Market Whirling Theory

—A theory discusses topic about free market, currency circulation and economy movement

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Abstract:

In the modern world, there are many theories which explain the economic crisis and economy periodic fluctuation, however, most of them are not so perfect to explain many phenomena happened in the history. In this paper, I will put forward a new theory and model that can explain the economic crisis and economy periodic fluctuation as well as giving policies on how to avoid economic crisis. My paper will analyze the direction of currency flow in the free market, and explain why the market is whirling all the time. It will also discuss the relation between money flow speed and GDP, explaining why accelerating the speed of money flow in the market can make a country rich.

Key word: GDP, visible hand, invisible hand, economic crisis, economy periodic fluctuation.

1. Background Introduction

As early as 1776, the famous England economist Adams Smith, he put forward a concept that was called the invisible hand. In his book *"the wealth of nations"*, he argued that in a free market, there existed one invisible hand, under its effect, people devoted themselves into the market activities. The society will spontaneously be prosperous.

"He generally, indeed, neither intends to promote the public interest, nor knows how much he is promoting it. By… directing that industry in such a manner as its produce may be of the greatest value, he intends only his own gain, and he is in this, as in many other cases, led by an invisible hand to promote an end which was no part of his intention. Nor is it always the worse for the society that it was no part of it. By pursuing his own interest he frequently promotes that of the society more effectually than when he really intends to promote it" [1].

But during the history of western countries, the free market couldn't avoid the economy crisis. In 1929 year, the stock prices fell sharply in the United States, then it developed into the Great Depression. This phenomenon challenged the status of the Adam's theory. *After that, the British economist Keynes put forward the visible hand, he claimed that the government should take over the market. They argued that the market was not perfect and the market should be under the guidance of the government.* [2] Starting from that time, the quarrels between whether the market of one country should be governed by the government or one country should take the free market policy had been continued for nearly 100 years, which is the famous *"Fight of the century" between Keynes and Hayek*.

2. The discussion of the Paradox of thrift

To begin with my paper, I need to clarify that in order to explore the essence the of the free market, we must ignore some modern market innovations and inventions, such as stock market, monetary policy, fiscal policy, money supply and bank, only in this way,

we can exclude some disturbance variables then explore the reason for the primitive economic crisis in the primitive free market in 19th Europe. The early free market also has economic crisis and economic fluctuation, bringing in new inventions such as stock market can just make our problem more complex. We need to ignore these and explore the reason for free market in the 19th century.

The British economist Keynes firstly put forward the Paradox of thrift. *In his theory, he argued that individuals tried to save more, then the economy of a country would be falling; if individuals tried to spend as much money as possible, then a country would become prosperous.* [2]

Following is a picture I draw to extend the concept of the Paradox of thrift.

Figure1: Money flow in a market

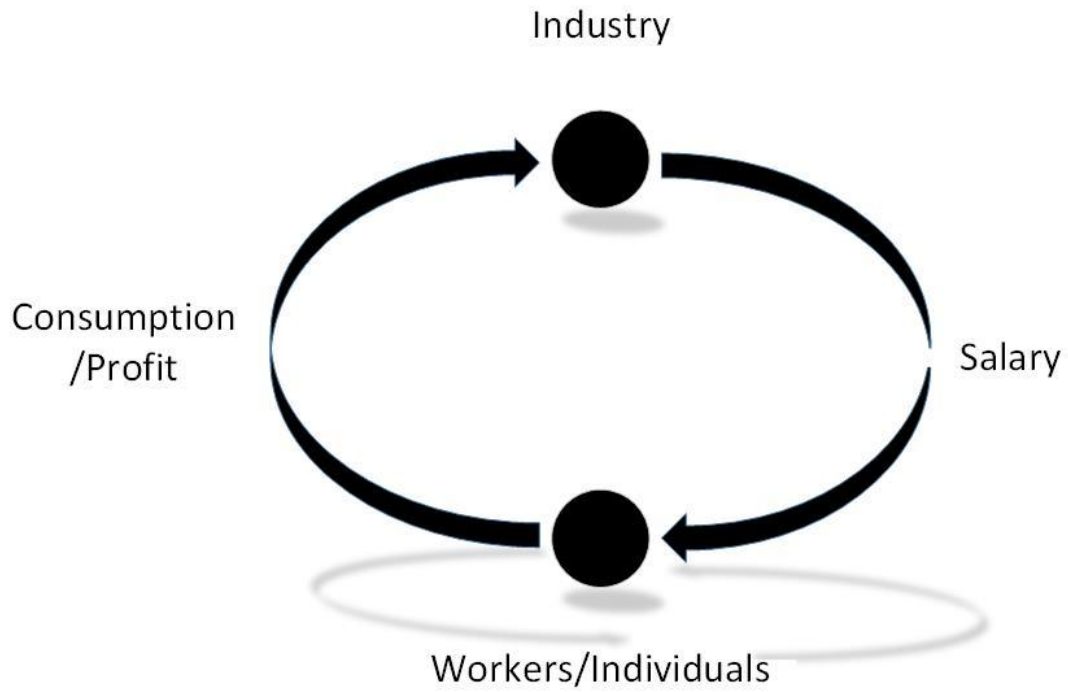


Figure 1 is about the circulation of money in the market. From this picture we could know that, when individuals spend their money, these monies will be transformed into the profit of the industry, then the industry pays salary to the workers, individuals get these salary and use them in consumption. So together the whole process becomes a circulation. The money is flowing inside the circulation.

To move on, we need to clarify some confusing situations. By analyzing the revenue of the industry, we know that all revenue earned by the industry can be divided into three parts: costs to produce goods and services, salary to pay workers inside, money got by the entrepreneurs.

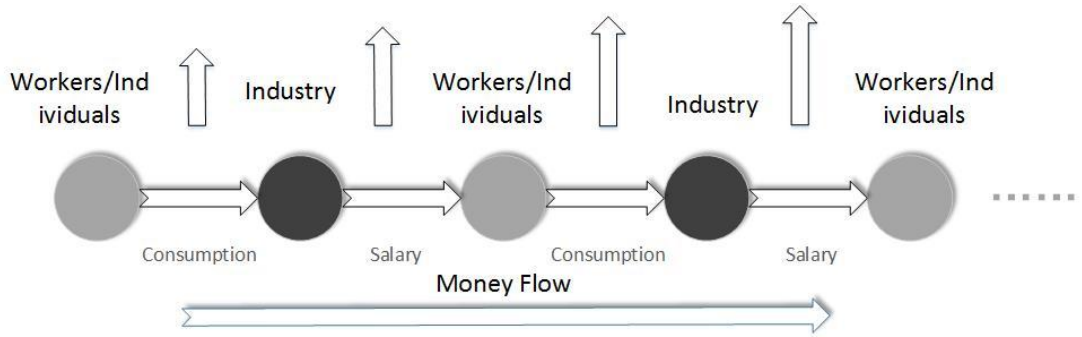
Considering the fact that entrepreneurs will spend money just like workers do, we can regard entrepreneurs as general individuals. They are a special kind of worker, but because here we mainly concentrate on the flow of money, we regard entrepreneur as general workers.

Toward cost part, we know that in general money flows from one industry to another industry. For example, when furniture factory buys wood from the sawmill, money flows from furniture factory to sawmill just like money flows from workers to industry. Besides, after sawmill gets these money, they will give these monies to workers and entrepreneurs inside sawmill, then workers and entrepreneurs will buy furniture from furniture factory. The money flow back and the whole process becomes a circulation, too. To simplify, we can treat furniture factory just as general individual consumers and sawmill here as an industry.

Then we know that the market is a combination of innumerable money flow circles.

We can track the flow process of money in the market and draw the following picture.

Figure 2: The horizontal view of money flow



Firstly, I define the richness means in a unit time people could earn a lot of money, poorness means in a unit time people could hardly earn any money. Assume that in

general in a society, **people *(industry)* who are rich prefer to spend money while people *(industry)* who are not rich prefer not to spend money**. We know that if individuals consumption increases, the profit of the industry will increase, then the salary paid to its workers (including entrepreneurs) will increase (or industry could open more positions inside), then individuals will be richer and their consumption will further increase. Likewise, if individuals consumption decreases, the profit of the industry will decrease, then the salary paid to staffs inside the industry will decrease (or industry could cut off positions inside), then individuals will be poorer and their consumption will further decrease.

When individuals spend money, the more money they spend, the more profit the industry will get. Even the individuals are at the risk of having no cash, but to the society and the industry, they get the maximum benefits. When the industry pays salary to individuals, the more the industry gives, the money the individuals could spend becomes more, even if the industry is at the risk of having no cash, it maximizes the benefit of the individuals and society.

From the Figure1 and Figure2 we could prove the Paradox of the thrift. We know that if one society wants to become rich, everyone should spend more money to maximize the benefits of the industry, meanwhile the industry should pay as much money as it could to make this process be able to continue.

3. Build basic model for my theory

Here I will build my models.

I define:

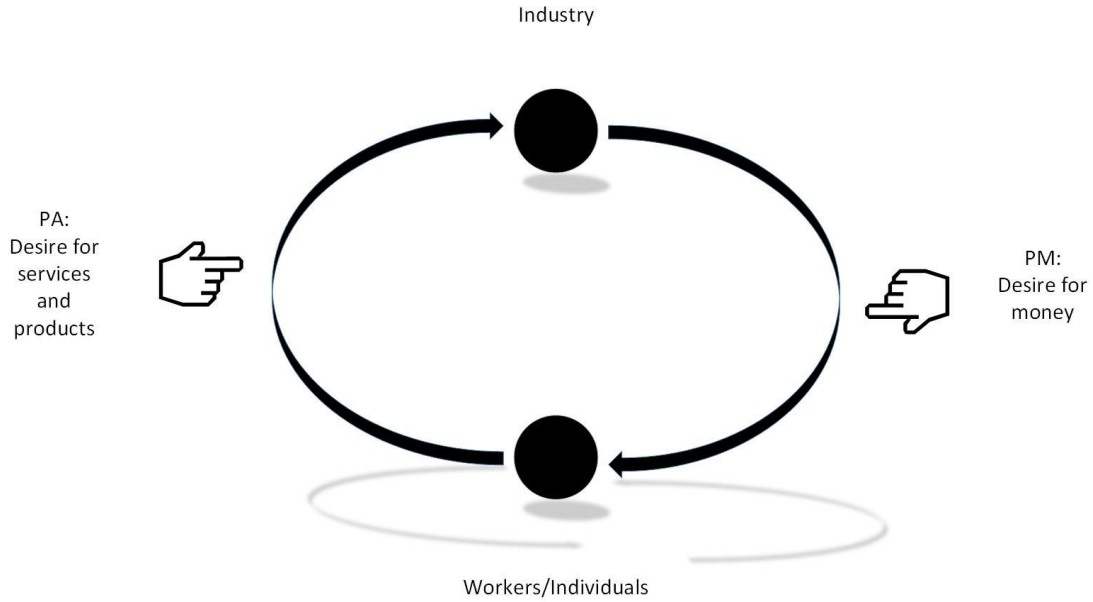
The invisible hand is the demand or desire of individuals, name it symbol P.

Invisible hand at supply is the need or desire of individuals toward money, name it symbol PM.

Invisible hand at demand is the demand or desire of individuals toward goods and

services, name it symbol PA

Figure 3: Money flow under the effect of the invisible hand



According to Figure 3, we could know that, under the effect of the invisible hand at supply, individuals demand for money, or PM, individuals devoted themselves into industry producing activities and jobs, then they form the force of supply. Under the effect of the invisible hand at demand, individuals demand for goods and services, or PA, individuals pay money to industry and get goods and services, they form the force of demand.

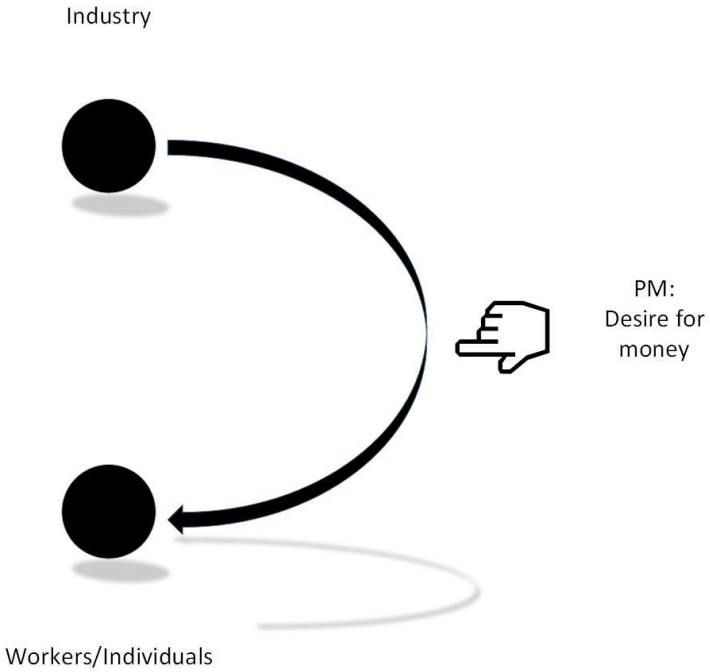
Under the effect of PM, money flows from industry to individuals, the process maintains the existence of employment.

Under the effect of PA, money flows from individuals to industry, industry gets revenue while goods and services flow to individuals.

4. The money flow under the invisible hand

I will draw pictures to show how money flow under the force of the invisible hand

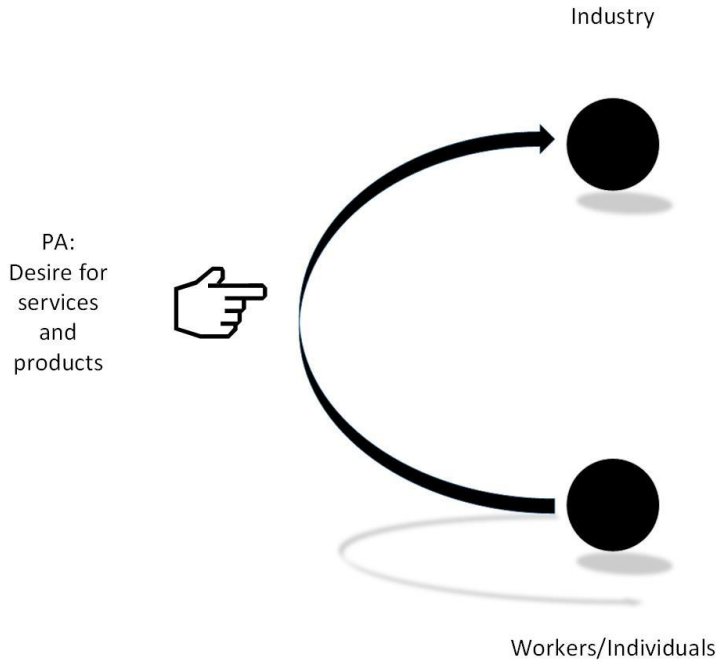
Figure 4: Money flow under invisible hand PM



State 1.

Money is at industry, which hires people to produce goods and services. Under the effect of people's desire to earn money, money flow from industry to individuals..

Figure 5: Money flow under invisible hand PA



State 2.

Money is at the individuals, individuals they have desire and they want to satisfy their desire, so they use the money to buy goods and services. Under the effect of people's desire to spend money, money flows from individuals to industry.

Money is whirling in the circle.

So we could know that the economy is like a big wheel, this could explain why the economy sometimes accelerates, sometimes stay the same, sometimes slow down and sometimes even stop.

So here we finish the discussion of the direction of money flow, then we will move on to the discussion of the volume of money flow.

5. Define basic processes for my model

From previous analysis, we could conclude that there are 3 basic money flow processes during the economy circulation. All others are the combinations of them.

We define the Total Salary is in one moment the total salary (including workers' salaries and entrepreneurs' salaries) given to individuals from the industry in the market, the Total Consumption is in one moment the total consumption made by all individuals (including workers' consumption, entrepreneurs' consumption and industry costs) to buy goods and services from industry in the market.

We assume that there is an Uniform Total Salary (UTS) and Uniform Total Consumption (UTC) which are the critical point to determine whether all the individuals and industries are rich or not, or we can say at the UTS and UTC, people are neither poor or rich, they will keep their consuming habit. Considering the prerequisite *"**people (industry) who are rich prefer to spend money while people (industry) who are not rich prefer not to spend money**"*, we have 3 states:

1) We assume that the Real Total Salary is UTS and the Real Total Consumption is UTC, we have this called the Uniform State (US), under this state, the industry total profit will not change, the Real Total Salary will not change, the Real Total Consumption will not change, the circulation continues without changing. The money flows inside the circulation without any speed and volume change.

2) Positive Feedback

We assume Real Total Consumption is above UTC and Real Total Salary is above UTS, we have that the industry profit will increase, then the industry can offer more positions or pay more salary, so the Real Total Salary will increase, the increase of Real Total Salary (RTS) will lead to the increase of the money hold by individuals, then Real Total Consumption further increases, the circulation continues while RTC and RTS keep increasing to reach the maximum limit of the productive forces. Money flow speed keeps increasing inside the circulation.

3) Negative Feedback

We assume Real Total Consumption is below UTC and Real Total Salary is below UTS, we have that the industry revenue will decrease, after that, the industry will cut off jobs or give less salary. Then the total salary decreases, individuals get less money and Real Total Consumption further decreases, the circulation continues while RTC and RTS keep decreasing to a very low volume which just meets basic needs of people in the market. The money flow speed is getting slower and slower then keep a very slow speed. Because people have basic needs such as food, the flow of money will not stop.

I will discuss situation 1.RTS>UTS while RTC<UTC 2.RTS<UTS while RTC>UTC later.

From previous analysis, we could know that the movement of money inside market is a circulation, so it is possible that this circulation can be interrupted. If the flow of money in the market is interrupted, we could speculate that it is possible an economy crisis occurs.

Here I set two thresholds which are the critical point to interrupt the circulation of the money inside the market.

1. The critical total salary p。

When RTS is below the critical salary p。, we have that the salary paid to individuals is unable to make RTC big enough. Then the industry will even not profit, it will cut off jobs or even go bankrupt. The circulation will be interrupted.

Under this salary value p_0 the money can't move along the path in Figure 2 and the economy crisis comes.

2. The critical total consumption c_0

   If the RTC is below c_0, there is nearly no money flow from individuals to industry, the industry will cut off jobs or even go bankrupt, then there is no money flow from industry to its workers. Then we could know that under this consumption value c_0 the society will develop into an economic crisis.

To summarize, p_0 and c_0 are the values that can't make the circulation of money continue, they are values that lead to an economic crisis.

6. Factors that cause the economic crisis

From previous conclusion, we know that if the RTS is below p_0 or RTC is below c_0, then the money flow in the market will be slow down and even stopped, the economic crisis may occur. Based on this, we can get following:

All factors that could result in the discontinuation or interruption of the money flow circulation in the free market are the factors that lead to an economic crisis. Then we know that factors could be:

1) Most of people stop working, like going on strike. When this happens, nearly no salary flows from industry to individuals, the Real Total Salary is below p_0 and PM (individuals' desire for money) is no longer there. The invisible hand is destroyed. The economy develops into the stagnation.
2) Most of people stop consumption. When this happens, the Real Total Consumption is below c_0 and the PA (people's desire for products) is no longer there. The invisible hand is destroyed.
3) Natural disaster which could destroy both PA and PM, people are dead so there is no PA and PM.
4) The economic crisis caused by free market its own drawback (I will discuss this later)

And so on.

From these conclusions we could know that the economy crisis is unpredictable because there are many factors which could cause the money circulation stopping. These factors are unpredictable. What we could know is that some factors have a high possibility to cause an economic crisis, like a huge tsunami. And we also know that it is the action of people in the market that causes the stop of the economy wheel.

7. Drawback of the free market and the factors that lead to the economic cyclical changes

Here I will mainly discuss how the free market develops from normal into the economic crisis due to its own drawback and the reasons for economic fluctuations.

From the previous model we could know that once the Real Total Consumption is below the threshold $c_{\circ}$, then the money circulation in the free market will be broken up. The economy crisis will come.

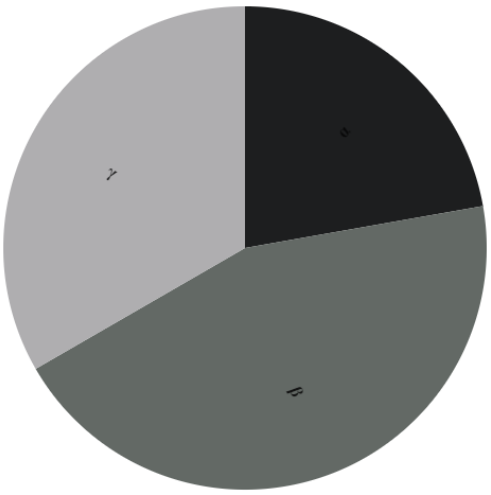
So we need to discuss the reason for the drop of the Real Total Consumption, it is obvious that the drop of Real Total Consumption could be caused by both slow consumption speed and small consumption volume. In the following I will mainly discuss about small consumption volume, because this kind of economic crisis happens more frequently. So we assume that consumption speed is a constant value.

In a free market, we know that individuals take part in different kinds of activities, like starting a business, like investing, like gambling, like stock trading. During these activities, some people may earn money, some people may lose money. So the money is flowing among different kinds of people.

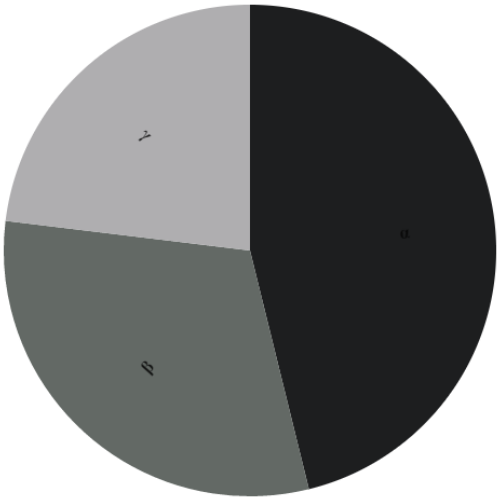
Assume that there are many groups of people, α, β and γ…(α, β and γ could be industries which spend money as the costs) All of them form the market, sometimes α owns more money, sometimes β owns more money, sometimes γ owns more money…

Figure 6: Money distribution

Money distribution: β owns more money



Money distribution: α owns more money



Besides, we can know that people who earn more money may not spend the money. People who lose money may spend the money. Some people may even borrow money to spend.

Here we define the variable TC (Total Consumption), that is at one moment the total money spent by the whole groups of people in the free market, we could know that in a short time, the TC is a stable variable because the money distribution is not changing too much. But for a long time, TC will change because of the flow of the money. We could know that when TC is decreasing, the total consumption volume goes into the trough; when TC is increasing, the total consumption volume goes into the crest; and if the TC is below $c_{\circ}$, there is nearly no money flow from individuals to

industry, the market goes into the economy crisis.

We assume that α will spend r*100% of all their money, β will spend s*100% all their money and γ will spend t*100% all their money, we have

$$TC=\alpha*r+\beta*s+\gamma*t\ldots..$$

From the formula we could know that the TC is always changing because the money distribution is always changing. Besides, r, s and t (money saving habits) may change, too. But to simplify our analysis, we assume compared to money distribution, r, s and t is not changing too much. So if α increases, the α*r also increases, and vice versa, which meets our basic assumption: *"**people (industry) who are rich prefer to spend money while people (industry) who are not rich prefer not to spend money**"*

Here I will use an example to illustrate my theory.

We assume there are just three groups of people: α, β, γ. All of them have same consuming speed. And their saving habits stay the same during the time.

α will always spend all money they have, that means r=1;

β will always spend half money they own, that means s=0.5;

γ will never spend money, that means t=0;

We assume that total money volume is 3 units in the market,

1)Situation 1.

From the starting point every group has money volume 1

We have the Total Consumption:

$$TC=1*1+1*1/2+1*0=1.5$$

And if this distribution lasts for a period time t (t is a short period of time), we will have a medium level of money flow from individuals to industry.

2)Situation 2.

Because of the commercial trade and competition, β earns all money α has, so β has money volume 2. We have the Total Consumption:

$$TC=0*1+2*0.5+1*0=1$$

And if this distribution lasts for a period time t, we will have a low level of money flow from individuals to industry.

Here is the economic trough.

3)Situation 3.

Because of the commercial trade and competition, α owns all money β has, so α has money volume of 2. We have the Total Consumption:

$$TC=2+0*0.5+0*0=2$$

And if this distribution lasts for a period time t, we will have a high level of money flow from individuals to industry.

Here is the economic crest.

4)Situation 4.

Because of the commercial trade and competition, β owns all money α has, we have the Total Consumption:

$$TC=0*1+2*0.5+1*0=1$$

And if this distribution lasts for a period time t, we will have a low level of money flow from individuals to industry.

Here is the economic trough.

5)Situation 5.

Because of the commercial trade and competition, α owns all money β has, so α has money volume of 2. We have the Total Consumption:

$$TC=2+0*0.5+0*0=2$$

And if this money distribution lasts for a period time t, we will have a high level of money flow from individuals to industry.

Here is the economic crest.

6)Situation 6.

Because of the commercial trade and competition, γ owns all money α and β have, we have the Total Consumption:

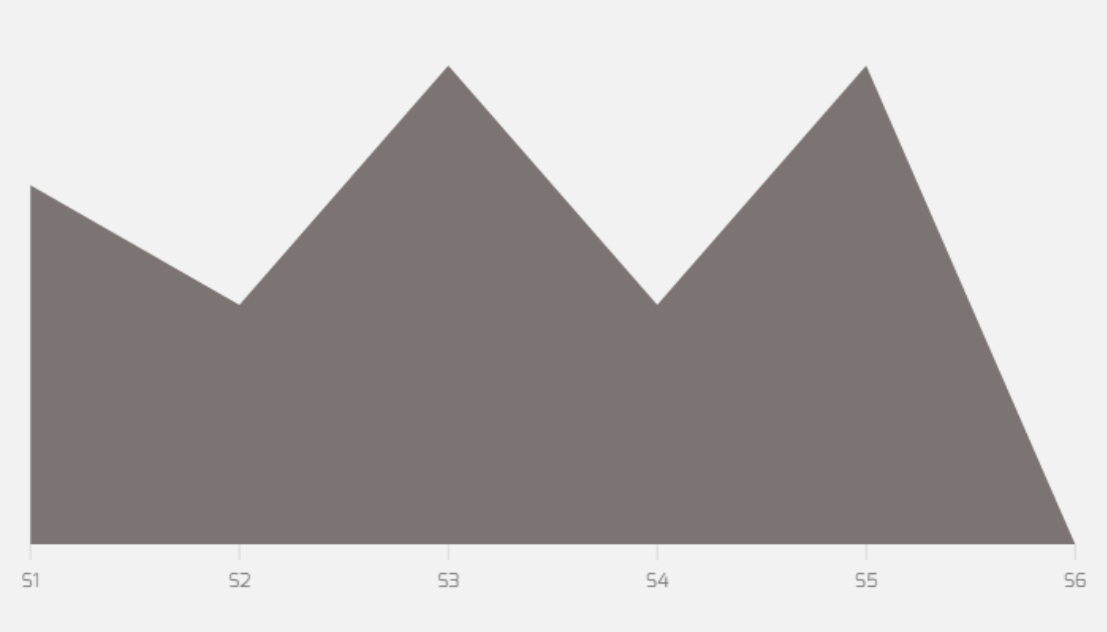
$$TC=0*1+0*0.5+0=0$$

0 is below the c。

And if this money distribution lasts for a period time t, during the time we will have no money flow from individuals to industry. The money flow volume is below c。, the industry could no profit, it will go bankrupt, the economy wheel will slow down and even stop, here is the economic crisis.

We have a picture like following:

Figure 7. Total variation



From our analysis, we could know that the TC is a transient variable. In the real world, the GDP is the integration of TC with respect to time. So we know that toward GDP, we should also consider the variable consumption speed.

So we have:

$$dGDP=\alpha*r*u+\beta*s*v+\gamma*t*w\ldots..$$

u, v and w are the consumption speed of α, β and γ

r*u is the consumption habits of α, s*v is the consumption habit of β and t*w is the consumption habit of γ.

So we have:

$$GDP=\int \alpha * r * u\, dt+\int \beta * s * vdt\ +\int \gamma * t * wdt\ldots$$

$$=\sum_i \int \alpha i * ri * ui\, dt,$$

αi is the money volume of i, ri is the consuming habit of i and ui is the consuming speed of i, i is one customer in the market, i ranges from 1 to ∞, t is the time.

Then we could draw the conclusion that:

The reason for economy cyclical changes is that due to cyclically variation of money distribution and people's consuming habit, the Total Consumption cyclically changes. Or in fact we can say that there is no cyclically changes in the free market, the free

market is a chaotic system, the cyclically change is just because sometimes the economic wheel accelerates, sometimes the economic wheel stays uniform speed and sometimes the economic wheel slow down.

The mechanism how a free market develops into an economic crisis is that because of the flow of money, the total consuming ability is changing, when it comes to a situation that people who have money don't spend money, people who want to spend money don't have money, the PA (people's desire for goods and services) are impaired, there is nearly no money flow from individuals to industry, then the Real Total Consumption is below c。, the market goes into economic crisis.

8. Re-define the multiplier effect

Firstly, I will clarify that here I will ignore the inflation, just like what Keynes did toward the multiplier concept in his book. By doing this, I am extending the multiplier concept and introduce the effect of time, total consumption speed and total consumption volume to the concept of multiplier.

There are so many deficiencies in the definition of the multiplier in modern economy area. Modern economy introduces this concept to describe the relation between spending money and total national income. *Keynes believed that any injection of spending created a proportional increase in overall income for the population, since the extra spending would carry through the economy.* [2] But Keynes didn't point out why this would happen. According to my theory, *"any injection of spending created a proportional increase in overall income"* would happen because that any money spent in the market will go into the circulation in Figure 1. The increase of the total GDP is not because of the money's own effect but the outcome of the money whirling in the free market. Besides, GDP is a time related variable, Keynes didn't take this variable into his formula. For a country, its GDP for 1 year is different from its GDP for 1 month. So we must introduce this variable for better comparison.

In Keynes' book "The General Theory of Employment, Interest, and Money", Keynes

put forward a new equation Y=I/(1-b), Y is the income, I is the investment and MPC(marginal propensity to consume) is the b

*In his theory, he has equation dY=k*dI, k=1/(1-b). That means any change in income will be k times the changes in the new investment. k is the multiplier.* [2]

Here we assume if the money in the new investment flows in the circulation for unlimited time without any loss, the change in the income will be unlimited. Any money injection will cause an unlimited increase in the GDP.

So ignoring the time variable is the deficiency of Keynes' theory. Besides, it ignores another variable, that is the money flow speed in the market. (The money flow speed is not the physical moving speed in physics, but the turnover speed of money in the market)

Considering the fact that the k or multiplier shows the relation between the total income and the spending. I define the new multiplier like following:

Changes in the income dY, is determined by the money flow speed (money whirling speed), time duration and changes in Total Consumption dTC.

A thorny issue here is that people usually don't spend money at the same time, we can transform asynchronous spending made by all individuals in the market to an approximate synchronous spending made by all individuals in the market. Or we can say, if most of individuals get money and spend only some part of it instead of all of them, we can transform this situation to a situation that all individuals spend all money at a very slow average speed. If most of individuals get money then spend all of them at once, we can regard this situation as a situation that all individuals spend money at a very high average speed. Or we can say, we will group different kinds of people together and get their average consumption speed, so each independent part of "α*r*u+β*s*v+γ*t*w…" will be processed together, or we can say, we will analyze the issue from a macro view.

Assume that the change of total money consumption is +5000$, time duration is 2 months and the money flow speed is that all money in the market will whirl in the circulation once every half month (1r/o.5month).

We have that the total change in the income dY

$$dY=5000\$*2month*(1/0.5)(r/month)=20000\$$$

We have that the total income increase is 20000$.

Then

$$k=dY/dTC=20000/5000=4$$

We can infer if the time goes into unlimited, we could have that the k is unlimited.

$$\lim_{t\to\infty} k=\infty$$

Here money is whirling in the circulation for infinite time.

So we have k is determined by the time duration t (Unit: month) and money flow speed w (Unit: r/month)

So here is the formula:

$$k=t*w$$

$$dY=k*dTC \quad [dTC \text{ is the change in total consumption}]$$

$$dY=t*w*dTC$$

From this equation we could have that:

Given a fixed time $t_{\circ}$, we know that the income increase is mainly depended on the w, which is speed of money whirling in the market , or we can say the consumption speed, so here I put forward a conclusion:

If money is turned over faster in a society in commodities and services industry (Not financial industry), that society will be richer. And vice versa. Or we can say if people speed money faster, the society will be richer. And vice versa.

So I extend the concept the Paradox of thrift, not only the total consumption volume, but also the whole consumption speed could influence the GDP of a country.

As dTC is the amount of money, w is the speed of money flow. So we could conclude that

1. the Negative Feedback is the process that the amount and speed of money flowing are gradually going down.
2. the Positive Feedback is the process that the amount and speed of money flowing

are gradually going up.

3. the Uniform State is the process that the amount and speed of money flowing are staying the same.

Of course, the Uniform State is usually an ideal situation (It happens some time, thinking of Japan, its GDP has remained nearly the same for 10 years. So Japan now is in the Uniform State.). in real world, the economy often vibrates between Negative Feedback and Positive Feedback, it depends on the Real Total Consumption and the Real Total Salary. I introduce the concept Uniform State in order to distinguish the Negative Feedback and Positive Feedback.

*"**people who are rich prefer to spend money while people who are not rich prefer not to spend money**"*, that is the reason for the Negative Feedback and Positive Feedback. If the consumption speed and volume are very high in a country, people there are more rich, they can spend more money, and when they spend more money, they are maintaining or enlarge the consumption speed and volume, this is the essence of Positive Feedback. If the consumption speed and volume are very low in a country, people there are poorer, they can spend less money, and when they spend less money, they are decreasing the consumption speed and volume, this is the essence of Negative Feedback.

GDP equation

$$GDP=t*w*TC$$

t is the time duration, w is the whirling speed of the money in the market, which is determined by both the speed of people's consuming and the speed of salary giving from the company, TC is the transient amount of total consumption in a market.

Let's assume the money flow speed from individuals to industry is Wa, the money flow speed from industry to individuals is Wm

We have that the

$$w=\min(Wa, Wm)$$

This resolved the puzzle in the previous discussion, the 2 situations 1.RTS>UTS

while RTC<UTC 2.RTS<UTS while RTC>UTC. From this equation GDP=t*w*TC=t*min(Wa, Wm)*TC, we could know that the money flow speed will be determined by the volume that is smaller, so these two situations will both develop into the Negative Feedback.

So we have the final Equation for GDP for a period of time t

$$GDP=t*\min(Wa, Wm)*TC$$

Considering the fact that w and TC are not a constant value in the real world, we use calculus to show the equation for

$$GDP=\iiint f(t, w, TC)dtdwdTC.$$

Besides, we could also refer that in the Keynes theory, the reason for the inadequate effective demand is possible because the money flow from individuals to industry (Real Total Consumption) is small, which could be caused by slow consumption speed, inadequate consumption volume and inadequate Real Total Salary.

9. How a society become rich?

In order to become rich, one society should make the most use of the invisible hand, toward the invisible hand at supply, we need industry to give salary to individuals as fast as possible, besides, we need to enlarge the productive forces. By using machines or new technology, we can enlarge the productive forces to a higher level. Besides, toward the invisible hand at the demand, everyone should spend money as fast as he or she can. The faster the money flows, the richer the society will be.

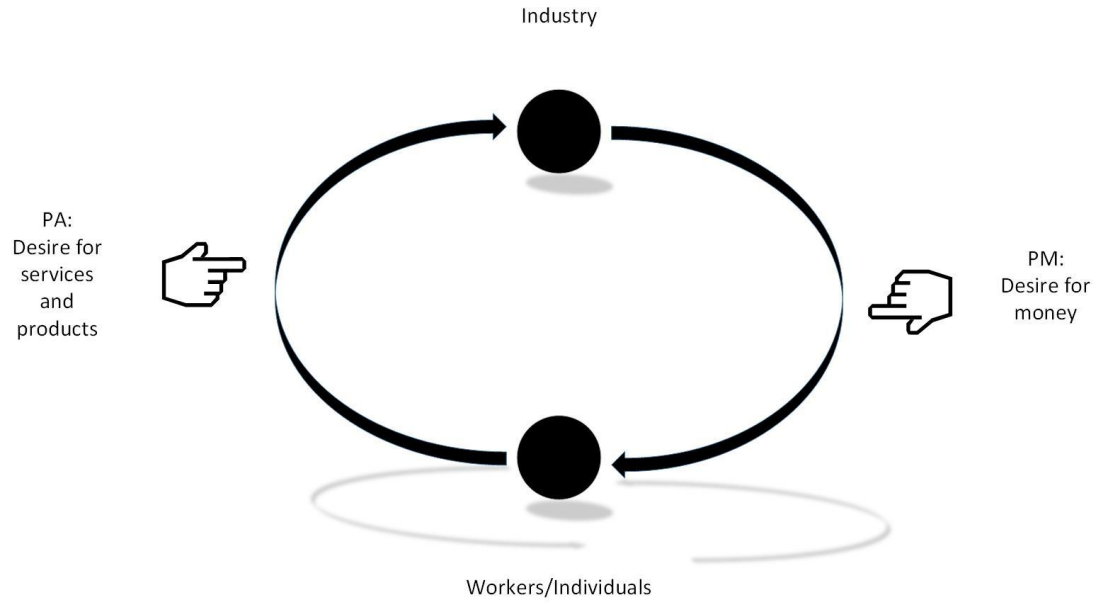
From the previous GDP equation GDP=t*w*TC, we know that the GDP is related to the money whirling speed w.

I will use the following example to discuss this conclusion. Here I will assume that there is no inflation or deflation, so this is an ideal situation, I just use it to approximately describe the relation between the money flow speed and total income.

Assume that we have a monopoly market, only one industry and one employee (entrepreneur, a person could hire himself or herself). The employee (entrepreneur) is also the only individual consumer in the society. There are no costs in this business

activity.

Figure 8



1) We assume industry pays all its money as monthly salary to the employee and the employee spends all money once he or she gets the money.

Assume there are 1000$ in the market, we have that in one year,

the employee total salary is 12month*1000$/month=12000$;

the industry's total revenue is 12month*1000$/month=12000$;

2)We assume that industry each time only pays 50% of its all money as monthly salary to the employee and the employee spends all money once he or she gets the money, we have that in one year,

the employee first month salary is 1000$*50%=500$

the industry first month revenue is 500$, and it has 500$ in hand, total is 1000$, it pays 50%, so the second month salary of the employee is 500$

Then we have that the total salary of the employee in one year is 500$/month*12month=6000$

The total revenue of the industry is 500$/month*12month=6000$

3) We assume that industry each time pays all of its money as salary to the employee,

employee only spends 50% of his or her own money, we have that in one year,
The employee first month salary is 1000$
The industry first month revenue is 500$, the employee second month salary is 500$, then the employee has 1000$ total, he or she spends half of the whole money, then the industry second month revenue is 500$
We have the total salary is 1000$+11month*500$/month=6500$
We have that the total revenue for the industry is 500$/month*12month=6000$

4)What if the industry pays 1000$ every half month, and employee spends all money as soon as he or she gets the money?(Assume the productive forces can reach this consuming speed or the price of goods in the market doesn't change). We will have that the total salary of the employee is 1000$/month*12month*2=24000$
And the total revenue of the company is the same 24000$

So we have that if money flows faster in a society, that society will be richer. Industry will have more revenue and individuals will have more salary.
So for a country to become rich, the most important thing is not save what you have produced but to work to produce as much as you could, and make what you have produced to flow to demand as fast as it could.

We also could know that what could really adjust the economy is not the government policies, but the money flowing speed in commodities and services industry, which is determined by the invisible hand PA and PM, or Real Total Salary and Real Total Consumption, or we could say all people's behaviors in the market.
Why the Keynes policies works is that when economic crisis happens, people who have money don't spend money, people who want to spend money don't have money. By printing money and giving money to people who lack money to speed, the government recovers the total consuming ability. It enlarges the amount of money flow from individuals to industry, then the Keynesian policy recovers the economy.

10. Types of Economy Crisis

Here are different kinds of economy crisis:

Spontaneous Economy Crisis

The reason for the spontaneous economic crisis is that due to business activities, the flow of money, there is a chance that the Real Total Consumption is below the threshold c_0, then the invisible hand at the demand or PA is destroyed, people could not buy goods and services because they don't have money, the circulation of economy couldn't continue.

All kinds of Economy Crisis

The reason for all kinds of economy crisis is due to various kinds of factors, the invisible hand(PA and PM) and the money circulation in the free market is destroyed or interrupted.

11. Policies to rescue economy crisis

Firstly I will claim that the duty of the government(visible hand) during the economy and economic crisis is to recover or enlarge the effect of the invisible hand.

The policy toward economy crisis:

1)Toward all kinds of economic crisis, what we should do is to recover the PA and PM, that is recover the invisible hand, so we should recover the supply and demand forces on both sides. Like recovering the productive forces, encouraging people to spend money.

2)Toward the spontaneous economy crisis in the free market, there are two situations:

1)) Spontaneous economic crisis without inflation, we can print money and give the money to the one who lacks it. Like in the example, we printing money then transfer consuming ability from γ to α and β, we recover the consuming ability then the Real

Total Consumption is a certain value above c_0, we make the economy circulation work again.

2)) Inflation itself can cause the RTC below c_0, when inflation happens, the price of commodities is high and the money owned by general people is not too much, people don't want to spend money, then an economy crisis may happen. Toward this kind of economy crisis, we can make use of the invisible hand to recover the economy. That is the industry or the government try to find a way to make a lot of money flow from industry into individuals, like encouraging industry to try to give more salary, while encouraging people to try to spend as much money as they can. When the economy goes into the regular circulation state or even the Positive Feedback, the society will recover to become prosperous.

12. Application

I will use my theory to explain some phenomenon here.

1) How Keynes policies recover the economy?

In Keynes policies, the government invests and builds public constructions by printing money. During these processes, the employment rate increases, so Real Total Salary increases, and because the government creates consumption, the Real Total Consumption enlarges. So both RTS and RTC have been enlarged, the circulation is pushed back to regular movement. So why Keynes policy works is because it uses the visible hand to recover the invisible hand PA and PM, the RTC and RTS.

2)How Japanese lost their ten years?

The lost decade is a phenomenon happened in Japan. After the real estate bubble burst in 1990s, the country suffered from the economic slump. And it lasted for 10 years. From my theory, we could know that because of the free market drawback, the economy crisis happened in Japan, from then on that country went into the stage of Negative Feedback.

The Japanese government built large constructions which increased the RTC and RTS,

but because there was more money in the market, there was an inflation. So the consuming ability of the general people was inhibited because of the high price (There is another factor, East Asian countries usually have a culture that claims frugality). When the government constructions were finished, there were no job positions, RTS would decrease. And RTC would decrease because there was an inflation and the fake need created by the government was no longer there. The economy went back to Negative Feedback, the unemployment rate increased again.

3)How Egypt goes into the economy plight?

After 2008, due to the economic crisis of the United States, the inflation happened in Egypt. People's saving lost their value while the price of goods was extremely high. People preferred not to speed the money. So the RTC was decreasing, then the profit of industry decreased, in order to survive, the industry cut off jobs, so Real Total Salary decreased, the economy went into the Negative Feedback.

4)Stagflation, how inflation and increase of unemployment happen at the same time?

When the government takes Keynes policy, there is too much money in the market, so there may be an inflation. After the policy, because of the inflation, the price of commodities are extremely high, which impairs people's consuming ability, so the Real Total Consumption will decrease. The profit of the company will decrease, the economy goes into Negative Feedback, there will be more unemployment. Finally, inflation and increase of unemployment happen at the same time.

5) Why China and Japan have the continual economic growth for 20 years or even 30 years?

It is just because their economies go into the stage of a continual Positive Feedback.

6) Why Venezuela's economy goes into economy crisis?

Because the Venezuela's industry is mainly depended on the oil. When the oil industry was replaced by other forms of energies, the invisible hand PM of the Venezuela was

destroyed. So there was no way for money flow from industry to the individuals, the Real Total Salary was below p_0, then the circulation was interrupted and the country went into the economic crisis. In order to avoid this kind of economic crisis, one country should have many forms of industries, even if some industries were destroyed, there are other ways for money to flow from industry to individuals.

13. Inference

Why couldn't equalitarianism?

Equalitarianism will let people lose interest in making money so the PM and productive forces will be impaired. Because PM is impaired, supply will be impaired, which is harmful for the economy.

Why there should be welfare?

Because modern society, the productive force is too high, so productive force is not working all the time, by giving welfare, we enlarge the Real Total Consumption(Welfare will make more people spend money). Then RTC is enlarged, which is good for economy.

Why we should fight against monopoly?

In a none monopoly industry, because there are competitions, different companies try to modify the products and services to win the market. So there will be products and services innovation. The society will always be in progress.

Why we should fight against fake products?

People are not willing to buy fake products, if a society has a lot of fake product, people are not willing to spend money because they don't want to buy fake products. So the RTC will decrease, the money circulation speed will be slow down and impaired.

Why we should tax more toward rich people?

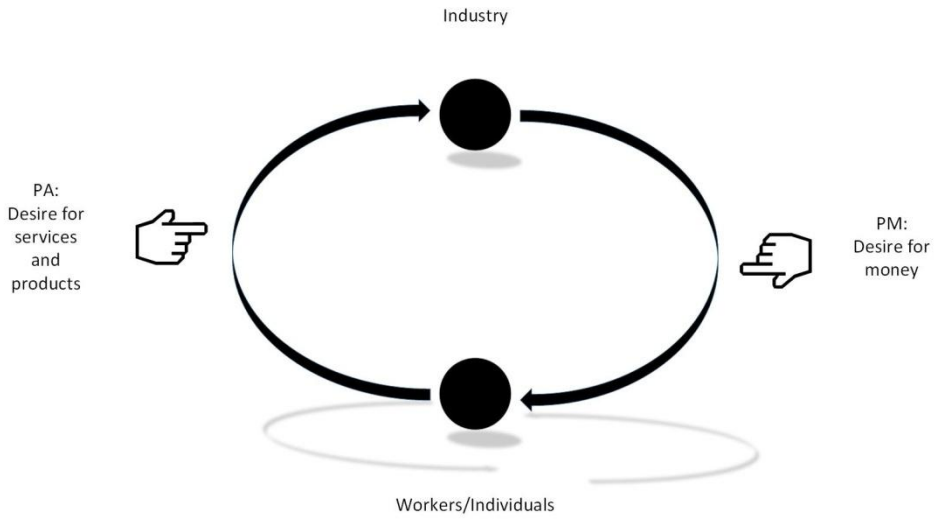
Middle class and poor people usually spend nearly all money they earn. Rich people they usually don't spend all money they earn and they don't speed money fast. So we should tax more toward the rich people and make this part of money flow into the market.

14. Summary

PA (Invisible hand at demand, the demand or desire of individuals toward goods and services

) and PM (Invisible hand at supply, the need or desire of individuals toward money) are just like two engines for the economy, all other factors influence the economy by influencing these two factors. PA determines the volume and speed of money flow from customers to industry while PM determines the volume and speed of money flow from industry to customers. Together they determine the money flow speed in a society or how rich a society will be. Under these two engines, the economy wheel whirls, the faster the wheel whirls, the richer the society will be. If it doesn't whirl, there will be the economy crisis.

Figure 9



Reference

[1] **Adam Smith**, The Wealth of Nations

[2] **John Maynard Keynes**, The General Theory of Employment, Interest and Money