A Time Pussy Theory on Capitalist Economy

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1. Introduction

Economic activities of a capitalistic society are organized around the principle of free competition and voluntary trading. In a capitalist society, the right for private properties is divine and the right for political equality for all is regarded as god-given. Political and economical freedom, human dignity and civil rights are commonly promoted. The tremendous power unleashed from liberation of individual and collective human creativity has materialized into a trend of steady growth in productivity. Collective human productivity has reached an astoundingly high level. Despite all its shortcomings, capitalist societies are by far the richest and the happiest mankind has ever created.

In the face of the recent economic down turn, questions on fundamental viability of free capitalist system are again raised by many. We have passed the stage of crisis. Recession did not evolve into a depression and the possibility of a collapse has faded away from sight. We are, however, still in the middle of a painful recession. Fear and doubt linger around, projecting a pessimistic shadow into men's perception of future. For economists, there will be much to study and much change to propose but at present nothing is perhaps more helpful than spreading an optimistic message, for immediate prosperity of a free market economy is largely based on the confidence and trust of all involved in the system.

In this essay I would like to introduce a theory that is overall optimistic. I would illustrate that, in a free market economic system, *the profit businesses make today is from the growth in future* and *that future growth is backed by a steady pace of advancement of modern science and technology*, which has lasted for over three hundred years without a sign of slowing down in near future. The agent, who transforms the value of advancement of science and technology into business profits, is Joseph Schumpeter's entrepreneur and the Federal Reserve. The entire economic scheme is like a time pussy of Issac Asimov. She digests at present what she eats in future.

Capitalism came with the rising tide of science and technology. It will only meet its doom when that tide recedes. Only after scientific and technologic innovations reach a point of general stalemate, capitalist system and the civilization it created would then meet its doomsday. Civilizations rise and civilizations decline, as we have seen many times in history. What is in store to replace capitalism is hidden in an unforeseeable future and there is no reason for us to believe that this future will be either better or worse. The doomsday, however, does not appear to be close at present time, and what would follow afterward could be anybody's fancy. The evolution of human society is full of surprises and unexpected twists. To predict an unpredictable future is a job for religious prophets. There are of course all other worries: the potentially damning consequences of a seriously damaged natural environment, the 2012 ending of the world, and the unpredictable second coming of Jesus Christ. But on none of these an economist could be of any help.

2. The Monetary Policy

An organized human society addresses collectively the needs of physical and biological preservation for all through either voluntary or coerced collaboration. As a vitally important part of a human society, the economic system is a framework, in which individuals participate in various coordinated activities that produce consumption goods that are collectively consumed. In history, there have been various forms of social and economic organizations based on drastically different principles.

The free market system tries to use a set of simple rules to manipulate all into organized economic activities, in which individuals, compelled by their respective self-interest, work voluntarily together to expand collective productivity of the society. A free market economic system consists numerous *economic units* of various size, each of which has a group of individuals who are its owners. Every economic unit is engaged in two kind of activities, the first we name as *consuming* and the second *producing*. We make a basic assumption that, for a given economic unit, the specific things it consumes and that it produces are *different*. This is to say that it is necessary for every economic unit to acquire from other units the things it consumes, and it, in turn, produces things that are acquired by other units. The acquisition process among different economic units is the process of *trading*.

To trade we come to a market place. Direct exchange of products among different economic units, however, is impossibly complicated because, for a given unit, things it consumes are in general not produced by the units that consume its products. Unit A has to acquire the product of unit B, but unit B is in general not interested in the product of unit A, but that of unit C. To solve this problem, *currency* is used as an auxiliary tool. Every unit would *sell* its product to other needy units for currency and then *buy* the products it consumes using the currency it acquired. The amount of currency an economic unit acquired from the sell is its *revenue* and the amount of currency it spent on things it consumes is its *cost*. The difference of the revenue and the cost of an economic unit is its *profit*. On surface an economic unit is viable only if it is with a positive profit. A man could risk his life for a profit, but no man would be willing nor he would be able to maintain indefinitely a non-profitable economic unit. However, not only are economic units of negative profit part of the economic system but also they are a critically important part, as we will see momentarily.

For a model of capitalism we now come to the free market place of Adam Smith, where the dominating rules are that of *free competition* and *voluntary trading*. The intrinsic principle of individual behavior, unfortunately, is not to obey the rules but to act on self-interest. This self-serving principle applies also to all economic units in the market place. To maintain the order of an organized human society, including that of the market place, a political system is evolved along the side of the economic system. This political system would produce a governing body, which oversights all aspects of human activities, economical and non-economical. It serves as the guardian of the economic system, making rules and imposing order. Government, however, is not an active economic unit and it does not involve itself in profit seeking activities of the economic system.

To a free market place, government is a necessary evil. The market can not function properly without it; but its imposing role and potential power of interference are always a fatal threat to the voluntary trade principle of the market place. How to prevent such threat from becoming reality is a major task of the political system, the organizational principle of which is beyond the intended scope of this discussion. In this essay we assume that, with all power it possesses, the government is induced by a political system that does not permit it to convert itself from a guardian and a mediator to an active profit seeker in the market place. This is to say that the government, by default, is with all good intentions of a guardian. It is not interested in owning economic units for the purpose of acquiring a profit in the market place.

Now in that market place, currency is not only a trading tool, but also an all important media that glues all economic activities together. The integrity and stability of an economic system, consequently the stability of a human society, is hinged on the stability of its currency. In a free market system, participation is voluntary. A voluntary participation is motivated by a calculated expectation of a future profit. If the value of the currency is not stable, then the calculation on future profit would become impossible, and people would stay on the sideline. In the game of free market place, trust in the system is critical and that trust is essentially the trust in the stability of its currency. If the value of the currency is shaken then the entire system is shaken with it.

As the guardian of the economic system, therefore, one important responsibility of the government is to maintain the integrity and stability of its currency. More precisely, the task is to act against both *inflation* and *deflation*. If the things you consume cost you one hundred dollars yesterday but two hundred dollars today then there is inflation; and if it cost you fifty dollars today then there is deflation. In reality inflations and deflations are much less dramatic but they are matter of fact in economic life. They are both bad but in a consumption oriented economy, deflation is a much worse enemy than inflation, as we will make clear in the next section.

In reality, reason for inflation and deflation to happen varies in different economic situation. To serve as a starting point for discussion, let us for the moment take a rather simplistic view that to maintain the stability of a currency is to keep the ratio of total production of consumption goods and total amount of currency of the system a constant. Then recession, characterized by a reduction of total production of consumption goods, would cause inflation; and economic growth, characterized by an increase of total production of consumption goods, would cause deflation. To maintain the currency at a constant value, the government ought to cut the total amount of currency in circulation when the economy is in recession and to put additional currency into the system when economy is in growth. To keep a fraction as a constant, numerator must change proportionally with denominator. Simple mathematics.

But economic cycles, characterized by periodic fluctuations of total production of consumption good, are very complicated economic phenomenon. To maintain the economic system in good shape is more than to simple mindedly keep constant a specific ratio. In a recession, for instance, government would have to inject new currency into the system to stimulate growth, not to take currency in circulation out, as we will show later in this essay. When over-production turns gradually into shortage, businesses would need help to reset the process of production to turn the economy trend from declining to growth. When the economy is turned around, government would also need to inject new currency to balance the potential of deflation.

Therefore, in good and bad times, the Federal Reserve would always come to the market place with truckloads of cash. They can not offer it for free, however, for free money encourages irresponsible economic behave. So they would offer to lend money with the condition that a borrower would return it with *an interest*. This is a beautiful scheme. First, one would expect, under the obligation of returning the loan in future, that the borrowers are more likely to use the loan to pursue a profit, and their activity would hence grow the economy. Second, the Feds can encourage or discourage borrowing by adjusting interest rate, therefore control the total amount it deems as appropriate to put in. Third, borrowers, in reality, would *never* need to pay the Feds back, for a successful borrower could always balance a paid loan immediately by a new loan but a failed borrower would default out. The Feds, on the other hand, could not care less, for its purpose is to simply put money into the system.

Let us see how it works. Assume that we are at a point the economy is in recession. The currency is devaluated because of the reduction of total production of consumption goods, but instead of fight it, we add more money into the system trying to create growth. In recession and at the initial stage of a recovery, overall economic outlook is grim so people are reluctant to be involved. The Feds must lower interest rate to encourage borrowing. In doing so we actually devaluate the currency a little more. Eventually economy hit the bottom and start to grow. At this point, the threat of deflation comes and one has to immediately put more money into the system to balance the growth.

Assume that at a point we have returned to where we started in terms of total productivity. There are more currency now inside of the system than at the starting point and a devaluation of currency is permanently placed into the system. From that point on the economy grows and the Feds keeps putting in money to balance growth. To be on safer side, since inflation is much less damaging than deflation, interest rate would still be so adjusted that we are constantly with a slight inflation. By now we are in a happier time. Investment picks up and expectation for growth sets in. As more money are injected into the system, optimism also grow and so is a perception that investment would almost surely yield a substantial return. All heads are then overheated and a Ponzzi scheme would unfold. Like an infectious disease blind optimist can go up to a feverish and completely unrealistic level. The real growth, however, can not possibly match silly expectations. Inflation would go up because the rate at which the currency is added into the system outpaces real growth rate in productivity, and economic bubbles grow. The Feds, at that point, would move interest rate higher gradually to burst the bubbles and they should act as soon as possible, for a Ponzzi scheme can run for a while on its own; but the bigger the bubble becomes the harder would it hurt when it bursts. Sooner or later, bubbles would burst and there will be a new recession. We now start all over again.

It is clear that, in this system, there will be a slow but consistent de-valuation of currency in the long run. This would not even be a problem as far as devaluation of currency is mild and is kept more or less steady, for people can then take it into consideration when calculating potential future profit of their investment. The real hard thing for the Feds is to foresee, not only qualitatively but also quantitatively, the rate of short and long term economic growth, and to effectively control the total amount of currency it deems necessary to be injected into the system.

3. The paradox of impossible profit

While every economic unit seeks to maximize its profit in the market place, the overall purpose of the economic system is to produce more and better goods for consumption and to actually consume all that is produced. The economic system is a giant machine, in which production and consumption are two sides of the same coin. Initial design of the market place of Adam Smith, that is, the system of free competition and voluntary trading, is to encourage individual activities that increase the production side of the coin. At a stage of relatively low productivity and in a society of serious shortage of consumption goods, these principles are easily beneficiary. Today, the world is very different because the consumption side of the coin is also fully developed.

One paradox of this consumption oriented economy is the seeming impossibility for profits. Skipping the intermediate steps, we would have, at one end the total cost, which is the total of the payments to all individuals for their contribution to the production process; and at the other end, the total revenue resulted from all sales of consumption goods. Since the revenue is from the cost, total revenue can not exceed total cost. Therefore the sum of profits of all economic units can not be positive. This certainly does not imply that all economic units are non-profitable because we allow units of negative-profit, but it is clearly not right to assume that one man's gain is always another man's loss.

Total negative profit would cause a vicious down spin cycle of total production therefore the system should strive to make total profit as close to zero as possible. This is not easy to achieve because it would require, collectively, that businesses give all their profits back to consumers and consumers spend every penny they earn. Saving, either of businesses or of individual consumers, can only do harm. In this zero sum game, all savings are illusionary. To make this game, deflation should be avoided at all cost because it encourages saving. If one expects that the same amount of currency can buy more tomorrow, he/she would wait for tomorrow. By similar reason, inflation actually helps because it encourages spending.

As an individual or as a business, even you decide to save despite inflation, you could not tug your cash under your bed. You would put your money into a bank, and that saving would be invested by someone somewhere. We should also be aware that, in a market of free competition, you can not stay long in doing the same business the same way and expect to make the same profit. You need to either strive to improve the efficiency or to move to new business where your competitors have not arrived yet. In another word, if you have at the moment a profitable business and wish to maintain same level of profitability, you would have to re-invest your current profit. But new business adventures, as a rule, always start with a stage of negative-profit. The motivation for future profit would coerce profitable business to give their current profit back to the system through new investment.

As strange as it sounds, in practice the economic system does more than what is described above. The consumers are encouraged to spend more than they are currently earning, and the businesses are coerced into re-investing more than their current profit. Where then, does the money come from? Well, let us remember the truckloads of money the Feds brought to the market place.

One might now have a bad feeling that this is all a terrible Ponzzi scheme. It is not because most businesses with a current negative profit will produce a larger positive profit in future, due to the expected advancement in science and technology and in creative business practice introduced by the owners of these economic units. As an overall trend, economy will grow as far as science and technology advances, and so it does. In fact it has been advancing for three centuries and is showing no sign of slowing down. Profits come from future growth, and future growth is sustained by the advancement of modern science and technology. Profits and interest a capital receives are not from exploitations of lower class but the value of growth materialized in the future.

Here is a summary of this grand scheme. The government constantly bring money into the economic system and, through a particular form of negative-profit business (investment), passing money to consumers so they have buying power to consume all products the system is currently producing. Then these negative-profit business will become profitable in future, producing more products for consumption and rewarding more profit to owners of the responsible economic unit. Such profits, together with extra currency further put into the system by the government, would all be re-invested, and the game goes on. Money from government is not pulled from thin air. They are from future expansion of the economic system. These are values created by the advancement of science, technology and improved efficiency of business management in future. The capitalist system is like a time pussy of Issac Asimov, who digests at present the food she will eat in future.

Free capitalist scheme has been introduced gradually with the rising tide of modern science and technology. The fundamental reason for such organization scheme to work up to now, and to continuously work in near future has been the steady rise of productivity that originated from human inventions based on the advancement of science and technology. To keep the system in an optimal position is impossible because the pace of technological advancement is uneven and unpredictable, and it is impossible for the political system to always act harmoniously to the need of the economic system. Economy will go up and will go down, recession and on occasion a depression, would come as a regular bothering. However, the system, as have been proved numerous times in history, is extremely resilient and that resilience resides in the steady advancement of modern science and technology. Capitalism came with the rising tide of science and technology. It will only meet its doom when that tide recedes.

4. Economic Cycles

People naturally looked in market place for *fair rates of exchange* for consumption goods of different kind that reflect their respective *objective value*. They soon realized that, even for consumption goods coming out of relatively simple production processes, objective value is an ever puzzling concept, impossible to properly define for the purpose of forming a fair and practical pricing system. Objective rates of exchange simply do not exist, and a *fair trade* is perhaps nothing but a subjective, well-informed *voluntary* trade. We could also look for the objective value for an existing business unit. Similar to the previous case, we would find that, for the purpose of assigning fair currency values to business entities, objective values are impossible to define. We therefore fell back again onto the principle of voluntary trading. To exchange ownership of economic units for currency or vice verse, one goes to the stock market, where the trades are also voluntary. This method can be further extended to attach currency values to almost everything, resulting eventually a grand sum that could be regarded as a quantitative measure of the existing *wealth of a society*.

The income of an individual can be roughly divided into two parts, one part he spends on consumption goods and the other part he saves. The saving either he puts into a bank, from where the money is channelled back to the economic system by the lending practice of the bankers, or he brings to the stock market, where he buys a share of ownership of some existing businesses. The Wall Street, therefore, is essentially an alternative venue for the saving part of individual income to be recirculated back into the system. The economic units traded on the stock market, representing a substantial portion of the total social wealth, are also a designated place to store the savings of the society. Let us however be aware that, though everything is now having a price tag, the total amount of currency in circulation is designed to match the total consumption goods, not the total social wealth. It is also important to note that the implications of the voluntary trading principle for the Main Street are radically different from that for the Wall Street because consumption goods and business units are economic objects of entirely different natural. For the Main Street, the impact of a business transaction is *local* in the sense that a trade defines only the currency value of the consumption goods that are physically involved in this particular business transaction. This is completely not so for the Wall Street, where the impact of a current trade is *global* in the sense that it over-writes all deals made in the past.

The pace of innovations of modern science and technology, as we have indicated earlier, is uneven. The progresses could be rather sluggish for a long while. Facing an almost zero future growth, the Feds would have two options. The first option is to actually pull extra currency from the thin air and pass them to consumers to artificially create profits for existing businesses so they are able to maintain the current level of productivity. This option is essentially to run a Ponzzi scheme to sustain the current volume of economic activity. The side effect, of course, would be a systematic devaluation of the currency. At the very beginning the devaluation would be mild, but it will get worse in an exponential pace, quickly reaching a level that will make the currency, therefore the market as a whole, dysfunctional. The second option is to stay on the sideline to let the business fight on their own for an impossible profit. Businesses would then cut production, the size of the economy would shrink, and we would be in a recession. The shrinkage, however, would create room for future growth, and that room would be recognized by both the Feds and the businesses. When room for future growth is sufficiently large, the time pussy scheme would work again, and there go the regular business cycles. In reality, new technological innovations would be eventually introduced somewhere, and the upper limit for productivity would be raised. So in addition to regular cycles, the economy would also have an intrinsic upward trend in long run. Most of economic cycles are this normal type.

We now turn to the reasons for near collapsing recessions. Once in a while there would come a strong wave of new technological innovations that can be gradually but persistently turned into economic growth. Then the time pussy would work at ease and an economic boom would last for a period of time. Total production of consumption good would grow at a relatively fast pace and so would be the total saving and the total social wealth. However, because the most recent trade overwrites all past deals in Wall Street, the amount of currency involved in the most recent trade and the total increase of the currency value of the business it causes is easily out of proportion. Consequently, the pace of the growth of the total amount of consumption goods would not be proportional to the pace of growth of total saving. The growth of the currency value of total saving and total social wealth, in this case, are inflated and are not backed up by the amount of currency in circulation. Assets bubble would grow. For businesses and for individuals, however, the inflated assets value are real because they can be immediately exchanged into cash. Acting on self-interest they would trying to grow the bubbles and regard their practice as a magic way to grow their own wealth. The same analysis applies to the house market and the market of durable goods. Eventually, the amount of currency injected into the system would out pace the potential for future growth, and the time pussy game would turn into a grand Ponzzi scheme. The responsibility of the Feds, in this case, would be to burst the bubbles as soon as possible by raising interest rate. This is particularly important at a time when technological revolution has finally run out of steam.

Ironically, there is not much government can do in this situation. First, facing a world that hopes, and to a large degree turned the hope to a believe that the good time could last forever, to forcefully convey the bad news that good time has come to an end is politically suicidal. The instant reaction in facing a bad news is always to shoot the messenger. Second, simple cause and effect psychology would directly portray whoever burst the bubbles as the villain who ended a happy time (or worse, the villain who caused all troubles associated to the busted Ponzzi scheme). Third, even if one is willing, to reasonably adjust interest rate is most likely not powerful enough to stop the grand Ponzzi scheme. Eventually, then, the Ponzzi scheme would collapse on its own. Business would start to fail, inflated social wealth and savings would evaporate. The busted bubbles would cause extensive damage, potentially disrupting activities that are fundamentally important to the economic system.

I would also like to offer some additional reasons that are more abstract and philosophical in natural, but perhaps more fundamental. The purpose of the free market principle is to use one set of simple rules to manipulate all individuals into organized economic activities that extend constantly the collective economic productivity of the society. In the beginning stage of the game, when the productivity was low and the process of production of consumption goods was relatively simple, the rules were also simple and the market place needed little supervision. The government of the time, in fact, was not induced by a politic system designed to help the market place. Historically, the establishment of a new economic and a new politic system driven by the rise of the science and technology was full of struggle. The excitement and the birth pain of the new system were marked fully by revolution, war and temporary turmoil of the western societies. Gradually, the divinity of private property, the equality of political right for all, and the organization principle of the new economic and politic system was gradually evolved into existence. Capitalism progressed with triumph.

But the individual capitalist is motivated by making a profit. The well-beings of his fellow humans, including the well-being of the economic system, is not in his immediate consideration. After the new system was established, his task has become to wrestle money in all possible ways out of people inside current economic and social framework. He tried child-labor and pushed that dirty game to extreme cruelty to gain surplus values; he turned great metropolitan area into garbage center; he polluted the air and destroyed many natural habitats of other animals. He evolved all kind of deceptive schemes to cheat others for personal gain.

The only power that can provide a balance to such threat is the government. Individual capitalist, however, has exploited every opportunity to twist the rules put in place by the government for his own gain. It has been only after the disastrous consequences of their actions becoming reality, that new public policy and regulations could be introduced by the government to avoid similar abuse in the future. Capitalist would by then either be convinced or be coerced to obey, and the economy could then return to a healthy growth with a tendency to benefit all.

But the game has only started. Any given set of rules designed by human intelligence has loopholes so new ways to advance individual gain at a cost of the system are actively pursued, and are generally regarded as acceptable practice as far as current rules are not violated. Sophisticated minds are hired, not to advise capitalist on the existing laws and regulations they must obey, but to figure out a way to get around them. Also, as the economy grows, and the organization of production gets more complicated, new ways unforeseeable in previous times, would be invented to wrestle the system. All such we will name as *predatory* economic behavior.

Government, on the other hand, are also comprised of individuals acting on their own benefit, though not necessarily on a direct economic gain. The behavior of politicians, like that of capitalists, are regulated but by a different set of rules; and their overall attitude toward their own system and toward the benefit of the society is similar to that of a predatory capitalist. They would only act against predatory capitalist for their own political gain and this could only happen if certain predatory behavior resulted in a real disaster. Disasters are rare because the economic system is extremely resilient and, though predatory economic behave is damaging, for it to overthrow the mainstream growth based on new technological advancement would take time. The impact of predatory economic behavior, however, will gradually accumulate.

What is really bad is that, when the potential damage of a new predatory scheme is not widely recognized, it might gain the support of the political system. Capitalists, with their tremendous financial resource, may portray a predatory scheme as an innovation and convince the public to support it. Such support would create a political environment that makes it impossible for politicians to act against that specific scheme, until the system is brought to the brink of collapse. As a whole, politicians and capitalists would only act to save their own bottom *after* a severe economic down turn is evoked.

I would also like to add the following remarks:

(1) Karl Marx claimed that the source of profit for business is exclusively from the surplus value of labor class, from whom that profit is extracted by capitalist with cruelty. Paired with this surplus value theory he evolved also a social theory, in which class struggle replaced the role of Hegal's dialectic universal spirit in the evolution of the human society. He wished for a society without social injustice, and fancied that, in a society of more than plenty consumption goods, the principle of self-interest of individual human behavior would diminish and communism would evolve into reality. He was wrong in all counts.

To regard the surplus value as a profit source was understandable, and is probably true in the economic environment of Marx's time. But profit is from more than one sources. To attribute the tremendous value created by the advancement of science and technology to labor class is a completely biased way of bestowing credit. Capital seeks its profit mainly from the value created by improved productivity introduced by the advancement of science and technology in future, not by labor class. In human society people are divided into social classes, and class struggle has been an important aspect of social life. However, to regard class struggle as a driving force for the evolution of human societies is to promote social instability; and this is the worst part of the Marxism. The doomsday prediction of capitalism has been long proved wrong in reality and a utopia society without social injustice will remain a fancy.

Karl Marx was a man of kind heart. He resented the social and economic injustice of his time with a passion. His hatred on the ugliness of predatory behave of his contemporary capitalist and his eagerness to find a way to help those who are relentlessly exploited urged him to preset a doomsday for capitalism. As a superb intellect, he elaborated a theory that delivered not only a death sentence for capitalists but also a gospel of a coming heaven for the exploited proletariat. His work is therefore mainly the work of a religious prophet, and he has shared the fate of many such characters in history. He is worshipped as an idol but his messages are twisted to fit the worldly purpose of his followers. The later totalitarian practice of Lenin, Stalin and Mao in the name of the Marxism is most ironic. It illustrates how badly a radical theory introduced by a bitter mind can be twisted to serve the purpose of people of action with an entirely different practical objective.

(2) The owners of our negative-profit business entities are Joseph Schumpeter's entrepreneur. Joseph Schumpeter's view of capitalism, I mean mainly his recognition of entrepreneurs and the process of creative destruction, is much closer to the reality than that of Karl Marx's. The critically important role the entrepreneurs assumed in enlarging the consumption side of the coin with their negative-profit investment, as suggested in this essay, appears new to me. It might have been figured out previously and in that case I would beg pardon of my ignorance.

The intellectual temper of Joseph Schumpeter was greatly influenced by *Das Kapital*. Karl Marx to him was like Hegal to Karl Marx, and intellectually, their endeavors were that of a talented student trying to best an admired master. In this respect his achievement was great but much less splendid than that of his master. Like Karl Marx, he also pronounced his own death sentence to capitalism. His argument, however, is intellectually much less powerful than that of his master. He under estimated entirely the infinite dimensions and the power of individual *desire* as an intrinsic human drive and its consequences, therefore argued too lightly for the diminishing of the entrepreneur spirit. He also appeared lacking a proper understanding of the nature of modern science, obviously thought that the development of which was a secondary property of the capitalism. It is interesting that he rendered the main sociological principle of Marxism, that is, *the forms or conditions of production are the fundamental determinant of social structure*, as "certainly contain a large amount of truth", but failed to hint that modern science and technology was the *forms or condition of production*, and the capitalism was what was determined. He thought it was the reverse.

(3) With the analysis above one might reach a conclusion that, even if the tide of science and technology innovations recedes, the worst would be a constant oscillation of productivity therefore a periodic repetition of regular economic cycles. It is not so because the productivity of capitalism has been also based on consumptions of irreproducible nature resources on earth. The constraint of nature resources imposed on human activities and its ultimately disastrous consequence was raised by Malthus long ago and it is still a main threat to capitalism.

(4) The down spin of saving and social wealth in the great depression was inevitable because before the grand Ponzzi scheme of that time were busted, the value of total saving and total social wealth had been inflated to such a high level, that it took an unusually long time for the inflated part to evaporate. The damage control system at the time was also poor so the burst of a huge bubble also caused systematic damage to the economic system that took a long time to repair. The reality was that a long depressed economy led to social instability. To ease social tension caused by a high unemployment rate, major government intervention of economic activities became inevitable. In German and Italy it resulted in a simple government takeover and Fascism. In the United States and in Great Britain, it led to government stimulus of unprecedented scale and the economic theory of John Keynes.

A fundamental fault of the theory of John Keynes was that, in his model of the economic system, the entrepreneurs of Joseph Schumpeter were absent. The focus of Keynes's entrepreneurs was not to acquire windfall profit through innovation but to calculate carefully how many people they were going to hire to maximize their petty gain. If the world was like his economic system then Capitalism would be long dead. Keynes's macro-economic model was in essence an extension of the classical equilibrium models. The ultimate reason for the success of his equilibrium was not that it was more real than those of the classical theory, but that it confirmed in theory the proclivity of the man of political action of his time. The political influence it rendered to the official academic world of economics afterwards was also greatly appreciated by the world of economists.

The bottom line is that economic stimulus from the government is always motivated by political expediency. Huge government intervention of economic activity is called for only if an economic down turn has induced substantial social unrest. Otherwise, it would be much better for it to leave the issues to the Feds and Schumpeter's entrepreneurs. In a relative mild recession, the down spin would stop on its own because the over-shrinkage of production brings up the potential of future growth for the time pussy game.

Time Pussy by *Issac Asimov*

This was told me long time ago by Mac, who lived in a shack just over the hill from my old house. He had been a mining prospector out in the Asteroids during the Rush of '37, and spent most of his time now in feeding his seven cats.

"What makes you like cats so much, Mr. Mac?" I asked him.

The old miner looked at me and scratched his chin. "Well," he said, "they remind me o' my leetle pets on Pallas. They was something like cats — same kind of heads, sort o' — and the cleverest leetle fellers y' ever saw. All dead!"

I felt sorry and said so. Mac heaved a sigh.

"Cleverest leetle fellers," he repeated. "They was four-dimensional pussies."

"Four-dimensional, Mr. Mac? But the fourth dimension is time." I had learnt that the year before, in the third grade.

"So you've had leetle schooling, hey?" He took out his pipe and filled it slowly. "Sure, the fourth-dimension is time. These pussies was about a foot long and six inches high and four inches wide and stretched somewheres into middle o' next week. That's four dimension, ain't it? Why, if you petted their head, they wouldn't wag their tails till next day, mebbe. Some o' the big ones wouldn't wag till day after. Fact!"

I looked dubious, but didn't say anything.

Mac went on: "They was the best leetle watchdog in all creation, too. They had to be. Why, if they spotted a burglar or any suspicious character, they's shriek a banshee. And when one saw a burglar today, he'd shriek yesterday, so we had twenty-four hours' notice every time."

My mouth opened. "Honestly?" "Cross my heart. Y' want to know how we used to feed them? We'd wait for them to go to sleep, see, and then we'd know they was busy digesting their meal. These leetle time pussies, they always digested their meals exactly three hours before they ate it, on account their stomachs stretched that far back in time. So when they went to sleep, we used to look at the time, get their dinner ready and feed it to them exactly three hours later."

He had lit his pipe now and was puffing away. He shook his head sadly. "Once, though, I made a mistake. Poor leetle time pussy. His name was Joe, and he was just about my favorite, too. He went to sleep one morning at nine and somehow I got the idea it was eight. Naturally, I brought him his food at eleven. I looked all over for him, but I couldn't find him."

"What had happened, Mr. Mac?"

"Well, no time pussy's insides could be expected to handle his breakfast only two hours after digesting it. It's too much to expect. I found him finally under the tool kit in outer shed. He had crawled there and died of indigestion an hour before. Poor leetle feller! After that, I always set an alarm, so I never made the mistake again."

There was a short, mournful silence after that, and I resumed in respectful whisper: "You said they all died, before. Were they all killed like that?"

Mac shook his head solemnly. "No! They used to catch colds from us fellers and just dies anywhere from a week to ten days before they caught them. They wasn't too many to start with, and a year after the miners hit Pallas they wasn't but about ten left and them ten o' weak and sickly. The trouble was, leetle feller, that when they died, they went all to pieces; just rotted away fast. Especially the little four-dimensional jigger they had in their brains which made them act the way they did. It cost us all millions o'dollars."

"How was that, Mr. Mac?"

"Y' see, some scientists back on earth got wind of our leetle time pussies, and they knew they'd all be dead before they could get out there next conjunction. So they offered us all a million dollars for each time pussy we preserve for them."

"And did you?"

"Well we tried, but they wouldn't keep. After they died, they were just no good anymore, and we had to bury them. We tried to packing them in ice, but that only kept the outside all right. The inside was a nasty mess, and it was the inside the scientist wanted.

"Natur'lly, with each dead time pussy cost one million dollars, we did not want that to happen. One of us figured out that if we put a time pussy into hot water when it was about to die, the water would soak all through it. Then, after it died, we could freeze the water so it would just be one solid chunk o' ice, and then it would keep."

My lower jaw was sagging. "Did it work?"

"We tried and we tried, son, but we just couldn't freeze the water fast enough. By the time we had it all iced, the four-dimensional jigger in the time pussy's brain had just corrupted away. We froze the water faster and faster, but it was no go. Finally, we had only one time pussy left, and he was just fixing to die, too. We was desperate — and then one of the fellers thought o' something. He figured out a complicated contraption that would freeze all the water just like that — in a split second.

"We picked up the last leetle feller and put him into the hot water and hooked on the machine. The leetle feller gave us a last look and made a funny leetle sound and died. We pressed the button and iced the whole thing into a solid block in about a quarter of a second." Here Mac heaved a sigh that must have weighed a ton. "But it was no use. The time pussy spoiled inside o' fifteen minutes and we lost the last million dollars."

I caught my breath. "But Mr. Mac, you just said you iced the time pussy in a quarter of a second. It didn't have time to spoil."

"That's just it, leetle feller," he said heavily. "We did it too doggoned fast. The time pussy didn't keep because we froze that hot water so derned fast that the ice was still warm!"