factors are the cause of this polarisation. The new face of the White House does not settle with some. Others attribute this spectacle to the very phenomenon of polarisation. In physics terms, polarisation can refer to a process in light's properties. If waves of light on the electromagnetic spectrum were unpolarised then they would not be visible to the naked eye. We need polarised light for our eyes to register, to see. In political terms, it can mean to cause people to adopt extreme opposing positions. Light polarisation seems to be essential for human functionality, whereas political poliarisation may serve a more societal function. However, in the current state of US politics, it may cause more harm than good.

In theory, democracy supports discussion around any ideas proffered by the people. In the urgency of this economic climate, however, something more substantial then ideas needs to be put on the table. Two factions making noise without suggesting any constructive policy or strategy is counterproductive especially when they have managed to marshal masses of supporters that want to facilitate their own version of change. The Tea Party and Occupy movement are centred on economic issues for a reason. The health of the economy is directly related to the prospects of an incumbent's re-election. The Tea party has been strategic with this knowledge. The Occupy movement is bigger than American politics and may never focus on one country's agenda. Both need to start somewhere. Unfortunately, the Tea party seems to be spewing out a load of the same grade of mush that British tea turned into after being dumped into the Boston Harbour.

In economic terms, the political machine has become inefficient. The unintended (or intended) consequences and externalities associated with these movements act as sunk costs. The damage has been done and it has contributed little to the bottom line in any productive way. It all comes down to the economy but we cannot abandon politics to solve the problem either. This time it is not the Head of State that should be apologising as much as those working to topple his power instead of trying to work with him for a solution in the meantime.

99% Wrong

David Fauchier takes a critical look at the Occupy movement

The Occupy movement claims to represent the impoverished 99%. Its members, broadly, protest at the increasing wealth divide - the rich have gotten richer, the middle class have been left behind and poor have become poorer. Even more gallingly, all this has happened under democratically elected governments that are supposed to represent the popular interest but which in their eyes in fact exists to support a politico-capitalist complex. In other words this is a protest against inequality, and Occupy have turned a highly stereotyped 1% into the bogeyman.

This article is an evaluation of the merit and morality of this protest. More importantly perhaps, it tries to identify whether Occupy have recognized the underlying problem. I would suggest not. The movement has not recognised the real macro-trends causing these inequality shifts: the trends we have seen over the past few decades have less to do with governments and much more to do with globalisation.

We are living through a period of global economic convergence, in which the BRICs (Brazil, Russia, India and China) are experiencing their first Gilded Age, the West is experiencing its second, and both are mutually reinforcing each other. The result is a new divergence - one of income inequality – spawning a new plutocracy hazily referred to as the 1%.

The root driver for this second Gilded Age we are entering is not government. It is globalisation. Why? Because the opening up of new commercial and labour markets that number in the billions changed the whole paradigm: technology is turbo-charging development in the BRICs, and the massive economic opportunity this presents is increasing the number of market entrants – forcing everyone into competition. Global overseas investment stood at $18 trillion in 2008, up from $2 trillion in 1990. What we are witnessing is, in effect, the beginnings of a corporate land-grab on a global scale.

The first Gilded Age produced international companies that defied the imaginations of its contemporaries. This second Age will do much the same.

Companies everywhere are growing, outsourcing and keeping costs down while still ensuring the best talent comes to them. Apple's market capitalisation is larger than the GDP of Greece, Argentina or Austria, it outsources manufacturing to China and pays its CEO hundreds of millions of dollars; it also makes some of the best technology products in the world. Scandalous? Maybe. But it is a new reality. Stop thinking of top-level pay as a function of mid-level pay - it isn't. It is a function of what we might term 'dollar responsibility'. The larger the company, the more efficiencies it can find, the more revenue it generates, the more the CEO is paid. Expect this macro trend to continue: nominal corporate profits will rise, so will director remuneration, and they will rise more or less in line. Thus pay level inequality is set to increase, not because of governments, but because of globalisation.

To make things more unequal, taxing the successful will not help. Globalisation means increased international flows of money, jobs, goods and people. Harsh taxation will make companies and their people go somewhere else. Companies provide jobs and create wealth; they are the motors of sovereign prosperity. As such, countries compete to attract companies in the same way companies compete to attract talent. If the costs of running a business in one country are greater than the benefits, then it will relocate or be overtaken by foreign rivals. Globalisation offers massive economic opportunity, but at the same time it blasts opens the competitive landscape, not only for companies, but for countries. It seems Cameron is one of the only politicians to accept this.

The West has promised prosperity, security and comfort to all. Wonderful. But as the economies of the world converge the welfare model becomes decreasingly realistic. This is because social models are fundamentally uncompetitive. What we are witnessing today is a renegotiation of our social contracts and welfare systems - contracts paid for largely by debt. If the G7 wish to maintain their historic economic position they must renege on many (though not all) of their social contracts, and this will be a very tough tightrope to walk. Whether they succeed we will see.

One thing is for sure: this is the mother lode of global restructuring. We are witnessing the most profound structural shifts in three hundred years, and technology is amplifying both their speed and their scale. As a consequence, inequality has risen and will continue to worsen as the global economy is re-built. The volatility and economic destruction we have seen since 2008 is often portrayed as a once-in-a-generation perfect storm of economic headwinds. To me it seems the beginning of an extended period of volatility as the economies of half the world's population converge on the US and Europe. Look forward to a tough fifty years for the middle class.

All of which brings us back to the Occupy movement - a motley sample of our own disenchanted middle class, who were naïve enough to believe the politicians who promised them everything and paid for it with debt. When the illusion came crashing down in 2008 they blamed the rich 1% for not sharing in their suffering. How dare they. Here's a nice statistic I found: guess what the average graduate starting salary is? £26,000. Guess what the threshold is for the global 1%? £25,800. We will all (ok, an average of us will) join the global one percenters. Except for the masochistic we will all attempt to minimise our tax contributions, and except for the most generous we will donate only modestly to good causes. I would like to ask our student Occupiers where, morally, is the difference between a one percenter in a specific country and a global one? Country of residence does not determine the value of a human. When self-proclaimed 99 percenters leave their comfortable homes to set up protest camps they would do better to be more self-conscious of their own privileged position before condemning others'. I take my hat off to any sincere egalitarian, but Occupy's position today is either hypocritical, imbecilic or immoral. They are a parody of their own short-sightedness.

Another sticking point is this unquestioned obsession with inequality - should this be the number one political priority? If so, then why? Inequality so far has largely been fuelled by asymmetrical income growth, not redistribution. The difference between the two is subtle but fundamental. Wages are rising across the board. The pie continues to grow. Is there any strength to an argument that says we can tolerate more inequality as long as everyone is better off in absolute terms? When and why did our popular consciousness skip over this debate?

Finally, I would suggest that Occupy has been a disappointment to our generation. They are neither working against the political system nor with it. The various Occupy movements have failed to develop a serious manifesto, failed to structure themselves as a cogent national or trans-national political body, failed to dialogue with regional and national politicians, and failed as far as I can see to get anyone more articulate than a lemon in any of the major news studios.

If the Occupy movement is to succeed it needs to take advantage of the modern political toolset and contribute productively towards a solution. But before that it would do well to get an education (now freely available online). Fundamentally, Occupy is misidentifying the causes of the inequality it decries.

David Shankbone

The Meaning of Green

Mihiri Seneviratne explores anthropocentrism and the concept of ecological citizenship

The last 50 years have seen environmental issues move into the heart of popular consciousness, taking centre stage in areas ranging from psychology to international diplomacy, business and the arts. If our parents' generation were the pioneers of the green movement, ours is set to be the generation that sees the tipping point reached; mainstreaming green concerns will be our legacy.

Yet there appears to be a chasm between the enthusiasm with which we embrace this new paradigm and the consideration we actually apply to our relationships to the environment, as individuals and as a species. Particularly remarkable is the disjuncture between our professed ideas regarding the intrinsic value of other species and biodiversity as outlined in the preamble of UN Convention on Biological Diversity, and the anthropocentrism of our public institutions, legal systems and economic thinking.

Neo-classical economics is inherently anthropocentric; the metric of utility captures only human interests and the emphasis on preferences excludes the interests of those who cannot articulate their preferences. Only the instrumental value of other life forms is acknowledged. Even the language we use to discuss ecological issues reflects this bias, such as 'natural resources' (resources for whom?) and 'environment' (whose environment? A human protagonist is implied). If we were committed to our non-economic priorities this bias might not be problematic, but all too often this does not happen. The pitiful state of our environment today bears testimony to this tendency.

Even environmental economics places human interests at the heart of the discussion. Classically defined, sustainable development "meets the needs of the present without compromising the ability of future generations to meet their own needs" (Brundtland Report, 1987). Solow, in his 1993 paper 'An Almost Practical Step Towards Sustainability', expanded this by stating sustainability required "whatever it takes to achieve a standard of living at least as good as our own and to look after their next generation similarly."

While broadly supportive of this definition, in his essay 'Why We Should Save the Spotted Owl', economist and philosopher Amartya Sen questions whether the emphasis on satisfaction of needs, or even sustaining of living standards, implies too limited a view of development. When viewed from the perspective of development as expansion of capabilities, as is the prevailing framework in contemporary development economics, the value of conservation to human beings might transcend the instrumental. In other words we might cherish something for its perceived intrinsic value, and being able to do so represents an expansion of our capabilities.

Sen goes on to advocate fostering ecological citizenship, as described by Andrew Dobson, in addition to institutions for ecological governance. If we wish sustainable development to be participatory and democratic in nature, we should consider ourselves as ecological citizens; it is from this citizenship that we might derive the sense of civic/social responsibility that motivates us to respond to ecological challenges.

The concept of ecological citizenship represents a secular alternative to that of stewardship, promoted in Abrahamic religious traditions. The Bible, Torah and Qur'an teach that God made man in his likeness and gave humans dominion over nature. Thus humans

Maisie Shearring

possess both a status above that of all other forms of life and a responsibility to care for the environment. This responsibility is also recognized by some Eastern religions including Buddhism, Jainism and Hinduism. However unlike in the Abrahamic religions, in Buddhism, Hinduism and Jainism there is no assertion that human life is more intrinsically valuable than that of any other species. All living beings are believed to be interconnected and principles of non-violence are extended to non-sentient beings.

The influence of these differing philosophical traditions can be seen in a number of ways, for example in secular state/institutional responses to human wildlife conflict. In the UK, culling non-endangered animals is routinely done to sustain ecosystems and is generally seen as morally acceptable, even when no immediate threat to human livelihoods and public health exists. Consider the culling of Red Deer in the Highlands last November, or the ongoing cull of Grey Squirrels. By contrast, in Sri Lanka, where Buddhism is the majority religion, culling is politically sensitive. Earlier this year the government retreated on plans to cull stray dogs, a major public health concern and cost to public finances, in response to civic outrage.

Western secular philosophy has traditionally either rejected the idea that non-human animals have moral value (or rights) or considered them to be morally inferior to humans. For Aristotle, lacking the capacity for rational contemplation precluded non-human animals from sharing the moral status of humans. Utilitarians Bentham and Mill proposed that the ability to feel pleasure and pain implied some moral status for animals, though this was inferior to that of humans owing to our greater experiential capacity. Even this was rejected by Kant who went so far as to suggest that animals were not Persons but Things, with no intrinsic moral worth, due to their inability to think rationally and thus take responsibility for their actions.

This orthodoxy has been challenged by numerous prominent philosophers, perhaps most influentially Norwegian Arne Naesse. Naesse founded the Deep Ecology movement, a philosophical and political movement based on an eco-centric world view. He claimed that we were seeing a popularization of what he termed 'shallow ecology', which seeks to reform human relations toward nature within the existing structure of society. 'Deep ecology', he argued, would require an overhaul of industrial-capitalist society and a move away from human species-ism.

Noted American philosopher Martha Nussbaum argues that the same considerations that require us to pursue the expansion of human capabilities also require us to do so for animal capabilities. This seems particularly reasonable if the basis for affording animals a lesser or insignificant moral status is derived from the belief that they lack certain cognitive capacities.

There is growing evidence of profound cognitive capacity amongst non-humans. Advances in cognitive ethnology and biological science have revealed close genetic kinship between humans and other animals. Many species possess cognitive faculties that render the simplistic distinction between Persons and Things problematic. Just recently the American Association for the Advancement of Science conference in Vancouver proposed that ceceteans (whales and dolphins) ought to be recognized as non-human persons and their rights to life and liberty respected accordingly. Whales and dolphins have a sense of self-awareness and identity; they communicate through a form of language and can recognize their own reflections. Thus, the grounds on which we deny recognizing these highly sentient creatures as persons, or as morally significant, are unclear.

Ecological Economics (EE) attempts to compensate the ecological shortcomings of neoclassical economics. EE situates the human economy within a wider global environmental system, expanding economic priorities to include not only efficiency and equity but also social and environmental sustainability. While we are unlikely to see a mainstream shift towards eco-centrism in our lifetimes, we would do well to think critically about the anthropocentric orthodoxy.

Most of us would struggle to articulate or justify our ecological ethics and priorities, even to ourselves. In order to address the profound ecological challenges that we are faced with, we must confront our collective complacency and move towards a cogent and coherent understanding of what ecological citizenship means to us. In short, we must consider what it means to be green.

Seeds of Change?

There is more to the 'gene revolution' of GM crops than profit vs. people, argues Olga Bloemen

Hugo Perez' short film Seed takes doom scenarios of activists and academics to the extreme. Seed is set in 2022 after the world's 'dark teens' of famine and food riots. The so-called Mendelian corporation has acquired a complete monopoly on the commercial supply of genetically modified seeds in the US. Acting as a state in a state, the corporation runs its own media, police force and youth program of 'Sprouts', where children like 12 year-old Juan are indoctrinated to serve their country by chasing down natural seeds. Susceptible to disease, these natural seeds are seen as threat to food security. Armed with electronic 'seed sniffers', the Sprouts secretly inspect the crops on local farms. At the end of the film, tragically, Juan turns in his own father after he finds him trading with a black market 'seed-runner' dealing in natural seeds.

The stakes in the conflict are high: the anti-camp warns of 'food totalitarianism' as depicted in Seed; they also warn of unpredictable consequences for public health and the environment. The pro-camp sees the development of GM technology not only as a solution to food shortages but as a progressive force for the further liberation of mankind. Schneiderman, the late CEO of industry giant Monsanto, stated in a 1985 corporate speech that, in the future, through biotechnology we "will have learned to persuade [nature] to be a full partner in humanity's major enterprise – civilisation".

GM crops were first introduced in 1996. Today, 77% of soya beans worldwide are genetically modified, as are 26% of corn crops, 49% of cotton, 21% of canola and 9% of sugar beets. Small quantities of other crops are GM, while experiments with even more crops are underway. From North America, companies moved into South America and India, and Africa is currently the new frontier. In Europe, maize is the only GM crop commercially grown.

Selective breeding has always been done by farmers, but traditionally the success of an individual cross depended largely on chance. From 1973 onward desired DNA could be transferred from one organism to another in a lab, creating Genetically Modified Organisms or transgenics. A good example is Bt cotton - cotton fortified with a toxin from the bacterium Bacillus Thuringiensis that can kill the cotton pest bollworm. After this breakthrough in 1973, industry appropriated the technology to alter main crops in American large-scale industrial agriculture, like soya and maize. At the same time, they invested heavily to shape public perception. Researcher Dominic Glover convincingly shows how the discourse presenting GM technology as indispensable to solving world hunger, poverty and environmental degradation emerged from the 'life sciences' industry itself.

After a series of buy-outs and mergers, 7 corporations now dominate the industry, each with annual sales over $2 billion, of which Monsanto, Syngenta and DuPont are the largest. Last year, Monsanto's net sales came to $11.8 billion. Patenting of plant genetic resources has by now made it difficult and costly for public institutions to develop GMO's. Currently, all of the transgenic crops available to farmers are developed in the private sector, expressing two basic GM traits: herbicide-resistance and insect-resistance. Monsanto's Round-up Ready Soybeans for example, are resistant against Monsanto's herbicide Round-up with which they are sold. Insect-resistance traits like Bt can save farmers money on pesticides, but they are also risky, since they are more expensive and protect against only one of many possible pests. Thus, GM has yet to make good on its promise as a 'pro-poor' technology. Public GMOs are in the pipeline, such as initiatives by the International Rice Research Program and the Gates Foundation. But while these initiatives are presented as scientific and value-neutral, boundaries between science, philanthropy, politics and business often become blurred.

Publicly, the conflict has been fought by industry representatives, politicians, academics and activists, while the actual farmers are often not heard. Case studies question the capacity of both states and corporations to control farmers and enforce intellectual property claims. China, for example, has strict DNA patent laws and approves GM crops province by province, depending on the regional presence of particular refugium systems and pests. But despite all this, Chinese farmers are found to illegally breed their own Bt cotton varieties as well as buying seeds in one approved province and selling them on the black market in another.

Herring's study of farmers' responses to GM crops in Gujarat, India tells a similar story. Here, farmers started cross-breeding Monsanto Bt cotton varieties to adapt them to their local climate and trading them on the black market. Herring guesses that at least half of the transgenic cotton currently used in Gujarat comes from these, what he calls, 'Robin Hood seeds'. For farmers, these seeds were just another option for ensuring higher yields. Studies into the actual economic benefits for farmers have shown mixed results. One technology cannot fix hunger and poverty, just as it cannot simply control farmers or consumers. GM seeds are only taken up to the extent that they are liked by individual farmers. As the Indian farmer Mahalingappa told Herring: "Farmers must be convinced personally that a crop is beneficial; only the farmers can decide".

That said, Indian cotton farmers do find themselves competing with cotton farmers around the world, pushing them to adopt new technologies so as to not lose out on the global market. In order to free farmers from 'treadmill behaviour' and to make GM technology truly pro-poor, the development and distribution of GM crops should be localised. Rather than merely adapting commercially selected traits like Bt to their local environments, local farmers and consumers should take charge of research agendas. More participatory research and forums need to be established, as well as international and national legal frameworks providing farmers with a seat at the table with corporations. The Brazilian government, for example, has by-passed international IP agree

Ellyce Morgan

A Sea of Discontent

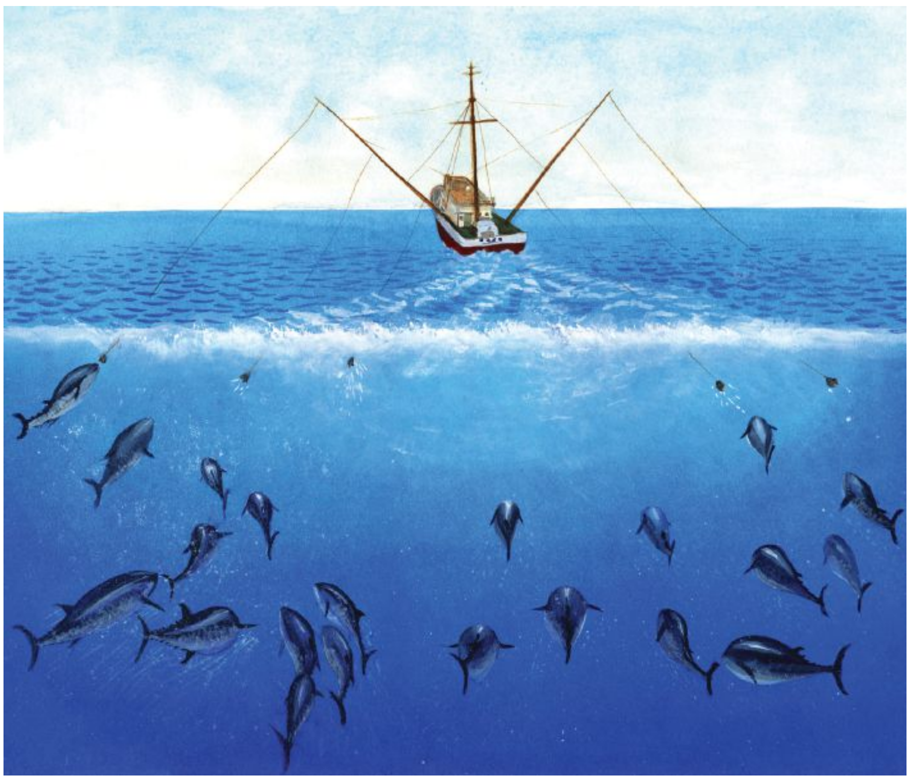
Kenzo Muller investigates the tuna turf wars in the Philippines

As early as the 1970s, General Santos City was dubbed the 'tuna capital of the Philippines'. While tuna fishing has long been practiced on the municipal level across the archipelago, commercial fishing recently started taking off as a result of technological developments in fishing equipment and the opening of the market to Japanese demand for sashimi-grade tuna. The strategically located city of General Santos has been at the centre of these changes. However, while the city may be booming, the Filipino tuna industry is still relatively young compared to others, such as in electronic assembly and agriculture. Tuna exports presently account for approximately 1% of the country's exports and, although growth in the sector has been consistent and steady in the past, recent years have seen signs of uncertainty and weakness.

This uncertainty manifested itself last month in a violent form, when 15 Filipino fishermen were killed by gunmen on speedboats for straying into the fishing grounds of a rival group. Local police authorities have unconfirmed reports that the rival group blamed the victim fishermen for destroying their valuable fishing nets, which are used specifically for catching tuna and cost around $3,500. While much important information on the incident remains undisclosed, it seems likely that these actions are a result of flaws in the economic framework of the tuna industry.

Tuna is globally considered an endangered species and, as a result, a resource that requires careful management. Being a tuna-exporting nation, the Philippines addresses this issue in its national fisheries framework, the Fisheries Code. Passed in 1998, this piece of legislation prioritises municipal fishers over commercial ones through preferential fishing grounds, prohibits destructive fishing methods such as dynamite fishing, and limits overfishing through the issuing of licenses and permits based on a maximum sustainable yield (MSY) index. On the face of it, the framework seems to be responsible government regulation. It attempts to eliminate the negative externalities caused by overfishing that are inflicted upon marine ecosystems as well as the relatively dependent municipal fishers. However there are two flawed characteristics in this regulatory framework: vagueness and ineffectiveness. It is vague as it does not succeed in clearly distinguishing a municipal fisher from a commercial fisher; these statuses depend on numerous factors such as boat size and fishing equipment. Municipal preferential waters are also loosely delineated. More importantly, these policies are barely implemented across the archipelago as many outlying territories are plagued by lawlessness, unable to be controlled by the central government. It is no surprise that the February killings took place off the coast of Basilan, an island associated with Muslim secessionist insurgents. These regions are anarchic and resemble the Wild West where 'guns equal power'.

So what can be done to solve this situation? There is no doubt that effective government control is a prerequisite for the success of regulation. But would the existing regulation benefit the industry in a stable environment? Municipal fishers certainly benefit from governmental support, which allows them to develop and bridge the gap in market share between their commercial competitors. The desirable balance between municipal and commercial enterprises is a normative question which can only be answered by the objectives of the government. However, the property rights of each group need to be better specified and the MSY-based catch ceilings should be relaxed. While conservation is an important component of sustainable development, over 50% of tuna fishing in the industry is of the Frigate and Skipjack variety which are widely considered to experience no threat in terms of extinction. As always, there is a trade-off between economic growth and environmental sustainability, at least in the short-term; in this case, the balance appears to be off the mark. The general lesson to be taken from this brutal episode is that enforcement of economic regulations can be as important as the regulations themselves. When control is inadequate the consequences can be bloody.



Meco

Comment

Man is More than a Maths Equation

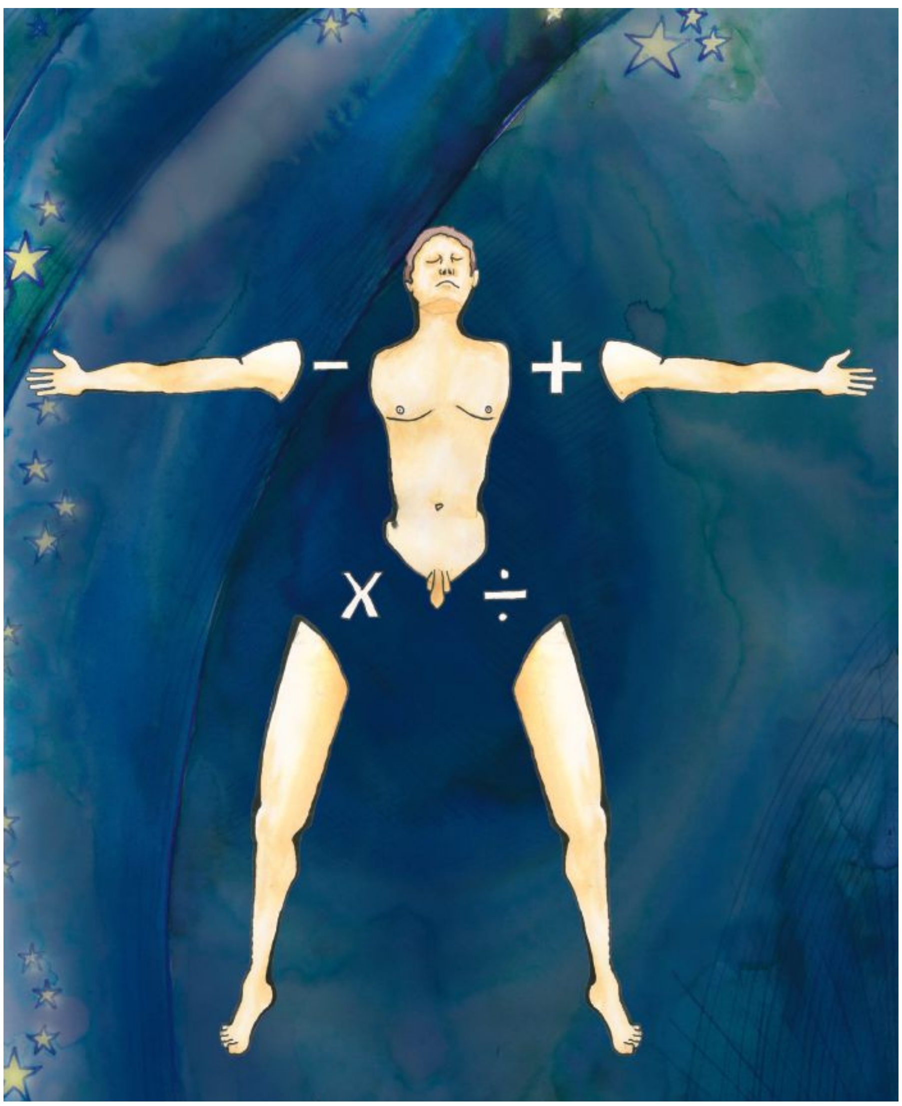
The reduction of economics to a series of equations has its problems, argues Benjamin Mildred

The insecurity and arrogance of modern academic economics is in its obsession with mathematics and statistics. The insecurity is because economics wants to be like the big boys of the science world; it wants to be like physics where gravity is always doing what gravity always does and every law can be summed up with an equation. Economics has to prove itself to be comparable lest it be consigned to the dark cellar of non-mathematical sciences where history of art resides. This insecurity leads to an arrogance, which insists that everything can be measured: there is no economic question that cannot be answered with a complicated page of statistical regressions and a few assumptions thrown in for good measure. It misses the seemingly obvious point that physics deals with the laws of nature while economics deals with the interactions of man. The failure then of current economic thought is that it has lost sight of its central study: man and his actions.

To reduce the complexity of human economic interaction to a series of equations and to imply that the only economic thought that matters is that which is proved by statistical study is to lose a large part of what makes economics the greatest of all subjects. Economics has to be so much more than it currently is; it has to return to its roots and the great economists of the past who debated not models and statistics, but ideas, deductions and observations. Economics should be the discipline that ties all other disciplines together: mathematics, ethics, politics, science, sociology, history, even geography. It should proclaim: this is how man acts. Instead, it stops at maths equations. Is it any wonder then when economic models fail? Why are people surprised when economists get it wrong? The failure of modern economists to predict (or solve) the current economic crisis is evidence of the reductionism of their science. The models they built constrained their thinking and they dealt with worlds of assumption rather than the multi-faceted nature of reality.

A little known economist of the 18th century, George Berkeley, wrote a book called 'The Querist' which was on the state of poverty in Ireland at the time, the reasons for it and the way to solve it. Berkeley asked nine hundred questions about the Irish situation, borrowing information from all major disciplines and tying them all together to come up with a view on why the Irish were acting the way they were and why this didn't lead to economic growth. As it happens, it is this author's opinion that his ideas are largely wrong but he makes for an excellent example of how economics used to be studied. The attitude that was taken was: "Economics doesn't deal with homo economicus at all, but with homo agens: man as he really is, often weak, stupid, inconsiderate, and badly instructed". Whilst it is easier to deal with man as 'homo economicus' it achieves little; imagine studying the Post Office and getting no further than Postman Pat. In the same way, if economics is to provide any insight into how man acts it is surely better to deal with man as he is found: often weak, stupid and inconsiderate than the strawman we might rather he be.

The great economists who have gone before us did not shy away from using mathematics yet nor were they enraptured by it. Instead, they used such analysis in conjunction with their own observations and deductions; in their hands mathematics and statistics were subservient to economics and not dictators above it. Adam Smith's



Hannah Foley

invisible hand needed no equation to prove it right; Hayek's 'The Road to Serfdom' needed no statistical regression for it to be a well reasoned critique of planned economies. Out of all modern schools of economics it is the Austrian school that has consistently shown itself to have a healthy suspicion of the magic of numbers and scepticism to the usefulness of statistics. There are many good books to recommend for the interested: 'Economics in One Lesson' by Henry Hazlitt is a good starting text, and 'The Mystery of Banking' by Rothbard sheds light on the current financial crisis, though written decades ago.

The failure of mainstream economics could lead to serious consequences for the future of the science. Current academic economics is both intellectually challenging and intellectually boring as students spend their time learning models and equations, which have assumptions often so little in keeping with reality as to be laughable. And as man is too complex to be a maths equation, students are left disillusioned at the usefulness of the science. What is worse is that if modern economics continues to fail to provide answers to the problems of the day then the whole body of science may be thrown into disrepute. Surely the last few years should have humbled the science of economics and forced a re-think as to why so much of what was held certain may not be so. Man in his finite wisdom cannot model man in his abounding complexity and the time has come to embrace this limitation and return to the study of man and his actions through other means.

The Living Wage

An idea whose time has come, argues Evan Williams

In EUSA's February referendum, students were asked to vote on whether EUSA should pay all of its staff at least £7.20 an hour. The proposed minimum figure is based upon the so-called 'Living Wage', a wage rate calculated by the Centre for Research in Social Policy to ensure that a person working forty hours a week, with no additional income, is not living in poverty. Today, the living wage stands at £8.30 an hour in London and £7.20 elsewhere in the UK, the difference explained by the higher cost of living in the nation's capital. The living wage was first established in the UK in 2005, when the then London Mayor, Ken Livingstone, implemented it for all those employed directly by the Greater London Authority. Since then, support for the idea of a living wage set above the nationally mandated minimum has undoubtedly grown. Glasgow launched its own scheme in 2009, and Prime Minister David Cameron has gone so far as to describe it as "an idea whose time has come". With the concept of a living wage resonating strongly across the political spectrum, no longer confined to student union debates, it is an important moment to consider why such an idea is gaining so much ground, and to assess whether it merits the enthusiasm it has received.

The campaign for living wages was initiated in the UK by the community organisation London Citizens, who in 2001 established the Living Wage Campaign in promotion of the idea and its adoption by businesses. Parents in East London argued that even after taking benefits and tax credits into account, working a minimum wage job in London was not enough to lift an individual out of poverty. Tired of working two minimum wage jobs just to make ends meet, they began campaigning in support of the call for "every worker in the country to earn enough to provide their family with the essentials of life". An initially compelling factor in favour of the living wage is that this debate concerns how we should treat the lowest paid in our society. Those living on low wages should be able to earn enough to lead a fulfilled and independent life, liberated from the vicissitudes of poverty and reliance on state handouts. Labour is not like any other commodity, and should not be treated as such.

Against the visceral appeal of such arguments, economic theory suggests that support for wage mandates should be treated critically. It would appear a decidedly unambiguous result of basic supply and demand analysis that raising wages above market equilibrium leads to over-supply and reduced employment, forcing more people into poverty and thus harming the prospects of those that living wages seek to promote. Any first year economics student would be able to draw you a neat diagram describing these impacts, which would appear to be increasingly relevant as Britain's labour market confronts competition from abroad. Indeed, that the living wage is set higher than the minimum wage suggests that support for its implementation should be even more constrained.

The view that minimum wages cause reduced employment levels was however challenged in 1994 by the publication of Card and Krueger's case study 'Minimum Wages and Employment'. The study investigated the impact of an increase in the minimum wage in the state of New Jersey in April 1992, which made it the highest minimum wage in the US at the time. Because the neighbouring state of Pennsylvania had refrained from increasing the minimum wage that year, the researchers could make use of a 'natural experiment' to assess the impact of New Jersey's minimum wage rise on employment trends between the two states. Focusing specifically on the fast food industry, the results of the study were somewhat surprising. Controlling for a range of factors, the researchers found that New Jersey's minimum wage increase had little or no negative effect on employment in the state, and may even have had a positive one.

The results of Card and Krueger's study have been heatedly debated since its publication, with accusations of measurement error and methodological bias directed at their findings by researchers seeking to disprove the study's results. In reply, Card and Krueger have sought not only to defend their results, but also point to a "publication bias" in economic journals which exists in favour of studies that find a negative employment effect resulting from minimum wages.

They argue that, when accounting for this bias, little or no evidence can be claimed for the negative association between minimum wages and employment. Though the debate has by no means been satisfactorily concluded, one economist who supports Card and Krueger's findings is the 2001 Nobel Prize winning economist Joseph Stiglitz. Stiglitz argues that, where information is imperfect or markets incomplete, a situation he regards as pervasive in all economies, imperfect competition is the result. The existence, for example, of even small search costs when an individual seeks employment could, on this view, cause the equilibrium real wage to fall below the competitive level. In such a situation, mandated wage increases would raise both wages and employment levels. Stiglitz's ideas challenge the traditional view that markets are self-adjusting and efficient, arguing instead that the nature of equilibrium, including that in labour markets, cannot be abstracted away from income distribution or institutional arrangements.

Theoretical support from at least one segment of the economics profession could prove useful ammunition for supporters of the living wage. Its advocates, including the current Mayor of London Boris Johnson, are aware of the need to go beyond moral arguments and are keen to highlight the business case for its adoption. Supporters can point for example to a 2009 report by the consultancy London Economics, which concludes that living wage provisions are not generally associated with job losses or worker displacement. Though businesses that have adopted living wages in London have in part substituted full-time for part-time workers, overall businesses have benefited from productivity increases associated with higher effort, lower staff turnover, reduced absenteeism and improved worker morale. Importantly, all buyers and contractors included in the report stated that they would implement the living wage if faced with the same choice today.

Such early success suggests that enthusiasm for living wages is indeed merited, though it is yet to be seen whether this can be sustained in today's harsher economic climate. Whilst the living wage is set to become a hotly debated issue in the upcoming London Mayoral election, campaigners worry about the gap which exists between rhetoric and reality. David Cameron is yet to follow through on his pledge to implement a living wage for cleaners and other support staff across Whitehall, and as Britain faces up to what looks to be a prolonged spell of economic austerity, this commitment gap will undoubtedly grow. Immediate and pressing issues such as how to secure the economic growth required for job creation, or how to raise the average Briton's skill level to respond to a changing jobs market, will likely take centre stage in coming years. In such a climate, living wage campaigners will have to fight hard to assert their continuing relevance.

On the Up

More investment and more wealth – African development is intensifying, says Alfio Puglisi

Everyone wants to invest in Africa. It has not only been invaded by Chinese businesses with investment plans looking to tap into cheap energy and inexpensive raw materials, but also by India, Brazil, and Turkey – in general the most powerful countries have business in Africa. It is estimated that Africa, continent-wide, averages 2% income growth per person per year. Extrapolated over 10 years, this would still not compare to levels in other developing economies (such as in Asia), but it is economic growth similar to what we have witnessed in South America. It is not only South Africa either; big areas of the continent aim at being middle income countries by the end of the decade.

One of the most important economic resources in the continent is Chinese investment. The World Bank has predicted that over the next 10 years China will export about 85 million jobs to countries in Africa.

Africa is defined as the continent of hope. The IMF has estimated that by 2012 gross domestic product in Sub-Saharan Africa will have increased over the past year by 5.8%. Meanwhile GDP increased by 3.2% in 2011 across the continent, even with faltering output from the petrol industries caused by the political upheaval of the 'Arab Spring'.

Ghana is ranked first in economic growth on the continent, and it has impressively grown more than most other countries worldwide. Analysts from the World Bank estimate 13.5 % economic expansion, beyond even meteoric China, which is estimated to see 9.5% growth in 2012. Unsurprisingly, Ghana is also one of the safest places in Africa for investment thanks to its stable political environment. The economies of other countries are anticipated to explode in equal measure. This is especially true for petrol producers, such as Nigeria and Angola. Mozambique's economy is expanding as well; Italian multinational Eni S.p.A has recently announced the discovery of large amounts of gas at its Mamba Complex in the country. By increasing wealth and investment opportunities, banks grow as well. In Kenya, the Democratic Republic of Congo, Togo, Mozambique, and Ghana credit institutionss are sharply expanding, even as some of the financial help granted to these countries is among the highest worldwide. Today Africa is a continent of continuing performance, especially compared to weak European and North American economic growth. Recently The Economist even dedicated an entire issue to rising African fortunes.

The African Development Bank has affirmed that if the current GDP rates remain sustainable, middle class will grow from 300 million now to surpass 1 billion in 2060. Africa will triple the number of producers, consumers, and savers in 50 years. If this happens, a market of immense dimension, like the East Asian one, will come to life. Obviously this depends to some degree on the parameters used to classify 'middle class'. South Africa is one of the most developed countries in Africa, but it is also a country where the difference between rich and poor is substantial. More work will need to be done to ensure that Africa's economic growth is stable and benefits as many people as possible.

Major League Economics

Andrew Armstrong explores what baseball learned from economics

A new movie, Moneyball, explores the battle of wits within an ambitious, storied Major League Baseball club. Revelling in the confrontation between innovators and traditionalists, it explores the Oakland A's attempts to belie their weak finances using revolutionary statistical analysis. It is based on the eponymous bestseller by Michael Lewis, and it recounts the 2002 decision by Oakland A's General Manager Billy Beane (played by Brad Pitt), and diffident statistician Paul DePosta (Jonah Hill), to adopt and promote 'sabermetric' techniques. The highly charged club environment draws Pathos from the club's aspirations clashing against its financial reality. With the same sense of strategy and confrontation as an episode of the West Wing, Moneyball demonstrates how sabermetrics eventually took hold – overcoming internal vested interests, job insecurity, and a hostile fan base, public and media.

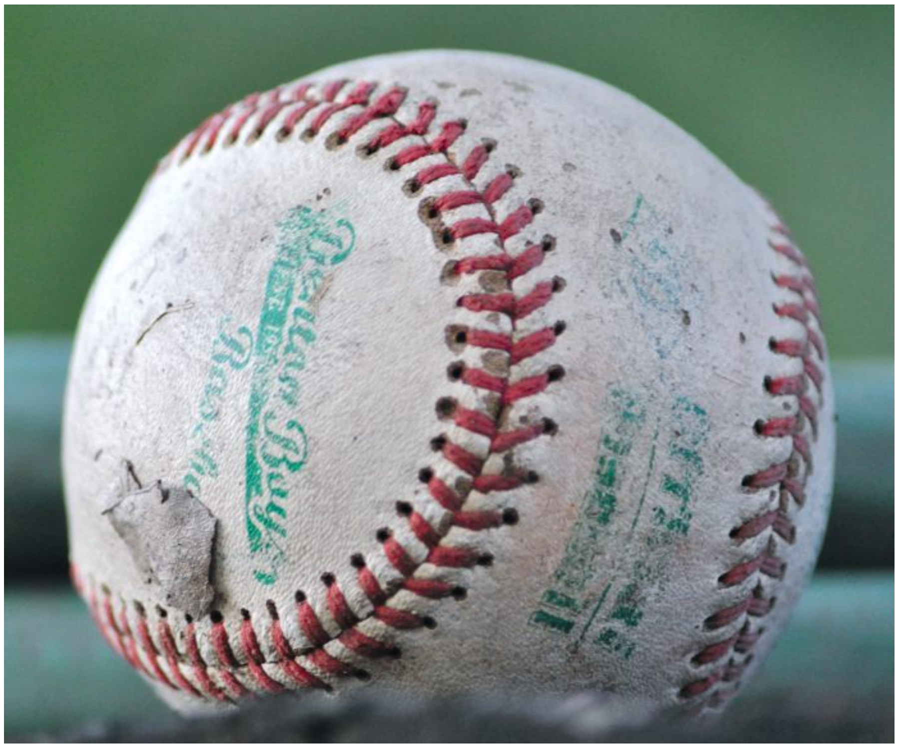
The story's focus is less the success of a team - despite winning 20 games consecutively, Oakland went on to lose in the 2002 playoffs and remain financially lightweight - and more the success of the sabermetrics concept as it rippled through individuals, leagues, and popular culture.

Baseball naturally occupies a special part of the American psyche, and is described by the author of 'A League of Their Own', Kelly Candaele, as "a reflection of larger social and philosophical concerns...the only American sport that merits the sustained attention of intellectuals and novelists." One reason not usually considered for this is that baseball is one of the most countable sports played popularly. As a 'closed sport', baseball is therefore perhaps uniquely amenable to numbers and stats, making the game particularly suitable for economic study.

Baseball's sanctified status as muse had for many years encouraged an introverted mentality in managers and scouts. As a lightening-rod for the nation's passions, traditions calcified under the spotlight, poor practice went unnoticed, and habits became confused with procedures. The gap between rich and poor within the game became larger than in any other professional American sport; many smaller teams began to face extinction, mediocrity, living out-with their means, or revolution.

The system for contracting talent was antediluvian: players' fates were still being decided on whims with the main drivers of talent appraisal being scouting perception and impression. Scouts openly admitted to particularly valuing a body that could "sell jeans": an athletic physique, with strong arms and powerful legs. Perhaps more shockingly still, coaches still talked of looking for the "good face", an assignation that signalled skill level, pliability, and temperament. Not enough effort was taken to consider previous statistics, and whilst future potential was prized highly, its weighting was heavily weighted toward less important variables.

Baseball had constructed a valuation system so woolly that it could not even be rationally addressed, let alone tested. Furthermore, were stats used for support, they would often be used as a fig leaf, in fleeting justification for irrational opinions. Additionally these measurements reinforced old ideas of how to play, rewarding performance areas which had little correlation with winning. Bad stats inevitably promoted inefficient results, offered perverse incentives, and rewarded early failure. Beane hired Paul DePodesta, a young economics graduate, as a countervailing influence. DePodesta, subscribed to behavioural economics, the study of how particular market anomalies can be theorised using psychological and cognitive insight. He posited that baseball scouts would display a tendency of being overly influenced by the last thing they had seen, would rely on an



Schyler

event's emotional impression on their minds eye, rather than actual results, and would tend to generalise from personal experience to the universal. DePodesta correctly noticed that baseball scouts applied heuristics to their decisions, meaning that they were, in essence, too conceited or too stupid to consider duality of meaning within the large new flows of player data that were being created.

To analyse these flows, DePodesta's techniques were adapted from early work done by an eccentric novelist, polemicist and Baseball obsessive called Bill James, and built on the work of Ken Mauriello and Jack Armbruster, whose probabilistic modelling techniques were imported from their previous jobs in a Chicago trading house. In applying these techniques, they redefined how success in baseball should be measured, and created new performance metrics and categories of value. For example, instead of describing a 'double' as being when a runner hits and gets to second base without a fielder error, sabermetrics weighted the double in accordance to where the ball was hit. By logging the precise distance and direction of each hit a player makes, it can take every ball that is hit to a particular part of the field, and then calculate its expected run value. By calculating the expected run value of a ball hit to each field area, a value can be placed on individual fielders and hitters on each side according to where they hit to or where they stand.

These new techniques allowed players an opportunity to flourish; players who, without the "good face", would never have been placed near a Major League baseball club. As a result Beane introduced players who had been grossly undervalued by the market, such as Jeremy Brown and Chad Bradford. Whilst these players displayed sporting nonchalance when reminded of this fact, Chad Bradford stating that he "was just happy to be in the Major Leagues", there is no question that these new techniques were changing lives.

The irrationality of the previous system was overcome by sabermetrics, however to describe this as a contest between reason and emotion would be too reductive. For an idea to flourish, it must be both reasonable and inspiring, making its success partly attributable to both Beane's leadership and DePodesta's ingenuity. This makes sabermetrics not an absolute, but a more sophisticated iteration of a previous model. The Oakland A's had been pressured through market forces: as Michael Lewis states, DePodesta's sabermetrics were "a luxury only a rich team could afford, but that only a poor team, desperate for any edge, would think to use."

In parallel, throughout the country geeks had mobilised, pouring their individual redoubtable energies into popularising sabermetrics, and refining its software. Voros McCracken spent so much time developing his own sabermetrics software that he was fired from his job as a clerk and had to move back in with his mother.

Moneyball depicts a necessary rebalancing of one vogue in favour of the other – what was particularly redoubtable was that there was so much irrationality and bad practice to overcome. To baseball men, what happened in their mind's eye was most important; to argue with that and with their opinion was to cast aspersions on their character. Beane and Deposta preferred college players, as they had better stats, but many older Scouts preferred to promote high school players, as their greater youth inferred more 'potential'. As Beane tartly remarked to the scouts, the club must now move forward without "allowing ourselves to be victimised by what we see". This stoked what Lewis dubs "baseball's religious war" when an entire league erupted in defence of its 'clubbiness'.

Prior to Beane's action, says Lewis, "there were no real standards, because no one wants to put too fine a point on the question: what qualifies these people for this job?" In changing the way baseball was organised and orientated, arbitrage opportunities began to talk. The Toronto Blue Jays and Boston Red Sox were the first to break rank. 25 Scouts were fired in Toronto, and the wage bill was slashed from $90M to $55M, creating a Blue Jays team that was better and less expensive. Then, the Red Sox won their first World Series championship in 90 years using Voros McCracken as their sabermetrician (forcing him to move out of his mother's house for a second time). Despite overcoming stiff cultural resistance, the ideas began to spread thanks to individual advocacy and success.

Whilst baseball's pecking order simmered and shifted, its commonly stated values of competition were enhanced. Over time arbitrage opportunities in the market for talent quickly became reduced, as sabermetrics became de rigueur. It remained, however, that baseball, one of the great bastions of herd behaviour, was positively altered as applied economics saved money, elevated talent, and delighted in the unconventional.

In sport especially, emotion and passion will always threaten to dominate other vital aspects. Moneyball shows that these should not be superseded by reason, but instead conjoined, in a process that will yield probable improvements. Underlining the valuable passionate dispassion of the economist, it puts into relief the race for Moneyball 2, which I cannot wait to watch.

Burning the Candle at Both Ends

Norway must do more to curb its reliance on fossil fuels, argues Hanna Lind Jorgensen

The last decade has seen a vibrant dialogue emerge about the environment. With increased globalisation, countries are finally beginning to realize that it is vital for all countries to participate in order to achieve a significant reduction in the worldwide level of pollution. Several initiatives have been taken to accomplish this, including the introduction of the Kyoto protocol and the EU target of reaching a 20% share of energy from renewable sources by 2020.

Norway is one of few countries that have been only marginally affected by the financial crisis. During the recession, Norwegians experienced an unemployment rate of only 3.2% compared to 6.5% in the UK in 2009. One of the main reasons the country has managed to retain its economic stability throughout such an unstable period is the vast amount of natural resources available. Resources range from aluminum and nickel to hydropower. Norway, however, is primarily known for its abundance of oil and natural gas. The nation is the world's largest oil exporter after Saudi Arabia and Russia, and it is second only to Russia in supplying oil and gas in the EU. Nevertheless, the country is, like the rest of the western world, increasingly concerned about the environment. The country is trying to switch to a more innovative way of thinking when it comes to sustainable living. For example, there has been a widespread effort to substitute tunnels for bridges (as they do not require any electric light or power), 98-99% of Norway's electricity comes from hydroelectric plants and the government encourages burning wood and biomass instead of oil or gas. Despite these initiatives, the country is said to spew out more emission per head than almost any other nation in Europe. One might jump to the conclusion that high energy use is due to the extremely cold and hazardous climate. However, according to the OECD, Norway is the country with the highest greenhouse gas emissions when compared to its similarly cold neighboring countries. Additionally, Norwegian households use the most electricity per person in the world.

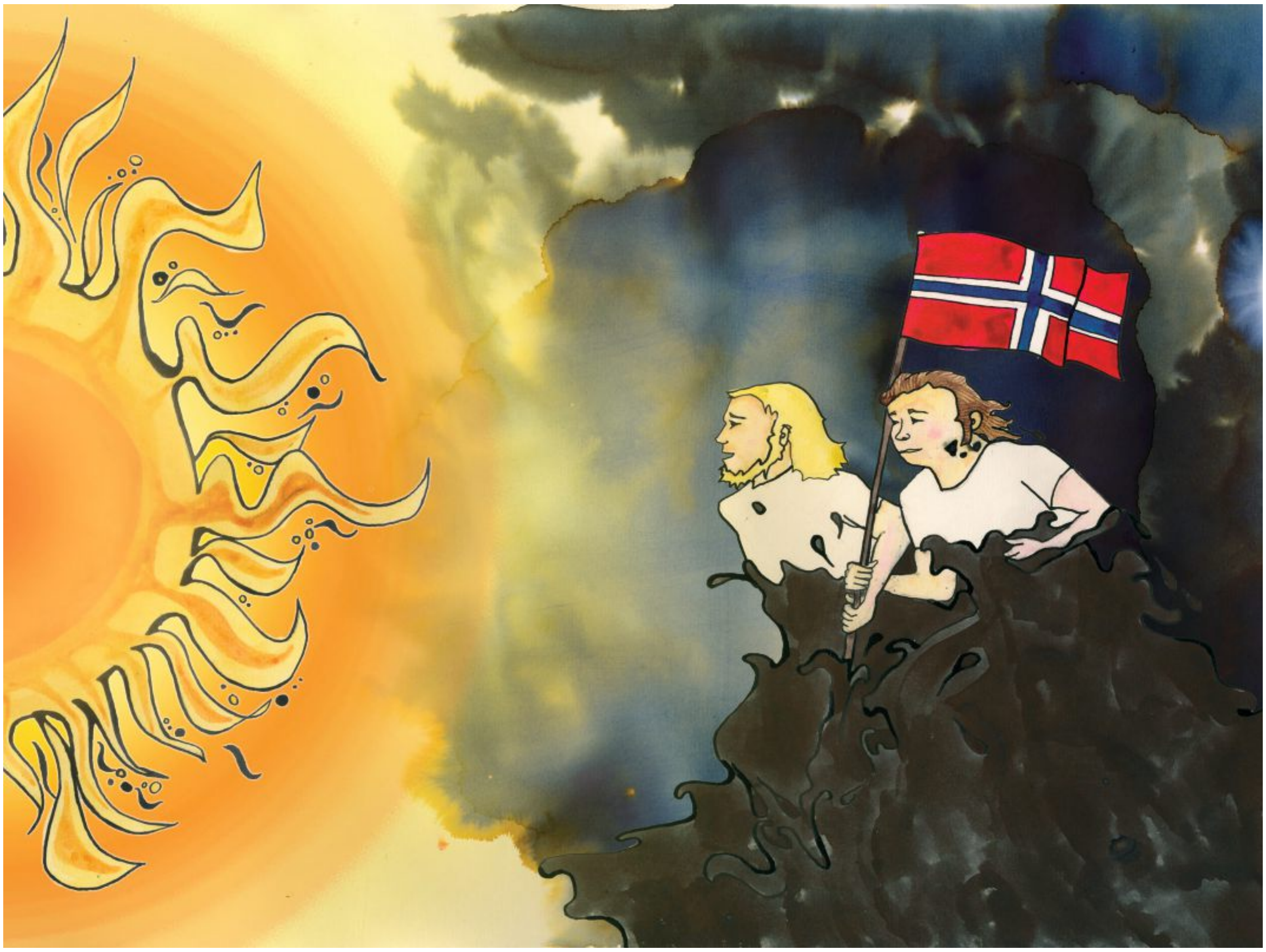
The Norwegian government might recognize the need to be sustainable and acknowledge that steps must be taken to reduce energy consumption, but this does not mean the country is willing to reduce the amount of oil and gas extracted from its soil. The country is actually doing the opposite by increasing exports and continually searching for more oil. In 2010, total production was 2.15 million of barrels of oil per day and 106 billion standard cubic meters (scm) of gas. Most of this is exported, so the majority of the pollution that occurs due to the oil is not included in the country's inland pollution statistics.

How does Norway compare to the other Scandinavian countries in terms of energy sustainability?

Sweden experienced an oil crisis in the 1970s and ever since has taken significant steps to increase its use of renewable resources. The country has created a renewable resource use target of 50% has consistently reduced non-renewable energy consumption. Denmark has recently set a target to decrease their gross energy consumption by 4% by 2020. In terms of target-setting, Norway looks good as well, with an aim to achieve a renewable energy share of 67.5 percent by 2020. Nevertheless, Norwegian energy use is on a whole different scale than its neighbors'. ELKO, a leading producer of electrical equipment in Scandinavia, estimated that Norwegian households used 7200 kwh while Danish households used only 1900 kwh of electricity in 2006.

Norway is also far richer than its Scandinavian counterparts. In 2005, the country was estimated to have a per capita GDP of $42,000, while Denmark and Sweden had approximately $32,000-35,000. The country has made a high profit compared to its peers at the earth's expense and it is affecting our globe greatly. From 1990-2008 global CO_2 gas emission has increased by 29%. Of course this cannot be entirely attributed to oil production, but surely it has not helped.

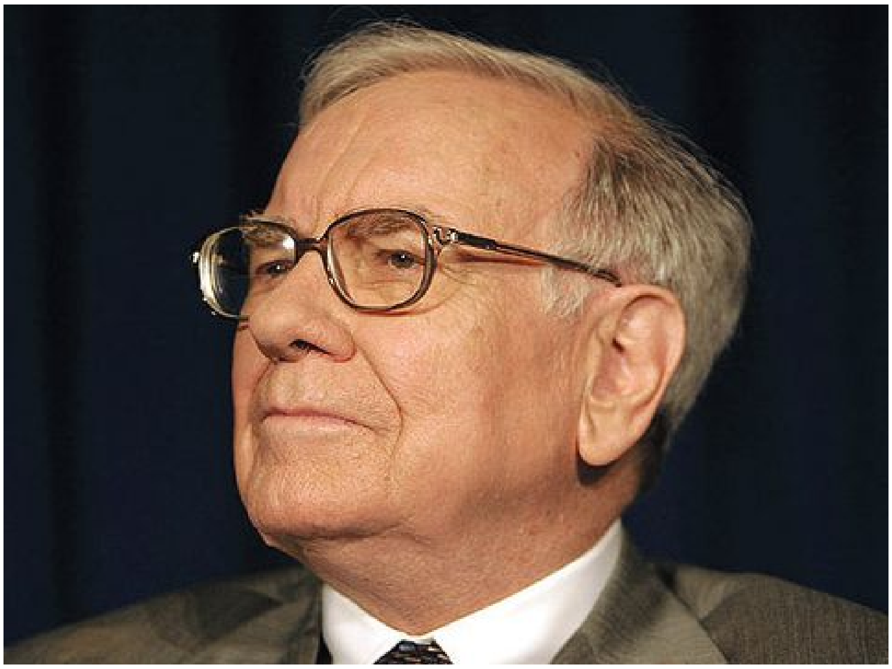
A combination of Norway's dependency on the high profit margins of their export and a spoilt lifestyle is one of the main reasons the country will do almost anything avoid giving up their oil. Norway cannot help but see, however, the climate change its economy contributes to. Is it enough for the country to think in innovative ways in terms of sustainable infrastructure within its borders if it is still one of the largest global suppliers of oil and gas? Reducing emissions at home will not be enough if Norway truly wants to contribute to worldwide environmental sustainability.



Hannah Foley

A Safe Bet

Iain Harper explores what sets Warren Buffett apart from the Wall Street norm



Trackrecord

CEO and Chairman of the now famous Berkshire Hathaway, Warren Buffett is acknowledged as one of America's wealthiest individuals. He has achieved this by implementing sound investment methodology since 1965. This accomplishment is reflected in Berkshire's strong share price, which now sells at approximately $110-120,000 (NYSE).

So what has he done differently? Buffett employs, with great success, the technique of 'Focus Investing'. This involves investing in only a select group of carefully-researched companies and once selected, holding them for the long-term. The theory goes that if you only pick 'sure bets', the overall risk linked to your portfolio is reduced. These carefully selected stocks will also bring superior returns on investment, compared to that of an approximately 'market average' return through portfolios holding numerous stocks of different companies. This is because in a highly diversified portfolio, the poorer-performing assets will pull down the average return for the portfolio. Buffet calls his strategy as investing "within your circle of competence" or more simply, sticking to what you know.

Buffett gathers this information by applying 'Fundamental Analysis', which comprises of lengthy detailed research into a company, its history, structure, and future financial prospects on a company. Buffett believes that failing to fully understand the firms in which you invest is a far bigger risk than price volatility. Buffet has accumulated many followers to his thinking. Should someone be happy investing their own money in something that they don't know much about or isn't a top performer? Most sensible investors would make sure that each individual company they have shares in is performing at the top of its game!

This goes strongly against Modern Portfolio Theory's view on risk mitigation, where the risk attached to a portfolio decreases as you increase the number of different stocks it contains, or in other words, through diversification. The idea of 'Focus Investing', when implemented correctly, can be hugely profitable. However the main constraint on a keen investor is often the inability to commit enough time to do fundamental analysis. But surely if it is unfeasible to spend the required amount of time on due diligence, then some people might find greater reward by investing in a well-to-do mutual fund, left in the hands of a friendly professional, who has the resources and expertise to make sure the fund performs optimally.

Warren Buffett also thinks about risk in a completely different sense to MPT, not just on how to mitigate it. This might seem quite surprising to some, going against the norm with something as high profile as investment strategy. However, as shown, it has clearly worked for him over the years. The theory that diversification reduces price volatility still stands, but only by investing in companies that you know will be successful will the risk of your portfolio collapsing be reduced. Too much diversification therefore merely "serves as protection against ignorance."

Warren Buffett sees price volatility as an opportunity to capitalise, buying stock when shares are selling below their intrinsic value. Differing somewhat from MPT, instead of seeing price as a threat, he sees it as an opportunity to gain from the market, when others are feeling nervy about their companies share price. However, yet again we return the same story regarding how much time the investor spends on research. Investors can only take advantage if firstly they realise the opportunity is there in the first place and secondly, their involvement is frequent enough that they can act at the right time, so as to not miss their chance. Both come through knowledge and awareness of current market fluctuations.

Avid investors should not therefore so readily commit to generic, heavily-diversified mutual funds. Instead, they should take their time over picking the best companies to invest in, within their own circle of competence. Even if their research takes time, they will be rewarded in the long-term. After all, the stock markets are not going to go away! This however doesn't suit all, especially those who want a fast return, with no long-term shareholding desires. If investors want safe, steadily priced shares, with low involvement attached, have faith in a highly diversified mutual fund. Warren Buffet, however, has taken the path less travelled by and shows that there is an alternative (and potentially very lucrative) way to invest in the market. Perhaps if more people were to take heed, he may have a few more rivals in the Forbes rich lists!

The Evolution of Microfinance

Roberto Timpano and Rebecca Kelly investigate the idea of a stock market for social businesses

Muhammad Yunus, winner of the Noble Peace Prize 2006, created the Grameen Bank, which since its inception in 1976 has pioneered microfinance. Starting with a loan of just $27 to forty two woman in rural Bangladesh, microfinance now serves an estimated 150 million of the world poorest people, empowering them to move out of poverty through the provision of the initial base capital to fund entrepreneurial activity. Building upon his direct contact with the world of the poor, Yunus has developed a 'evolutionary' economic model based on the concept of 'social business'. His idea came from the assumption that businessmen are not one-dimensional entrepreneurs whose only target is making the highest possible profit, but that their interests lie in different dimensions such as emotional, political or religious aspirations. In these terms Yunus' social business has been developed as a business model in which the first aim is not profit, but providing basic services to the poorest at the lowest feasible price possible, while also providing reasonable and competitive wages to those involved in the business. Investors, who are moved by the simple philanthropic desire to provide others with constructive help, offer investment expecting to see a return, but without claiming any profit. Yunus stresses the importance of the fact that they are not making a 'donation'. Each social business is not a charity organization; like any business they need products and customers. At some point the initial investment will have to be repaid.

The introduction of an economic return that consists of the same amount initially invested, is in this model the first step to create benefits for society as whole: resources generated by the businesses, that must be managed as profit oriented ones, will all be reinvested in the same activities, such as cultivations or handicraft productions, in order to increase efficiency, expansion and productivity. Adapting this business model to a 'social stock market' would mean the abolition of remuneration, such as dividends, so the only return to investees would be the social benefit achieved.

The idea of creating a stock market for this model of social business is relatively recent. Yunus, like other researchers, understood that instead of criticizing the entire financial system, it has become necessary for our economy to use it in a different way. Thus we don't need to rebuild everything on the base of more ethical criteria, but instead we should "change our original aim". If the target of the majority of investors who today trade in the stock markets is to earn money through speculation, we could create a parallel market whose finality could be directing funds into a productive use in 'social business'. In this way we can integrate two different targets that have never been considered compatible: profit and bringing a positive social impact. This trading platform could support social enterprises, improve their business management and increase their development prospective; moreover it could democratize the access to philanthropic resources and increase the credibility of the activities of social enterprises, which need access to growth capital and visibility.

The demand will be composed of companies that, as said before, work with traditional business schemes but use them to create a positive social impact. They will be both non-profit organizations and for-profit social ventures, which create social value while pursuing financials returns. On the other side investors embodying the supply will be different kinds of 'ethical' actors, which today are becoming considerable in number. The most important social investors are ethic funds in addition to the other foundations and companies which carry out corporate social responsibility policies - in 2010, Europe had 683 ethic funds with investments totaling 53bn. In general if the aim of these latter actors is one of helping the poor, instead of making an often unproductive donation to charity organizations, they would be more than happy to invest their money in projects whose credibility and results in terms of social impact is certified.

Luis Villa del Campo

Certification is another important aspect of this social stock market. Investors want to be sure that the quoted companies are the best ones, and thus be sure that these work in a professional, productive manner. To meet this need, a technical board could be instituted whose task would be making valuations about companies that want to be quoted and defining a strict list of entering and exiting criteria. In this process the fundamental step will be the choice of an indicator, which would allow a correct evaluation of the companies. Today the most used indicator, SROI (Social Return on Investment), can quantify social values in social savings and social expenses. This means that the social and environmental outcomes could be converted into tangible values that could regard health, community development, environment, education and others social needs. The role of sources of information, like The Financial Times or The Wall Street Journal, will be fundamental in order both to keep social entrepreneurs and investors constantly aware and to support the definition of ever more expressive valuation tools.

The strongest critique to this economic model is moved by the hypocrite supporters of the free market, who think that everyone should act as a profit oriented ''one-dimensional entrepreneur'' in order to create a general benefit (Smith's invisible hand), and also from those who believe that a competitive market can't survive with a high number of social businesses. Yunus, after years of successes in the fight against poverty, argues against this restrictive interpretation of capitalism and says that paradoxically the market could survive, even if social businesses are the only type existing. The point that he has continually stressed since he created the social business model is that this is not charity. We are still talking about business in a free market; the only difference is the setting of social impact as the bottom-line.

The official institution of a stock market for social businesses is not just a figment of the imagination, it's a reality. The number of business activities with the target of a social tangible benefit, managed under the base profit oriented scheme is constantly rising. This means that the classic economic model in which men live to be the economic machine devoted to the maximization of simple variables has died and that a new generation of entrepreneurs has already been affirmed. People who today want to discover the world of business have just to decide in which proportion combining the two targets of profit and social benefit. In these terms each kind of financial institution and organization that can support this process of integration between these targets must be supported. All those criticisms typical of classic investors linked to an old economic scheme should be avoided and the mechanism of capitalism should be utilized to fight poverty productively and efficiently.

Lighting 'the Way'

Matthew Marwick explains nuclear fusion and the benefits it could bring

In the south of France an international initiative is underway that has the potential to provide near unlimited quantities of energy, with minimal pollution and negligible radioactive waste. These are the aspirations of ITER (Latin for 'the way'), a proof of concept nuclear fusion reactor.

Nuclear fusion is when two atoms are fused together to form one heavier atom (contrary to conventional fission plants, where atoms are broken apart). As the mass of the resultant atom is less than the sum of the original two, the change in mass is released as energy. Most nuclear fusion reactors, including ITER, are designed to use deuterium and tritium (heavy and heavier hydrogen, one and two additional neutrons per nucleus respectively) as their fuel, fusing them to make helium.

ITER aims to output ten times more energy than is put in; hence proving that nuclear fusion could be a viable commercial enterprise. It has taken a trans-national collaboration of the EU, USA, Japan, Russia, China, India and Korea, to bring this half century year old ambition to the edge of fruition.

ITER is built around a device called a Tokamak; a torus shaped (doughnut) passage in which plasma (a state of matter under extreme conditions in which electrons become liberated forming a very hot, electrically charged gas) can be contained by passing a strong electric current through the plasma itself and then using externally generated magnetic fields to control it. By using this design in conjunction with sophisticated mechanisms and techniques, the conditions for a sustainable nuclear fusion reaction should theoretically be possible.

One of ITER's most consequential experiments is a tritium 'breeding programme'. Tritium is important because there is a very small amount of it found naturally on Earth; only around 20kg. To put this into perspective, a hypothetical fusion plant with an output of 800 megawatts (akin to a typical power station) would need an estimated daily input of 300g of tritium. The natural supply would be depleted in mere months, making fusion an unsustainable prospect. However there are ways to produce tritium as part of the nuclear fusion reaction itself. ITER's system works by embedding particles of lithium into the energy absorbing component of the reactor. Occasionally a neutron will impact a particle of lithium and the resulting reaction produces helium and one nucleus of tritium. Using this method ITER is expected to operate a self-sustaining system, as after a small amount for ignition no additional tritium would be needed.

But what would the safety implications be for such a complex piece of engineering? In practice, the intricate nature of a fusion reaction makes the ITER reactor intrinsically safe. Any disruption to the conditions would cause the reaction to stop within a few seconds. No uncontrollable escalation would occur as very little fuel is used at any one time. Furthermore, the products have little capacity to do damage; helium is a harmless inert gas and tritium, which is slightly radioactive, is commonly used for medical procedures; many proven safe guards exist for its transportation and containment.

ITER is an astonishing prospect.

Were it to succeed in proving the viability of nuclear fusion then humanity's thirst for energy would be quenched for generations. The availability of vast amounts of cheap, clean, reliable energy could stimulate economies around the globe, removing barriers from many innovations. Mass producing hydrogen for fuelling future car engines or purifying sea water to supply drought-hit regions and a growing population would be just two feasible prospects. In the meantime however, ITER is the current step. Should it succeed, and this is not yet assured, then a fully-fledged demonstration fusion power plant would be built, called DEMO. This would most likely come into operation around 2030 and could lead the planet into a new era of electricity production. The way to a more energetic world lies ahead.

Learning the Hard Way

Stamatia Kremmyda explores the future of Greek higher education

Economic crisis seems to be embedded into the very fabric of Greece, often giving the illusory impression that the roots of the country's woes were exclusively debt-related. The pure panic of a potential sovereign default on the horizon has overshadowed the much-needed structural reforms that Greece needs to implement in many areas of its economy. Despite spending more per student than any other European Union member state, Greece has long been plagued with an undesirable quality of higher education. Testament to this is the millions of young people fleeing Greece to study abroad in Europe and beyond. However, amid the general doom and gloom surrounding Greece, piecemeal progress is finally being made to revive higher education in Greece from its ancient past.

In 2011, long-standing laws of 'academic asylum' in Greece were repealed by parliament. The system of 'academic asylum' aimed to promote academic freedoms and free expression within universities. In doing so the law forbade the entry of policy into university grounds without the permission of the relevant body of the university. The laws were introduced on campuses in 1982 in response to the repressive authority of Greece's dictatorships throughout the sixties and early seventies. Despite purity in moral intentions, the 'academic asylum' had in recent years, according to the former U.S. ambassador in Athens Daniel V. Speckhard, amounted to a haven for 'hoodlums', intent on engaging in illegal activities "such as drug trafficking, assault, theft, counterfeiting of DVDs and CDs, looting and vandalism." By removing the outdated ban, there is hope, however, that the sanctity of academic freedom and pursuit of knowledge will remain.

Other recent policies are directed towards the marketisation of public universities. These involved U.K.-style reforms by retrieving some degree of financial and administrative autonomy of universities from the state, and permitting universities to collaborate with the private sector in order to support their funding. Students also now have a maximum term, in which to finish their studies. In addition, free education will be guaranteed only for three years, with fees to be imposed for

Ellyce Morgan

further years of study. Whilst no-one is endorsing a blind mass privatisation of Greece's higher education, the recent reforms are essential to introduce more efficiency into the education sector, and remove authority from the bloated public sector.

Article 16 of the Greek constitution, which states that the "formation of universities by private individuals is forbidden", has done Greece few favours. This is especially apparent in light of the numerous private universities in neighbouring Turkey, offering excellent faculties and a high academic standard. The highly centralised structure of the Greek university system has left the country unable to evolve in response to the needs of the private sector and developments in technology. The attitude of Brussels, which has largely centres on public education and harmonisation of universities across Europe, has hardly helped to promote competition and efficiency within Greece's education. With the Greek private sector in tatters, education should play a key role in both producing students better-equipped to rebuild the private sector.

However, the above attempts of the governments to link universities to the market and the economy and protect academic freedoms seem to be disconnected with the culture and aspirations of very many people. In a series of case studies which I conducted in Greek universities, the new policies were considered by many students to be aiming to limit educational democracy and facilitate the promotion of certain ideological views, which is contrary to the democratic movements of ideas that is the mission of the Greek-public university. The students remained committed to Greek classical culture (humanistic education, and little emphasis on applied science). They disagreed with the collaboration of public universities with businesses, because this supports the freedom of research only in those sciences which bring profit to universities and help students to enter the employment market. In addition, they considered the new policy to be designed to limit students' voices, and to hide corruption and the lack of transparency in decision making.

The state of Greek higher education today shows that Greek society and its education community are slow to adapt to new economic realities. Greece needs to ultimately balance its priorities by maintaining its strong national and 'democratic' identity, whilst also adapting to changing social and business needs.

Academic

A Professional Opinion

Sofia Widen talks with Professor Stuart Sayer

The tension between economic growth and climate change is tangible in the ever-excitable media, although page-space has had to give way to stability plans and rescue packages lately. Ten years after the first United Nations conference on the environment, world leaders are meeting again in Rio de Janeiro, Brazil, in June this year to discuss sustainable development. The conference, officially named United Nations Conference on Sustainable Development, "emphasizes a holistic, equitable and far-sighted approach" to climate change and leaders will, once again, try to resolve the apparent tension between growth and the environment.

I am meeting with Professor Stuart Sayer of the School of Economics to hear his views on the tension between economic growth and climate change in the light of the upcoming conference in Rio. First of all, Professor Sayer encourages us to question the concept of economic growth and its suitability as an indicator of welfare. To frame the challenge of climate change narrowly in terms of a trade-off between economic growth and rising temperatures is misleading, and may conceal the real tension underlying the problem. If we think of welfare as including aspects that GDP does not measure, such as a clean environment, then it is not so clear that there is a tension between economic growth and the goal of minimising temperature rises in the future. This line of reasoning not only asks us to reflect on our current measurement of welfare, it also asks us to question wherein the real tensions lie.

If there isn't an obvious trade-off between increased welfare and emissions reduction, then where are the real tensions that currently stifle attempts to reduce emissions? This question has an endless number of answers, and each economist and scientist will give you his or her own; for Professor Sayer, the tension between the short- and the long-term presents itself as an obvious conflict. He argues that one of the most fundamental trade-offs lying at the heart of the climate change debate is the conflict between (high) living standards today and living standards tomorrow. For example, we can delay

"Professor Sayer encourages us to question the concept of economic growth and its suitability as an indicator of welfare. To frame the challenge of climate change narrowly in terms of a trade-off between economic growth and rising temperatures is misleading, and may conceal the real tension underlying the problem."

investment in clean technologies and use the resources to maintain high living standards in the short-run. Alternatively, we can make the necessary investment, sacrificing consumption and increasing the chances of sustaining high standards of living far into the future. In other words, the real trade-off is between generational welfare or between current and future consumption.

The second conflict Professor Sayer urges us to think about is the tension between countries and regions in bearing the burden of costs associated with abatement and adaptation. The scope of this problem is further complicated by the current recession: countries like the United States will be unwilling to pay for abatement in countries whose current economic resilience seems to exceed their own. Although the ethical argument supports the claim that developed countries should pay for their historic and current emissions, the political viability of such an argument is limited in times of economic downturn. It is these kinds of tensions that underpin the current debate on climate change, and Professor Sayer argues that this was a major influence at the United Nations Climate Change Conference held in Durban, South Africa, in December 2011. The question of who shall bear the burden of abatement and adaptation is therefore a crucial one that our generation must answer, in spite of on-going economic uncertainty.

Although the challenges posed by climate change are many and complex, there is hope. Across the street from the Economics Department, in the modern building that hosts the Business School, a vibrant student community works towards alleviating some of the tensions posed by climate impacts. By bringing together students and researchers from the School of Geoscience, the Economics Department and the Business School, Professor Sayer, along with his colleagues from these other disciplines, manages an MSc programme in Carbon Management. Since his time as Head of the Economics Department (2000-2008) Professor Sayer has worked tirelessly to bring together not just three departments and schools within the university but also the wider business community, various governmental branches and international networks to form a new and innovative Masters programme here at the University. Around forty students are accepted annually into the program, forming an internationally diverse group of students, all of whom have a genuine interest in the various conflicts that underpin the study of climate change. In this way, the University of Edinburgh hosts the world's first master programme of this pioneering interdisciplinary character – a programme that has been replicated in other places since its inception in 2008.

The research that is undertaken and the courses that are offered within this programme combine cutting edge research from the natural and social sciences in order to equip students for a range of future careers and jobs. Graduates have gone on to set up their own consultancies and Professor Sayer mentions the company Carbon Masters as an example of a successful business that was formed by alumni of the Carbon Management programme. Carbon Masters now offer interesting internships to talented students from our own and other universities and their homepage is worth a visit if you are interested in this type of business venture or are looking for an internship in this area. Other graduates have gone on to work for the government, advising climate policy. One previous student is now in charge of the Renewable Development Agency in Chile, while another has assumed the role of secretary at the United Nations Framework Convention on Climate Change. This person is currently drafting amendments to climate change agreements among other things. The fact that Edinburgh graduates go on to a range of careers both in the private and in the public sector demonstrates that the range of skills students develop at the Carbon Management programme are relevant today and easily translated into a variety of career options. Hopefully, these will help our generation to solve the underlying tensions inherent in the problem posed by climate change.

Professor Nicolas Stern of the London School of Economics once stated that climate change is the greatest challenge economists have ever been confronted with. With this in mind, our generation can hardly ignore the subject. We should be inspired by the work of Professor Sayer and his colleagues to think about how we can respond to the challenges, and the many opportunities, that reveal themselves in the light of changing policies and a changing climate. There is a vast array of roles that will need filling, for example: climate diplomacy, carbon footprint consulting, cap comparison or adaptation finance. It should be clear at this point, that there is no tension between having an interesting career and contributing to a cleaner world.

Enlightenment 2.0

Jay Patani reports from a day-long series of eclectic talks at TEDxGlasgow: Enlightenment 2.0

The 18th Century Enlightenment sparked a revolution of ideas, which finally began to bury the irrationality and religious fanaticism of the preceding centuries. Although perhaps indulging in hyperbole when coining the theme of the talks as 'Enlightenment 2.0', I left Glasgow feeling a little more enlightened and with a renewed faith in humankind. Staying true to their motto, 'ideas worth spreading', the TED speakers avoided the stale format of tiresome lectures and instead opted for 'dynamic performances' lasting no more than 18 minutes. Finally, civilising progress and innovative ideas can be condensed into digestible chunks – a boon to those who have misplaced their attention span in our 'enlightened' technologically-savvy age. I leave you with a few of the inspirational ideas raised in the course of the day.

Dr. Pauline Dixon – How are private schools serving the poorest?

The divisive topic of private schooling in the UK often invokes images of elite public schools – institutions that often incite equal amounts of envy and revulsion among those who have not attended. In India, the situation is vastly different, where private schools are filling the void of good quality and low-cost education for the children. This is increasingly seen as an alternative to the frequently shoddy level state education. The Indian government as well as international bodies such as UNESCO have frowned upon the rise of 'unrecognised' private educational institutions as having 'little cause for optimism'.

Dr. Pauline Dixon, Senior Lecturer in Education and Development at Newcastle University, however, asks why can't private schools be part of the solution to schooling provision? Numerous empirical studies in India, Pakistan and Africa, reveal that children in private schools actually outperform those in government schools and at a fraction of the teacher cost. Dixon argues that increased teacher accountability and better efficiency allows many private schools to better serve the needs of students.

Dixon is now associated with the London based charity Absolute Return for Kids (ARK), which has instituted a voucher-based system, to give children the opportunity "to exercise their legal right to free education in low cost private schools". After selecting hundred schools to participate in the scheme, vouchers were distributed in a lottery to applicants, whose progress will be monitored continuously by ARK.

See www.arkonline.org for more details.

David Erdal – Employee-owners do it better

A common thread running through the day of talks was disillusionment of the rampant inequality borne under the current capitalist system. However, instead of delivering inconsequential champagne-socialist rants against capitalism, the day's talks centred on practical changes that can soften the mean face of the free market. David Erdal's talk on the virtues of employee-owned businesses was one such example.

Karl Marx' theory of alienation decries the estrangement of the worker from the product of his labour. As a consequence, the worker is said to disassociate himself from reality and even from himself. Employee-owned businesses seem to be a way to empower the worker as a participatory agent in a company's daily activity.

On hearing this solution, Marx is perhaps writhing vigorously in his grave, yet Erdal made a strong case for reforming the prevalent, hierarchical structure of organisations. Instead, in line with numerous successful companies (John Lewis, engineering consultancy Arup and optics company Zeiss to name a few), Erdal promotes a more egalitarian structure.

Erdal argues that employee-ownership, where workers have stake in the company, can, in contrast to the disparaging comments of many economists, bring increases in productivity to a business. Both 'guys at the top' and the employees have a completely different incentive structure partly owing the fact that employees can have voting rights over the management board. Profits can be reinvested or distributed among owners, which ultimately means more money trickling down to the workers instead of into the hands of external shareholders. The employees also treat their workplace in a wholly different way. It belongs to them. They want to improve it.

Find more information on his books and work at www.daviderdal.net.

Mick Jackson – Is social business the evolution of capitalism?

Inflamed and visibly infuriated by the social ills wrought by capitalist society, entrepreneur Mick Jackson initially appeared to be the Scotland's answer to Lenin or Castro, determined to lead a revolution. Yet what started out as a rant against capitalist injustices soon materialised into a heartfelt mission to transform businesses into social enterprises.

Already a pioneering entrepreneur this area, Jackson set up WildHearts, a charity committed to launching commercially-viable businesses, which serve only the goal of fighting poverty. The philanthropic vehicle to achieve this is not through mere handouts, but by offering microloans and business training to the poor in the developing world. The Occupy movement has successfully mobilised the masses worldwide to campaign for redistribution, however it is incoherent, at best, on how best to attain it. Perhaps the social business model is an answer.

Find more information about WildHearts at www.wildheartsinaction.org.

Joe Tree

Reviews

Keynes Strikes Back

Witold Gawlikowicz Reviews Keynes: *The Return of the Master*

John Maynard Keynes was sometimes dubbed 'the economist for the crises' by his contemporaries for his interest in seemingly unnatural economic shifts. It seems that now, 65 years after his death, financial downturns are becoming an unquestionable part of economic reality. In fact, we might need his wisdom now more than ever. A recent appraisal of the great economist can be found in a book by Robert Skidelsky titled *Keynes: The Return of the Master.*

Skidelsky, a professor of political economy at the University of Warwick, is considered one of the world's foremost specialists on Keynes. The author describes himself 'as an economically literate historian', which introduces a unique perspective to his argument and makes the book a pleasure to read.

It starts with a brief overview of the recent financial crisis in the first chapter. There's an interesting section where the author lists institutions typically blamed for the crisis: banks, rating agencies, hedge funds, regulators and governments. While he is surely not defending any of this bunch, he also points toward another 'villain'. In his opinion the "intellectual failure of the economics profession" has contributed the most to the situation we are in now.

He then jumps forward to describe the current state of economics. Skidelsky emphasises the underlying assumptions that economics is built on rational expectations, real business cycles and market theory. He also discusses two major economic schools of thought: New Classical and New Keynesians.

After a thorough recap of economic theory and a retelling of events from the last couple of years, we finally are introduced to the 'master'. Surprisingly, the author does not focus solely on Keynes' economic ideas. While these comprise a large portion of the book, he also tries to paint us a portrait of the man himself. The reader gets to know a bit about Keynes' personal life, his career and, in the final chapter, his ethical ideas.

Even though Keynes devoted most of his life trying to save capitalist systems, he was never particularly fond of it. He treated it as means to an end – the end being to live wisely, agreeably, and well.

The book, even though less than 200 pages long, not only lets the reader grasp Keynes' key ideas, but also makes it possible to get a feel for the kind of a person Keynes actually was. On top of that, one gets a thumbnail sketch of 2008's financial meltdown and a good overview of the history of economic thought.

If you are not too familiar with economics don't be scared off. The book is written in a very accessible manner. There is not a single equation in it; there are a handful of self-explanatory graphs and very clear and transparent economic models. After all, the author is an expert on Keynes, who spent his life arguing against making economics over-complicated and opaque.

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