Slipping the Clutch of Happiness

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What is value and how is it measured? Vast increases in measured wealth over the last century have not translated to commensurate increases in happiness. Is this ongoing failure indicative of fundamental errors the perception and measurement of value? How do such errors affect wealth-creation choices and the happiness outcomes of those choices? In exploring these ideas, this paper postulates, that: 1) Value can be either -- intrinsic in nature (i.e. of value in itself), or instrumental in nature (i.e. of value for what it can produce), 2) Instrumental value is easier to measure and is often more tangible than intrinsic value, 3)Accountants, economists, and managers are predisposed by history, philosophy, training, and temperament to focus on instrumental value while ignoring much that is of intrinsic value, 4) Much of the wealth generation over the past century has focused on instrumental wealth, and 5) The growing imbalance (favouring instrumental over intrinsic wealth) is a growing drag on happiness. This paper examines the outcomes of a postulated situation where the technology producing intrinsic value is fixed while that yielding instrumental value improves by orders of magnitude (i.e. factors of 10).

INTRODUCTION

A number of researchers (Clarke, 1963, pp.141-162; McHale, 1971, pp.301-339; Simon, 1981; Moore, 1995; Kurzweil, 2001; DeLong, 2004; Wright, et al., 2004) show that world incomes are growing wonderfully richer. However, world happiness is not tracking the growth of world income—Frank (1999) asserts that:

> "Study after careful study shows that, beyond some point, the average happiness within a country is almost completely unaffected by increases in its average income level … average satisfaction levels register virtually no change even when average incomes grow many-fold."

This paper postulates that slippage between rising happiness and rising wealth may be an artefact of the economic specification of income and wealth. Specifically, economists and accountants value wealth in terms of *value-in-trade* and income as either the *net change in*

wealth before consumption or the *sum of consumption and net savings* (Pass et al., 1991, p.541; Hicks, 1946, pp.171-181; Staubus, 1977, p.235)

From its inception, the discipline of (classical, modern, and neo-classical) economics consistently argued against mercantilism (i.e. against gold/money having intrinsic value), argued that gold/money has only instrumental value (i.e. as a means of acquiring consumables) and associated utility with consumption:

- ☑ Adam Smith (1812, p.334) argued the "…real wealth or poverty of the country would depend altogether upon the abundance or scarcity of …consumables."
- ☑ Hicks (1946, pp.171-181) defined income "as the maximum which can be consumed by a person in a defined period without impairing his welloffness as it existed at the beginning of the period".

The concept of intrinsic value is well received by philosophers (Quinton, 1973, pp.351-380) but not by economists or accountants—whose practical reliance on market values (value-in-trade) for valuation has deflected their attention to instrumental values and away from the esoteric and difficult to measure intrinsic value. This paper examines a postulated situation where value is expressed as intrinsic and instrumental variants, the annual bequest of time must be allocated between the production of each value variant, and each value variant is necessary but insufficient to produce utility (i.e. happiness or wellbeing).

THE WORLD IS GETTING WEALTHIER

Whether or not the world is getting wealthier is an empirical issue. Figure 1 provides empirical support for Clarke's (1963), Simon's (1981), and Moore's (1995) conclusions that world wealth is increasing.

Figure 1: World Per Capita GDP, Adjusted for the Value of New Goods & Services (adapted from DeLong's 2004 data set)

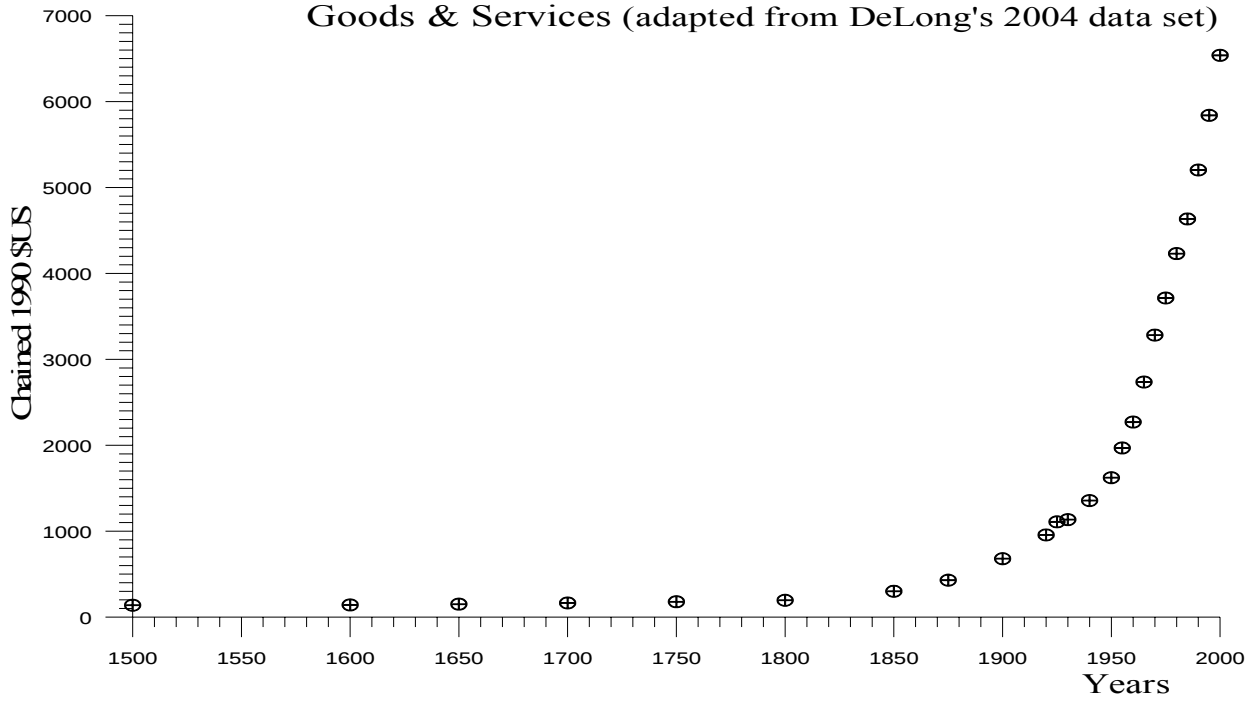

Figure 2: Annual Growth Rates for World Per Capita GDP for 1650-2000 CE
(adjusted for rising service potental and 1925 removed as an outlier)

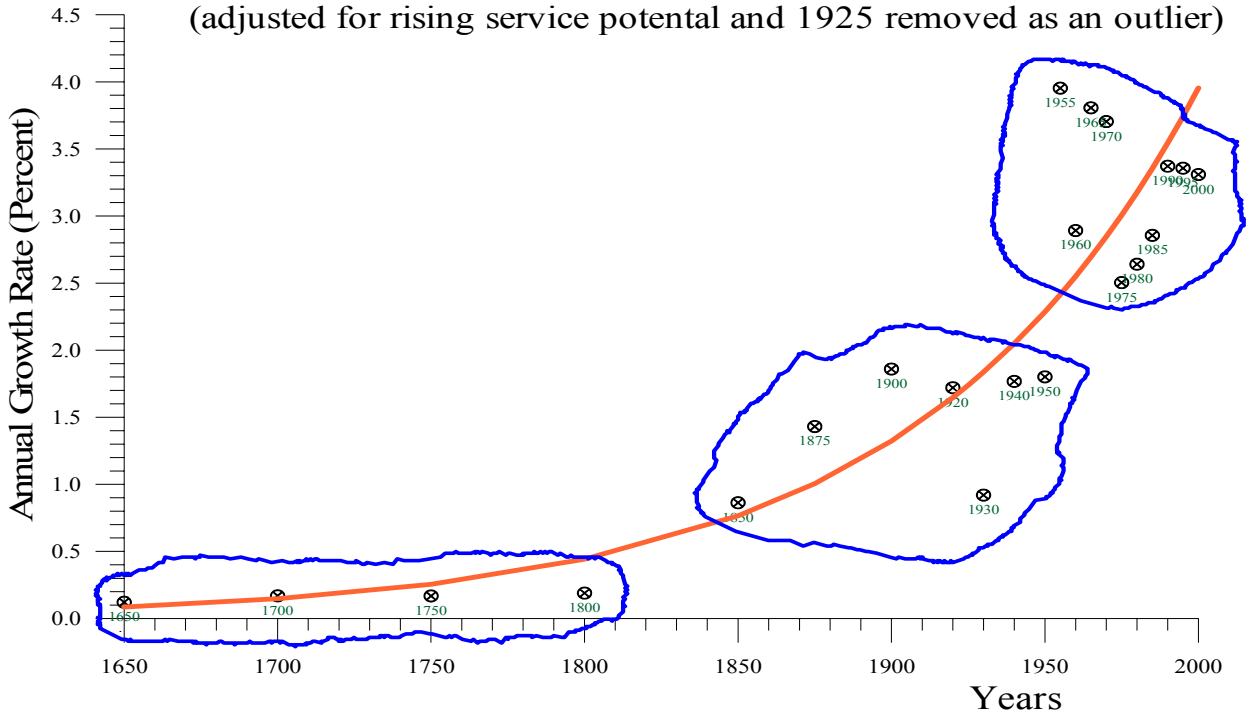

Figure 2 clearly shows that the annual growth rate for world per capita GDP (WPCGDP) was less than one -half of one percent before 1800, was 1 to 2 percent from 1850 to 1950, and was 2.5 to 4 percent from 1960 to 2000. Thus, WPCGDP growth is more than exponential—it is double exponential growth (i.e. the rate of growth is, itself, rising exponentially).

While it is quite fashionable to observe that no exponential process continues indefinitely, there is (at this time) no evidence or reason to believe that the exponential *jerk* (i.e. acceleration of acceleration) in the WPCGDP is likely to stop or to even slow at any time in the foreseeable future. Specifically, WPCGDP is growing because of accelerating technical know-how (i.e. applied knowledge) and the precursor to that process (i.e. pure knowledge) is growing ever faster and the lead-times to development and application are falling (Kurzweil, 2001). In a simile—as long as the fuel flow continues accelerating, it is (*ceteris paribus*) madness to forecast that the fire it feeds will stop or even slow.

Figure 3 (adapted, Wright, et al., 2004) and Table 1 show an unequivocal trend to accelerating riches—the first 10-fold increase in WPCGDP took over 400 years (1500 to 1900), the second took less than 100 years (1900 to 2000), the third will take less than 40 years (2000 to 2040), the fourth will take less than 30 years (2040 to 2069), and the fifth will take less than 23 years (2069 to 2092). The WPCGDP in 2092 will be 100,000 times greater (i.e. 10^5) than it was at the start of the process (in 1500).

HICKSIAN SHADOW VALUES

A means is needed to measure how the value-in-trade of each of the production parameters changes as "Ψ" increases and "Ω" is held constant.
If eqn (13a) is differentiated with respect to each of the production parameters, then:

$$\delta U^*/\delta\Omega = a(a^a\Omega^{(a-1)}\Psi^{(1-a)}(1-a)^{(1-a)}) \quad > -0- \qquad (29)$$
$$\delta U^*/\delta\Psi = (1-a)(a^a\Omega^{(a-1)}\Psi^{(-a)}(1-a)^{(1-a)}) \quad > -0- \qquad (30)$$

A measure of the utility-production value of an additional unit of "Ω" or "Ψ" is provided, respectively, by eqns (29) and (30) Thus, eqn (29) divided by eqn (30) is the value-in-trade of "Ω" in units of "Ψ"—given that this value contrasts the relative increase required in each production parameter to raise utility by one unit, an appropriate name for the measure would be The Hicksian Shadow Value (HSV).

$$HSV(\Omega) = (\delta U^*/d\Omega)/(dU^*/d\Psi) = (\delta U^*/\delta\Omega) \times (\delta\Psi/\delta U^*) = \Psi/[(1/a - 1)\Omega] \qquad (31)$$
$$HSV(\Psi) = (\delta U^*/\delta\Psi)/(\delta U^*/\delta\Omega) = (\delta U^*/\delta\Psi) \times (\delta\Omega/\delta U^*) = (1/a - 1)\Omega/\Psi \qquad (32)$$

It is clear from eqn (31) that, when the parameters "Ω" and "a" are fixed, the HSV of "Ω" increases proportionally with increases to the parameter "Ψ". Thus, if "Ψ" increases 1,000-fold when "Ω" and "a" are fixed, people will gladly exchange an opportunity to add 1,000 units of "Ψ" for one added unit of "Ω"—given the other assumptions in this analysis (constant economies of scale, complete allocation of time, no stockpiling, etc.) this means that, given the above situation, people will gladly exchange 1,000 units of instrumental value for 1 unit of intrinsic value.

COMMENTARY ON THE ANALYSIS

Given the assumptions and specification of the Value and Utility Model, if the production technology of intrinsic value is fixed and the production technology of instrumental value is increased by orders of magnitude, then:

1) The allocation of the annual bequest of time (8,766 hours/year), between producing intrinsic and instrumental value, remains constant unless the taste parameters (a and/or b) change.
2) The output of intrinsic value remains constant as long as parameters Ω, a, and b do not change.
3) The output of instrumental value will increase proportionally with changes to parameter "Ψ".
4) Utility will increase with increases to parameter "Ψ", but at a decreasing rate—implying a diminishing marginal utility of income (or money). If intrinsic value can either be bought or otherwise produced using instrumental value then, given a constant-returns-to-scale utility function, consumers should be able to allocate between intrinsic and instrumental value such that the marginal utility of income is constant.
5) Changing tastes can change utility—this can be thought of as the sour-grapes or making the best- of-a-bad-thing solution.

6) If the production technology of intrinsic value is fixed or sticky, then the Hicksian-shadow value of intrinsic value should rise as incomes rise. Very large increases to income should generate very large increases in the Hicksian-shadow value of intrinsic value.

CONCLUSIONS

Expanding instrumental value (material wealth) and limited intrinsic value open a path of least resistance to a materialistic society. However, even small increases in the ability to increase intrinsic value open up immense opportunities to enhance well-being by orders-of-magnitude (i.e. by factors of ten). Future research is needed on the nature of value, its measurement, and its balanced creation. The future will clearly be fabulously richer—whether it is wonderfully happier depends on the investment choices made by this generation.

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