

Rewards from Eliminating Deadweight Taxes: The hidden potential of Scotland's land and natural resource rents¹

Roger J Sandilands²

1.1: Introduction

In 1884, the American economist Henry George addressed a packed audience in Glasgow's City Halls to decry the shameful poverty and squalor that existed side by side with so much evidence of growing overall wealth in the Second City of the Empire. Why was this? George had an answer that resonated with the public and they later gave the Liberals a landslide victory in the general election of 1906. The Liberal MP for Stirling, Henry Campbell Bannerman, was confirmed as Prime Minister, followed in 1908 by Herbert Asquith, the MP for East Fife. Glasgow Corporation was also dominated by Liberals who campaigned strongly for land-value taxation. Prominent among these was Baillie Peter Burt who helped promote a petition in 1906 signed by 518 local authorities calling for reform that led to a land valuation bill in 1908 and another in Lloyd George's "People's Budget" of 1909. Both bills were blocked by the landlord-dominated House of Lords. This led in 1911 to the removal of the Lords' power to block finance bills and a process was begun to value the land of the United Kingdom, a process halted by outbreak of war in 1914. On his retirement in 1920, a chair was presented to Baillie Burt with an iconic carving that summarised Henry George's vision:



The purpose of this background paper is to investigate how far the United Kingdom and Scotland could together have been more prosperous and equal had Lloyd George's struggle for fiscal revolution succeeded.

¹ Background paper for conference on "The Constitutional and Fiscal Dimensions of Land", Glasgow, February 25, 2015, organised by the Scottish Land Revenues Group (SLRG).

² Emeritus Professor of Economics, University of Strathclyde

To answer this question, giving a broad brush range of plausible figures, two issues must be addressed.

First, we need to know whether the annual rental value of land and natural resources (“Land” in its broad classical definition) would likely be sufficient to finance modern governments’ fiscal needs if these rents were its main revenue source, with a corresponding reduction in taxes on other incomes. Over the 50 years between FY1964-65 and FY2013-14, tax revenues as a share of UK GDP fluctuated within the relatively narrow range of 31.6% and 37.6%, with an average of 34.3%. There was a declining trend: the yearly average for the first half of this period was 36.7% and 32.0% for the second half.

For Scotland, the *Government and Expenditure and Revenues Scotland* (GERS) gives data for 2008/9 – 2012/13 that enable us to calculate the share of her revenues (inclusive of those from North Sea oil computed on the basis of Scotland’s geographical share) in Scotland’s Gross Value Added (GVA). This share averaged 36.5%, and fluctuated between 34.2% and 38.6%. (Expenditures averaged 42.7% of GVA over the same period.)

Secondly, we need to be convinced that this fiscal revolution would yield a significant improvement in economic growth and its distribution.

But before we address these two questions, we need to clarify the nature and source of economic rent.

1.2: The nature and Source of Economic Rent

Following Adam Smith and David Ricardo, market forces – to the extent not obstructed by natural or man-made restrictions – determine, through the interaction of supply and demand, the “going” wage rate for labour and the expected “normal” return on capital. Labour and capital combine to produce goods and services at various geographic locations. On the least desirable land actually in use, labour and capital produce just enough to earn the going wage and interest rates, with nothing left over to pay for land. This is at the ‘margin of cultivation’ on agricultural land.

At and beyond this margin, land is currently free. Inside the margin there are natural and locational advantages that enable labour and capital to produce more than at the margin. Competition for these better locations pushes their prices and rents above zero. But as Ricardo put it, “Land is the free gift of Nature”. It has had no labour costs of production but it commands a price. Thus its price is a pure economic surplus. Since land is fixed in supply and location, no more can be produced or moved to reduce its price when the pressure of demand pushes this above its zero labour cost.

Contrast produced goods and services: if their price exceeds their labour costs (including the indirect or “stored-up” labour costs of man-made capital inputs), labour and capital can and will move into those activities until their prices are reduced and excess profits eliminated.

In the land market, the rent that each location commands is the difference between the unit labour costs on marginal (no-rent) land and the lower unit costs on intra-marginal locations

where the productivity of labour and capital is higher. Competition exerts an equalising tendency on product prices; mobility exerts an equalising tendency on the prices of labour and capital. Land, however, being fixed in supply and place, has no similar tendency toward an equal price. Pure land prices and their annual rents (abstracting from what is paid for any buildings thereon) are therefore entirely demand-driven.

Goods and services are entirely the product of (direct and indirect) labour, but labour gets only its marginal, not its average product. The difference is what the owners of land – the passive factor of production – capture from labour in the form of rent. This is an income entirely analogous to the income of a monopolist who is able to prevent competition. He unfairly obtains excess profits because he is left free to charge prices that exceed his costs of production.

2. The Adequacy of Rents

Table 8.2 of the UK National Income Accounts gives GDP in 2011 at market prices (£1,537bn) by category of income and by its percentage composition, thus:

Total gross operating surplus:	£436bn	28.4%
“Mixed” incomes (of the self-employed):	£ 85bn	5.5%
Employee compensation	£820bn	53.4%
Taxes less subsidies on products and imports:	£190bn	12.5%

Gross operating surplus is gross value added (GVA) minus labour costs paid by producers. It is the sum of (i) gross trading profits and (ii) “income earned through the ownership of buildings (rental income).” But separate figures are not easy to find for (i) and (ii); and nor is “rental income” calculated separately for land and buildings.

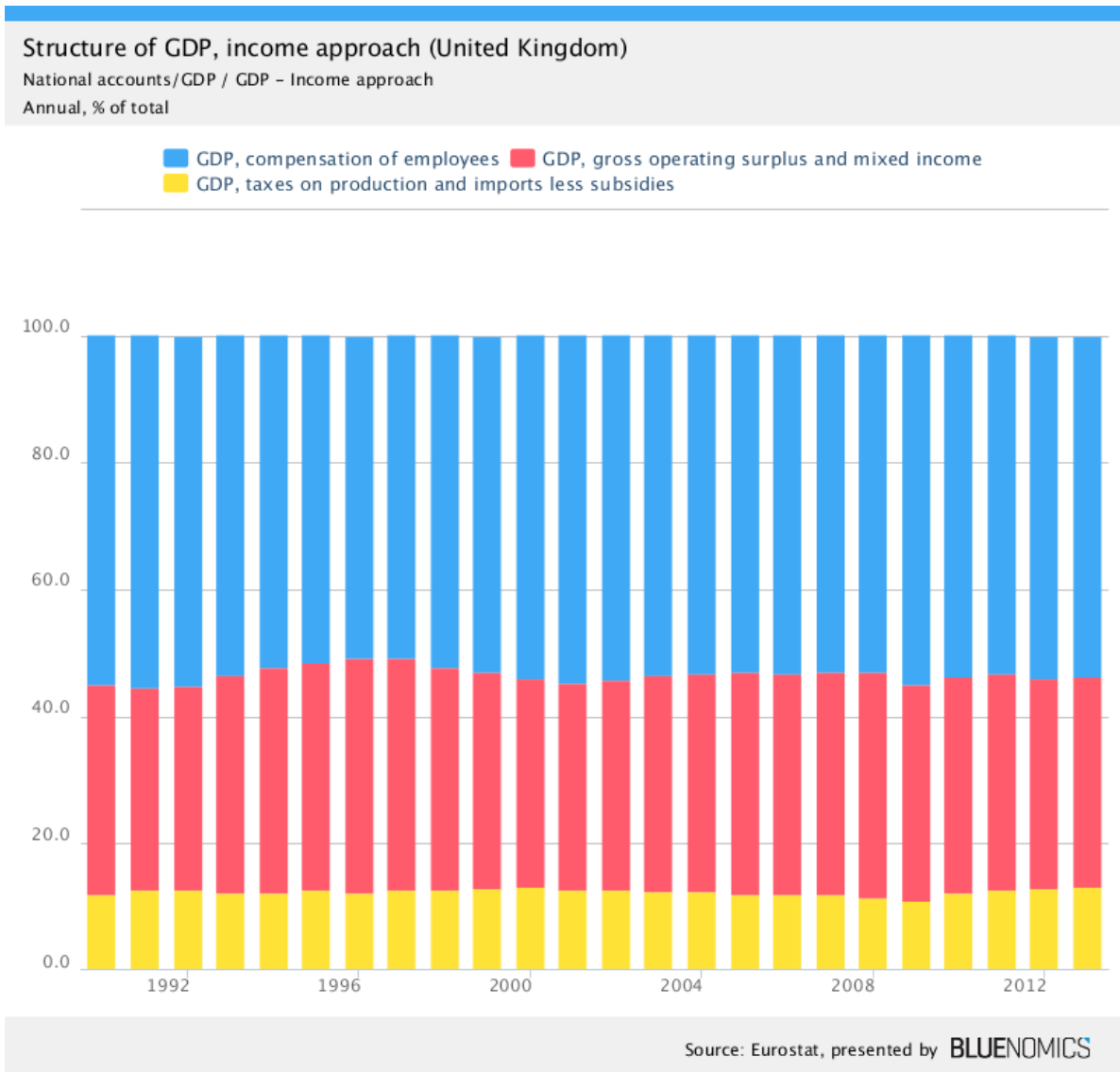
However, Summary Table 1.6.3 gives a figure of **£483 billion** for total **property income** accruing to individuals. These incomes comprise:

- (i) interest: **£210bn**
- (ii) distributed incomes of corporations: **£198bn**
- (iii) reinvested earnings on direct foreign investment: **£130bn**
- (iv) “property income attributed to insurance policy holders” – presumably owners of buildings: **£71bn**
- (v) rent on land: **£0.417bn (i.e., £417m)**

“Rent on land” is defined as “the amount payable to the owners of land and sub-soil assets in return for allowing others to exploit the assets in question. In practice, the main constituents of rent for the UK are for agricultural land royalties in respect of permits to explore for oil and gas.” It is a relatively trivial sum (**£417m**) because relatively few agents make explicit payments for land qua land, and land here is onshore land only. Offshore oil incomes are not officially defined as rent.

Figure 1 (below) summarises the functional distribution of the United Kingdom’s GDP, 1990-2013, as revealed by the national accounts:

Figure 1: Structure of The United Kingdom's GDP



What must alarm us is that “rent” has virtually disappeared from the picture. This, however, is because the accounts show only the surface flows of income. The great bulk of the rents from land and natural resources lie hidden beneath, or have been given wrong labels. In tune with modern mathematical economics land is no longer a distinct factor of production as it was with the classical economists, notably Adam Smith, David Ricardo, John Stuart Mill and Henry George. Instead we have only labour aided by “Capital”, earning wages and profits. Land is conflated with “Capital” and its income is assigned no special significance.

This involves an egregious fallacy of composition: that what is true of the individual is also true of the whole. The individual may invest indifferently in “God-given” land and/or man-made capital and hope to maximise her returns accordingly. If she invests in machinery, equipment, and raw materials that have been extracted from the ground she has added to the stock of capital goods that aid labour to produce wealth (including new capital goods and buildings). If she purchases land – whether as an empty plot or as the ground beneath a house, a factory, a shop or an office – she is persuading an existing owner to transfer its

ownership. Nothing has been created thereby. It is a mere transfer payment. From the social standpoint, rent is not a cost. But, rent payments are the way that land is apportioned between its competing uses.

In purchasing or renting a house, a factory, a shop, an office or farm, the land rent element may be almost zero or it may be close to the whole cost to the individual, depending on its location – Rannoch Moor or Buchanan Street? But in both cases the national income accountant will treat the payments as capital investments and record the incomes as a return on capital or “gross operating surplus” (as above) – except in the relatively rare cases where bare land is changing hands and being held.

It is not as difficult to separate the land element from the value of the buildings as is often claimed. Professional assessors do this all the time. Glasgow City Council conducted a pilot study in the East End of Glasgow in 2008-09 and found few problems in moving to at least a hybrid LVT-Council tax system, with a purer LVT system recommended for the longer-term. Much more difficult than assessing the rental value of land was assessing the value of the heterogeneous buildings thereon, since that requires determining the state of each individual building’s fabric, fittings, extensions, etc. Less was easier to do than more. As they say in Spain: “Quien puede mas puede menos.”

Clearly, businesses and households that own their own buildings own also the land on which the buildings stand. But these businesses report their overall income and profits (the national accounts’ “gross operating surplus”) as undifferentiated “income” rather than rents on their use of land plus profit on capital.³ Similarly, owner-occupant households are not assessed on the “imputed rents” they enjoy from the locational benefit they gain from their neighbourhoods’ various social amenities that give their land its value.

However, the story does not end there. “Land” in the classical economics of Smith and Ricardo is the entire universe apart from man and his products. It includes (as Mason Gaffney [2009] has so comprehensively listed), such extremely valuable natural resources as the radio spectrum, oil beneath the sea⁴ other minerals beneath the ground, our harbours, waterways and seas, aircraft landing slots, and road and car parking spaces.⁵ Good climate and beautiful

³ This, however, can invite asset stripping.

⁴ Most though not all oil revenues are rents: it depends on the world price which will price marginal fields in or out according to their differential costs. Currently, with world oil prices falling below US\$50 a barrel, new investment has been cut sharply. However, many of the old fields do still yield considerable rents. Scotland’s geographical share of North Sea oil and gas production is about 90%. But Scotland will never be as fortunate as Saudi Arabia where marginal costs are a fraction of those in the North Sea but whose oil fetches the same world price for their sheikhs. UK fiscal revenues from oil peaked at £12.4bn in 2008/09 but fell to £4.7bn in 2013/14 and will be much lower than that in 2014/15. This extreme volatility would have an accentuated macroeconomic importance for Scotland if she were not closely linked to the United Kingdom and this needs to be borne in mind when considering the extent of fiscal autonomy appropriate for Scotland within the UK.

⁵ See the Appendix for brief details of the extent to which Singapore (one of the most dynamic economies in the world) charges for the use of road space for cars and harbours for ships, with a consequential alleviation of the burden of taxes on earned incomes.

views, while free in one sense, are free only to those who can afford the land whose value is enhanced thereby, or who can afford to holiday in such places.

Next we must consider an even more important omission from conventional estimates of the size of rents.

2.1: Rents and the Incidence of Taxation

The failure to capture the social value of land and its rents as the primary and most natural of state revenues has meant that governments have turned instead to taxation.⁶

As indicated above, wages and the return on capital (properly defined) tend to where they currently equilibrate supply and demand at a similar price for each type of work or enterprise, dependent on the skills or risks involved. The going wage and profit rates are determined at the margin. While neither labour nor capital are perfectly elastic to wage or profit differentials, especially in the short run, nevertheless strong equalising pressures exist in the absence of artificial barriers to mobility.

If taxes are imposed on labour and capital, their costs rise above what can be earned at the margin where rents are zero or very low. Rents cannot be negative for long, so labour and/or capital must bear the taxes. If their incomes thus fall below minimum acceptable levels their supply and their product will fall.

This is the source of one element in the so-called “deadweight losses” or “excess burdens” of taxes.

However, for the labour and capital that operate at superior “intra-marginal” locations, the owners of the land will have been capturing Ricardian rents or surpluses. These are market determined and cannot be increased to absorb the tax on earned incomes.⁷ To preserve activity there, rents must absorb the cost of the taxes.

The eighteenth century French “Physiocrats” (or *économistes*), and Adam Smith in *The Wealth of Nations* (1776), understood this well. Smith wrote:

In all cases a direct tax upon the wages of labour must, in the long-run, occasion both a greater reduction in the rent of land, and a greater rise in the price of manufactured goods, than would have followed from the proper assessment of a sum equal to the produce of the tax, partly upon the rent of land, and partly upon consumable commodities”.

⁶ In principle, when the state collects land rents this is not taxation in the strict sense of the word – as a mandatory levy that has no necessary or fully compensating benefit. In this sense taxes differ from fees or the prices paid for goods or services that yield perceived direct and corresponding benefits. We equate our expected benefit from clothes or food to the price we must pay for them.

The higher price of a ticket for a better seat at the theatre or an hour of downtown parking is the fee or user charge for its expected benefits. Likewise, the higher rent for living or conducting business in superior locations is in return for correspondingly high expected benefits.

Not so when I am compelled to pay a tax on every dollar I earn as wages from my labour, or profits on my enterprise, or VAT on my purchases of goods.

⁷ VAT and sales taxes increase product prices. So these taxes also reduce real wages and profits below their market-clearing levels, again causing a fall in the supply of labour, capital, and output.

He describes such taxes as "Absurd and destructive" [p.394] and urged that even landlords ("who love to reap where they have not sown") should realise that their own best interests lay in the abolition of "fines" (taxes) on production in favour of rents as the main source of state finance. That was the way to maximise the incentive to work and invest and so increase the size of the national product, hence the size of the national market.

Below, we shall explore further the implications of the "absurd and destructive" burdens of taxes on earned incomes. Meanwhile, we should stress an important implication: Whatever the size of rents that we may identify today after they have been fully and properly revealed in the hidden recesses of national, corporate and household accounting, these rents would be much greater in the absence of the distortions that our current tax system imposes on the economy.

An economy freed of these shackles would be one in which incomes and economic activity would be greater, and this means a greater demand for land for living and working. With increased demand pressing against fixed supply, rents and the price of land would be greater than otherwise. This increases the scope for greater public revenues, and even leaves landowners with some increased income from higher rents if all are not collected. And landowners, in their other existences as consumers, workers or capitalists would gain with the rest of us. Smith lamented that landowners are often too intellectually indolent to recognise where their own best interests lie.

In fact, the wealth of nations was both defined and stimulated by the size of the market and the whole point of Smith's magnum opus was to condemn 'mercantilism', or protection for producers at the expense of consumers. Not laissez faire, but the promotion of competition and mobility was Smith's fundamental message. Competitive prices and factor mobility promoted efficient allocation of resources and increased purchasing power.

But the classical economists were not only concerned with the allocation of scarce resources – the economics of scarcity. They equally intuited the economics of opportunity – the opportunity to reorganise productive resources through increased opportunities to specialise and increase the division of labour and stimulate technical innovations. At the very beginning of *The Wealth of Nations* (1776), Smith showed the very great productive power of specialisation (through his example of work in a pin factory), but also coined the famous aphorism that "the division of labour *is limited by the extent of the market.*"

The deadweight losses from taxes on work, enterprise and consumer goods (including imports) were consequentially immense because they restricted the size of the market at home and abroad.

Ricardo reinforced Smith's message in two ways. First, he deepened our understanding of the law of rent and why rent is a pure surplus over the cost of production, so that rent could be the prime source of state revenue without adverse effects on supply. Second, he explained that the mutual gains from reciprocal international trade arose not only for countries where there was an *absolute* difference in the productivity and costs of the goods they could trade. Rather, trade could also, and more extensively, be conducted between countries that had only a *comparative* advantage in the goods they traded. In the process, nations' markets could be more greatly extended than even Smith recognised. Thus so too could specialisation be increased, with powerful consequences for increased productivity, lower costs, lower prices,

enhanced purchasing power, greater real market size. This in turn would mean greater opportunity and wherewithal to increase specialisation yet again, **in a self-reinforcing and self-sustaining cumulative process.**

This endogenous process differs fundamentally from the self-exhausting nature of modern neo-classical growth theory which postulates diminishing marginal productivity for labour and capital as their supply increases, and *constant* rather than increasing returns *to scale* (that is, *to the size of the overall market*). Thus productivity growth requires technical progress to enhance the productivity of labour and capital that otherwise would be subject to diminishing returns in the face of a fixed supply of land.

Though empirically important, this technical progress is unexplained and “exogenous” in the neo-classical model. To stimulate technical progress at home, the supporters of this theory are often inclined to preach, *per contra* Adam Smith and Henry George, the virtues of import tariffs, strong patent laws, and taxpayer-financed subsidies to favoured producers: all at the expense of the consumer and the overall size of the market. So perversely different!

For a rough but evidently telling indication of the relative buoyancy of land values, Table 2 below shows the significantly greater average annual inflation of house prices in the UK between 1970-2012 than the overall inflation rate: 9.8% as against 6.7%. This disparity is especially evident in London and the South-East where population and regional incomes have risen most rapidly, creating greatest pressure on the fixed amount of space. House prices there exhibited roughly a four-fold increase in nominal terms.

The figures suggest (i) that real land values (hidden inside the “house” price inflation data, but surely the dominant element relative to the cost of bricks and mortar etc.⁸) are secularly very buoyant; but that (ii) land values are also cyclically very volatile.

⁸ Between 1996 and 2012, for example, the “house” price index rose by 166% (see Table 2). Meanwhile, the price index for manufactured goods rose by 32% while prices overall rose by 40%. (www.ons.gov.uk/ons/datasets-and-tables/data-selector.html?cdid=JVZ7&dataset=ppi&table-id=4.) This indicates a fall in the relative price of manufactures (including building materials) but a very large rise in the relative price of “houses”. This implies that the price of land must have risen by even more than the 166% increase in the “house” price index.

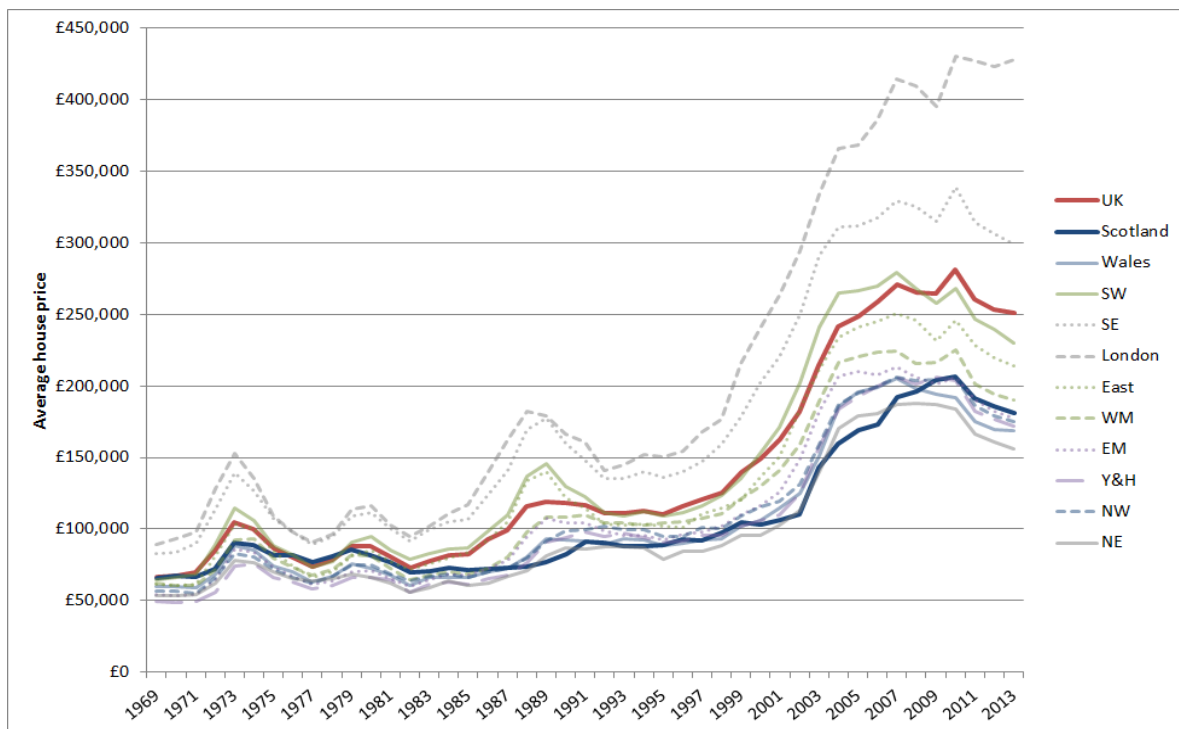
Table 2: Nominal and Real UK GDP, 1969-2012

Year	Nominal GDP (millions of pounds)	Real GDP (millions of 2008 pounds)	GDP Deflator (index 2008 = 100)	Annual GDP Inflation rate (implied by GDP deflator)	Annual rate of house price inflation
1969	47,023	563,097	8.35		
1970	51,696	575,736	8.98	7.5%	6.3
1971	57,670	587,805	9.81	9.2	11.9
1972	64,621	609,275	10.61	8.2	33.8
1973	74,545	653,124	11.41	7.5	36.2
1974	84,513	644,539	13.11	15.0	8.3
1975	106,717	640,534	16.66	27.1	5.9
1976	126,274	657,418	19.21	15.3	8.9
1977	146,973	673,025	21.84	13.7	7.6
1978	169,344	694,765	24.37	11.6	15.8
1979	199,220	713,380	27.93	14.6	29.3
1980	233,184	698,528	33.38	19.5	21.2
1981	256,279	689,289	37.18	11.4	5.5
1982	281,024	703,711	39.93	7.4	2.5
1983	307,207	729,215	42.13	5.5	11.9
1984	329,913	748,691	44.07	4.6	9.1
1985	361,758	775,643	46.64	5.8	9.1
1986	389,149	806,765	48.24	3.4	13.9
1987	428,665	843,572	50.82	5.3	16.5
1988	478,510	886,020	54.01	6.3	25.6
1989	525,274	906,236	57.96	7.3	21.0
1990	570,283	913,299	62.44	7.7	-1.3
1991	598,664	900,580	66.48	6.5	-1.4
1992	622,080	901,901	68.97	3.8	-3.8
1993	654,196	921,945	70.96	2.9	-2.5
1994	692,987	961,407	72.08	1.6	2.5
1995	733,266	990,751	74.01	2.7	0.7
1996	781,726	1,019,337	76.69	3.6	3.6
1997	830,013	1,054,232	78.73	2.7	9.4
1998	879,152	1,094,704	80.31	2.0	10.9
1999	928,871	1,134,723	81.86	1.9	11.5
2000	976,282	1,185,305	82.37	0.6	14.3
2001	1,021,625	1,222,650	83.56	1.4	8.4
2002	1,075,368	1,255,142	85.68	2.5	17.0
2003	1,139,441	1,299,381	87.69	2.4	15.7
2004	1,202,370	1,337,782	89.88	2.5	11.8
2005	1,254,292	1,365,685	91.84	2.2	5.6
2006	1,328,597	1,401,290	94.81	3.2	6.3
2007	1,405,796	1,449,861	96.96	2.2	10.9
2008	1,433,870	1,433,871	100.00	3.1	-0.8
2009	1,393,854	1,371,163	101.65	1.7	-7.6
2010	1,458,452	1,395,312	104.53	2.8	7.3
2011	1,508,836	1,410,903	106.94	2.3	-0.9
2012	1,529,921	1,414,821	108.14	1.1	1.6

Figure 2 (below) on the growth of house (i.e., land) prices in real terms (2012 prices)⁹ also dramatically illustrates both (i) and (ii). It confirms the way that house (i.e., land) prices have risen faster than the rate of inflation and in real terms faster than the growth of real GDP. This is especially evident in London where there has been the greatest increase in infrastructural and business investment. This together with rapid population growth has pushed up the pressure of demand against a fixed supply of land.

We shall then examine the implications raised by these figures for the extent of deadweight losses imposed on us all by the distortive fiscal system we have been living with for so long, and the corresponding opportunities that a more natural system would provide.

Figure 2: (REAL) HOUSE PRICE BOOM, 1966-2013



Source: David Bell and David Eiser, 2014¹⁰

3. The “deadweight losses” or “excess burdens” of taxation.

We have seen that taxes on wages and on the profits of genuinely productive enterprise ultimately depress the land values and rents that remain in private hands. Land values and rents are also lower the lower is the growth of the economy because that means a lower growth of demand for land and natural resources. Nevertheless, much land value evidently

⁹ ONS data show that the current UK average house price was £4975 in 1970 and £251,634 in 2011, a 50-fold increase: see www.gov.uk/government/uploads/.../Table_502_-_ONS.xls. From Table 2 above, the annual average house price inflation rate, 1970-2012, was 9.8% while the annual average GDP deflator was 6.7%. The difference of 3.1 percentage points has produced a very strong secular skew in the distribution of wealth between home owners and the rest.

¹⁰ “Inequalities in Scotland: New perspectives”. Paper for the David Hume Institute, Edinburgh, 2014, at http://www.davidhumeinstitute.com/images/stories/publications/other/DHI_Paper.pdf

does still remain in private hands. Thus governments have relied more heavily on earned income and expenditure taxes, including tariffs and quota restrictions on foreign trade, than on the unearned incomes from rent.

The deadweight losses from those taxes and protectionism are far greater than is commonly realised, and I shall simply list them here.

1. By raising costs, taxes depress wages and profits and this cuts the supply of work and workers at the margin. It also discourages investment by reducing the profitability of productive enterprise. Unemployment and – equally significant – underemployment increase. Many potential workers are openly unemployed; many others choose leisure over work when the marginal rate of tax on extra earnings is high. GDP falls below its potential. A figure of 10% can easily be attached to that loss.

2. By increasing the cost of labour and capital while treating rents and capital gains from land relatively lightly, their relative prices are distorted. This has two effects: (i) the after-tax price of land falls relative to the price of labour and capital and this encourages its relatively wasteful use. Factor proportions diverge from what is most economically efficient from the social viewpoint. Most egregious is the holding of land idle purely for an anticipated speculative gain.

3. The price of “housing” is greater when taxes are imposed on the cost of building materials and the labour of construction workers. The market price of land, on the other hand, is higher the lower are the taxes that are imposed on its rent or selling price. This price has to be paid up-front when houses (new or old) are purchased. This makes housing less affordable and depresses the size and quality of housing and indeed the extent of homelessness.

4. The high and secularly rising price of land encourages its purchase as a speculative investment. This does not increase its supply. On the contrary, because the supply of land is fixed, the speculative demand both drives up its price and reduces its availability for productive use and/or (equally important) encourages its inefficient use.

5. This speculative demand explains the volatility of land prices and the credit-driven cycle of boom and bust that produces depressions that cost the economy much more than is gained from increased activity during the upswing of the cycle. (Compare the gains from the “roaring twenties” with the costs of the Great Depression of the ‘thirties.)

6. The poverty and inequality that these distortions produce give rise to social dislocations, class conflict, crime and drug-taking that further vitiates overall productivity and necessitates the diversion of a large fraction of public expenditure on the welfare budget that tackles the symptoms rather than the causes of the disease, and promotes a dependency culture rather than a vibrant one that enhances self-respect and fulfilment.

7. The reduction in productive activity depresses real reciprocal demand in the overall economy. The size of the market is smaller. The division of labour in its many powerful, productivity-enhancing manifestations is limited by this limitation in the size of the economy, as Smith, Ricardo and George understood.

8. It is not just that the size of the economy is thereby limited. So too is its rate of growth.

9. On a conservative estimate – surely difficult to challenge unless critics can produce more convincing alternatives – the above evidences of major distortions and losses suggest that over the century since the failure to implement the goals of the People’s Budget of 1909, the growth rate of the British and Scottish economies has been at least 2 percentage points a year lower than it would otherwise have been.¹¹

4. The estimated quantitative implications

On what I regard as a reasonable and conservative estimate of a 2 percent boost to the annual average growth rate of the UK economy and of Scotland if the radical fiscal reforms outlined above had been fully in place by, say, 1970, let me broadly quantify the implications.

I shall start with the actual 1970 real UK GDP (in 2008 prices) of **£575.7bn**. With the UK population in 1970 at 55.6 million, this represented an average income per head of **£10,555** in 2008 pounds.

Over the period 1970-2012, the UK’s annual average growth rate was 2.52% (2.2% in per capita terms). By 2012, UK GDP stood at **£1,414.8bn**. With a population that had grown by 14.6% to 63.7 million, average income per head had slightly more than doubled to **£22,211** (again in 2008 pounds).

However, if the overall growth rate average had been just two percentage points higher over the period, at 4.52%, the real UK GDP in 2012 would have been more than 6 times greater, at **£3,768.4bn**. Income per head, instead of doubling, would have risen nearly six-fold, to **£59,158**. The difference is a very substantial sum: **£36,947 per head**.

Such is the power, or the magic, of compound interest when the full potential dynamism of a freer economy is given full rein. Growth provides the incentives and the wherewithal to invest in more specialised, hence more productive methods and organization.¹² With the greater competition and mobility that come with the removal of distorting and destructive taxation, growth is accelerated. But if, as may be expected, a higher growth rate is largely

¹¹ Recall that annual growth has been much faster than in the UK in economies such as Hong Kong and Singapore, where a far greater proportion of government revenue comes from rent of land or the leasehold sale of public land. The annual average growth rate for Singapore, 1970-2012, was 7.6 percent (6 percent in per capita terms), instead of the more typical one or two percent in countries more reliant on disincentive taxation. In real terms, Singapore’s per capita income in constant US\$ (base year 2011) rose from US\$6,708 in 1970 to US\$48,630 in 2011, **a real increase of 625 percent**. See <http://www.indexmundi.com/facts/singapore/gdp-per-capita> together with World Bank 2011 data: <http://data.worldbank.org/country>. **The comparable figures for the UK were US\$19,198 in 1970 and US\$41,680 in 2011, a far more modest increase of 116%. This meant that the UK, initially nearly three times richer than Singapore in 1970, ended up 17% poorer by 2011. Scotland lagged even more.**

¹² As Adam Smith (1776) recognised. In December 1928, Allyn Abbott Young (of Harvard and the LSE) gave a famous presidential address to the British Association (held that year in Glasgow). He extended Smith’s insights on the cumulative nature of the gains from “the division of labour limited by the size of the market”. He explained that in the modern world specialisation is as much *by firms* as it is *within firms*. (Smith’s example was the pin factory, seen today on Bank of England £20 notes).

self-perpetuating in the absence of major exogenous shocks or policy errors, the gains are compounded and compounded.

The United Kingdom and Scotland may be unable to match the Singaporean record, though it may be noted that even Singapore has had its ups and downs and an incomplete fiscal revolution since her independence from Britain in 1959. But with her 7.6% average annual rate of growth (6% per capita) since 1970, **Singapore was able, from a base income only one third that of the UK, to catch up and overtake the UK within less than 40 years.**

This again emphasises the almost magical power of compound interest, or the relatively self-sustaining nature of growth. This justifies us making every effort to grasp the nettle of reform, and even shows the potential for Scotland to achieve a comparable “miracle” relative to the UK if it were to grasp the nettle of truly radical fiscal reform on the basis of full fiscal devolution that allows it to switch from taxing earned incomes toward the collection of unearned land rents instead. Clearly, it would be better if Scotland showed the UK the way by example so they could march together to an even brighter new dawn. (In the same way, Singapore and Hong Kong could have been even more prosperous if the rest of Asia (or the world) had followed its economic example.

5. The Case of Scotland

Next we examine the specifically Scottish data and consider what a similar boost to the dynamism and fairness of the Scottish economy and society could have delivered for her living standards over the period since 1970.

From Table 3, we calculate that Scotland’s average annual real growth rate, 1970 – 2013, was 2.1%. The United Kingdom average growth rate over the same period was 2.52% (a figure somewhat depressed by Scotland’s poorer growth rate).

If, as we hypothesised for the UK, the removal of deadweight taxes and their replacement with land rents as state revenue can reasonably, indeed conservatively, have been expected to add two percentage points to Scotland’s average growth rate over this period, there would have been a massive boost to living standards today compared to the actuality.

In 1970 the average per capita income in Scotland was £9,166 (in 2011 prices). In 2013, this had increased by 133 percent to £21,378, an increase of £12,212 per person.

Had Scotland’s average annual growth rate been 4.1% over this period, the 2013 average income would have been not 133 percent but 463 percent higher at £51,589. This is an increase of £30,211 per person.

Once again, this demonstrates the power of compound interest and justifies great efforts to overcome the opposing power of vested interest by explaining to the people and their politicians the root causes of inequality and low living standards. Change does not come automatically from arithmetic but from the cumulative rewards that a truly radical fiscal system could have delivered by removing the burden of deadweight taxation.

**Table 3: Scotland: Gross Value Added,
1963-2013 (2011=100)**
chained volume measure at basic prices¹

		% Annual real growth	Current GVA £m ²	Real GVA 2011=100 £m ³	Population (mn) ⁴	Real GVA per capita in 2011 £s
1963	33.2			37044	5.205	7,117
1964	35.8	7.8		39933	5.209	
1965	37.2	3.9		41490	5.210	
1966	37.9	1.9		42278	5.201	
1967	38.6	1.8		43039	5.198	
1968	40.3	4.4		44933	5.200	
1969	42.0	4.2		46820	5.209	
1970	42.9	2.1		47803	5.215	9,166
1971	43.5	1.4		48473	5.219	
1972	45.1	3.7		50266	5.223	
1973	48.4	7.3		53935	5.225	
1974	48.5	0.02		54043	5.226	
1975	47.9	-1.2		53402	5.227	
1976	48.7	1.7		54310	5.229	
1977	49.5	1.6		55179	5.226	
1978	50.8	2.6		56614	5.212	
1979	51.3	1.0		57180	5.204	
1980	50.4	-1.8		56169	5.194	10,814
1981	49.7	-1.4		55393	5.180	
1982	50.4	1.4		56169	5.165	
1983	51.2	1.6		57068	5.148	
1984	53.3	4.1		59408	5.139	
1985	54.9	3.0		61119	5.128	
1986	55.3	0.7		61547	5.112	
1987	56.7	2.5		63086	5.099	
1988	59.3	4.6		65988	5.077	
1989	61.1	3.0		67968	5.078	
1990	63.0	3.1		70075	5.081	13,792
1991	63.2	0.3		70285	5.083	
1992	64.8	2.5		72042	5.086	
1993	67.2	3.7		74708	5.092	
1994	70.0	4.2		77846	5.102	
1995	71.6	2.3		79739	5.104	
1996	73.5	2.7		81892	5.092	
1997	77.6	5.6	63810	86478	5.083	
1998	79.3	2.2	66506	88381	5.077	
1999	81.7	3.0	66071	91032	5.072	
2000	83.5	2.2	69726	93035	5.063	18,375
2001	85.8	2.8	74280	95640	5.064	
2002	89.0	3.7	77940	99179	5.055	
2003	91.6	2.9	82863	102055	5.057	
2004	94.3	2.9	88038	105015	5.078	
2005	95.9	1.7	92866	106800	5.095	
2006	99.7	4.0	99551	111072	5.117	
2007	102.7	3.0	103028	114404	5.144	
2008	102.0	-0.7	108130	113609	5.169	
2009	98.1	-3.8	108660	109450	5.194	
2010	99.7	1.6	108344	111201	5.222	21,295
2011	100.0	0.3	111535	111535	5.255	21,986
2012	100.2	0.2	113919	111758	5.313	21,035
2013	102.1	1.9	117116	113881	5.327	21,378

1. See <http://www.scotland.gov.uk/Topics/Statistics/Browse/Economy/GDP>. Gross Value Added (GVA) is GDP at basic prices. These data are given as indices in real terms. Quarterly GDP statistics for Scotland are available which detail growth in GVA for the whole economy and at a detailed industry level. Estimates are presented as indices in real terms, meaning they have been adjusted to remove the effects of inflation to represent changes in the volume of output rather than the cash value.
2. The Scottish Government does not publish its own real GVA data, but does give real growth rate indices. The ONS gives current GVA data for Scotland (<http://ons.gov.uk/ons/taxonomy/index.html?nscl=Regional+GVA#tab-data-tables>) from which I have computed real GVA in 2011 prices.
3. From <http://ons.gov.uk/ons/taxonomy/index.html?nscl=Regional+GVA#tab-data-tables>.
4. From <http://www.gro-scotland.gov.uk/statistics/theme/vital-events/index.html>

APPENDIX

A Brief Comparison with the Case of Singapore

In Singapore in FY2013, more than a third of all current government revenue of about £28 billion (about 16% of GDP¹³) came from levies on the use of space and fixed property. A further £5 billion (18% of current revenues) came from sales of government land. (The government owns about 75% of all land on the island.) In addition, there was undoubtedly much rental income in the corporate income taxes that accounted for 22% of all revenues. (For example, the Port of Singapore Authority's revenues amounted to nearly £2.4bn in 2013, mostly from docking charges. Its "profits" amounted to about £836m or 36% of revenues, and it paid around £150m in taxes.)

Singapore residents pay for the use of land in various other explicit and implicit ways. For example, one cannot buy a new car without first bidding, in a monthly auction, for a "certificate of entitlement (COE). The certificates are issued strictly according to the estimated increase in the carrying capacity of the road system – about 1% a year. Currently, a COE for a 1600cc car costs £33,000 on top of the world price of the car plus 31% import duty. So, a car whose world price is £15,000 would cost around £53,000 in Singapore. Also, there are steep parking charges and charges for entering the Central Business District. These are all effectively charges, or rents, for the use of road space.

Since 1973 various Land Acquisition Acts have also empowered the government to purchase any land deemed necessary for public development purposes at its historic and pre-development value. It is then sold post-development at its then market price.

So Singapore (as in Hong Kong) obtains a substantial fraction of all government revenue from property taxes, with correspondingly low taxes on earned incomes and expenditures. As a result of this greater dependence on land-based revenues, Singapore's taxes on personal incomes account for only 13.4% of all government revenue. (In the UK, the proportion obtained from personal income taxes in FY 2012-13 was 26.9% plus another 16% in national insurance contributions.) The resulting dynamism of the Singapore economy – it has one of the world's fastest rates of growth – has naturally engendered a self-sustaining virtuous circle of buoyant land values and associated state revenues.

¹³ This is less than half of the proportion of total tax revenues in the UK's GDP.