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**What would Hume make of our Current Theories and our Current Economic Predicament?
And what should we make of his views on government debt?**

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Abstract: In his essay on public credit, Hume advances two arguments in favour of government borrowing and five against. It is interesting to cast his various arguments and claims in terms of modern models, or their variants, to see how they might be formalized - and thus potentially supported, or qualified, or contradicted. Some of Hume's observations seem somewhat mistaken in the light of later and recent experience, while others appear uncannily prescient.

1. Introduction

This paper aims to offer observations on two things: first, what Hume would make of the present predicament of economics and our economy; and second, what today's economists should make of his writing on our subject. The focus of the paper is on Hume's *Of Public Credit*, which is much less well known than his other writings on economics, yet devoted to a subject very much at the forefront of contemporary events and discussion among economists. Section 2 looks at Hume on us; the sections that follow, at us on Hume.

2. What Would Hume Make of Today's Economy and Today's Economics?

Hume was above all an empiricist philosopher. So he would surely have welcomed the growth of empirical economics, and even more, of its great lens, econometrics, one of the products of the last few decades. The concurrent growth of economic data would undoubtedly have amazed and pleased him. As would the explosion of financial data, in just the last two decades.

But Hume was, like most people in our profession, an incorrigible sceptic. He would have been curious about the way our models clean cut movements in variables into systematic changes linked to movements in other variables which we are (reasonably) sure about, and stochastic disturbances of which we know nothing. Are what we call "shocks" really shocks, he would ask? Could they not be the product of off-model developments we are lazily assuming away? That worry would have made him insistent on the issue of bias from variable omission in estimation. And why are we often so sure about the deterministic elements in our models, he would ask?

The increasing attention now paid to model-uncertainty would have appealed to him; and so would the search for appropriate functional forms. He would find the postulation of purely linear relationships linking a few variables no more than a pardonable, preliminary step for beginners – or perhaps a useful simplification in discussion and in teaching. The general-to-specific approach, exemplified by Hendry (1974), would have been much more to his liking. That combines the wide range of possibilities as a first stage, with a systematic evidence-based selection of those statistical relationships that stand up best, in just the way he would have approved of – and the all important distinction between short run relationships, the butterflies, and the much steadier long run relationships, around which those butterflies dance.

The short-run, long-run distinction does not start with Alfred Marshall. There are traces of it in many earlier writings. In particular, Hume's analysis of the way monetary phenomena affect the macroeconomy is shot through with it. Contrast *Of the Balance of Trade*, where (big) money stock changes are held to affect nominal costs and prices unambiguously and reasonably rapidly, and *Of Interest*, which is still more emphatic on this point, with an eventual one-to-one response, with *Of Money*, with its insistence – based on observation – that the repercussions really are less than one to one for quite some time. Hume would surely praise the fact that macroeconomics now embraces (in a somewhat schizophrenic mind set) both short run and long run theories: both a largely Keynesian “still photograph” picture where aggregate demand matters greatly for output and jobs, and a Ramsey-type “film” where information and human behaviour make for an essentially neoclassical background to the long run dynamics. There is one piece of writing which Hume would particularly enjoy: Neary's (1980) model of prices, money and exchange rates, which contrasts both long run and short, and sticky prices and flexible prices, in a splendidly updated version of Hume's price-specie flow mechanism. One can imagine Hume using Neary's diagrams to illuminate Beijing's exchange rate policy, and also to criticize it.

Furthermore, it is noteworthy that Hume's macroeconomic zoo includes merchants, whom we might think of as bankers. Merchants play a subtle role in the background in *Of Public*

Credit. But those animals come right out into the sunlight in *Of Interest*. There Hume argues that prosperity, low borrowing and low profits from commerce all go hand in hand with “low interest”¹. If merchants impose big profit margins, capital is scarce and expensive. If the feral beasts of Hume’s counting houses and trading companies can transmogrify into investment bankers, that resonates powerfully with us today.

Hume was not just a philosopher and an economist. He was also an historian, too. History was his laboratory – and an object of interest in its own right. His economic writings are peppered with empirical observations about economic developments. Some are drawn from events in his own day; some from earlier occurrences, in the British Isles or Continental Europe; many go back to the classics, and biblical references. One thing Hume would surely regret is the way students and scholars of economics – just as much as those in nearly all other disciplines - are nowadays allowed, or allowing themselves, to spurn this rich tapestry of material.

Amnesia is clouding in on Academe. We are witnessing a backwards form of cultural Alzheimer’s disease, where it is the earliest memories that fade first. Academic articles win referees’ approval if they bulge with protracted plaudits for other contemporary papers before getting to the point. Governments build legitimacy or foster nationalism by limiting or doctoring the study in schools of *ancien regime* events. If something is too old to have been photographed or filmed, it is banished to an oubliette peopled by a handful of intellectual archaeologists. If it isn’t on a Datastream or Bloomberg real time minute-by-minute financial data tape, as almost nothing was more than 20 years ago, hedge funders and investment bankers can’t use it to ascertain the variance-covariance matrices of returns on which they hope to win their fortunes. We react to the surfeit of contemporary information by discounting or discarding earlier data, Hume would complain, just like the

¹ And the one thing that low interest is not affected by, Hume insists, is money. So there is no warrant in Hume’s writing for imagining him as an early advocate of the liquidity preference theory of interest.

discounted least squares learning processes described by Cho, Williams and Sargent (2002) or Evans and Honkapohja (2001)².

Another aspect of empirical economics that would intrigue Hume is the way economists treat causation. Granger-causation is very similar to Humean causation: an inference to be drawn cautiously from observation of what Hume called “constant conjunction”, and what we might refer to nowadays, more coyly, as “frequent consecution”. But even here, Hume might object, we have little ground for thinking that the timing of response of one variable to another must be rigid enough to be detectable by Granger causation methods.

Furthermore, the impact might be mediated through, or dependent upon, other variables, some of them possibly unseen. And expectations today of an event next week (often but not always later validated) might drive something that happens tomorrow. “Post hoc, ergo propter hoc?” Tobin (1970) once asked, in an ingenious riposte to monetarist reasoning about causal chains which actually echoed Hume; and one can level the same objection to naive interpretation of evidence that money stock changes are poorly correlated, in practice, with the kind of near-term subsequent changes in the balance of payments or exchange rates which a strict reading of Hume’s work would encourage one to predict.

Hume would admire the econometricians’ insistence, in co-integration exercises, that data span is indispensable if one is to pick up low frequency events. Pure numbers of observations confer degrees of freedom, but are not enough when big disturbances occur rarely. It is this that makes amnesia really perilous in financial markets. And Hume would surely stress the significance of this as a force that has contributed to numerous financial disasters, such as the collapse of Long Term Capital Management in 1998, and culminating in Great Financial Crisis a decade later.

² Although the possibility of permanent intercept or gradient shifts in one or more of the relationships in the model make this a perfectly plausible technique, and not just a way of forgetting the lessons of longer history.

Looking at our current financial and economic predicament, Hume would lament that many of our problems stemmed from excessive borrowing, particularly (but not only) by the state. He would find it ironic while that Scotland's humbling failure at Darien led to union with England, three centuries later it was Scottish banks that played such a big role in the UK banking crisis. These were the Bank of Scotland, yoked haplessly with the Halifax; the Royal Bank of Scotland cursed by winning an absurd auction for the Dutch bank ABN Amro; and the tiny yet grandly profligate Dunfermline Building Society. And, Hume would observe, in the excessive borrowing, some of it explicit but much concealed, *in good times* by a Government whose First Lord of the Treasury had been a schoolboy at Edinburgh, and Chancellor and successor a son of the Kirkcaldy manse. Why should weak Caledonian financial stewardship, and chicanery, have led to the suspension independence in 1707, but help to revive a campaign for it in 2011, he would ask? He might reply in jest that the English have, in the main, and recent exceptions aside, been rather well governed since 1707, but that it would be churlish to deny them autonomy if they request it.

Much of what follows will concentrate on Hume's *Of Public Credit*. But no glance at our state's finances would be complete without at least a brief mention of the off-balance sheet shenanigans by numerous banks around the world, not just Scottish ones. Nor of the conceptually defensible, but in practice duplicitous and ruinous, "private finance initiatives". These had been invented before 1997, but it was the Blair-Brown government that exploited them to the full. Hospitals, schools, fire service buildings, prisons, and government offices were to be built and financed by private companies, and leased back to the state for 25 to 30 years.

In principle this was a sensible idea. It should not affect the public sector's net worth. But in practice, it did. This was because the advantage (the public sector administration's apparent inability to ensure the completion of construction projects to time and within budget) was purchased at an excessive cost in heavily marked up annual rental rates. To make matters worse, these were themselves bloated by other lamentable monopolistic mark-ups, traceable to contract clauses inserted by cunning lawyers, and little if any of the

profits thus purloined were returned to the Treasury in corporation tax as the firms moved off-shore. The cost of borrowing from the private sector firms in this way ended up, therefore, far above rates at which the State could borrow directly from the markets. Unless Parliament were to legislate to annul the overcharging, the swollen rental charges and fees to private financiers will be no small factor behind the fiscal challenges confronting all governments in the United Kingdom today. Like Adam Smith after him, Hume poked fun at how feckless foreign monarchs had engaged in similarly misguided tricks, when they were short of funds.

3. Build A Precautionary Reserve – or Borrow as Needed?

Hume starts his chapter *On Public Credit* by noting that the “modern” governments of his day tended to borrow as needed to finance extraordinary expenditures, rather than – as (in his view) wiser monarchs in classical or biblical times – amass reserves ahead from which to meet these costs as and when they arose. Was he right to be critical of government borrowing in this form?

It is natural to start with a Ricardian framework, with perfect capital markets and foresight, non-distorting taxes, and an endless thread of intergenerational altruism that makes decision takers in families act as if they were immortal. In these circumstances an irrelevance proposition follows at once. Ahead or arrears – government can do either and no real economic variable of consequence is affected by which course of action it chooses.

But taxes are not lump sum. The case for smoothing tax rates and consumption, rather than trying to balance the books each period, is unassailable when capital markets can help to spread the burden of random high outlays by government. But the bigger the imperfections in capital markets, the thinner that spreading should go.

But should the burden be prepaid or paid in arrears? If the date at which the need for extra government spending is unknown ahead, and we start the clock now, it is quite likely that the bad event will have occurred before we have amassed the reserves required to meet it. Suppose the cost of the bad event is y and that its probability at any instant is x . Hume's advice would presumably be to build up a stock of y , in a reserve fund, and if the complications of interest and growth are set aside, do so at a rate of xy each instant.

If the hazard were constant, the chance that it would not have happened after $1/x$ time had elapsed, is $1/e$. So there is a 64% chance that we would not reach this point. In the meantime, we might even have suffered two or more bad events. And it gets even worse if we cannot predict y and do not know how much we shall need to spend when the bad event materializes. Even x may not be known either. Both might need to be learnt over time. And learnt anew, perhaps, after structural change. Furthermore, neither x nor y may be truly exogenous, even as stochastic variables.

A stochastic but stationary version of Hume's system would be a kind of (s, S) model: we would have continuous, steady subscriptions to the fund, and occasional big withdrawals. Hume thinks of this as an inventory, where prudence imposes a floor. He suggests that prudence dictates a floor of zero: government should never "go into the red". But as the analogy with financial inventory theory suggests, where the floor actually lies depends critically on the structure of interest rates and the penalty for emergency borrowing.

Capital market imperfections can take many forms. The simplest would be a symmetric mark up on some true interest rate for any borrowing, and a markdown of similar size on lending. What that would do is inject some of Polonius into the problem: some of the extra costs posed by the bad event should be met by extra taxes levied then, even granted that

this would generate some intertemporal distortions. The bigger the wedge, the greater the proportion of those costs to be paid there and then – neither ahead, nor in arrears.

We can play with that framework, however, in various ways. Let the marginal cost of borrowing be steeper than what is sacrificed by lending. Prepaying is now more advantageous than before. And the greater the cost difference, the more we should try to prepay into the fund. Similar conclusions would be reached if it were fixed rather than marginal costs that were asymmetric in this way. Another modification would be to introduce curvature into the costs of borrowing. This could arise in two ways: the marginal cost of borrowing might increase with the stock already borrowed, or with the rate at which this increases over time. Both are possibilities, too. Flow-convexity has two general implications: ex-ante, build up your fund, above what its optimum mean level would otherwise have been; ex-post, meet more of the emergency shortfall out of current taxation. Stock-convexity makes the former still more imperative.

For Hume, the random bad event is war. This is interesting. War with other states is not a game of solitaire. In an international capital market, any borrowing you have to do will be synchronized with extra borrowing by your allies – and by your enemies, too. Bond interest rates will tend to be abnormally high on such occasions. This is an unmistakably pro-Hume effect.

On top of this, there is the chance that the war may be lost - and perhaps lost so badly that your national government topples. Defeat might even spell absorption into another state. Delinquency and default could well follow. The possibility of this may be anticipated by creditors. If so, a risk premium will be added to emergency borrowing by belligerent states. That argument supports Hume's case, too. And even if the military emergency is domestic – an insurrection, for example – questions about the regime's survival prospects continue to bubble up, and similar inferences may be drawn.

Although the resources can be switched to other purposes, building up a “war chest” can be thought of as a form of commitment or quasi-commitment. Doing so may be part of a perfect equilibrium in which a defensive state, the fund accumulator, signals the fact that it has made itself more able and willing to fight aggression. A war chest provides insurance. It may deter. It is not itself a standing army or navy, but it can easily pay for one quite quickly should the need arise. With no reserve to fund emergency defence, the threat to resist depredation or invasion might be empty.

There are some debating points to be made on the other side. One is that the authorities may earn next to nothing on the reserve they hold against the contingencies of war or other disasters. The social return on public investments that the authorities might undertake, even in the 1750s, could well be much higher. By contrast, if the reserve is held in specie, and the monetary system is based on that, the nominal return on the reserve fund must be zero by definition (or slightly negative if the cost of guarding it is allowed for). In that case, devote the reserves to public investment – assuming that the return gained from that at least matches what has to be paid on borrowing for war. Then there is the point that no government can bind its successor, and – as Hume argues forcefully elsewhere – that politicians can be self-interested and myopic. Yared (2010) shows that a benevolent wise government may over-tax, only to see its less noble successors fritter reserves away in rents. Added to this is a cheap debating point: in fact, really how different in practice is the wise government intent on amassing a reserve, and the foolish government that succumbs to silly mercantilist thinking about mistaking money for wealth, of the kind Hume that lampoons so insistently in other essays?

Another anti-Hume canard is the spectre of dynamic inefficiency, which can conceivably arise in an economy with distortions, or non-optimizing behaviour, or finite horizons. This happens when the rate of growth exceeds the rate of interest. In that case the authorities and the public can enjoy the ultimate free lunch, of raising consumption opportunities for

every date by a judicious act of depleting some of the capital stock. This notion is sometimes advocated as a case in favour of pay as you go pension systems, as opposed to fully funded ones. And there are periods of history, such as the 1950s and 1960s, and many more recent years until the Great Crash of 2008, when many nations' rates of economic growth ran ahead of both ex-ante and ex-post relevant measures of real rates of interest. This said, there other periods, such as the century to 1914, or the 1980s, or the last few years, when the reverse is true; any systematic excess of growth over interest would render the series of discounted income for many asset non-convergent; and a wide portfolio of different macro theories points strongly in favour of dynamic efficiency³.

Yet a further observation that appears to go against Hume stems from the very fact he stresses – modern governments *do* borrow to balance the books in emergencies, rather than drawing down a reserve. The boundary between the normative and the positive is ill defined and apt to shift – and arguably, nowhere more than in the related fields of (modern) political economy and public economics. If this is how most governments do in fact behave, can we be so sure they are mistaken? The best retort to this probably comes from Hume himself⁴.

1. “It is very tempting to a minister to employ such an expedient [borrowing], as enables him to make a great figure during his administration, without overburthening the people with taxes, or exciting any immediate clamours against himself... “

In other words, politicians are myopic, and tend to apply a higher discount rate than the citizens of the country where they hold sway. This view (of some politicians) is richly endorsed by Besley (2006), and Besley and Persson (2011), among others.

Most governments today do have debts. But they also have assets. It is net debts that surely matter most in any modern discussion of Hume's views. Here the picture is complex;

³ See Sinclair (2011) for example.

⁴ Hume (1759, II: IX).

many of the assets are hard to value, precisely because they are not marketed; but that does not make them valueless. There are some states with next to no gross debt, and substantial net assets. These include many oil exporters (Norway, Saudi Arabia and other Gulf states, and more recently, Russia) as well as a very small number of oil importers, such as Singapore, which have consistently followed Humean fiscal principles.

The oil exporters are in a special position, since they are selling an exhaustible resource – an irreplaceable capital asset – and not a standard product or service that could keep being produced indefinitely. Selling oil, or any fossil fuel is a portfolio decision. And since a claim on metals in the ground resembles one on oil in the ground, their flows of extraction, and export, are quite similar, especially if they are used up in production and not capable of being recycled. So such rights to revenue as the natural resource exporting government may enjoy are an asset too. They are not something to be squandered quickly on ephemera, but to be devoted to a modest but sustainable flow of consumption captured, approximately, by the real rate of interest.

One general point of importance that emerges from considering these issues is how wise Hume is to recognize that government spending is liable to undulate, and how unwise it would be, as Hume himself implies, to aim to meet most or all of the extra spending in any year by attempting to adjust tax revenues in step. The case for smoothing is beyond reproach, unless capital markets are hopelessly gummed up. These lessons are sometimes forgotten in popular discussion, and even in official circles, today.

Hume's initial diatribe against borrowing by government is colourful, thought-provoking – and not short on hyperbole. He follows it by giving two more detailed arguments in favour of the issuance of government bonds, and five against.

4. The Possible Bonus from Bonds

Bonds are far easier to deal in than other income-yielding assets. Cash is convenient too, but, unlike bonds, bears no nominal interest. Hume makes these points clearly in his two arguments in favour of the existence of government bonds. He goes on to claim that the benefits merchants derive from bonds can extend to a general increase in output and capital.

This is an interesting line of thought. There are very few parallels with it in subsequent literature. Hume's ideas seem to bear some resemblance to Tobin's (1965) prediction that faster growth of nominal assets (Tobin amalgamates money and bonds) will raise output and capital per head in the long run. Tobin's model is a nice twist on Solow's, with the notion of real-for-paper capital substitution in portfolios, and an unexplained mechanism through which inflation reduces the propensity to consume. But Tobin's story, like Solow's, is incompatible with intertemporal optimizing. So it is natural to ask if we can try to express Hume's views in the somewhat more satisfying framework of a Ramsey model.

Indeed we can. Suppose agents' work hours are fixed, and preferences, endowments, and technology are all alike. Utility is increasing and concave in consumption. We have three assets: (real) currency; (real) bonds; and capital. Agents draw some pleasure not just from consumption, but also from a "reserve". The reserve consists of holdings of each, presumably reflecting the idea that they can all be used to meet emergency spending needs when necessary. Capital claims are least useful from this standpoint; and currency holdings are best; and bonds come somewhere in the middle. Holdings of currency can be used at once, and without any loss – that gives them the edge as reserve assets over the other two. But bonds (which incidentally bear a higher return) are valuable too, because they can be liquidated quickly and at modest charge; and because they can be offered readily as collateral for an immediate loan.

Titles to capital are inferior in these respects. Valuation may be difficult, and the market for them rather thin. For convenience, let us assume that Inflation is zero, at least in the steady state, and also that (real) currency gives an extra source of utility as well (that is helpful to limit the substitutability between currency and bonds, and tie down the rate of interest on bonds). Inflation might be zero on average because currency is specie, or credibly linked to it, as in Hume's day; or else we might have all adopted (and be known to stick to) the zero inflation target recommended in Woodford (2003) as the one that minimizes the distortions associated with price disparities in a Calvo-Dixit-Stiglitz world⁵. For convenience, utility is additively separable in three goods, therefore: consumption; real money; and the reserve. All three marginal utilities are positive and diminishing. Output is increasing and concave in capital. Interest charges on government debt are financed by total seignorage (on bonds and currency) and by a lump sum transfer. The system is assumed to be stable, with interactions from off-diagonal effects dominated by diagonal effects. Households choose paths for their three assets and consumption to maximize an infinite stream of utility discounted by a given rate of impatience, and follow a saddle path towards a unique steady state. Population and technology are stationary and there is no depreciation. The endogenous variables are consumption which equals output in the long run; the capital stock on which it depends, and its marginal product; the interest rate on bonds; and the stock of real money. The long run real bond stock is a policy variable chosen by the authorities – and that is what we, like Hume, are especially interested in. What happens in the long run if this goes up?

The key long run effect will be a fall in the marginal utility of the reserve. So capital claims lose a little of their attractiveness. The long run stock of capital drops, raising its yield. So

⁵ Dixit and Stiglitz (1977) pioneer the standard model of monopolistic competition, a simplified version of which lies at the heart of many popular contemporary macroeconomic models. Calvo (1983) suggests that temporary price stickiness be treated as a stationary, known, uniform, and serially uncorrelated non-unitary probability that any firm will be given the opportunity to alter its nominal price in any period. See Eichenbaum and Fisher (2007) for a broadly favourable appraisal of the Calvo story. Hume would surely be rather pleased by the Calvo doctrine, since it would build a bridge of sorts between the short run effects of monetary expansion that Hume describes in *Of Money*, and the long run story he told so elegantly in *Of the Balance of Trade*.

the gap between the rates of time preference and profit falls. Steady state output and consumption are reduced. Short term dynamics are complicated, and depend *inter alia* on the functional forms for utility and production, as well as on what it is that has generated the need for borrowing. But consumption tends to jump, temporarily, in order to generate dissaving required to bring capital down.

The magnitude of these long run effects tends to shrivel up to nothing in two cases. One happens when the weight of capital in the reserve becomes negligible. The other occurs when our assumption of zero inflation is replaced by Friedman's (1969) optimum quantity of money, more recently strongly supported, among others, by Lagos and Wright (2005) which prescribes that prices trend downwards at the real rate of interest. In such circumstances, making real currency a free good expands its quantity towards infinity, and the marginal utility of the reserve falls to zero, raising capital's marginal product up to the rate of impatience. So this means that the non-neutrality of bonds arises only when inflation is not first best. And the long run utility effects of extra real bonds (which are ambiguous in sign away from Friedman's optimum) will vanish when currency is free.

Thus far we have turned Hume's benefit from bonds on its head: at least as far as long run output is concerned, more government debt is contractionary in the long run. But it is not hard to modify the story a bit and find circumstances when Hume's intuition is supported. Scrap the idea of a reserve which agents like. Replace it by the notion that holdings of real currency, and to a lesser extent bonds, assumed now to be an imperfect substitute for real money, save the agents some of the time that would otherwise be devoted to searching for trading partners, transacting, and making payments. Suppose that "shopping time" is decreasing and convex in these two assets - not capital this time. Less time spent shopping means more time spent at work. Output depends explicitly on both labour and capital now; assume that perfect competition reigns, and that the production function has standard properties.

In the long run, capital will be taken up to the point where its marginal product equals the rate of impatience. But its marginal product depends on the capital-labour ratio: extra labour raises it. Imagine that the rate of inflation is zero – or anything greater than in Friedman’s optimum. Real money holdings are finite. The first order, long run effect of additional bonds, the legacy of a sequence of budget deficits, will be to *lower* shopping time. Labour rises. So, in time, will capital – and by a common proportion. Long run consumption and output rise by the same ratio. And utility will rise in the long run as well. Hume’s insight is vindicated. There is just one qualification: extra bonds bring these gains only when the agents are not already saturated with real money, which it is convenient to assume they will be in Friedman’s optimum when money is free.

The only honest conclusion about Hume’s benefits from bonds, therefore, is the inference to be drawn so often from economic models, old and new: “It all depends”.

5. The First Possible Snag: Burgeoning Cities, Burgeoning Debts - and a Default Scare that Stops Revolution?

The first against strikes the modern reader as odd. State debts appear to accumulate during a period of migration to the capital city. A populous capital city threatens disorder. But the rentiers, who receive interest on what they have lent the government, dwell there too. These creditors of the state see that civil unrest might lead to a collapse of the government on which their income depends. So they will seek to defend the state against the mob, something Hume welcomes.

True, a new regime might dishonour prerevolutionary debts. The path from Czarist Russia to Lenin is the classic case. But most of the bondholders who financed the Trans Siberian Railway, probably still the world’s greatest single investment project, lent on the bourses of Paris or Berlin. They, and the fortunes they stood to lose, may have stiffened the will of

western powers to support the white army against the Bolsheviks. But in the event to no avail. Twenty five years later, the great surprise hyperinflations in China and Hungary were engineered by the incoming communist authorities as a simple device for impoverishing the bourgeoisie and annihilating the real value of bonds held domestically. More often, however, post-revolutionary governments perceive a pressing need to borrow. They are much more inclined to renegotiate old debts, or even continue flows of interest on them, than to disavow them - and instead, to attempt recovery of the riches secreted by ousted tyrants.

Be this as it may, as an aside, one can say that Hume's interest in the economics of cities would surely make him approve warmly of much current writing on the subject. The texts by Kahn (2010) and Fujita, Krugman and Venables (2001) would certainly interest him, and he would be delighted that Krugman's insights have recently received a ringing empirical endorsement by Handbury and Weinstein (2011).

There is one strand in Hume's argument that really strikes a chord. Migration from the countryside to the capital city has accelerated since he wrote, in many countries, rich and poor. In the European Union, the phenomenon has been most pronounced in Greece, Ireland and Portugal. The extraordinary construction boom that accompanied it was matched by record borrowing from banks by house purchasers and developers, sustained in the Greek case, at least, by woefully deficient tax revenues and over-optimistic private sector perceptions of disposable income. Large government budget deficits, part concealed, lay at the core of the problem. For Ireland, by contrast, it was the banks that overextended themselves in the property boom, while the state's finances, hitherto robust, were to be poisoned suddenly by its guarantee of their deposits, necessary to thwart a run, in 2008. Portugal's predicament differed again: here a leading difficulty, in the eyes of many, was an increasingly overvalued currency and payments deficits that would no longer, once in the Euro-zone, lead to monetary tightening not unlike the form Hume had sketched out in his

Balance of Trade, but rather subject to the positive feedback mechanism known as the Walters Critique⁶.

A further difficulty all three countries shared was lingering memories of faster inflation than in Germany, whose strict inflation-fighting traditions were inherited and absorbed by the European Central Bank. The three had long become habituated, unlike Germany, to high nominal interest rates, and mortgages with flat nominal amortization time-profiles, which, in the past, had been associated with pronounced front loading and high nominal debt servicing costs in the early years. Many lender and borrowers were delighted when monetary union⁷ brought nominal rates down, but often failed to realise that the lower initial nominal and real costs of servicing a mortgage were offset by higher real repayments later on. The need to restrain commercial bank lending for construction and house purchase that could be traced to this type of myopia was recognized by the Bank of Spain: hence the dynamic provisioning on which she insisted, despite furious protests and lobbying from the lenders. This wise act was to save her banks from catastrophe, and her government's credit from the consequences of guaranteeing their deposits.

Greece, Ireland and Portugal were less fortunate. All three have witnessed demonstrations and unrest, Hume would remind us – in opposition to the fiscal retrenchment packages that had to be introduced as a result. But the combination of profligate borrowing, migration, and, in time, a crisis of solvency has not (yet) been accompanied by disorder and revolt on anything resembling the scale in 2011 of Bahrain, Egypt, Libya, Syria, Tunisia, and Yemen, all of them countries where any migration-building boom-debt nexus is far less easily detected.

⁶ This is the idea that an overheating member of a monetary union – Portugal – will display higher inflation than one in the doldrums, but because the nominal interest rates are uniform, real interest rates will be lower in the overheating country, spurring additional spending and aggravating the differential inflation. See Walters (1990), and also Miller and Sutherland (1991) for a critical analysis.

⁷ Iceland reminds us, on the other hand, that Euro-zone participation was not a necessary precondition for such events.

6. Hume's Other Arguments about the Adverse Effects of Government Debt

We now turn briefly to the other things that Hume disliked about government bonds. His second argument against them stressed the similarity of bonds with paper money. Bonds are just fiat money, we would agree today, with a “can't use before” (instead of a “use by”) stamp on them. So an increase in the stock of bonds, all else equal, drives up the equilibrium price level. This point presumably makes Hume the first economist to suggest the germ of the idea now known as the “Fiscal Theory of the Price Level”. But not quite: Hume treated the stock of bonds on a par with the paper money stock, rather than its ultimate driving force, at least in the circumstances of an unsustainable structural budget deficit. So he would have enjoyed refereeing some of the disputes between its supporters (such as Woodford), critics such as Buiter (1999) and qualified or lukewarm supporters, such as Bassetto (2002) and Cochrane (2005).

Next comes Hume's observation that labour will either suffer from the taxes needed to pay bond interest, or pass them on in higher wage rates. If we can interpret labour as what he means by “the poorer sort” in this passage, that sounds more like a tautology than a debating point of substance. If we apply the model sketched in section 4, and imagine that the tax under consideration is a simple income tax (something unknown in Hume's day), the steady state will see the tax borne solely by labour. This is because savings are infinitely elastic at a given after tax rate of return, so they must ultimately escape the tax completely. Bond holders and capital owners get off scot free. One way out of that depressing conclusion is to switch from income tax to an expenditure tax, which taxes the excess of all income over net investment. Old rentiers would be caught in the tax net now. Labour would escape some of the burden of the tax.

An expenditure tax is rather like a tax on consumption. In *Of Taxes*, which needs in this author's view to be read here to gain a clearer view of Hume's argument at this point, Hume opines that taxing consumption is much preferable to poll taxes. Poll tax, Hume complains,

lacks what we would think of as a Laffer curve ceiling that any indirect tax will normally exhibit. And they are regressive, while consumption taxes need not be, if “necessaries of life” are exempt⁸. Taxing consumption, in Hume’s view, encourages “frugality”: this gets to the heart of the advantage of expenditure tax, which removes the intertemporal distortion against saving which is inherent in income tax, and *a fortiori* in “taxes on possessions”, which, for Hume, “have every disadvantage” except ease of collection. So Hume would have praised Kaldor (1956). To stress the point: if higher debt entails a higher income tax rate, long run capital and output must inevitably be squeezed in the Ramsey setting of section 4. But ignoring second order effects at least, a higher rate of expenditure tax does not have this feature.

Hume’s fourth argument against government borrowing sounds very contemporary. He tells us that some of our government’s creditors may live abroad, and hence that servicing these debts would call, in the end, for a trade surplus. The mechanism for achieving this would presumably be a lowered real exchange rate. What makes this such a sharp observation is that net claims between countries’ residents are the main absentee from *Of the Balance of Trade*, coupled with its relevance to current discussions about international imbalances – not to mention the fact that this passage reveals how Hume would have smelt the rat in the Mundell-Flemming short run claim that fiscal expansion must lead to real exchange rate appreciation.

Hume’s final objection to government borrowing refers to the incentive effects of receiving debt interest. These, he says, “give great encouragement to an useless and unactive life”. The key point is that leisure is best treated as a normal good. Returning to the simple representative agent Ramsey model of section 4, we can infer that if debt interest balances

⁸ It is interesting to surmise what Hume would have made of taxes on tobacco. They are now the most regressive and often the steepest tax of all. He would have agreed with Haavio and Kotakorpi (2011) that sins called for special taxes; and he would have been intrigued – but not perhaps fully persuaded – by Becker and Murphy’s (1988) model of rational addiction. I conjecture that Hume would want to invite older smokers to submit themselves regularly to a simple test that confirmed that they had smoked heavily in the recent past, and, in return, if the smoke detector said yes, offer them access to a packet or two of cigarettes for a price much closer to marginal production costs.

a lump sum tax exactly, it will have no enduring effect on labour supply. But replace some or all of the lump sum tax by an income tax – or an expenditure tax – and we are left with an inescapable conclusion. This is that with increased debt interest charges, and leisure a normal good, labour supply must be reduced. But that will entail a reduction in capital's marginal product, which steady state conditions will preclude. So not just labour, but capital will fall too, in the long run, and by the same proportion if it is expenditure not income that is taxed. If income is taxed, the higher tax rate needed to pay the interest on debt will pull down capital, and long run output, even more.

Conclusion

Hume would feel at home with much of modern economics, as much as we today feel at home with his penetrating contributions to our subject. He would also remind us that the government debt crisis that absorbs so much of our attention, three centuries after his birth, exemplifies the problems he wrote about so perceptively in *Of Public Credit*.

Hume's outstanding qualities are his intellectual breadth, the magnificent clarity with which he wrote, and the cogency of much of his reasoning. In these respects his admiration of our subject might be less fulsome. "The boundaries between disciplines", my former colleague Jonathan Culler was fond of saying, "are crutches for the intellectually challenged." Hume would, I am sure, agree. Would he not view the narrowness, fragmentation, opacity and idiolect that characterize so much scholarly writing in our subject today as something all of us should feel rather ashamed of?

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