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The Economic Role of Capital

Abstract: What is “capital”? This term is oft-used but little understood in the investing and broader business worlds – indeed, even in the economics profession itself, there is confusion about its precise meaning. But it is a categorical magnitude of immense importance not only for investment decisions but also for the betterment of human life and indeed, the advancement of civilization itself. As investors we need to develop a precise understanding of this concept, and as citizens of a modern economy, we must defend its growth. In this paper we explain the term clearly, as well as how to think about it in its various applications. In the process we also answer important ancillary questions: what is its role in promoting economic growth? How do investors think about this concept in terms of asset allocation? What public policies are best for the inducement of capital formation and profit growth?

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Introduction

The United States is one of the wealthiest countries in the world in terms of per capita income levels. Indeed, compared to the European Union, which has roughly the same population and similar demographics, the U.S. average income level is almost one-third greater.¹ The U.S. economy has also created sixty million jobs since 1970, while the EU has created less than one-fourth that total. Or in Japan, where by 1990 the economy had achieved 80% of U.S. income levels, a long period of slow growth has led to a true “recession” in living standards back to only 70% that of the U.S. today. Why is this so – why has the United States long had a more vibrant and dynamic economy? And what accounts for the significant differences in living standards?

The short answer to these questions, if a bit technical, is to say that the U.S. is more *capitalistic* than these other countries.² That is to say, the level of capital investment in the U.S. (on a per capita basis), and concomitantly, the profitability of American business, are superior to that of most other countries in the world. Sadly, however, many Americans do not appreciate this fact, nor do many policy-makers, here or elsewhere. Indeed, though they do not apprehend this, policy in Europe and Japan has not been conducive to a higher level of wealth creation or material improvement in their standard of living precisely *because it has been less capitalistic*; this is, therefore, why they lag the U.S. in a relative sense.

It can thus be said that illiteracy with respect to this basic axiom of economics has been very costly to the peoples of the world, and it is important to impart understanding on this point if we hope to improve policies in the future. To do this, we begin at the top by delineating economics as being concerned with the allocation of society’s scarce resources among innumerable competing uses.³ Textbooks commonly point out that

¹ See <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2004rank.html> . In 2012, for example, the United States will average about \$47,000 in per capita income; Germany will be about \$35,000, and Japan \$33,000. The income (or output) statistics do not tell the full story in terms of the gap in standards of living, either; most consumer goods cost less in the U.S. than elsewhere, so incomes go further in the U.S. – a Combo Meal at McDonald’s costs nearly twice as much in Copenhagen as it does in Chicago, for example. And then the U.S. is a “24/7” society too, in terms of service levels, versus the more 9-to-5 lifestyles elsewhere; the U.S. also has world-class higher education, vibrant venture capital and private equity sectors, and so on that reinforce standard of living differentials.

² To be sure, there are many drivers of a differential in standards of living between countries: economic institutions such as property rights, the quality and effectiveness of the monetary and banking system, the level and incidence of taxation, the institutional support for entrepreneurship, fiscal health of government, etc. all play a role. But the correlation between the level of per capita capital accumulation – that is to say, capital invested per worker – and per capita incomes is strongly absolute and all-determinative. And indeed, the level of capital investment often *implies* that these other parameters of wealth creation (and economic growth) are present in a supportive way (e.g., capital investment is stultified when the monetary unit is not stable in value, or property rights are not protected, or taxation is oppressive).

³ The term “economics” dates to Alfred Marshall’s famous textbook on the basic principles of the subject in 1890. In turn he may have borrowed it from his contemporary colleague in London, William Stanley Jevons, who

the study of economics helps us understand *what* is produced, *how* it is all produced, and *who* consumes these produced goods. In this sense, it is a body of knowledge which provides critical insights into the pressing social problems of the day – in this or any other era – including how to improve living standards.

But more than this or at a deeper level, economics is the study of individual *human action*.⁴ All human beings confront a daily situation of relative wants: beyond food, clothing, shelter, and basic necessities, humans live in a constant state of *non-satiety*. That is to say, they desire material, intellectual, or spiritual improvement to their momentary living conditions. To say it still differently, they have *ends*, for which they are aiming via the use of scarce and costly *means*. The study of economics helps us to understand the choices individuals make between these scarce and costly means to achieve their ends.

Central to our understanding of basic economics is knowledge of the crucial concepts of *capital* and the role of *profit*.⁵ These terms are often used in common business discourse, and in the case of the former especially can often mean different things, which sows confusion as to their definition. But both are crucial to the process of economic growth and to human progress, as well as to discernment of optimal investing strategy as market conditions change over time. In what follows below we define these terms, explain their variegated usage and importance, and how they are applied in analysis of economic policy or financial markets performance. The seminal role of capital in the process of economic growth is also highlighted.

The Fundamental Economic Problem

The pervasive challenge – and primordial fact – of every human life is *scarcity*.⁶ There is never enough of *any* economic good; indeed, this is the heart of the very *definition* of

advocated its use and the “mathematization” of its analytic techniques in order to form the core of a new and separate science. The Classical writers (e.g., Adam Smith, David Ricardo, Karl Marx) used the term “political economy” to denote the study of production and consumption within the delimits of public policy, which might differ across nation-states. For Adam Smith, economics (political economy) concerned the “wealth of nations.”

⁴ The great Austrian economist Ludwig von Mises wrote the most complete exposition of the science of human action in his 1949 book of the same name (*Human Action: A Treatise on Economics* [1949], New Haven, Yale University Press). See <http://mises.org/Books/humanaction.pdf>.

⁵ We will below allude to the relationship between capital investment and profit; in a future paper in this series we examine the economic importance and role of profit in detail.

⁶ This is true in a “collective” sense as well, but the proper initial focus for analysis in economics is always the individual human being. Via deductive logic, axiomatic truths can then be developed for broader society as a whole where this makes sense – but *only* in the sense of referring specifically to a collection of *individuals*. Strictly speaking, it makes no logical sense to talk about “a” collective demand for an item when referencing policy *ex ante*. In other words, if the total global demand for apples last year were \$2 billion, and governments then subsidized their output in order to double consumption, there is no way to pre-ordain what “total demand” will be the following year. We can infer more apples will be produced and that, other things equal, their retail price will drop, but since the change in production will affect hundreds of millions of *individual* consumers, we cannot know

what the term “economic good” means. For indeed, any item which is in unlimited supply – that is to say, there is no cost to obtain it – is commonly referred to as a “free good”, as opposed to an economic good.⁷

Scarcity, in turn, necessitates choice, or at a collective level, rationing. Man has an unlimited demand for economic goods (his “ends”), but limited resources (or “means”) to accomplish his aims. How then, given scarcity and the need for choice among limited resources, can man maximize the attainment of his ends? This is the individual human-level analog to the societal goal of maximal economic growth and prosperity, and in economic policy terms we may thus ask, what legislative initiatives or framework induces a strong economy and high standard of living? Per the above figures on income and standard of living comparisons, what did the United States do that Europe and Japan have (evidently) not equaled over time?

One very critical way to ensure strong growth – to optimize the “battle” against scarcity – is to increase productivity; that is to say, to increase output per unit of input.⁸ Indeed, this is the *primordial* source of economic growth and the mainspring of human progress: an ever-increasing rise in the productivity of labor. And this can only happen via the accumulation of capital that stems from saving. *Capital* is the fundamental and essential driver of an improved standard of living.

What is Capital?

“Capital” as a term has different meanings depending on the connotation, but all are related. It is generally defined as machines, equipment, or tools that aid in the productive process which in turn generates final consumption goods. For example, when Robinson Crusoe, stranded ship-wrecked on an island, fashioned nets for fishing and a long spear to shake berries from a tree, he had, however crudely, *formed capital* with the nets and spear. These were capital goods in the sense that they made Crusoe’s labor more productive: previously he had had the near impossible task of catching fish by hand, and collecting berries a few at a time by climbing into the tree.

beforehand how magnitudes will change. This is a common mistake made by Washington, D.C. policymakers, often leading to waste or unintended outcomes.

⁷ The air we breathe is a common example of a free good, as it is pervasive in nature. Although even here, if we refer to *clean* air, particularly in congested metro areas like Detroit or Los Angeles, the discussion may involve economics because there are costs to eliminating pollution. Free goods are costless and abundant, but economic goods are costly, which is just another way of saying they involve choices and trade-offs due to their scarcity.

⁸ The discussion of what policy mix induces prosperity and a high standard of living is of course a multifaceted one, and refers back to the various institutional features of a market economy outlined in Footnote 2 above. In addition to stable money, low rates of marginal taxation, protection of property rights, and institutional support for entrepreneurs, *liquid financial markets* and institutions (including modern banking), the *division of labor* and *specialization* may also be considered *institutional features* of a market economy. They serve both to expand output via increased productivity, and buttress trade and exchange which, of course, is also radically facilitated by a dependably-valued medium of exchange (or, sound money).

Now he might haul dozens of fish per day, and shake hundreds of berries from the tree at once with the stick; he was now far more productive with his labor time, as his daily output had increased dramatically with the aid of these tools.⁹

How is Capital “Formed?”

This begs the question about the process through which these capital goods were produced. Clearly, to make the nets and the long shaking stick or spear, Crusoe had to either sacrifice leisure time – which is a cost, or literally, an investment of his time – or he had to take time directly from the productive labor required to procure berries and fish, that he in turn could consume in order to survive. In either case, there is an opportunity cost to produce capital goods, and let us suppose that it would take a week of his labor to make the nets and the spear. During this time, he normally would have “produced” and consumed 500 berries and ten fish. For him to take a week off to pursue his *investment* in capital goods, that is to say, to pursue the (literal) act of capital formation, *he must have saved up the sustenance required for that week*. In other words, he must have saved roughly 500 berries and ten fish from *previous* production in order to take the time to produce the new labor-saving and –enhancing tools. The act of *saving* is the antecedent corollary to any subsequent capital formation or investment.¹⁰

Continuing with this example for the purposes of illustration, note that Crusoe’s act of saving and investing in the development of these tools represents a *forward-looking* act (of investment) on his part. That is to say, peering into an unknown future, Crusoe has undertaken a *risk*, that may not bear out (or provide a return) in the fullness of time. All acts of capital investment are in this sense risky.¹¹ Crusoe does so in any case having calculated that his scheme *will*, literally, bear fruit and provide a return to him for the wealth he put at risk (in this case, 500 berries and ten fish).

Related Uses of the Term “Capital”

In the scenario above in which we have just described Crusoe’s investment of a week’s “wages” in pursuit of the ability to garner much higher productive output by building tools that will aid his work efforts, it is often said that he “put his capital at risk” in pursuing the investment in the nets and the shaking stick. In this sense, “capital” connotes stored

⁹ This example highlights perhaps a better or more precise use of terms: we might say *capital goods* are the physical tools or machines that aid in productive output, while *capital* could connote the market value of such goods.

¹⁰ The terms “saving” and “capital accumulation” are often used together, or interchangeably, to describe this process leading to investment. Strictly speaking the one implies the other.

¹¹ No less than Karl Marx seemed to be confused on this point: in a discussion in *Das Kapital*, Marx essentially concluded that “capital begets profit.” He vilified the capitalist class for expropriating what he held to be rightfully the reward to labor, completely ignoring the risk and uncertainty borne by capitalists, their prior act of saving (and sacrifice), and the freely-contracted nature of any given employment relationship.

purchasing power that represents the *savings* built up to “purchase” the capital goods (in this case, by literally expending labor time in making them, but in an exchange economy Crusoe could of course have traded his saved funds for already-produced nets and spears). To say this more broadly, capital can represent “liquid” assets or funds on a personal or corporate balance sheet that can be expended on procurement of capital goods. Thus, Crusoe “invested capital” in tools that would, in theory, aid his productive output (if the forward-looking investment were to work out).

Such liquid funds (which are often deposited in a financial institution such as a bank) are sometimes referred to as “financial capital”, and in similar fashion, the skills and knowledge that accrue to an individual through education are sometimes referred to as “human capital.”¹² Karl Marx and his followers, more pejoratively, have often used the term “capital” to connote property or wealth of any kind. They refer to the *bourgeoisie*, or propertied classes, as having interests in opposition to the proletarian laborers who have not accumulated any wealth property. All of these uses of the term “capital” have in common the attribute that, whether actively or passively, directly or indirectly, they describe an *asset that is intended to produce an income stream*. Again, because of the forward-looking nature of investment, a positive return or an income stream is not a given; capital assets can earn losses, too – but even this is just a negative income stream, and does not take away from the fundamental nature and intent of a capital asset.

It is also important to realize that the existence of capital, whether (1) of the tangible physical kind as embodied in capital goods (that is to say, real, physical capital, such as factories, machines, equipment, or tools), or (2) of the financial kind as embodied in equity or debt claims on income-producing assets, or (3) of the human kind as embodied in knowledge and skills acquired through education, implies *prior saving and sacrifice* (in terms of foregone consumption opportunities). That is to say, all capital assets, in whatever form, involve stored (pre-saved) purchasing power. To say this differently, capital assets represent purchasing power (or, as the case may be, the capitalized value of a future income stream) that has been earned through the production garnered via previous employment of labor and (still other) capital assets.

The Difference between Money and Capital

This last point is of crucial importance for the pursuit of optimal economic policies that will induce solid growth and an improving standard of living. What we have shown is that capital is an “income producing-capable” asset that must be *formed* via prior acts of work, saving, and sacrifice. The act of saving and capital accumulation by definition

¹² Gary Becker of the University of Chicago won the 1992 Nobel Prize for work dealing with returns to education, or build-up of “human capital” – it appears he coined the phrase.

represents a postponement of *current* consumption for the prospective reward of *future* (greater) consumption, and as such entails a risk. And therefore it is also, in essence, a trade-off between the present and the (risky or unknown) future. The terms of trade in capital markets, that is, in markets between pure savers and pure borrowers (who are often also investors), are mediated via freely-floating *interest rates*. A declining interest rate indicates a lengthening of time preference: it means more savers are foregoing current consumption and making loanable funds available to borrowers and investors. When interest rates are increasing, more people are withdrawing funds saved for future consumption in order to support present consumption.

What this implies, in other words, is that in the intermediation of funds dedicated to present versus future consumption, a structure of production or, said equivalently, an economy-wide *capital structure*, develops, and is calibrated according to the movement of interest rates. Market interest rates are perhaps the most important of all prices, in terms of their signaling regarding resource allocation; not only are resources divided up across industries, but here they are divided up between present and future. *Any falsification of these rates*, done exclusively via the political manipulation of money and credit by the government's central bank, is therefore disruptive and indeed can be quite harmful to the process of capital allocation. This is so especially in the case of artificially-lowered interest rates, because they induce investment in long-lived capital assets for which there is no *real* demand. That is to say, there was no prior saving and sacrifice that ensued in the formation of this capital (that either became capital goods when *formed* or a durable long-lived asset such as housing).¹³

This scenario represents an indictment of central bank monetary manipulation and overt influencing of the structure of interest rates. For indeed, the central bank, in a fiat money regime, can create *money* at will (by definition of "fiat", versus a commodity-based money such as gold); it cannot, however, create *capital* out of thin air. Money is a medium of exchange; it allows neurosurgeons to buy shoes from a cobbler without the cobbler needing brain surgery in a coincident manner. Government-created money of course, by law, represents a claim on real assets, *but it does not represent real capital*, that is to say, wealth that has been created by previous saving and sacrifice. Government-created money therefore draws away *real* resources from the (real) productive process, and sets in motion future liquidation of any malinvestment that always involves a human toll in unemployment and resource idleness.

¹³ Housing, by the way, is certainly "capital" in the sense described above as being in the category of an income-producing asset: by imputation, it throws off rental cash flows even when owner-occupied, because the owner has an opportunity cost savings to his ownership, since he would have to rent housing somewhere in order to live.

Why Capital (and Profits) Matter: A Brief Primer on Economic Growth

Assuming away any monetary manipulation and interest rate-interference, what the foregoing discussion shows is the seminal role capital plays in the process of economic growth and improvement in the standard of living. Capital investment leads to a more productive workforce, which is to say to a more output per capita and per unit of input. This leads directly to rising incomes and living standards. By its very nature, capital investment is forward-looking and speculative, and hence entails risk. The act of investing capital with regard to a future-anticipated return is thus at its essence an *entrepreneurial* act, that is, an action taken that involves risk-bearing and a judgment made about future conditions.

Those entrepreneurs who are successful are those who have adjudged the future more correctly than their fellow forward-acting investors, and this is signaled to them by the earning of a return which exceeds their cost of funds.¹⁴ They are rewarded with profits, the ultimate market signal of value creation and consumer approval, and of course the build-up of after-tax earnings is itself a form of capital accumulation. Successful entrepreneurs and business professionals who guide their enterprises to profitability assume command of more and more of society's resources; those who earn losses lose the ability to control the deployment of the scarce assets of society. Indeed, the play-out of profit versus loss over time is nothing more than the allocative mechanism of markets in action: resources flow to the (profitable) ends desired by consumers, while losses are seen to be mistakes from previous forward-looking capital investments that are now, *ex post*, seen to have been in error. The losses remove these mistakes, and the very fact of profits and losses creates market-wide knowledge that informs all market participants.

In no case, however, can a society progress much beyond subsistence level without an increase in capital invested per worker. And as soon as the capital invested per worker slows or stultifies, so will economic progress in that society. The ever-increasing level of profit in an economy is a direct result of a continual increase in the productivity of labor, and likely sign of a concomitant further accumulation of capital; and, thus, of an ever-advancing society.

How Should Investors Think about Capital?

For investors, conclusions from the foregoing are straightforward. At a macro-level for the purposes of global diversification, funds should be allocated to those countries who are *capital-friendly*; that is to say, those economies where capital investment is welcomed and rewarded. It implies a regime of sound money, low marginal tax rates on

¹⁴ This is, in fact, the very definition of "economic profit", or as it is known in strategy consulting circles now, "economic value-added" (or EVA).

capital gains and corporate profits, and a defense of property rights and against any expropriation by government or others. Bureaucratic regulations are also kept to a minimum in such an economy, and the policy climate is conducive to entrepreneurial risk-taking. The United States in the 19th century represented just such an archetype environment for investors, and indeed, it was primarily British capital that built-out the U.S. across the century in astounding gains in the American standard of living.¹⁵

Similarly, at the level of the individual company, corporate managements who are good stewards of their firm's capital, pursue judicious R&D, stick to a well-defined and internally-consistent strategy, and attain profit levels consistently above their industry average are very good long-term investments.¹⁶

Summary and Implications for Public Policy

Capital is the fundamental driver of increasing productivity, and the ultimate source of all wealth creation in human life. *It is the mainspring of human progress.* In all its forms – physical, financial, and human -- it assists materially in the process of production, which alone is the source of effective demand because production alone is what generates *income*. In this sense public officials who decry the capital investment process, who seek to literally create funds out of thin air (thanks to the central bank) in order to induce spending, make a big mistake. The creation of credit money that drives new spending actually leads to a certain level of capital *decumulation*; this is because the government-induced spending, by definition, pulls real resources away from productive investment.

Therefore [1] any attempt to pursue higher taxes on capital gains and corporate profits; [2] any pursuit of an unsound currency policy that falsifies interest rates and involves an inflation in the quantity of money and credit in the economy (made available for immediate government spending); [3] any restriction on cross-border trade that involves capital controls; or [4] any stultification of the entrepreneurial energies that are always latent in an unhampered market economy are all, by definition, *anti-capitalistic*. That is to say, they are retrograde because they are anti-growth, anti-prosperity, and anti-progress. Conversely, the simple solution to end any economic torpor, and to incite

¹⁵ Christina Romer and others have shown that the U.S. economy grew at better than 4% per annum for the entire century, and America became the wealthiest country in the world on a per capita basis by the early 20th century, from relative poverty 100 years earlier.

¹⁶ Modern capital markets have become ever-more *efficient*; that is to say, such positive attributes that lead to long term corporate success and viability as just mentioned are so well-noticed by the investment community that their equity share prices tend to reflect this sooner rather than later. This means that a great and dominant company like Microsoft (MSFT) may have its share price already reflect its excellence as based on future-anticipated new products, and thus it may not represent a great investment moving forward. There are, however even in today's liquid, transparent, and quasi-efficient equity markets, opportunities for outsized investment gains that others have not noticed. These are of course hard to find in a competitive market.

strong and sustainable long-term economic growth, is to pursue policies which encourage and defend the formation of capital in an economy.

For Further Reading

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