

# THE SPIRIT OF CAPITALISM, SAVINGS, ASSET PRICES AND GROWTH

## Chapter II

### Perspectives from the History of Economic Analysis

In this chapter, I intend to show that the broadly defined capitalist-spirit approach to accumulation and growth has not only been taken by our eminent sociologists, it has also played an important role in the growth theories of great economists such as Adam Smith, N.W. Senior, J. S. Mill, Karl Marx, W.S. Jevons, Thorstein Veblen, Joseph Schumpeter, John Maynard Keynes, among many others. Before I take up these economists, I present the analysis of money-making and acquisition in the *Politics* of Aristotle. Even though Aristotle has denounced the spirit of acquisition, he has in fact touched upon the essence of the capitalist spirit in a commercial and market economy and anticipated much of the analysis in Karl Marx, Max Weber, Werner Sombart, and Georg Simmel.

#### II.1 Aristotle and *Chrematistics*

In ancient times, economic life was mainly based on what Karl Polanyi (1957) has called the principle of householding, namely, production for one's own use and not for financial gain (p. 53). "Gain and profits made on exchange never before played an importance in human economy, though the institution of the market was fairly common since the <sup>later</sup> ~~latter~~ Stone Age, its role was no more than incidental to economic life" (Polanyi, p. 43). Against an economic background of householding mixed with certain market exchange, Aristotle divides the art of acquisition into two kinds: one is to obtain the necessities of life, the other is for profits and money. The latter is called *chrematistics*. In a natural economy, acquisition is only for consumption: "The [natural] form of the art of acquisition is concerned with the management of the household" (p. 25). "The necessary form of the art of acquisition is concerned with the provision of subsistence, and not, therefore, unlimited in its scope, as the other form is, but subject to definite bounds" (p. 27).

According to Aristotle's historical analysis, chrematistics comes to the stage only after the appearance of money and it is an endless process without limit. Aristotle cites Solon on this point: "There is no bound to wealth stands for men" (p. 21). Chrematistics "is not natural, but is rather the product of a certain sorts of experience and skill" (p. 23). Chrematistics "consists in retail trade [conducted for profits]. At first, we may allow, it was perhaps practised in a simple way; but in process of time, and as the result of experience, it was practised with a more studied technique, which sought to discover the sources from which, and the methods by which, the greatest profits could be made. The result has been the emergence of the view that the art of acquisition is especially concerned with currency" (pp. 24-25). "For currency is the starting-point, as it is also the goal, of exchange" (p. 25). Aristotle further states that "the wealth produced by this latter form of the art of acquisition is unlimited." This is just like "the art of medicine recognizes no limit in respect of the production of health... The same is true of the retail form of the art of acquisition. There is no limit to the end it seeks, and the end it seeks is wealth ... and the mere acquisition of money" (pp. 25-26). "all who are engaged in acquisition increase their fund of currency without any limit or pause" (p. 26).

These two arts of acquisition also have close connection. This is just as in the utility function  $u(c) + \beta v(k)$  of equation (1.1), namely, capital accumulation has two purposes: for consumption and for the sake of accumulation. But we cannot tell exactly which part is for which purpose: The cause of this contradiction lies in the close connection between the two different modes of acquisition. They overlap because they are both handling the same objects and acting in the same field of acquisition, but they move along different lines—the objects of the one being simply accumulation, and that of the other something quite different (p. 26).

Aristotle further states how the money-making as a means for consumption ends up as the end, which dominates people: "They stick to the ideal that they must keep their wealth in currency untouched, or increase it indefinitely. But the fundamental cause of this state of mind is men's anxiety

about livelihood, rather than about well-being; and since their desire for that is unlimited, their desire for the things that produce it is equally unlimited. Even those who aim at well-being seek the means of obtaining physical enjoyment; and, as what they seek appears to depend on the activity of acquisition, they are thus led to occupy themselves wholly in the making of money" (p. 26) "as though to make money were the one aim and everything else must contribute to that aim" (p. 27).

Aristotle laments on the avarice and greed in wealth accumulation:

"The naughtiness of men is a cup that can never be filled: there was once a time when two obols were a sufficient allowance, but now that this has become the tradition men were always wanting something more, and are never contented until they get into infinity. It is the nature of desire to be infinite; and the mass of men live for the satisfaction of desire. The source form which a remedy for such evils may be expected is not the realization of property, but rather a method of training which makes the better sort of natures unwilling, and the poorer sort unable, to indulge in covetousness."

(p. 67)

## **II.2 Adam Smith: Frugality and Savings**

Adam Smith's (1776) book, *An Inquiry into the Nature and Causes of the Wealth of Nations*, always reminds us of the division of labor and the working of the invisible hand as the main causes of wealth generation. But Adam Smith also pays particular attention to the role of frugality and parsimony—a critical aspect of the economic-man's mentality—in wealth accumulation. In this sense, the capitalist-spirit approach to capital accumulation has been also taken by Adam Smith:

The principle which prompts to save, is the desire of bettering our condition, a desire which though generally calm and dispassionate, comes

with us from the womb, and never leaves us till we go into the grave... An augmentation of fortune is the means by which the greater part of men propose and wish to better their condition. It is the means of the most vulgar and the most obvious; and the most likely way of augmenting their fortune, is to save and accumulate some part of what they acquire, either regularly and annually, or upon some extraordinary occasions. Though the principle of expense, therefore, prevails in almost all men upon some occasions, and in some men upon almost all occasions, yet in the greater part of men, taking the whole course of their life at an average, the principle of frugality seems not only to predominate, but to predominate very greatly. (pp. 324-25)

It is interesting to note that Adam Smith seems to take saving and frugality as the means to improve one's conditions. But he immediately points out that the habit of saving or capital accumulation is innate: it "comes with us from the womb, and never leaves us till we go into the grave". Thus the habit of saving develops as an end in itself and the economic objective of one's life often turns out to be saving for the sake of savings. Adam Smith is so occupied by the moral of savings, <sup>that</sup> he declares that "*every prodigal appears to be a public enemy, and every frugal man a public benefactor*" (p. 324). Naturally, both consumption and capital accumulation should be included to the utility function of Adam Smith's economic man or the representative agent in a capitalist economy.

The role of frugality and parsimony in wealth accumulation is also stressed in Adam Smith's *The Theory of Moral Sentiments*. "The methods of improving our fortune, which it principally recommends to us, are those which expose to no loss or hazard; real knowledge and skill in our trade or profession, assiduity and industry in the exercise of it, frugality, and even some degree of parsimony,

in all our expences" (Smith, 1759, p. 213). This practice of frugality is highly approved by "the spectator". "Hence arises that eminent esteem with which all men naturally regard a steady perseverance in the practice of frugality, industry, and application, though directly to no other purpose than the acquisition of fortune" (pp. 189-190).

### II.3 N.W. Senior: Abstinence Theory of Capital

Nassau W. Senior (1836) directly identifies capital as abstinence and frugality. In his theory of production, there are three instruments of production: labor, natural agents such as land, and abstinence (p. 58). Why is abstinence so important? Senior answers as follows: "The most laborious population, inhabiting the most fertile territory, if they devoted all their labor to the production of immediate result, and consumed its produce as it arose, would soon find their utmost exertions insufficient to produce even the mere necessities of existence" (p. 58). Therefore, "without which the two others are inefficient, we shall give the name of Abstinence" (p. 58).

The role of abstinence in economic development is greatly emphasized by Senior. Even though abstinence and exertion have been existing in different degrees <sup>(5)</sup> almost all societies, it is the most effective element of production, and it "is the slowest in its increase, and the least generally diffused" (p. 60). "Among nations, those that are the least civilized, and among the different classes of the same nation those which are worst educated, are always the most improvident, and consequently the least abstinent" (p. 60). After some cross-country examination of the profits rates, Senior found that the profits were lower in Holland and in England than in any other part of the globe. The reason for this, according to Senior, is that "abstinence with them (the English and the Dutch, added) is a cheap instrument of production, and they use it to the utmost" (p. 196).

But abstinence and frugality often lead to the habit of accumulation for the sake of accumulation: "capitals are generally formed from small beginnings by acts of accumulation, which

become in time habitual. The capitalist soon regards the increase of his capital as the great business of his life; and considers the greater part of his profit more as a means to that end than as a subject of enjoyment" (p. 192). Here it is clear that Senior defines the objective (utility) function of the capitalist on capital accumulation in addition to the enjoyment of consumption. In equation (1.1), I can take the parameter  $\beta$  as the degree of abstinence and  $\beta v(k)$  as the enjoyment of accumulation for the sake of accumulation in the sense of Senior.

#### **II.4 John Stuart Mill: The Spirit of Accumulation**

J. S. Mill (1848, 1909) calls the accumulation desire as "the spirit of accumulation" in his analysis of capital accumulation and economic growth over time and across countries. In Mill's time, while this spirit was low in many underdeveloped parts of the world, the spirit of accumulation was so strong in the more prosperous countries of Europe, that the signs of rapidly increasing wealth met every eye (p. 173). There were various causes for this strong spirit of accumulation in England, and, among them, ~~the~~ puritanism was one important factor: rapid capital accumulation in England was "greatly aided by that extreme incapacity of the people for personal enjoyment, which is a characteristic of countries over which puritanism has passed" (p. 174).

The comparison between Holland and England made by J.S. Mill also illustrates the importance of the frugal habit and the accumulation spirit in wealth creation: "the effective desire of accumulation has never reached so high a pitch in England as it did in Holland, where, there being no rich idle class to set example of a reckless expenditure, and the mercantile classes, who possessed the substantial power on which social influence always waits, being left to establish their own scale of living and standard of propriety, their habits remained frugal and unostentatious" (p. 175).

Mill has also stressed the role of wealth and property in providing man not only consumption means but also political power and social prestige. The effect of the desire for social and

political power on wealth accumulation was particularly significant in the modern history of Great Britain: "The earlier decline of feudalism having removed or much weakened invidious distinctions between the originally trading classes and those who have been accustomed to despise them; and a polity having growing up which made wealth the real source of political influence; its acquisition was invested with a factitious value, independent of its intrinsic utility. It becomes synonymous with power; and since power with the common herd of mankind gives power, wealth became the chief source of personal consideration, and the measure and stamp of success in life. To get out of one rank in society into the next above it, is the great aim of English middle-class life, and the acquisition of wealth the means" (p. 174). The capitalist institutions in Great Britain not only "give a most direct and potent stimulus to the desire of acquiring wealth", but "by the scope they have allowed to individual freedom of action, have encouraged personal activity and self-reliance, while by the liberty they confer of association and combination, they facilitate industrial enterprise on a large scale" (p. 174).

## **II.5 Karl Marx: The Nature of Capitalist Accumulation**

Karl Marx regards the instinctive nature of accumulation by capitalists as an essential part of capitalism. In *Capital* (1977), Marx divides the surplus value or profits possessed by a capitalist into two parts: one part of the surplus value is consumed by the capitalist as revenue, and the other part employed as capital, i.e. it is accumulated (p. 738). But capitalist is "capital personified" (p. 739), his function is to accumulate capital for the sake of accumulation: "*Except as capital personified, the capitalist has no historical value, and no right to that existence*". "*But, in so far as he is capital personified, his objective is not the acquisition and enjoyment of use values*" (p. 739, italics added) or the utility of personal consumption,  $u(c)$ , "but the acquisition and augmentation of exchange-values" (p. 739) or the

accumulation of capital,  $u(c) + \beta v(k)$ . "As such, he shares with the miser an absolute drive towards self-enrichment" (p. 739).

According to Marx, accumulation for the sake of accumulation has its origin in commodity production and monetary exchange. Its early form is money hoarding. The hoarding drive is boundless in its nature. Qualitatively and formally considered, money is independent of all limits, that is it is the universal representative of material wealth because it is directly convertible into any other commodity. But at the same time every actual sum of money is limited in amount, and therefore has only a limited efficacy as a means of purchase. This contradiction between the quantitative limitation and the qualitative lack of limitation of money keeps driving the hoarder back to his Sisyphean task: accumulation. He is in the same situation as a world conqueror, who discovers a new boundary with each country he annexes (Marx, pp. 230-231).

In order that gold be held as money, and made to form a hoard, it must be prevented from circulating, or from dissolving into the means of purchasing enjoyment. The hoarder therefore sacrifices the lusts to the fetish of gold. He takes the gospel of abstinence very seriously. On the other hand, he cannot withdraw any more from circulation, in the shape of money, than he has thrown into it, in the shape of commodities. The more he produce, the more he can sell. Work, thrift and greed are therefore his three cardinal virtue, and to sell much and buy little is sum of his political economy (Marx, p. 213).

Well before Weber, Sombart and Simmel, Marx distinguishes the production and circulation of a capitalist economy from a traditional mode of production. In a traditional mode of production, there exist money and commodity exchange, but its purpose is mainly for the use-values in commodities. Thus the formula for the simple commodity circulation is:

$$C-M-C, \tag{2.1}$$

where C is commodity and M money. It says that "the transformation of commodities into money and the re-conversion of money into commodities: selling in order to buy" (p. 247). This is what Marx calls



"the path of simple circulation, as for instance in the case of the peasant who sells corn, and with the money thus set free buys clothes" (p. 248).

But for capitalist mode of production, the circular form is:

$$M-C-M, \quad (2.2)$$

"the transformation of money into commodities, and the re-conversion of commodities into money: buying in order to sell. Money viewed from this perspective is called capital. Of course, it is evident that the process M-C-M is absurd if M is the same at the beginning and in the end. The miser's plan would be far simpler and surer: he hold on to his money <sup>but</sup> with exposing it to the dangers of circulation. A capitalist "releases the money, but only with the cunning intention of getting it back again" (p. 249) with an increment or a "surplus value": more money is finally withdrawn from circulation than was thrown into it at the beginning. Therefore, (2.2) has to be modified by the following complete form of the capitalist circulation:

$$M-C-M' \quad (2.3)$$

where  $M' = M + \Delta M$ , and  $\Delta M$  is the surplus value.

Like Aristotle, Marx contrasts these two kinds of circulation and draws the conclusion why capitalist circulation is an endless process of money-generating: "The repetition or renewal of the act of selling in order to buy finds its measure and its goal (as does the process itself) in a final purpose which lies outside it, namely consumption, the satisfaction of definite needs. But in buying in order to sell, on the contrary, the end and the beginning are the same, money or exchange-value and this very fact makes the movement an endless one" (p. 252). "The circulation of money as capital is an end in itself, for the valorization of value takes place only within this constantly renewed movement. The movement of capital is therefore limitless" (p. 253).

"As the conscious bearer of this movement, the possessor of money becomes a capitalist. His person, or his pocket, is the point from which the money starts, and to which it returns. The

objective content of the circulation we have been discussing—the valorization of value—is his subjective purpose, and it is only in so far as the appropriation of ever more wealth in the abstract is the sole driving force behind his operations that he functions as a capitalist, i.e. as capital personified and endowed with consciousness and a will. Indeed Marx emphasizes that consumption and use-values must therefore never be treated as the immediate aim of the capitalist. This boundless drive for enrichment, this passionate chase after value, is common to the capitalist and the miser; but while the miser is merely a capitalist gone mad, the capitalist is a rational miser. The ceaseless augmentation of value, which the miser seeks to attain by saving his money from circulation, is achieved by the more acute capitalist by means of throwing his money again and again into circulation (pp. 254-255).

This accumulation drive is determined by two factors. The first factor is the pressure of external competition which forces capitalists to accumulate:

what appears in the miser as the mania of an individual is in the capitalist the effect of a social mechanism in which he is merely a cog ... competition subordinates every individual capitalist to the immanent laws of capitalist production, as external and coercive laws. It compels him to keep extending his capital, so as to preserve it, and he can only extend it by means of progressive accumulation. (p. 739)

The second and the much more important factor is the capitalist's internal impulse and desire towards accumulation:

Accumulate, accumulate! That is Moses and the prophets! 'Industry furnishes the material which saving accumulates.' Therefore save, save, i.e. reconvert the greatest possible portion of surplus-value or surplus product into capital! Accumulation for the sake of accumulation, production for the sake of production: this was the formula in which classical economics

expressed the historical mission of the bourgeoisie in the period of its domination. (p. 733)

Or as John Ramsay MacCulloch (1830) in his *Principles of Political Economy* states: "The inextinguishable passion for gain, the *auri sacra fames* (accursed hunger for gold), will always lead capitalists" (p. 179).

Therefore, to Marx, there perhaps exists no better way to describe the capitalist preference than ~~by~~ defining the utility function as  $u(c) + \beta v(k)$ , where  $\beta$  is interpreted as the degree of internal accumulation drive.

Marx thinks that the spirit of capitalism, i.e. accumulation for the sake of accumulation and production for the sake of production, is the fundamental force leading to the creation of enormous wealth and the progress of our humankind. In the *Manifesto to the Communist Party* (1848), Marx and Engels eulogize this accumulation drive and enormous material progress achieved by the "capitalist mode of production":

The bourgeoisie, during its rule of scarce one hundred years, has created more massive and more colossal productive forces than have all preceding generations together. Subjection of Nature's forces to man, machinery, application of chemistry to industry and agriculture, steam-navigation, canalization of rivers, whole population conjured out of the ground—what earlier century had even a presentiment that such productive forces slumbered in the lap of social labor? (Howe, ed., 1976, p. 35).

Similar expression can be found in *Capital*. As the capitalist accumulates for the sake of accumulation, "in this way he spurs on the development of society's production forces, and the creation of those material conditions of production which alone can form the real basis of a higher form of

society, a society in which the full and free development of every individual forms the ruling principle. Only as a personification of capital is the capitalist respectable" (*Capital*, p. 739).

## **II.6 William Stanley Jevons: Abstinence Theory of Capital Again**

Since I have already stated N.W. Senior's abstinence theory of capital, I will just briefly mention W. S. Jevons' (2nd edition 1879) idea, summarized by Bohm-Bawerk (1959):

Jevons cites Senior approvingly, and explains the latter's 'abstinence' as that 'temporary forgoing of enjoyment which is an essential feature of capital.' Or he calls it the 'endurance of want' which the capitalist assumes, and he devises formula by which to compute the magnitude of the sacrifice termed 'abstinence'. He counts it as an element in the cost of production; at other times by an ambiguous use of terminology he even calls it interest; and in one instance he specifically call the capitalist's receipts compensation for his 'abstinence and risk'. (Vol. I, p. 328)

## **II.7 John Maynard Keynes: the Psychology of Capitalist Society**

John Maynard Keynes (1919) develops the same idea in his statement of the "psychology" of capitalist society. He says that "Europe was so organised socially and economically as to secure the maximum accumulation of capital. While there was some continuous improvement in the daily conditions of life of the mass of the population, society was so framed as to throw a great part of the increased income into the control of the *class least likely to consume it*. The new rich of the nineteenth century were not brought up to large expenditures, and *preferred the power which investment gave them to the pleasures of immediate consumption...* Herein lay, in fact, the main justification of the capitalist system. If the rich had spent their new wealth on their own enjoyments, the world would long ago have found such a regime

intolerable. But like bees they saved and accumulated, not less to the advantage of the whole community because they themselves held narrow ends in prospect." (p. 16, italic added.)

Keynes continues to describe the savings behavior of the capitalist class: They "were allowed to call the best part of the cake theirs and were theoretically free to consume it, on the tacit underlying condition that they consumed very little of it in practice. *The duty of 'saving' became nine-tenths of virtue and the growth of the cake the object of true religion...* And so the cake increased; but to what end was not clearly contemplated. Individuals would be exhorted not so much to abstain as to defer, and to cultivate the pleasures of security and anticipation. Saving was for old age or for your children; but this was only in theory—the virtue of the cake was that it was never to be consumed, neither by you nor by your children after you" (p. 12, italic added). Here Keynes directly identifies both consumption and capital accumulation (the increase of the cake) as the objective of capitalists. Very often in the past as well as at present time, saving is said to be for the future consumption. It seems that the ultimate purpose of saving is for consumption. "*But this was only in theory*", this is not true in reality! The truth, in Keynes' words, is that ~~The~~<sup>+</sup> *duty of 'saving' became nine-tenths of virtue and the growth of the cake the object of true religion.*

For Keynes, this habit of saving for the sake of savings played a fundamental role in the enormous progress of living condition for the common people and the equilibrium of social life in the capitalist society. "The accumulation habits of Europe... were the necessary condition of the greatest of the external factors which maintained the European equipoise" (p. 19), and "the immense accumulation of fixed capital which, to the great benefit of mankind, ... ~~were~~ could never have come about in a Society where wealth was divided equitably" (pp. 16-17). "In fact, it was precisely the *inequality* of the distribution of wealth which made possible those vast accumulations of fixed wealth and of capital improvements which distinguished that age from all others" (p. 16). Just because of the capitalists' habit

of accumulation for the sake of accumulation, and not because of their accumulation for the sake of consumption, the general public benefitted from capital accumulation and accepted the inequality.

## **II.8 Alfred Marshall and Gustav Cassel**

Marshall (8th edition, 1920) explain savings by various factors. "The accumulation of wealth is governed by a great variety of causes: by custom, by habits of self-control and realizing the future, and above all by the power of family affection" (p. 196). "That men labour and save chiefly for their families, and not for themselves, is shown by the fact that they seldom spend, after they have retired from work, more than the income that comes in from their savings, preferring to leave their stored-up wealth intact for their families" (pp. 189-190). But at the same time, Marshall points out the importance of social distinction in the explanation why some people save for the sake of savings. In Marshall's view, to achieve social distinction is the main purpose of life, savings are just the mean to the end. He cites approvingly Nassau Senior: "the desire for distinction ... comes with us from the cradle and never leaves us till we go into grave" (p. 73). With this, it is not difficult to understand even the "irrational" savings behavior:

There are indeed some who find an intense pleasure in seeing their hoards of wealth grow up under their hands, with scarcely any thought for the happiness that may be got from its use by themselves or by others. They are prompted partly by the instinct of the chase, by the desire to outstrip their rivals; by the ambition to have shown ability in getting the wealth, and to acquire power and social position by its possession. And sometimes the force of habit, started when they were really in need of money, has given them, by a sort of reflex action, an artificial and unreasoning pleasure in amassing wealth for its own sake. (p. 189)

Gustav Cassel (1924) rejects the life-cycle and intergenerational-transfer motives as the whole explanation of savings. He lists various factors, in particular, the desire for higher social recognition in motivating savings:

There is a formation of capital for which it is hardly possible to assign any concern about the future as motive. It cannot be said of the leading capitalists who satisfy all their wants of any consequence, and have a capital the returns on which guarantees this satisfaction of wants for all time to them and their families, yet constantly set aside large sum to increase their wealth, that they save out of the concern about the future. In these cases there must be some other motive. It is the economic interest of the capitalist to increase his wealth, and this in time becomes an end in itself. The motives that are at work are numerous. The senseless cupidity that in times finds its sole pleasure in contemplating the growth of its wealth, and may very well be described as an abnormal sluggishness of spirit and a pathological impoverishment of the emotional life, is certainly not the sole explanation. The desire of splendor and of the higher position in the society which the possession of great wealth assures, the stimulation of jealousy of other men, the healthy joy of the strong man in successful work as such, in ruling large masses, in influence especially—these are all factors that have to be taken into account. (pp. 228-29)

## **II.9 Thorstein Veblen**

Veblen (1899) is strongly against the economic theory of consumption-motivated accumulation (p. 34) and he takes the objective of accumulation mainly as a symbol of honor, social distinction and "respect from one's neighbor":

The end of acquisition and accumulation is conventionally held to be the consumption of the goods accumulated.... This is at least felt to be the economically legitimate end of acquisition, which alone it is incumbent on the theory to take account of.... But it is only when taken in a sense far removed from its naive meaning that consumption of goods can be said to afford the incentive from which accumulation invariably proceeds. The motive lies at the root of ownership. The possession of wealth confers honor, it is an invidious distinction. Nothing equally cogent can be said for the consumption of goods, nor for any other conceivable incentive to acquisition, and especially not for an incentive to the accumulation of wealth. (p. 35)

In this sense, it is not difficult to understand why "no approach to a definite attainment is possible" or why there is no limit for the accumulation process, "since the struggle is substantially a race for reputability on the basis of an invidious comparison" (p. 39) and since "property set out with being booty held as trophies of the successful raid" (p. 36).

In addition to honor and respect, "the power conferred by wealth also affords a motive to accumulation" (p. 39). "Under the regime of individual ownership the most available means of visibly achieving a purpose is that afforded by the acquisition and accumulation" (p. 40). Therefore, "the propensity for achievement—the instinct of workmanship—tends more and more to shape itself into a



straining to excel others in pecuniary achievement. Relative success, tested by an invidious pecuniary comparison with other men, becomes the conventional end of action" (p. 40).

Veblen (1915, 1939) applies his theory to explain economic development in Imperial Germany while making a comparison between the industrial revolution in England and the one in Germany. This is a very interesting point because Veblen presents a contrast between conspicuous consumption in <sup>the</sup> English society and an accumulation drive in Imperial Germany. Veblen's thinking can be easily represented by the utility function defined on both consumption and accumulation:  $\Theta u(c) + (1 - \Theta)v(k)$ ; here  $\Theta$  ( $0 < \Theta < 1$ ) is the weight assigned to consumption in a society. With economic progress in <sup>the</sup> English society,  $\Theta$  became greater or  $\beta$  became smaller in equation (1) and more and more weight was thrown to consumption instead of accumulation. This is Veblen's idea of the "penalty of taking the lead"! Veblen (1899, 1915) predicts the same fate for the American society. But in Imperial Germany (and later Veblen extended his study to Japan), the imperial power based on accumulation restrained this shift towards conspicuous consumption. Since I cannot offer a better summary than Joseph Dorfman (1939), let me make a paraphrase from Dorfman:

Germany avoids this 'penalty of taking the lead' in modern industry under private property by virtue of its more recent entrance among the great powers. Relatively free from the dead hand of funded capital, her technology could develop at a faster pace than in the hands of its birth. However, the surplus is devoted not to the conspicuous consumption or waste of resources human and inanimate of the leisure class in English society, but to the intangible glory of the reigning house. The objective of a dynastic State is insatiable dominion, and wealth accumulation is organized to enhance fighting capacity. Thus in Imperial Germany, the will to power and dominance kept capital accumulation as an end in itself. This is the reason why Imperial Germany and Imperial Japan "made rapid stride in the machine technology as to outstrip the democratic English-speaking peoples from whom emanated the modern industrial process." (Dorfman, p.xviii.)

## II.10 Joseph A. Schumpeter

In the Schumpeterian system of economic development and growth, entrepreneurs play the fundamental role. According to Schumpeter (1934, 1950), capitalism is by nature a form or method of economic change, which not only never is but never can be stationary (Schumpeter, 1950, p. 82). The fundamental impulse that sets and keeps the capitalist engine in motion comes from the "process of destructive creation" or entrepreneurs' innovations. In *The Theory of Economic Development*, Schumpeter classifies those entrepreneurs' innovations <sup>as</sup> into five cases: (1) The introduction of a new goods or of a new quality of a good. (2) The introduction of a new method of production. (3) The opening of a new market. (4) The conquest of a new source of supply of materials or half-manufactured goods. (5) The carrying out of the new organization of any industry (Schumpeter, 1934, p. 66).

Since entrepreneurs are central to the capitalist economic system, the representative-agent model of growth should have their role. But what is the objective function of entrepreneurs in the Schumpeterian system? Schumpeter rejects the traditional, hedonistic definition which <sup>define</sup> takes the argument of entrepreneurs utility function as solely <sup>or</sup> the consumption, i.e. he rejects the type of the utility function of  $u(c)$  as entrepreneurs objective function. Let us look at his analysis of the "psychology of the entrepreneurs" closely.

Schumpeter first states that an entrepreneur does have certain motive or objective. but "in no sense is his characteristic motivation of the hedonist kind" (Schumpeter, 1934, p. 92), namely, the "wants as are capable of being satisfied by the consumption of goods". If we restrict the entrepreneur's wants to this consumption desire, "then it is no longer true that our type is acting on a wish to satisfy his wants" (p. 92). Schumpeter has the following observation and reasoning to reject <sup>the</sup> this hedonistic definition of entrepreneurs preference:

For unless we assume that individuals of our type are driven along by an insatiable craving for hedonist satisfaction, the operations of Gossen's law

would in the case of business leaders soon put a stop to further effort. Experience teaches, however, that typical entrepreneurs retire from the arena only when and because their strength is spent and they feel no longer equal to their task. This does not seem to verify the picture of the economic man, balancing probable results against disutility of effort and reaching in due course a point of equilibrium beyond which he is not willing to go. Effort, in our case, does not seem to weigh at all in the sense of being felt as a reason to stop. (p. 92)

Even though the consumption-hedonistic motive is not the main objective of an entrepreneur, "yet it points to another psychology of non-hedonist character". The entrepreneur is strongly motivated first of all by the "dream and the will to found a private kingdom, usually, though not necessarily, also a dynasty" (p. 93). "Then there is the will to conquer, the impulse to fight, to prove oneself superior to others, to succeed for the sake, not of the fruits of success, but of success itself, from this aspect, economic action becomes akin to sport.... The financial result is a secondary consideration, or, at all events, mainly valued as an index of success and as a symptom of victory, the displaying of which very often is more important as a motive of large expenditure than the wish for the consumers' goods themselves" (p. 93). This drive for "industrial or commercial success is still the nearest approach to medieval lordship possible to modern man. Its fascination is specially strong for people who have no other chance of achieving social distinction. The sensation of power and independence loses nothing by the fact that both are largely illusion" (p.93).

Therefore, according to Schumpeter, an entrepreneur's utility function should be defined on both consumption and the drive for success. But the latter can be represented by the financial success and wealth accumulation. So the utility function  $u(c) + \beta v(k)$  can be used to approximate an

entrepreneur's utility function and "the psychology of entrepreneurial activity" (p. 94). "Pecuniary gain is indeed a very accurate expression of success" (p. 94).

### **II.11 The Difference Between the Capitalist Spirit and the Time Preference**

What is the difference between the capitalist spirit and the time preference? My answer consists of two parts: first, they are two distinctive concepts; second, the capitalist spirit can influence the time preference.

John Rae is the originator of the time preference theory. In his book, *New Principles of Political Economy* (1834), he proposes the following definition:

The determination to sacrifice a certain amount of present good, to obtain another greater amount good, at some future period, may be termed the effective desire of accumulation (p. 119).

This effective desire of accumulation is later called the time preference—a theory fully developed by Eugen von Bohm-Bawerk (English edition, 1959). According to Bohm-Bawerk, it is a fundamental proposition that: "Present goods have in general greater subjective value than future (and intermediate) goods of equal quantity and quality. And since results derived from the ascribing of subjective value determine objective exchange value, present goods have in general greater exchange value and a higher price than future (and intermediate) goods of the same kind and number" (Vol.II, Book IV, p. 265).

This systematic discounting of future goods results from three causes: "(1) the difference in the situation as to provision for wants as between present and future, (2) the undervaluation of future goods and advantages by reason of perspective, and (3) the greater productiveness of more protracted methods of production" (Vol. II, Book IV, p. 283).

From these two definitions of <sup>the</sup> time preference by Rae and Bohm-Bawerk, it is clear that <sup>the</sup> time preference is very different from the capitalist spirit. The former is the preference of present goods over future goods, and the latter implies the utility from accumulation for the sake of accumulation. In the social-status model, the difference is even more obvious because one refers to the utility of social rank determined by capital and wealth accumulation, which has nothing to do with the time preference per se. In growth theory, a lower time preference and a higher capitalist spirit both lead to more capital accumulation and ~~faster~~ <sup>higher</sup> endogenous growth rate. That can be seen from the following example. In (1.1), let  $u(c) = \log c$ , and  $v(k) = \log k$ . Then ~~to~~ <sup>to</sup> maximize

$$\int_0^{\infty} (\log c + \beta \log k) e^{-\rho t} dt, \quad (2.4)$$

subject to:

$$\dot{k} = Ak - c. \quad (2.5)$$

The endogenous growth rate is given by <sup>see</sup> [details in chapter 3];

$$\gamma = A - \frac{\rho}{1+\beta}. \quad (2.6)$$

In (2.6), the endogenous growth rate is negatively related to the time discount factor  $\rho$  and positively related to the capitalist spirit  $\beta$ . In the capitalist-spirit model, it no longer require <sup>✓</sup> that the marginal productivity of capital be larger than the time discount factor in order to have a positive endogenous growth rate as in the endogenous-growth model. In fact, even if the marginal productivity of capital is smaller than the time discount factor, a relatively large value of the capitalist spirit can generate a positive endogenous growth rate. It is also interesting to see that, in (2.6), when the capitalist spirit is absent from the model, i.e.  $\beta = 0$ . The endogenous growth rate is given by the marginal productivity of capital minus the time discount rate:  $\gamma = A - \rho$ ; when the capitalist spirit is very strong, the endogenous growth rate will be close to the value of the marginal productivity of capital:  $\gamma \approx A$ .

How does the capitalist spirit influence the time preference? The answer is already provided by John Rae (1834) in some roundabout way. According to Rae, the effective desire for accumulation or the time preference depends on various factors: "1. The prevalence throughout the society, of the social and benevolent affections, ... 2. The extent of the intellectual powers, and the consequent prevalence of habits of reflection, and prudence, in the minds of the members of the society, 3. The stability condition of the affairs of the society, and the reign of law and order throughout it" (p. 124). In the list, Rae does not say anything about the capitalist spirit because he argues in great detail that this self-interested motivation is not applicable to the whole history of mankind. Unlike Mandeville (last edition, 1725) and Adam Smith, Rae is a moralist and partly shares the opinion that "the love of money is the root of all evil, and infallibly leads to wickedness" (p. 127). Rae cites from Plato and other ~~Roman~~ <sup>and Roman</sup> and Greek writers to show how "the character of the money-making man was uniformly vicious" (p. 126). Because of this moral stand, Rae does not directly take the self-interested motivation of the capitalist spirit, or in his term, "the sort of spirit" (p. 125), as a determinant of the effective desire of accumulation or the time preference. On the contrary, Rae regards "the social and benevolent affections" as the main factor influencing the time preference: "These feelings, therefore, investing the concerns of futurity with a lively interest to the individual, and giving a continuity to the existence and projects of the race, must tend to strengthen very greatly the effective desire of accumulation" (p. 122).

But it is quite clear from Rae's long argument against the money-making spirit in the moral sense that he admits the role of "that sort of spirit" in strengthening the effective desire of accumulation in modern time, in particular in modern England. When he takes the altruist element of human affection as the main determinant of the effective desire of accumulation or the time preference, he says "that the principle of self interest alone, though it may not, of itself, give great strength to this desire, yet, from its combination with other springs of action, must, generally do so indirectly and ultimately and may, therefore, be assumed as a cause sufficient to account for the phenomena" (p. 124). According to Rae,

this point of view is definitely true for a modern capitalist society: "If we confine our attention to the present time, and to particular parts of the globe, this may be readily admitted.... Because, in Great Britain, a regard to mere self interest, may now prompt to a course of action leading to making a large provision for the wants of others, we are, in reality, no more warranted to conclude that it will do so always, and in every place, than were the ancients warranted to conclude, because, in their particular communities, the pursuit of wealth commonly generated evil, that it must therefore do so always and in every place" (pp. 124-125).

Therefore, if limited to modern capitalist age and in developed Europe and America, Rae does admit the role of the capitalist spirit or "that sort of spirit" in determining the effective desire of accumulation or the time preference. He states in some detail why people will accumulate capital for its own sake - an argument well before Max Weber and even before Karl Marx:

There seem to be, in modern times, and in particular communities, two circumstances, that may lead an individual, from a mere regard to his personal interest, to pursue the paths of sober industry and frugality, and consequently, to make an extended provision for the wants of others. *These seem to be the desire of personal, family aggrandizement, and a wish, conjoined with the pursuit of both, to rank high in the estimation of the world. The acquisition of fortune, is a road open to that of most men, and, in the present days, is the only road open to that of most men. The mere desire to rise in the world, and envy of superiority of other men, may excite many to enter on this path, and preserve them steadily in it* (p.125, italics added).

Here again, the utility function is defined on both consumption and accumulation! But, as a moralist, Rae immediately warns against the danger out of this accumulation spirit: "This sort of spirit,

however, must be kept in strict check, by a large surrounding mass of genuine probity, and tenderness of the happiness of others, or it certainly breaks out into disorder" (p. 125). What a contrast to Bernard Mandeville's fable of "private vices, publick benefits" and Adam Smith's praise of the self-interested economic man!

In passing it is noted that Adam Smith (1759) has already developed the connection between frugality and <sup>the</sup> time preference:

That self-command, in the same manner, by which we restrain our present appetites, in order to gratify them more fully upon another occasion, is approved of, as much under the aspect of propriety, as under that of utility. When we act in this manner, the sentiments which influence our conduct seem exactly coincide with those of spectator. The spectator does not feel the solicitations of our present appetites. To him the pleasure which are to enjoy a week hence, or a year hence, is just as interesting as that which we are to enjoy this moment. When for the sake of the present, therefore, we sacrifice the future, our conduct appears to him absurd and extravagant in the highest degree, and he cannot enter into the principles which influence it. On the contrary, when we abstain from present pleasure, in order to secure greater pleasure to come, when we act as if the remote object interested us as much as that which immediately presses upon the senses, as our affections exactly correspond with his own, he cannot fail to approve our behavior (p. 189. See almost the same statement by Adam Smith on p. 215).



# THE SPIRIT OF CAPITALISM, SAVINGS, ASSET PRICES AND GROWTH

## Chapter III

### Empirical Relevance of the Capitalist-Spirit Model

This chapter will demonstrate that, without explicit mathematical models, sociologists, political scientists, historians and some economists have extensively used the capitalist-spirit approach to their empirical research. For this purpose, I first review the literature on the capitalist-spirit approach in social, economic and historical studies; then, I show how this sociological approach can be combined with the recent theory of endogenous growth; and, finally, I present the results from the econometric study by DeLong (1988) to show that the correlation between the capitalist spirit and economic growth can be empirically tested.

#### III.1 Max Weber: Religions, the Capitalist Spirit, and Wealth Accumulation

From his early life, Weber observed from business entrepreneurs, in particular from his uncle Karl David Weber, a connection between enterprise effort and an ethic of economic conduct such as hard work and frugality. To many businessmen, hard work and saving seem to be a duty that carries their own intrinsic value (Bendix, 1962, pp. 50-52). In a capitalist society, the dominant outlook of life seems to be the continual accumulation of wealth for its own sake combined with an absence of interest in the worldly comfort. "The old leisurely and comfortable attitude toward life gave way to a hard frugality in which some participated and came to the top, because they did not wish to consume but to earn, while others who wished to keep on with the old ways were forced to curtail their consumption" (Weber, 1958, p. 68). <sup>Examining</sup> ~~In~~ this accumulation process, Weber finds a role played by the "new spirit, the spirit of modern capitalism" (p. 68). What can explain this psychological propensity? Weber finds the answer in "this-worldly asceticism" of Protestants—hard work, frugality, honesty and austerity. According to Weber, the Calvinist concept of "calling" perhaps has the most important role in shaping this capitalist

spirit of accumulation ~~for the sake of accumulation~~. This is because ~~the~~ Calvinism advocates that hard work is "the fulfillment of the obligations imposed on the individual by his position in the world" (p. 79). Hard work in one's calling and success are regarded as a sign of grace and salvation, and wealth is commended insofar as they resulted from the performance of duty. Man should not refuse to accept God's gifts and to be His steward: "You may labor to be rich for God, though not for the flesh and sin" (Bendix, 1960, p. 62). The fear of indulging in things of flesh would discourage luxury consumption. "When the limitation of consumption is combined with the release of acquisitive activity, the inevitable result is obvious: accumulation of capital through ascetic compulsion to save" (Weber, 1958, p. 172).

Even in Weber's time, evidence showed a clear connection between ~~the~~ Protestant ~~ethic~~ and wealth accumulation. In beginning the first chapter of his book, "Religious Affiliation and Social Stratification", Weber (1958) cited the obvious phenomenon of Protestants' success in society, supporting his assertion on the link between the Protestant ethic and the capitalist spirit and the link between the capitalist spirit and economic progress:

A glance at the occupational statistics of any country of mixed religious composition bring<sup>7</sup> to light with remarkable frequency a situation which has several times provoked discussion in the Catholic press and literature, and in Catholic Congress in Germany, namely, the fact that business leaders and owners of capital, as well as the higher grades of skilled labor, and even more the higher technically and commercially trained personal of modern enterprises, are overwhelmingly Protestant. This is true not only in cases where the difference in religion coincides with one of nationality, and thus of cultural development, as in Eastern Germany between Germans and Poles. The same thing is shown in the figures of religious affiliation almost wherever capitalism, at the

time of its great expansion, has had a free hand to alter the social distribution of the population in accordance with its needs, and to determine its occupational structure.

The more freedom it has, the more clearly is the effect shown (Weber, 1958, p. 35).

With the help of his student, Martin Offenbacher, Weber examined the economic and social statistics based on religion affiliations in the city of Baden. Weber cited that in 1895, "there was taxable capital available for the tax on returns from capital:

Per 1,000 Protestants .. .. 954,000 marks

Per 1,000 Catholics .. .. 589,000 marks" (Weber, 1958, p.188).

It seems obvious that the Protestants were more economically successful than the Catholics. In the same city, Protestants appeared to be more ready than Catholics to enroll at high schools that fitted in with the industrial way of life. "The same thing may be observed in Prussia, Bavaria, Wurtemberg, Alsace-Lorraine, and Hungary" (Weber, 1958, p. 38, p.189, note 8). At the same time, Weber is surprised at the small participation of Catholics in the modern business life of Germany (p. 39). Through those statistical investigations, Weber and his student found high correlation between the Protestants and high economic achievements. It is this sharp empirical observation that supports Weber's theory of the Protestant ethic as the origin of the capitalist spirit. "Thus the principal explanation of this difference must be sought in the permanent intrinsic character of their religious beliefs, and not only in their temporary external historico-political situations" (Weber, 1958, p. 40).

This connection between religion and wealth accumulation was recognized well before Max Weber. Petty, Montesquieu, Buckle, Keats and others commented on the affinity between Protestantism and the development of the commercial spirit (Bendix, 1960, p. 55; Weber, 1958, Chapter 1 and p. 189, notes 11 and 12). Different religions do have different attitudes toward economic life, which may promote

or retard wealth accumulation. In the case of the two religions—Catholic versus Protestant, Weber seemed to approve, with his own modifications, the following summary by his student Martin Offenbacher:

The Catholic is quieter, having less of the acquisitive impulse; he prefers a life of the greatest possible security, even with a smaller income, to a life of risk and excitement, even though it may bring the chance of gaining honor and riches. The Proverb says jokingly, 'either eat well or sleep well'. In the present case the Protestant prefers to eat well, the Catholic to sleep undisturbed. (Weber, 1958, pp. 40-41)

### **III.2 Werner Sombart: The Spirit of Capitalism across Countries**

In *The Quintessence of Capitalism*, Sombart (1915) makes a systemic analysis on how the intensiveness and extensiveness of the capitalist spirit affect economic growth in Europe and America since the 13th century. Before I present his main ideas here, I have to remind us that Sombart's definition of the capitalist spirit is much broader than Weber's. To Sombart, the spirit of capitalist has two essential components: the love of money and the spirit of enterprise. In this way, the spirit of capitalism includes the accumulation spirit in the sense of Weber and the entrepreneurship in the sense of Joseph Schumpeter (1934).

In Sombart's view, even though the rise and growth of the capitalist spirit happened in Europe and America in their transition from traditional societies to modern capitalist societies, "not all nations were caught in the stream of capitalist growth at the same time" and "the duration of the influence of the capitalist spirit in a nation may vary in length" (Sombart, 1915, p. 130). Furthermore, the intensiveness and extensiveness of the capitalist spirit may be different in different nations. Consequently, the spirit of enterprise and the desire for gain would vary (p. 131). How does the economic history of European countries and the United States reflect this varying capitalist spirit? How does the varying capitalist spirit

across countries affect economic growth? To answer these questions, Sombart has made the following observations on the following countries:

(1) Italy. "The capitalist spirit first manifested itself in Italy" (p. 132). During the 13th and the 14th centuries, the capitalist spirit was fully developed in the trading republic of Lombardy. In fact, throughout the Middle Ages, the intensive growth of the capitalist spirit in Italy was far ahead of all other European countries. The capitalist spirit as a state of mind also reached its highest development in Tuscan Republic and Florence. "As early as the 14th century the Florentines were filled with a feverish desire for gain, and a devotion to business that almost amounted to a passionate love. Florence was that state which was requested by dying fathers in their last wills and testaments to fine their sons one thousand florins if they had no regular occupation" (p. 132).

"But all this capitalist splendor came to a speedy end" in the 15th and the 16th centuries. The spirit of enterprise began to decay, "the joy of acquisitiveness and the devotion to business made way for a comfortable mode of life" (p. 133). The society developed more towards feudal state where people began to "despise work and to seek after titles of nobility", and of course economic growth in the increasing aristocratic environments began to slow down.

(2) The Iberian Peninsula. By the 14th century, the capitalist spirit had its strong influence in the commerce of Barcelona. The geographical discovery in the 15th century was the best indicator of the intensified capitalist spirit in Spain and Portugal. In the 16th century, the conquest of America and the colony plantation, the expanding world trade with both the West and the East, and the growing manufacturing industries all signaled the dominance of the capitalist spirit.

"Then came total paralysis in the 17th century, of which every schoolboy has heard. The spirit of enterprise faded away, and all interest in business vanished. Instead, the nation turned from economic activities to religion, court life, or knightly exercises" (p. 135). In the new era, "everybody imagines he

fact name  
of the

is a nobleman". The consequence was pointed out by Ranke and cited by Sombart: "it was only natural that gradually a distinct disinclination for work and business, and a contempt for industry and frugality, should be the result" (p. 136).

In concluding his study on the Iberian Peninsula, Sombart made the following statement, which directly foretells Harrison's studies (1985, 1992) on Latin America: "Their way of life, then, was totally opposed to the capitalist spirit. And wherever Spaniard and Portuguese established themselves in colonies the ideals of the mother country accompanied them" (p. 136).

(3) Germany. The capitalist spirit took its root in Germany much later than many European countries. By the 16th century, the capitalist spirit in Germany could not compare to what prevailed in Italy in the 14th century. It was only after 1850 that the capitalist spirit really awoke in Germany. By Sombart's time, the capitalist spirit in Germany "has grown so mighty that, as no one can deny, Germany is catching up <sup>with</sup> the United States of America as the land wherein that spirit has reached its utmost development" (p. 142).

(4) Holland. "In all probability the United Province were the land in which the capitalist spirit for the first time attained its fullest maturity" (p. 144). By the 17th century, "in the Netherlands an entire people became imbued with the capitalist spirit" and it was regarded as the land of capitalism *par excellence* (p. 144). In Ranke's pen, in Netherlands, "industry thrived, and the quality of the work done was splendid. The rich continued to be moderate in their habits and thrifty; and many a one who sold fine cloth to others was content himself with a rough material. The poor had their needs provided and idleness was a deadly sin which merited and received condign punishment" (p. 146). But by the late 19th century and the early 20th century, part of the capitalist spirit continued to exist, but some of it decayed and disappeared. Even in the 18th century, the spirit of enterprise dwindled away, and, with the interest income, the capitalist "waxed fat". "Even the smallest interest in capitalist undertakings was no longer to be met with" (p. 147).

(5) Great Britain. "The heroic age of capitalism began in the 16th century, when the land was filled with a mighty spirit of undertaking, born of the love of adventure and the impulse for conquest" (p. 147). In the 17th century, the capitalist spirit also appeared strongly in Scotland in the wake of Reformation. "Everywhere you might have observed an unbridled desire for gain and undertakings innumerable" (p. 148).

But by <sup>the</sup> late 19th century, "all reliable and authoritative observers appear to agree that today a condition of 'capitalist decline' has made its appearance in England" (p. 150). In particular, "the spirit of enterprise, interest in business, and love of industry are all declining... The Englishman finds pleasure in luxury, in an aristocratic manner of living, and above all in sports" (pp. 150-151). Thus Sombart explains the decline of Britain as a result of the decline of the capitalist spirit in Britain. Of Course, his diagnosis of the "British Disease" is well before the ones by Rosovsky (1980) and especially Wiener (1981). [ See more on this point <sup>in</sup> *English Culture and the Decline of the Industrial Spirit: 1850 - 1980*, later].

(6) The United States of America. Sombart takes the United States as the best case study on the connection between the capitalist spirit and rapid economic growth. Sombart summarizes his observations on the American capitalist spirit as follows: the elements of the capitalist spirit have had a niche in the American national character ever since the foundation of the colonies; the early stages of the capitalist spirit changed into the later and fully perfect stage sooner and more completely in America than anywhere else; the capitalist spirit had developed to its utmost in the United States and the whirlwind still rages (pp. 151-152).

### **III.3 David McClelland: The Achieving Society**

McClelland (1961) presents a strong case to extend the usual consumption-oriented utility function to include the "achievement" in the society. Economic development and growth are not only driven by

material gain and better consumption, but also by the desire to achieve and to succeed. This theorization is very similar to Joseph Schumpeter's entrepreneurship and is also very close to the theory of Hagen (1962): the socio-psychological "need for achievement" which under some circumstances takes economic form, especially, wealth accumulation. In McClelland's definition of "the need for achievement", we can easily include wealth accumulation and financial success. In this way, the capitalist-spirit model becomes part of McClelland's achievement model.

The most remarkable aspect about the McClelland approach is the detailed empirical examination between economic performance and the evidence of high need for achievement in about thirty countries. From his empirical analysis, he finds that values and cultures encouraging high achievement are closely related to better economic performance. This is true for the Quakers, Hassidic Jews, the Jains of India, etc. On the other hand, an institution such as slavery, which undermines achievement motivation, results in bad economic performance.

#### **III.4 Weber, Sutton, Harris, Kaysen and Tobin: The Capitalist Spirit and the "Miracle of America"**

When Max Weber wrote his book on the capitalist spirit early of the twentieth century, the "miracle of America" was in its heyday. It is not strange at all that Weber devoted a large part of his book to trace the cultural or psychological root of this rapid American economic expansion to the colonial period of the seventeenth and the eighteenth centuries. To Weber, the strong capitalist spirit embodied in the American cultural values played its fundamental role in creating the "miracle of America" and the capitalist spirit manifested in no better form than the words of Benjamin Franklin. After extensive citations from Benjamin Franklin, Weber concludes:

"It is Benjamin Franklin who preaches to us in these sentences, the same which Ferdinand Kurnberger satirizes in his clever and malicious *Picture of American Culture* as the supposed confession of <sup>John</sup> faith of the Yankee. That it is the spirit of capitalism which here speaks in characteristic fashion, ...



Let us pause a moment to consider this passage, the philosophy of which Kurnberger sums up in the words, 'They make tallow out of cattle and money out of men'. The peculiarity of this philosophy of avarice appears to be the ideal of the honest men of recognized credit, and above all the idea of a duty of the individual toward the increase of his capital, which is assumed as an end in itself. Truly what is here preached is not simply a means of making one's way in the world, but a peculiar ethic" (Weber, 1958, pp. 50-51).

What are the characteristics of the American capitalist spirit expressed in Benjamin Franklin's ethic? We recite a few Franklin's passages in Weber's book:

"Remember, that money is of the prolific, generating nature, Money can beget money, and its offspring can beget more and so on. Five shillings turned is six, turned again it is seven and three pence, and so on, till it becomes a hundred pounds. The more there is of it, the more it produces every turning, so that the profits rise quicker and quicker. He that kills a breeding-sow, destroys all her offspring to the thousand generation. He that murders a crown, destroys all that it might have produced, even scores of pounds" (Weber, 1958, p. 49). "After industry and frugality, nothing contributes more to the raising of a young man in the world than punctuality and justice in all his dealings" (p. 49). "Remember, that *time* is money" (p. 48). "Remember, that *credit* is money" (p. 48).

Weber thinks that Franklin's ethic is also closely connected with certain religious ideas. "If we thus ask, *why* should 'money be made out of men', Benjamin Franklin himself, although he was a colorless deist, answers in his autobiography with a quotation from the Bible, which his strict Calvinistic father drummed into him again and again in his youth: 'Seest thou a man diligent in his business? He shall stand before kings" (prov. xxii. 29). The earning of money within the modern economic order is, so long as it is done legally, the result and the expression of virtue and proficiency in a calling; and this virtue and proficiency are, as it is now not difficult to see, the real Alpha and Omega of Franklin's ethic" (Weber, pp. 53-54).

Weber's cultural and psychological approach to the growth "miracle of America" was taken by many people. In a grand undertaking, Francis X. Sutton, Seymour Harris, Carl Kaysen and James Tobin made a detailed study on the role of the American business creed in creating the economic miracle. In the book entitled *The American Business Creed* (1956), they outlined a series of the cultural values of America: materialism and productivity, activism, the continuing goal of progress, the spirit of adventure (Sutton, *et al*, 1956, pp. 251-269); that is to say, "the spirit of capitalism" defined by Max Weber and preached by Benjamin Franklin manifests in all these aspects of the American business culture. Why should one make money and profits in the American society? Because "personal money income plays a highly important role in our society as a *symbol* of achievement. A man with a large income is likely to gain respect—not because of the income itself but because of the presumption that it is an index of his importance or competence". (Sutton *et al*, 1956, p. 331). The role of entrepreneur and the industrialist spirit in American economic growth has been put nicely by Harold Underwood Faulkner in his *American Economic History* (7th edition, 1954):

Any discussion of the causes of the development of American manufacturing would be incomplete without mentioning the part played by the entrepreneurs, who often were neither scientists nor, strictly speaking, manufacturers or industrialists. These were men like Andrew Carnegie in steel, Philip, D. Armour in slaughtering and meat packing, John D. Rockefeller in oil refining, and J. P. Morgan in Finance.... Far more numerous were small manufacturers who were often a combination of engineer, inventor or scientist, and businessman, and who were the original entrepreneurs or builders of American manufacturing (p. 400).

To put it simply, we can describe so many American entrepreneurs in the way as Max Weber says of Franklin: "Benjamin Franklin was filled with the spirit of capitalism at a time when his printing business did not differ in form from any handicraft enterprises." (Weber, p. 63)

### **III.5 Harrison: The Economic Decline of the United States and the Erosion of Its Traditional Value**

In an ambitious attempt to explain economic growth and development from East Asia to Latin America and to the United States, Harrison (1992) makes another case for his "cultural determinism" of economic development and growth. According to him, the success, including <sup>the</sup> economic success, of America is based on eight fundamental values: freedom, justice, *work, excellence, frugality*, family and community (p. 224, emphasis added). From its early history on, the dominant American culture was strongly influenced by Calvinist precepts: *self-reliance, enterprise, hard work, austerity* (p. 225, emphasis added).

How does one explain the popular talk of today: the decline of America? Harrison attributes the causes of this phenomenon to the erosions of those traditional values and, in particular, the erosion of "the spirit of capitalism" in Max Weber's words. He points to the lowest saving rate of the United States among twenty-four industrial countries and the United States as the world's largest debtor as his empirical evidence. He compares the consumption-oriented generations after World War II to work-saving-oriented generations before the War:

"For prior generations, with the securing of basic needs at stake, work was an end in itself. For the generations that followed the war, work, often made easier by labor-saving devices, has increasingly become a means of acquiring things—cars, houses, boats, clothes, leisure time." Our principal satisfaction or utility in the word of economics has come from consumption, "not from a job well done" (Harrison, 1992, p. 230). That is to say, in the utility function,  $u(c) + \beta v(k)$ , the utility of work and saving has kept decreasing relative to the satisfaction of consumption in the United States. Harrison

thinks that declining industrial spirit that once happened in Britain is now happening in the United States today: "As in Britain since the late nineteenth century, industry and commerce have lost prestige, and ... professions that are often hostile to business—for example academia, the media—now attract more top talent." (p. 230)

As the conclusion of his diagnosis and analysis, Harrison regards the waning of the "spirit of capitalism" in the sense of Max Weber as the main cause of the decline of America: "In *The Protestant Ethic and the Spirit of Capitalism*, Max Weber attributed the Industrial Revolution principally, and I believe correctly, to an ethos that combined hard work with frugality, that is, thrift and austerity. When frugality is removed from the equation, hard work and the related values of education and excellence may be compromised. Disrespect for thrift and austerity, driven by increased focus on the present and reduced focus on the future, has a lot to do with our low national levels of saving and investment, the saving and loan scandals, and the likes of Ivan Boesky." (p. 230)

### **III.6 Harrison: Underdevelopment Is a State of Mind**

Lawrence Harrison (1985) also takes his cultural approach to study the lack of economic development in Latin America. His definition of "the State of Mind" is much broader than the capitalist spirit, but the latter is a very important part in his argument and, in fact, he classifies Weber's theory of the capitalist spirit under the name of entrepreneurs and puts Weber and Schumpeter together in his book, *Underdevelopment Is <sup>a</sup> State of Mind*.

The basic message from Harrison (1985) is that culture is the principal determinant of development (p. 166). "In the case of Latin America, we see a cultural pattern, derivative of traditional Hispanic culture, that is ... anti-entrepreneurial (or anti-the-capitalist-spirit, *added*), and at least among the elite, anti-work" (p. 165). "The low value that attaches to work and practical achievement has

probably suppressed the entrepreneurial instinct and performance ... thereby also contributing to reduced rates of economic growth" (p. 148).

### **III.7 Werner Sombart and Milton Friedman: Judaism and the Spirit of Capitalism**

The economic success of the Jewish people has been recognized for a long time since the Middle Ages. When Max Weber wrote his *Protestant Ethic and the Spirit of Capitalism*, he also noted the outstanding economic performance of the Jewish people in Europe. He said, in terms of the average income, "it is true that the Jews ... were far ahead of the rest" (Weber, 1958, p. 188, note 5). While Weber takes the Protestant ethic as the origin of the capitalist spirit, Werner Sombart (1913, 1915) takes the Jewish religion and culture as the origin of the capitalist spirit.<sup>3</sup> For many years, Sombart's argument has been condemned by some as anti-semitic, but Milton Friedman (1987) regards it as philo-Semitic and provides support for Sombart's view. Since the economic role of the Jewish people is so important, we should never miss a most persuasive explanation of their economic success. In fact, in my opinion, compared to Sombart's theory, the standard neoclassical growth model which focuses on technology, if not helpless in explaining the economic success of the Jewish people, misses at least the most important cultural element in the Jewish people. Here I follow Milton Friedman's (1987) interpretation of Sombart very closely.

In both Sombart and Friedman's opinion, Judaism is most favorable to competitive capitalism and individual freedom; its attitude toward riches is closer to the capitalist spirit than both Christianity and the Protestant ethic. Let us recite Sombart's words from Milton Friedman (1987):

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<sup>3</sup> Weber disagrees with Sombart on this point; see in particular Chapter XXX: *The Evolution of the Capitalistic Spirit*, in *General Economic History*. (Weber, 1992)

Throughout the centuries, the Jews championed the cause of individual liberty in economic activity against the dominating views of the time. The individual was not to be hampered by regulations of any sort... I think that *the Jewish religion has the same leading ideas as capitalism...* The whole religious system is in reality nothing but a contract between Jehovah and his chosen people... God promises something and gives something, and the righteous people must give Him something in return. Indeed, there was no community of interest between God and man which could not be expressed in these terms—that man performs some duty enjoined by the Torah and receives from God a quid pro quo. (Friedman, 1987, pp. 47-48)

Why does the capitalist spirit have its origin in the Judaism? Sombart answers as follows:

You will find a few passages [in the Old Testament and the Talmud] wherein poverty is lauded as something nobler and higher than riches. But on the other hand you will come across hundreds of passages in which riches are called the blessing of the Lord, and only their misuse or their danger warned against. (Friedman, 1987, p. 48)

The Jewish attitude towards riches is in sharp contrast to the Christian one. In the New Testament, "it is easier for a camel to go through the eye of a needle than for a rich man to enter into the kingdom of God", but Sombart says "as often as riches are lauded in the Old Testament, they are damned in the New.... The religion of the Christians stands in the way of their economic activities... The Jews were never faced with this hindrance" (Friedman, 1987, p. 48). From his analysis, Sombart reaches the conclusion:

"Free trade and industrial freedom were in accordance with Jewish law, and therefore in accordance with God's will" (Friedman, 1987, p. 48). Furthermore, Sombart thinks that the Protestant (and the Puritan especially) went back to the Old Testament for their religious inspiration and followed

more the Hebrew tradition. Therefore, if Max Weber regards the Protestant ethic as the origin of the capitalist spirit, he should logically carry his proposition to the end—the Jewish religion.

Milton Friedman concurs with Sombart's analysis on the role of the Jewish religion in the process of wealth accumulation and economic progress:

If, like me, you regard competitive capitalism as the economic system that is most favorable to individual freedom, *to creative accomplishment in technology and the arts*, and to the widest possible opportunities for the ordinary man, then you will regard Sombart's assignment to the Jews of a key role in the development of capitalism as high praise. You will, as I do, regard his book as philo-semitic.

(Friedman, 1987, p. 53)

### **III.8 Michio Morishima: Why Has Japan Succeeded?**

The capitalist-spirit approach to economic growth has been used by Michio Morishima (1982) to explain the economic success of Japan. In a book entitled *Why Has Japan 'Succeeded'?*, Morishima attributes the economic success of Japan to Western technology and Japanese Confucianism. His approach is typically Weberian and his comparison between the protestant ethic and the Japanese ethos is illuminating. For modern capitalism to be established, a religious revolution had to come first. In the Western, "Puritanism's worldly frugality meant opposition to enjoyment and consumption, and luxury consumption especially was completely squeezed out. In this way the formation of capital was carried out through frugality; new capital was then used productively and became a new source of profit. Thus the religious revolution resulting from Protestantism created the modern entrepreneur and capitalism—a new type of person who was the possessor of an earnest faith, and who controlled huge wealth, but nevertheless contended himself with a life of extreme simplicity, striving to accumulate capital" (pp. 83-84). For Japan, Morishima finds something equivalent in Confucian doctrine of frugality:

If the Japanese had not adopted the belief of frugality, which was another of the prerequisites of capitalism, then modern capitalism could certainly not have been achieved in Japan. In Japan in those days Buddhism and Shinto, the traditional religions, did not have that great influence on the everyday life of the Japanese people. However, ... as a result of the Tokugawa Bakufu's cultural policy, Confucianism has spread widely and deeply among the Japanese people. Confucianism was understood in Japan as an ethical system rather than a religion, and it directly taught the Japanese people that frugal behavior was noble behavior. Therefore Japan, at the end of the Meiji Revolution, had already fulfilled the second prerequisite for capitalism. (p. 86)

When Hayashi (1986) makes a detailed examination "Why is Japan's saving rate so apparently high?", he lists cultural factors as one of the explanatory factors (p. 167). The paper by Horioka (1985) has also shown some mixed evidence on the relation between the culture and high saving rates in Japan. There is also an interesting observation made by Lawrence Summers and one of his students appeared in Hayashi (1986): "Summers suggested cultural difference between Japanese and Americans as a possible explanation of the high saving rate in Japan. He cited a work based on survey data for Japanese-Americans by one of his students. ~~The research showed that Japanese-Americans by one of his students.~~ ~~The research showed that Japanese-Americans by one of his students.~~ The research showed that Japanese-Americans' saving rate is 5 percent higher than that of the other group" (p. 234).

### **III.9 Martin Wiener: The Decline of the Industrial Spirit and the Decline of British Economy**

As another example to illustrate how change in the capitalist spirit may affect industrial growth we quote from Martin Wiener (1982): *English Culture and the Decline of the Industrial Spirit, 1850-1980*:



For Britain, Wiener argues that, after the Great Exhibition of 1851, "social and psychological currents began to flow in a different direction" (p. 157). "The emerging culture of industrialism...was itself transformed. The thrust of new values borne along by the revolution in industry was contained in the later nineteenth century; the social and intellectual revolution implicit in industrialism was muted, perhaps even aborted" (p. 157). "For a century and a half the industrialist was an essential part of English society, yet he was never quite sure of his place. The educated public's suspicions of business and industry inevitably colored the self-image and goals of the business community. Industrialists responded to their mental environment, sometimes by seeking to leave the world of production for more acceptable realms of gentility, and sometimes by striving to adapt their way of life to the canons of gentility....As a rule, leaders of commerce and industry in England over the past century have accommodated themselves to an elite culture blended of preindustrial aristocratic and religious values and more recent bureaucratic values that inhibited their quest for expansion, productivity, and profit" (p. 127). The gentrification of the industrialists discouraged "commitment to a wholehearted pursuit of economic growth" (p. 127) and led to "the waning of the industrial spirit" (p. 159) or the capitalist spirit.

The declining industrial spirit as a cause of British economic decline has been shared by many economic historians. We cite Henry Rosovsky (1980) as another example:

"Most economic historians agree that Britain's climacteric occurred about one hundred years ago,... In my opinion, the principle factors were internal and *human*, and therefore avoidable: *British entrepreneurship had become flabby; growth industries and new technology were not pursued with sufficient vigor; ...*" (from Harrison, 1992, p. 247).

The attitude of Englishmen in the early of this century towards the American was quite similar to the one adopted today by the American and European towards the Japanese. Americans in particular (and more recently Japanese) were perceived by many leaders of industry...as narrow people obsessed with the economic side of life, paying for their material success with the quality of personal life (p. 142).

The confession by Samuel Courtauld, cited in Wiener's book, is typical: "I view the so-called 'Americanization of Europe' with the utmost dislike. I doubt whether American ideals of living—purely materialistic as they are—will finally lead to a contented working nation anywhere when the excitement of constant expansion has come to an end" (p. 142).

Maybe modern world history has increasingly been dominated by the capitalist spirit which puts wealth accumulation above everything else. Facing this trend, traditionalists, moralists and romanticists can only express their contempt for this spirit of capitalism: the accumulation for the sake of accumulation. Let us listen to Jean-Jacques Rousseau's denunciation of his contemporaries: "Ancient politicians incessantly talked about morals and virtue, those of our time talk only of business and money" (Rousseau, 1750, 1962, p. 51). In the capitalist era, politicians have already obsessed with money, to say nothing about our businessmen and capitalists.

### **III.10 The Endogenous-Growth Approach to the Spirit of Capitalism**

It is the intention of this section to show that the various economic and social studies I have reviewed so far can be unified in an extended mathematical model of economic growth and in this model the positive association between the capitalist spirit of wealth accumulation analyzed by Weber, Sombart, Harrison and many others can be theoretically proved and statistically tested.

First I present the capitalist spirit in a simple endogenous-growth framework. Following Barro (1990) and Rebelo (1991), I assume that the net output is constant returns to capital:

$$f(k) = Ak. \quad (3.1)$$

Just for simplicity, I let the utility functions be:

$$u(c, k) = \log c + \beta \log k,$$

where the parameter  $\beta$  is positive, which measures the capitalist spirit.

To generate endogenous growth in the Barro-Rebelo model, it is essential to have the net marginal product of capital being greater than the time discount rate:  $A > \rho$ . This condition can be easily relaxed in our capitalist-spirit model. To see this point, I maximize:

$$\int_0^{\infty} (\log c + \beta \log k) e^{-\rho t} dt, \quad (3.2)$$

subject to:

$$\dot{k} = Ak - c, \quad (3.3)$$

with the initial capital stock given by  $k(0)$ .

The current-value Hamiltonian is:

$$H = \log c + \beta \log k + \lambda (Ak - c), \quad (3.4)$$

here  $\lambda$  is the costate variable. The optimal conditions are:

$$\frac{1}{c} = \lambda, \quad (3.5)$$

$$\frac{\beta}{k\lambda} + A - \rho = \frac{\dot{\lambda}}{-\lambda}, \quad (3.6)$$

$$\left(A - \frac{1}{k\lambda}\right) = \frac{\dot{k}}{k}. \quad (3.7)$$

Differentiate condition (3.5) with respect to time and denote the constant growth rate of consumption as

$\gamma$ ,

$$-\frac{\dot{\lambda}}{\lambda} = \frac{\dot{c}}{c} = \gamma. \quad (3.8)$$

Substitute  $\gamma$  into (3.6):

$$k\lambda = \frac{\beta}{\gamma + \rho - A}. \quad (3.9)$$

Log differentiate (3.9) with respect to time on both sides,

$$\frac{\dot{k}}{k} = -\frac{\dot{\lambda}}{\lambda} = \gamma. \quad (3.10)$$

That is to say, the growth rate of capital on the balanced growth path is the same as the growth rate of consumption. Substitute  $\dot{k}/k = \gamma$  into (3.7):

$$k\lambda = \frac{1}{A - \gamma}. \quad (3.11)$$

Then use (3.9) and (3.11) to solve for the balanced growth rate  $\gamma$ ,

$$\frac{\beta}{\gamma + \rho + A} = \frac{1}{A - \gamma}, \quad (3.12)$$

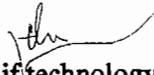
and

$$\gamma = A - \frac{\rho}{1 + \beta}. \quad (3.13)$$

To have positive growth rate in (3.13),  $A - \rho/(1 + \beta)$  needs to be positive, namely,  $(1 + \beta)A > \rho$ , but we do not need the lower boundary condition  $A > \rho$ . In fact, here we can have  $A < \rho$ ; but as long as  $(1 + \beta)A > \rho$ , there exists a positive endogenous growth rate.

From equation (3.13), we *first* note that the growth rate is higher the stronger is the spirit of capitalism:

$$\frac{d\gamma}{d\beta} = \frac{\rho}{(1 + \beta)^2} > 0. \quad (3.14)$$

 Even if technology and the time discount rate are the same across countries, growth rates will be different if the capitalist spirit is different.

*Second*, on the balanced growth path, the saving rate,  $s$ , is:

$$s = \frac{\dot{k}}{f(k)} = \left(\frac{\dot{k}}{k}\right) \left(\frac{k}{Ak}\right) = \frac{\gamma}{A} = 1 - \frac{\rho}{(1+\beta)A}. \quad (3.15)$$

So the saving rate is an increasing function of the capitalist spirit:

$$\frac{ds}{d\beta} = \frac{\rho}{A(1+\beta)^2} > 0. \quad (3.16)$$

*Third*, the intensity of the capitalist spirit also positively affects the path of investment. To see this, we note that the path of the capital stock is:

$$k(t) = k(0)e^{\left[A - \frac{\rho}{1+\beta}\right]t}, \quad (3.17)$$

and the path of investment is:

$$\dot{k}(t) = k(0) \left[A - \frac{\rho}{1+\beta}\right] e^{\left[A - \frac{\rho}{1+\beta}\right]t}. \quad (3.18)$$

Hence,  $d\dot{k}(t)/d\beta$  is positive and the rate of investment is accelerating:

$$\frac{d\dot{k}(t)}{d\beta} = k(0) \left[A - \frac{\rho}{1+\beta}\right]^2 e^{\left[A - \frac{\rho}{1+\beta}\right]t} > 0. \quad (3.18)$$

*Fourth*, the capitalist spirit depresses <sup>the</sup> initial consumption while stimulating <sup>the</sup> initial investment. That is to say, a country with a strong capitalist spirit will consume little and invest a lot at the initial stage of economic growth. To show this result, it is noted that from (3.17) the initial investment is:

$$\dot{k}(0) = k(0) \left[A - \frac{\rho}{1+\beta}\right], \quad (3.19)$$

which is increasing with <sup>is</sup> the capitalist spirit  $\beta$ . For the initial consumption, the equilibrium condition for output yields:

$$c(0) + \dot{k}(0) = f(k(0)) = Ak(0),$$

or 
$$c(0) = \frac{k(0)\rho}{1+\beta}. \quad (3.20)$$

That is to say,

$$\frac{dc(0)}{d\beta} = -k(0) \frac{\rho}{(1+\beta)^2} < 0. \quad (3.21)$$

But *first* the capitalist spirit in the long-run raises consumption. To show this point, I have:

$$c(t) = \frac{k(0)\rho}{1+\beta} e^{\left[\lambda - \frac{\rho}{1+\beta}\right]t}, \quad (3.22)$$

and

$$\frac{dc(t)}{d\beta} = k(0) \frac{\rho}{(1+\beta)^3} e^{\left[\lambda - \frac{\rho}{1+\beta}\right]t} [\rho t - 1 - \beta]. \quad (3.23)$$

From (3.23), it is clear that  $dc(t)/d\beta$  is positive if  $\rho t$  is greater than  $(1+\rho)$  and that is always true if  $t$  is sufficiently large. But during the time period when  $(\rho t)$  is less than  $(1+\rho)$ , consumption is negatively related to the capitalist spirit  $\beta$ . Therefore, there exists a short-run loss versus a long-run gain in consumption.

To complete the analysis, I need to check that the discounted utility in (3.2) is bounded.

Substituting  $k(t)$  in (3.17) and  $c(t)$  in (3.22) into (3.2) yields:

$$\int_0^{\infty} (\log c + \beta \log k) e^{-\rho t} dt = \left[ \frac{\gamma + \beta \gamma}{\rho} \right] + \frac{1}{\rho} \log \rho \left[ \frac{k(0)^{(1+\beta)}}{1+\beta} \right],$$

which is indeed bounded as required.

I also need to check the transversality condition,

$$\begin{aligned}\lim_{t \rightarrow \infty} e^{-\rho t} \lambda k(t) &= \lim_{t \rightarrow \infty} e^{-\rho t} \frac{k(t)}{c(t)} \\ &= \lim_{t \rightarrow \infty} e^{-\rho t} \frac{k(0)(1+\beta) e^{\left[A - \frac{\rho}{1+\beta}\right]t}}{k(0)\rho e^{\left[A - \frac{\rho}{1+\beta}\right]t}} \\ &= \lim_{t \rightarrow \infty} e^{-\rho t} \left[ \frac{1+\beta}{\rho} \right] = 0,\end{aligned}$$

so the transversality condition is satisfied.

This theoretical model can also be empirically tested. In fact, this has been done in a remarkable short study by DeLong (1988). He finds that, contrary to the claim made by William Baumol (1986), that productivity levels among the once-rich twenty-two countries in 1870 did not converge in 1979. In fact, "holding constant 1870 per capita income, nations that had Protestant religious establishments in 1870 had 1979 per capita income more than one-third higher than do nations that had Catholic establishments". And he shows that "there is one striking ex-ante association between growth over 1870-1979 and an exogenous variable: a nation's dominant religious establishment". DeLong divides the once-rich twenty-two nations as follows. The nations with Protestant religious establishments in 1870 were Australia, Denmark, Finland, East Germany, the Netherlands, New Zealand, Norway, Sweden, United Kingdom, and the United States; the nations with mixed religious establishments in 1870 were Belgium, Canada, France, West Germany, and Switzerland; and the nations with solid Catholic religious establishments in 1870 were Argentina, Austria, Chile, Ireland, Italy, Portugal and Spain. Then in his regression analysis, a religious establishment variable that is one for Protestant, one-half for mixed, and

zero for Catholic nations is significantly correlated with growth as long as measurement error variance is not too high.

DeLong admits that, even though his regression equation is difficult to interpret, "it does serve as an example of how culture may be associated with substantial divergence in growth performance". Since DeLong's regression analysis with the religious dummy variable is so rare and exceptional in the empirical studies on economic growth by professional economists, I cite his explanation for the positive link between the Protestant religious establishments and a higher per capita GDP growth here: "The disapproval of self-interested profit seeking by radical Protestantism went hand in hand with <sup>the</sup>seventeenth century economic development. *And by 1800 profit seeking and accumulation for accumulation's sake has become morally praiseworthy activities in many nations with <sup>the</sup>Protestant religious establishments.* How was the original Protestant disapproval for the market transformed? Accounting for the evolution of the economic ethic of the Protestant West from Jean Calvin to Cotton Mather to Benjamin Franklin to Andrew Carnegie is a deep puzzle in economic history. The best analysis may still be the psychological account given by Max Weber" (pp. 1146-47, emphasis added).

DeLong's regression analysis can be easily interpreted as an empirical implementation of the capitalist-spirit model ~~shown~~. Recall the endogenous growth rate derived for the special case is:

$$\gamma = A - \frac{\rho}{1 + \beta}.$$

If religious establishments are an approximation to the capitalist spirit, it is justified to set  $\beta = 1$  for the Protestants,  $\beta = 1/2$  for the mixed, and  $\beta = 0$  for the Catholics. Then the theoretical conclusions of a positive correlation between the long-run growth rate and the capitalist spirit can be shown empirically.