Quick Guide to Economy Network Dynamics(≡END). 2013/11/18,12/7,19

The Overview on END.

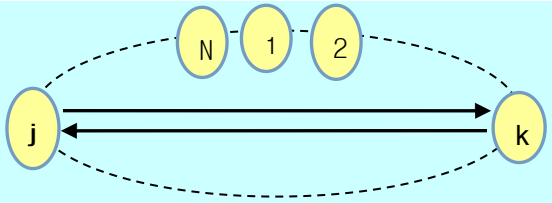
Frankly to tell,established(?) and academical economics seems rather confusional,while END may be simple and clear to understand. Because the principle is only due to describing **all account-books** which is nothing,but **the most strict describing on economy system**. In account books,realized all **dealing between seller**(j) **and buyer**(k) with **price(**P_{jk}**)**×**goods volume(**N_{jk}**)**=**dealing sum(**S_{jk}**)** is described in there.Those total is just a economy state-itself at **a fiscal year.**Note each variables are time(=t) dependent such as $P_{jk}(t)$.

＊**price(**P_{jk}**)**×**goods volume(**N_{jk}**)**=**dealing sum(**S_{jk}**).**

＊total of good volume for all buyers is **market size of goods** "j"≡N_j .<this is finite>

Note all economic actors{1,2,3,..,j,..,k,..,N}**themselves are simultaneously seller and buyer connected in all dealings of an economy network.**

END describes **total dealing** of seller_buyers of {1,2,3,..j..k...,N} in **economy network**.
See also **[0]**(3).



As a principle,taking into all account-books would be possible by internet connection with the data center(certainly its cost would be higher).In the other hand,mathematical describtion on those could realize with ease. The expression is natural to reveal **economy dynamics without personal ideology**(evidence for being science).Note meaning of **dynamics** is substantial to describe time trend of economy state driven by various forces.

Account of someone(=j) at **a fiscal year** is evident that,

＊**surplus**,or **debt** increase of "j" in a fiscal year=**total income**(j)−**total outgo**(j).

All of "j" total in **a network** is to conclude **zero sum theorem(ZST)** in finance.

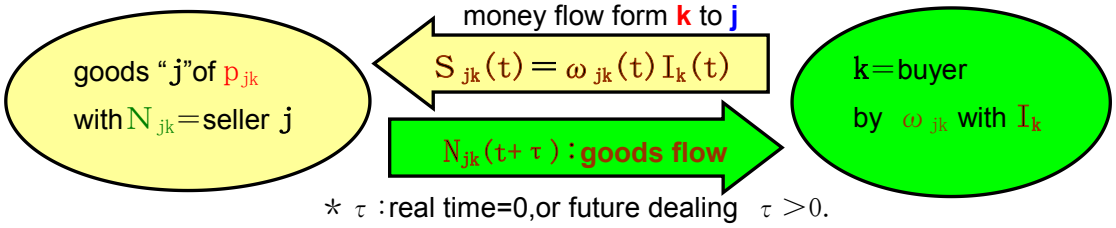
＊**Total Surplus**−**Total Debt**=**0**.<any economics text never refer **ZST** !!!>.

Note those surplus or debt is to relate with **financial market** the most confusional at now. Note global recession since 2008 is due to **finiteness of market size**(of housing in USA). There is no never-ending economy growing,and that debt=surplus has become max value when stopping growing.While in growing,debt=surplus has entirely been increasing. Default with reasonable liquidation would become crucial in coming years in WEST(the world) the debt nations ally not only by economy-itself,but also by **stopping climate crisis**.

[0]: Elementary Dealing and Zero Sum Theorem<Terms Definition in END>.

(1)**elementary dealing(in a year)**<micro market balance equation> .

{j=1,2,3,.....,N}=**sellers.** {k=1,2,3,.....,N}=**buyers**



* τ : real time=0,or future dealing $\tau>0$.

dealing payment=price (p_{jk}) ×goods volume (N_{jk})

to "k" from "j" (S_{jk}).<note:suffix **jk** means money flow from **k** to **j**>

$$S_{jk}(t)=p_{jk}(t)\,N_{jk}(t)=\omega_{jk}(t)\,I_k(t).$$

$I_k=$	$+S_{1k}(t)$	$+S_{2k}(t)$	.....	$+S_{kk}(t)$	.....	$+S_{Nk}(t)$
	$+\omega_{1k}I_k$	$+\omega_{2k}I_k$		$+\omega_{kk}I_k$		$+\omega_{1k}I_k$
$1=$	$+\omega_{1k}(t)$	$+\omega_{2k}(t)$	.....	$+\omega_{kk}(t)$	.....	$+\omega_{Nk}(t)$

(a)I_k=**possible payment(total payment** in a year),which is **wallet** of **buyer "k".**

$$I_k=\omega_{1k}(t)I_k(t)+\omega_{2k}(t)I_k(t)+....+\omega_{kk}(t)I_k(t)+....+\omega_{Nk}(t)I_k(t).$$

$$=(\text{pay to 1})+(\text{pay to 2})+.....+(\text{pay to own})+.....+(\text{pay to N})$$

$$\equiv\sum_{j=1}^{N}\omega_{jk}(t)I_k(t).$$ <math notation>

possible payment has no official data

Note I_k includes **deposit portion**= $\omega_{kk}I_k$ **!!**

(b) $S_{jk}(t)/I_k(t)=\omega_{jk}(t)$: **ratio for payment** $S_{jk}(t)$ in **total payment** $I_k(t)$.

$\sum_{j=1}^{N}\omega_{jk}(t)=1, <1>\omega_{jk}(t)\geqq 0>$: ω is **probability** !!!.

(c) ω_{jk} is **payment distribution** of conscious(?) planned economy of buyer "k".

(d) ω_{jk} is measure for "**k**'s **demand intensity** for goods **j**.

(2)**Price Mechanism:** $p_{jk}(t) = \omega_{jk}(t)\, I_k(t) / N_{jk}(t)$.

$$p_j(t) \triangleq \omega_j(t)\, I(t) / N_j(t).$$

price mechanism in micro balance could be valid also in **macro domestic scale by statistical averaging**.

good j domestic price $= p_j(t)$.
good j domestic volume $= N_j(t)$.
$I^* =$ **Total payment of Domestic**
domestic demand on j $= \omega_j(t)$.

(a): **Decreasing Supplying Volume** N increase higher P in case other variables=constant.
(b): **Increasing Demand Intensity** ω increase higher P in case other variables=constant.
Note:deposit increasing ω_{kk} in recession would decrease ω and P in general. .
(c): **Increasing monetary supplying** I increase higher P in case other variables=constant.
(d): Reversal of those are also right.

Above coarse equation reveals agreement with **common sense** in **calculable form !!.**
*author could not find official data on $I^* =$ **Total payment of Domestic.**

(e)**Prices of Industrial Goods.**
P = **manpower cost + energy + resource tolerable + resource consuming + profit(surplus,debt) + (tax − grant).**
R&D and equipment investment are included in depreciation in resource tolerable and manpower,Above definition is authors,but not actual.Especially resource tolerable is decreased by massive production.A usual business is to maximize profit/unit × production volume.Note max cost in corporate is **manpower**.which is frequently target in management.

(f)Proof on (2)**Price Mechanism.**
$p_{jk} \equiv p_j$: general price for any domestic buyer {k=1,2,....,N}
$\sum_{k=1}^{N} I_k \equiv I$: total possible payment in domestic.
$\sum_{k=1}^{N} N_{jk} \equiv N_j$: total sum volume of goods j.
$\sum_{k=1}^{N} \omega_{jk} I_k \equiv \omega_j \sum_{k=1}^{N} I_k$: domestic total payment on good j.
$\omega_j \equiv \sum_{k=1}^{N} \omega_{jk} I_k / \sum_{k=1}^{N} I_k$: domestic average payment on good j.

Taking summation on both side "$p_{jk} N_{jk} = \omega_{jk} I_k$"
$\sum_{k=1}^{N} p_{jk} N_{jk} = \sum_{k=1}^{N} \omega_{jk} I_k = \omega_j \sum_{k=1}^{N} I_k = \omega_j I$
$= p_j \sum_{k=1}^{N} N_{jk} = p_j N_j.$ → $p_j N_j = \omega_j I.$ 〈proof end〉
.

(3)income-outgo balance equation<in a year>and ZERO SUM THEOREM(ZST).

The basic equation is ***surplus(debt)increase＝sum of income－sum of outgo.***

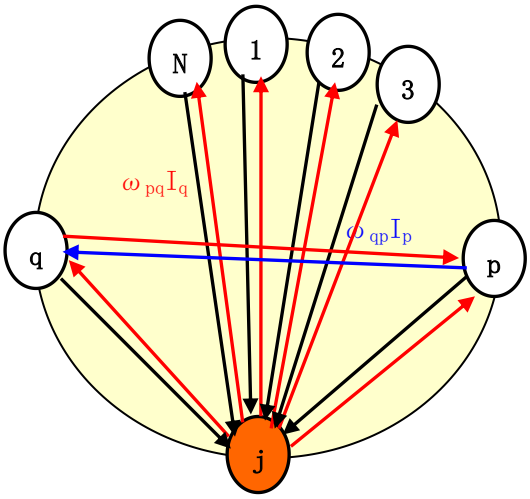
$(d/dt)[\omega_{jj}(t)I_j-D_j(t)]=\Sigma_{k=1}^{N}\omega_{jk}(t)I_k(t)-\Sigma_{k=1}^{N}\omega_{kj}(t)I_j(t).$

j's<surplus－debt>year increasing＝ j's sales sum －j's payment sum.

(j)←{ k}　{k }←(j)

＊$(d/dt)[\omega_{jj}(t)I_j-D_j(t)]\equiv\{[\omega_{jj}(t+1)I_j(t+1)-D_j(t+1)]-[\omega_{jj}(t)I_j(t)-D_j(t)]\}/1\text{year}$

note： $\Delta M/\Delta t$＝365x24x3600$/year＝24x3600$/day＝3600$/hour＝1 $/second＝$dM/dt$.



Economy Network components are small circles of {1,2,3,.....p,..q,..N}on the big circle. Any of those has **dealing connections** of {$\omega_{pq}I_q$, $\omega_{qp}I_p$}.
Each arrow mean real time money flow.

(4)zero sum theorem derived from the balance equation.

$(d/dt)[\omega_{jj}(t)I_j-D_j(t)]=\Sigma_{k=1}^{N}\omega_{jk}(t)I_k(t)-\Sigma_{k=1}^{N}\omega_{kj}(t)I_j(t).$

$(d/dt)\Sigma_{j=1}^{N}[\omega_{jj}(t)I_j-D_j(t)]=\Sigma_{j=1}^{N}\Sigma_{k=1}^{N}\omega_{jk}(t)I_k(t)-\Sigma_{j=1}^{N}\Sigma_{k=1}^{N}\omega_{kj}(t)I_j(t)=0.$

$\Sigma_{j=1}^{N}[\omega_{jj}(t)I_j-D_j(t)]$＝constant in time＝0<initial value>.

Note:$df(t)/dt=0,\rightarrow\int dt.\ df(t)/dt=f(t)=\text{constant}$

$\Sigma_{j=1}^{N}\omega_{jj}(t)I_j=\Sigma_{j=1}^{N}D_j(t)$. **<Total Surplus＝Total Debt>**

This is also common sense,but uncommon sense in economy textbooks !!!!!

ZST could be understood without math.Any debt is co-body with bond by same price.

Those sum must be also equal.Could you understand how much big prejudice is in economy

Most of people with some deposit had been considering asset＞bond before 2008.

⑸Top significance of zero sum theorem<≡ZST>.

ⓐ**Cash in hands(wallet,safe)** is also debt and asset of own.<establishing ZST>

ⓑ**Money Issuing by Central Bank** is also debt and asset of own.<establishing ZST>

Returned cash issued by CB must be vanished to zero someday<for no inflation>

This meaning is very serious in evaluating **Quantitive Easing** in USA,EU,and Japan.

ⓒ**Debt transfer from private to public(Central Bank).**

Buying assets in private sectors by Central Bank can establish balance in their account-book,however ZST is to be broken,which would be seeds for coming inflation.

Appendix_6 ,7,8.

ⓓ**Economic growing is to decay at maximum point of total bond=total debt.**

ⓔ**Someone become wealthy creditors,while other become poor debtors.**

⑹How to decrease Debts ??!!.

It is government who has been **the most debtor(in substantially bankruptcy)** !!.

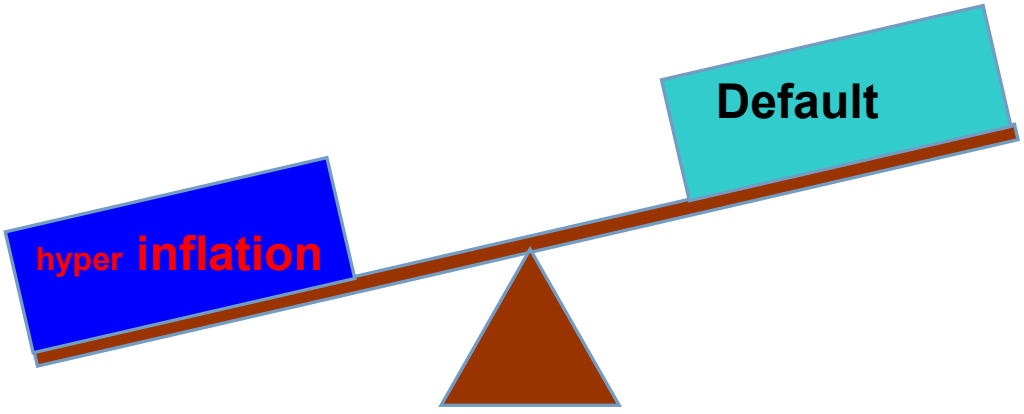
Nothing government would be anarchy state of confusion !!!.

ⓐ**Total Debt Decreasing in relative value could be possible by growing inflation which is possible only by issuing money by Central Bank.**

It is long term chronical death of massive people with less pain.???

ⓑ**Total Debt Decreasing in absolute value could be possible only by default(or,..)with liquidation(debtor & creditor canceling dealing).**

It is sudden death of wealthier creditor with larger pain ?(gaining guarantees !).



[1]: Income-Outgo Matrix Method can simulate Economy System.

Income outgo Matrix method could derive **simple, intuitional,but accurate global insight on model simulation of economy regime** such examples in **[3]**..

The basic equation is ***surplus(debt)increase＝sum of income－sum of outgo.***

(1) $(d/dt)[\omega_{jj}(t)I_j - D_j(t)] = \Sigma_{k=1}^{N}\omega_{jk}(t)I_k(t) - \Sigma_{k=1}^{N}\omega_{kj}(t)I_j(t)$. <Balance EQN>.

j's<surplus－debt>year increasing＝j's sales sum－j's payment sum.

(2) $S_{jk} = p_{jk}(t) \times N_{jk}(t) = \omega_{jk}(t)I_k(t)$。 <micro market balance equation>

＝price×goods amount＝dealing payment to "j" by "k".

(3) $\Sigma_{k=1}^{N}\omega_{kj}(t)I_j(t) = I_j(t)\,\Sigma_{k=1}^{N}\omega_{kj}(t) \equiv I_j(t)$ <possible payment sum at year＝t>

$= \Sigma_{k=1}^{N}\omega_{jk}(t)I_k(t) + (d/dt)[D_j(t) - \omega_{jj}(t)I_j]$.

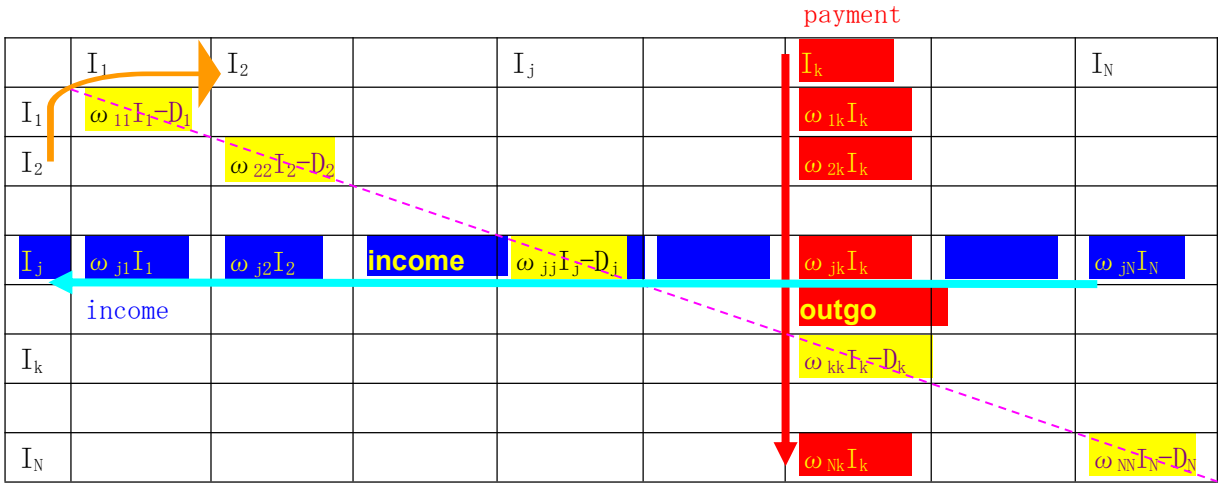
(4) $\Leftrightarrow \Sigma_{k=1}^{N}\omega_{kj}(t) \equiv 1$. $<\omega_{kj}(t) \equiv j \to k$ pay probability＝***dealer's will at year＝t*** >

(5):**Income-Outgo Matrix** ***states full dealing of economy system at fiscal year＝t.***

This is equivalent to the Balance Equations＝(1).

＊ $\Sigma_{j=1}^{N}\omega_{jk}(t)I_k(t) = I_k(t)$.....″column=payment″.

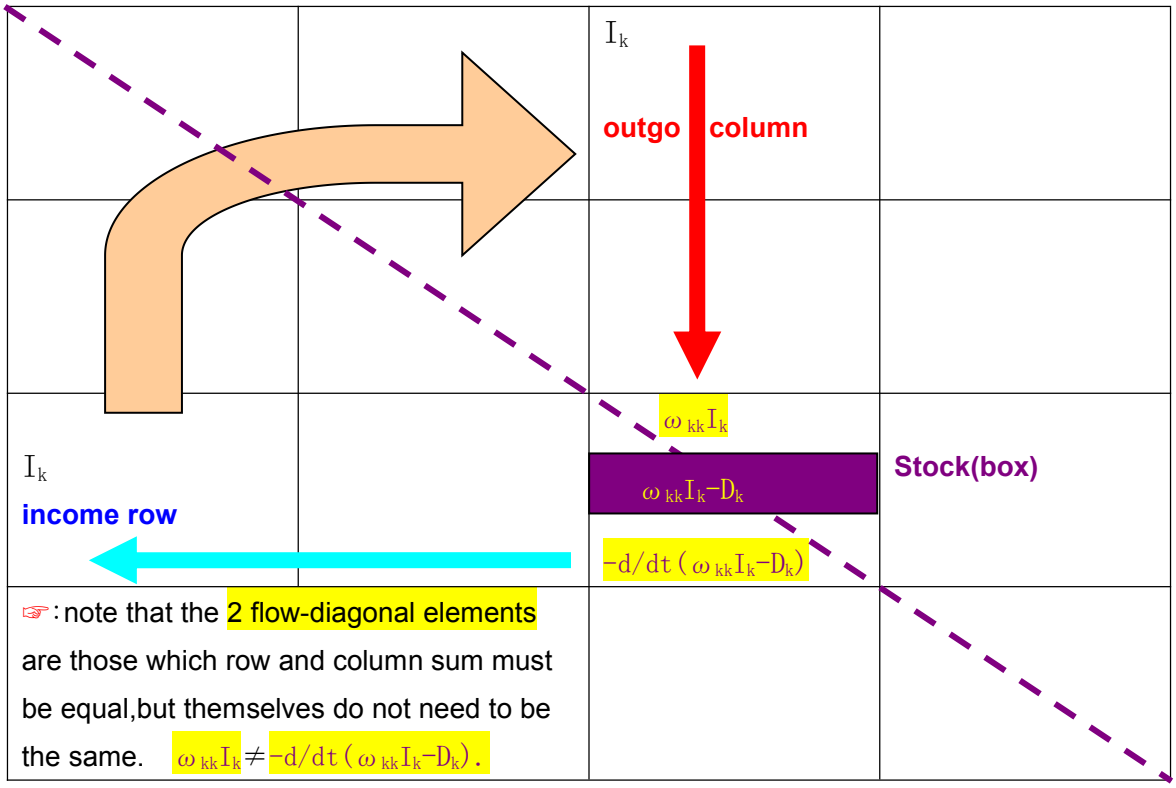
＊ $I_j(t) = \Sigma_{k=1}^{N}\omega_{jk}(t)I_k(t) + (d/dt)[D_j(t) - \omega_{jj}(t)I_j(t)]$.....″row=income″.



This is full accounts of economy system of dealers{1,2,3,..,j,..,k,...,N} at fiscal year =t.

Note $\omega_{jj}(t)I_j$ own payment to own is accumulated surplus amount at year＝t.While D_j is debt accumulated amount at year＝t.So diagonal elements in matrix are financial ones.

⑹**Full meaning of diagonal financial elements{outgoing,incoming,and stock}**



☞:note that the 2 flow-diagonal elements are those which row and column sum must be equal,but themselves do not need to be the same. $\omega_{kk}I_k \neq -d/dt(\omega_{kk}I_k-D_k)$.

As for outgo and income **flow**:

⑷**outgo column**≡$\omega_{kk}I_k$≡k→k own payment

⑸**income row**≡$-d/dt(\omega_{kk}I_k-D_k)$≡k→k income

＝increasing of {debt or taking out from deposit}/year

proof)

$(1)(d/dt)[\omega_{jj}(t)I_j(t)-D_j(t)]=\Sigma_{k=1}^{N}\omega_{jk}(t)I_k(t)-\Sigma_{k=1}^{N}\omega_{kj}(t)I_j(t)$

$=\Sigma_{k=1}^{N}\omega_{jk}(t)I_k(t)-I_j(t).\rightarrow I_j(t)=\Sigma_{k=1}^{N}\omega_{jk}(t)I_k(t)-(d/dt)[\omega_{jj}(t)I_j-D_j(t)].$

possible total payment/year＝{total income＋debt increase－deposit derease}/year

As for **stock** of accumulated amount:

⑹**stock box**≡$\omega_{kk}I_k-D_k$≡accumulated stock of monetary asset(bond) and debt.

⑺**Financial flow matrix:**

surplus≡$\omega_{kk}I_k$ could be distributed to someone{1,2,3,..,j,..,k,...,N}'s debts

debt≡D_k could be distributed to someone{1,2,3,..,j,..,k,...,N}'s bonds

$\Sigma_{k=1}^{N}\{\omega_{kk}I_k-D_k\}=0.$ <**debt & bond zero sum theorem** in closed finance system>.

☞:Chapter**[1]** could be neglected for those who are not good at mathematics.

But see **[3]** of concrete and comprehensible examples.

[2]： The full-set of primitive END dynamics equations<for experts>**.**

The equation in END are due to clear **account principle**.but exception is **market size** $N_{jk}(t)$ which is due to **buyer population** with the **price** and their **demand**.**Consuming goods** (foods and energy)are proportional to population,while **tolerable goods** (residence,vehicle,equipments,tools,.....) depends on various factors of **secular vogue** with **life time** of goods. **Main Task of Economics** is to analyze and synthesis {❸,❹,❺}.

❶Income-Outgo Equation <j,k=1,2,...,N> **<#=N>**

$$(d/dt)[\omega_{jj}(t)I_j - D_j(t)] = \Sigma_{k=1}^{N}\omega_{jk}(t)I_k(t) - \Sigma_{k=1}^{N}\omega_{kj}(t)I_j(t).$$

❷Micro Market Balance Equation.<#=N^2-N>

$$p_{jk}(t)N_{jk}(t) = \omega_{jk}(t)I_k(t).$$

❸Bond Market Balance Equation.<This is similar with ❷><#=N>

$$R_{bj}(t)D_j(t) = \omega_{bj}(t+\tau)I_i(t+\tau).$$ <τ is time delay>

Debtor “j”must pay interest cost=$R_{bj}(t)D_j(t) = \omega_{bj}(t)I_i(t)$ to bank=”b”.

This is a very *rough(laugh)* explanation in the concept !!.

❹Micro Sales Equation<=profit or **loss equation>**. <#=N^2-N>

$$p_{jk}(t)N_{jk}(t) = [1+m^k{}_j(t)]\Omega^k{}_j(t)I_j(t)$$

As for goods to buyer “k”, seller “j” takes **cost**= $\Omega^k{}_j(t)I_j(t)$

with **pure profit**=$m^k{}_j(t)\,\Omega^k{}_j(t)I_j(t)$.

(a)**Total** outgo (**cost**)of seller “j” is $\Sigma_{k=1\fallingdotseq k}^{N}\omega_{kj}(t)I_j(t) = \Sigma_{k=1\fallingdotseq k}^{N}\Omega^k{}_j(t)I_j(t)$。

(b)**Total** income(**sales**)of seller “j” is $\Sigma_{k=1\fallingdotseq k}^{NN}\omega_{jk}(t)I_k(t)$.

(c)**Total pure profit**(or **loss**) of seller “j” is $(d/dt)[\omega_{jj}(t)I_j - D_j(t)]$

$$= \Sigma_{k=1}^{N}\omega_{jk}(t)I_k(t) - \Sigma_{k=1}^{N}\omega_{kj}(t)I_j(t) = \Sigma_{k=1\fallingdotseq k}^{N} m^k{}_j(t)\,\Omega^k{}_j(t)I_j(t).$$

❺Micro-Macro Market Size Equation as for goods(j).<#=N^2-N>

$$\Sigma_{k=1\fallingdotseq k}^{N}N_{jk}(t) = N_j(t).$$

This is out of **account principle**,which must be explained by **economics**.

(6)**Unknown Variables in primitive END.**

$\{I_j(N), D_j(N); \omega_{kj}(N^2-N), p_{jk}(N^2-N), N_{jk}(N^2-N)\}$ are unknown variables in END.

While equations numbers=# are also the same of unknown variables.To tell the details,there would be many problems to be solved,however our aim may be macroscopical response by macro economy policy.For the aim,END would be helpful. If full account-books are connected to CPU,then END program could forecast future trend ?!.

[３]：Household-Enterprise-Government example Models without Debts:

⑴**Model of small government where most of people get salary from corporate.**

	household ＝¥600T/600mhh	coorporate ＝¥600T	government ＝¥200T outgo
hh=¥600T income	0	**500**	**100**
cpr=¥600T	**500**	0	**100**
govrn=¥200T	**100**	**100**	0

＊*column sum(outgo) and row sum(income) must be equal*.　　＊ ¥100＝1$ in past.

Unknown variables are 6 pieces,while simuletaneous equation are 3 pieces.And more,the absolute value is free.**4 variables are arbitary** and **2** are to be determined....

⑷Most **income 500** depends on **corporate**,so it become unstable in recession.

⑵**Almost public employment in big government where coorporate pay almost of tax.**

	household ＝¥500T/600mhh	coorporate＝¥500T	government ＝¥500T outgo
hh=¥500T income	0	**100**	**400**
cpr=¥500T	**400**	0	**100**
govrn=¥500T	**100**	**400**	0

⑷Most **hh income 500** depends on **government**,so their **employment** become stable in recession.Corporate pay more tax,but could employ people with less salary.However salary could be reduced in corporate recession due to tax decreasing.

⑹In this model,government income could be **relaxed by ensemble summation** of corporates tax,where some are recession,while other are not.

⑹Stable **public employment regime** could be utilized to transform **re-configulation of employment** in **corporate re-arrangement**.

⑹Mismatching of salary against degree of sales amount.

Some heroes must resque others in emergent poverty.

⑶**Semi-public and semi-non-public**

	household ＝¥600T/600mhh	coorporate ＝¥500T	government ＝¥400T outgo
hh=¥600T income	0	**300**	**300**
cpr=¥500T	**400**	0	**100**
govrn=¥400T	**200**	**200**	0

⑷hh income depend on coorporate and government equally.

⑷**War time regime**

	household ＝¥200T/600mhh	coorporate ＝¥500T	government ＝¥500T outgo
hh=¥200T income	0	0	200
cpr=¥500T	200	0	300
govrn=¥500T	0	500	0

⑷All are public employment.

⑷government payment to corporate is most to perform aimed tasks.

⑸**Household consuming,government one,and household incoming＝HC+HG**

determine taxes in house hold and corporate.

	household H＝HC+HG	coorporate＝ C=CH+CG	government G＝HG+CG outgo
H=HC+HG income	0	HC =salary	HG=salary
C=CH+CG	CH=consum	0	CG=consum
govrn=HG+CG	HC+HG－CH	CH+CG－HC	0

⑸**Economy parameters Plan non contradictional.**

Ⅰ：**Set H and G consuming=fiscal productivity.**

total consuming：C≡CH+CG＞HC. → C-tax＝CH+CG－HC＞0.

Ⅱ：**Set corporate salary to House hold＝HC less than C.**

C≡CH+CG＞HC. (salary is less than C incoming).

Ⅲ**Set government pay to House hold＝HG less than (CH－HC).**

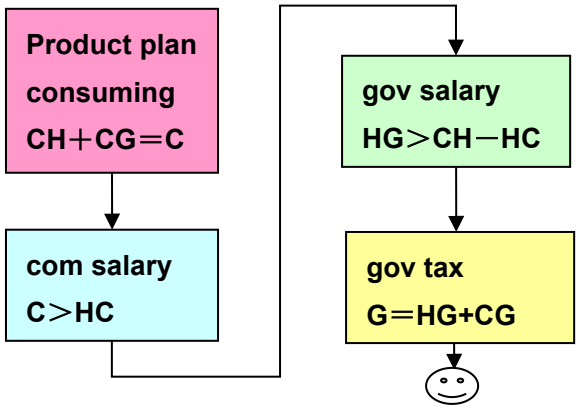
H≡HC+HG＞CH. → HG＞CH－HC.(government compensates **H** income deficit)

H≡HC+HG＞CH. → H-tax＝HC+HG－CH＞0.

Ⅳ：**Determine tax amount from H & C.**

G≡C-tax+H-tax＝(CH+CG－HC+HC+HG－CH)＝HG+CG＞0.

⑹**Process Chart**



［４］：More Detailed Pragmatical Model(finance and abroad,....).

From［３］,continuos transformation from **free economy** to **communism regime** could be accomplished by **managing partitioning of pay between government and corporate**. This could satisfy both laborer and entrepreneur.

More detailed study(many variable simultaneous equation) is expected to be task for those who could operate CPU calculating software.If You could have **economy system design ideology** and **plan for re-configuration on employment**,you could win power in voting.Following is reference site on **END**(Economy Network Dynamics in Japanese).
http://www.777true.net/END1.pdf

＊END Theory was developed in 1997 to sell. Author wish buying by you in economy research institutes in government, non-government and software developing companies.Non commercial using is free.

［５］：Plan for Re-Configuration on Employment in the Planet Emergency.

Once you had recognized the fatality of **Climate Collapse**,you knew that increasing productivity in **agriculture**,in **clean energy resource**,and **geo-engineering** (especially on intercepting **Arctic ice lid vanishing**)are globally emergent.Those must be systematically planed toward global re-configuration on employment.Then the plan-itself is also an economy engineering which must be surveyed emergently. In next chapter **[６]**,we deal all public servant regime simulation for coming climate wartime regime.

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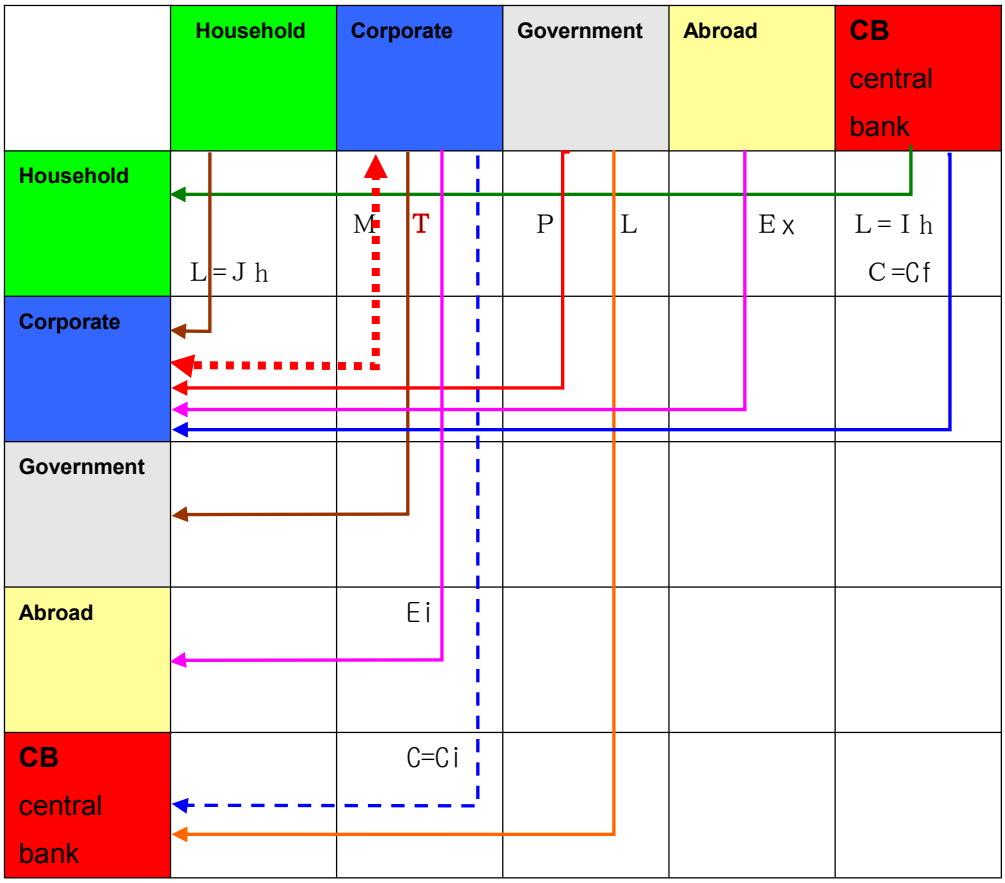
[6]：Macro Model of All Public Servants in Government.

This is a model of all public servants with salary form CB,which is returned by government.

View from debt,following model is introduced and analyzed in income and pay matrix..



⑷**The first calculus by complete balance<** I ≡income, J≡outgo**>.**

⑴**Household：** I h－J h＝L －L .

Household get income from bank and buy necessary goods and service from Cos

⑵**Corporate：** I c－J c＝[L＋<M>＋P＋E x＋C f]－[M＋T＋E i＋C i].

Cos get whole sales from every sectors and pay tax,import,repayment to bank.

Production cost＝manpower+resources tolerable+resources consumable.

⑶**Government：** I g－J g＝T－[P＋L].

Government get tax and pay public tasks and people's livelihood cost

⑷**Abroad：** I a－J a＝E i－E x＝0 .

export＝import.

⑸**Central Bank：** I b－J b＝[L＋C]－[L＋C].

Bank finances for households and corporates.

In this scheme,every sector satisfy balance of **income＝payment** in fiscal year.

(b)**The 2nd calculus by incomplete balance.**

(1) $Ih-Jh=Li-Lo\equiv\delta L$.

(2) $Ic-Jc=[Lo+<Mi-Mo>+P+Ei+Ci]-[T+Eo+Co]$.

$=<(Lo+P)-T>+<Mi-Mo>+(Ei-Eo)+(Ci-Co)$

$=\delta Tc+\delta M+\delta E+\delta C\equiv\delta Ic$.

$\delta Tc\equiv(Lo+P)-T$.	household+government-tax unbalance
$\delta M\equiv Mi-Mo$.	dealing among corporate
$\delta E\equiv Ei-Eo$.	export import unbalance
$\delta C\equiv Ci-Co$.	debt−payment unbalance

(3) $Ig-Jg=T-[P+Lg]=T-P-(\delta Lg+\delta L+Lo)=-\delta Tc-\delta Lg-\delta L$.

$\delta Lg\equiv Lg-Li=Lg-(Lo+\delta L)$、$Lg=\delta Lg+\delta L+Lo$

$*0\equiv-\delta Tc-\delta Lg-\delta L\ \rightarrow\ \delta Lg=-\delta L-\delta Tc.\rightarrow\ Lg=Li-\delta L-\delta Tc$.

Above is balance assumption in government.

(4) $Ia-Ja=Eo-Ei=-\delta E$.

(5) $Ib-Jb=[Lg+Co]-[Li+Ci]=(Lg-Li)+(Co-Ci)=\delta Lg-\delta C$.

$**0\equiv-\delta Tc-\delta Lg-\delta L\ \rightarrow\ \delta Ib\equiv Ib-Jb=-\delta L-\delta Tc-\delta C$.

(6)Domestic sum of debt and surplus$=\delta M+\delta E$.

Dealing among corporate s and ex-import surplus$=\delta M+\delta E$.

δL

$\delta Tc+\delta M+\delta E+\delta C\equiv\delta Ic$.

$-\delta Tc-\delta Lg-\delta L\equiv\delta Ig$.

$-\delta E$

$\delta Lg-\delta C$

(7)Global sum of debt and surplus$=\delta M$.

(8)The Conclusion:

(a)Someone must be red while someone is black is invariant in **zero sum theorem**.

A debt for investment should be as a stock investment for less debt amount.

A **debt with pledge** could be canceled at **bankruptcy settlement** someday.

(b)**black** in household,corporate,and bank enforce **government red**(3)**.**

A household and corporate are to seek no-red.

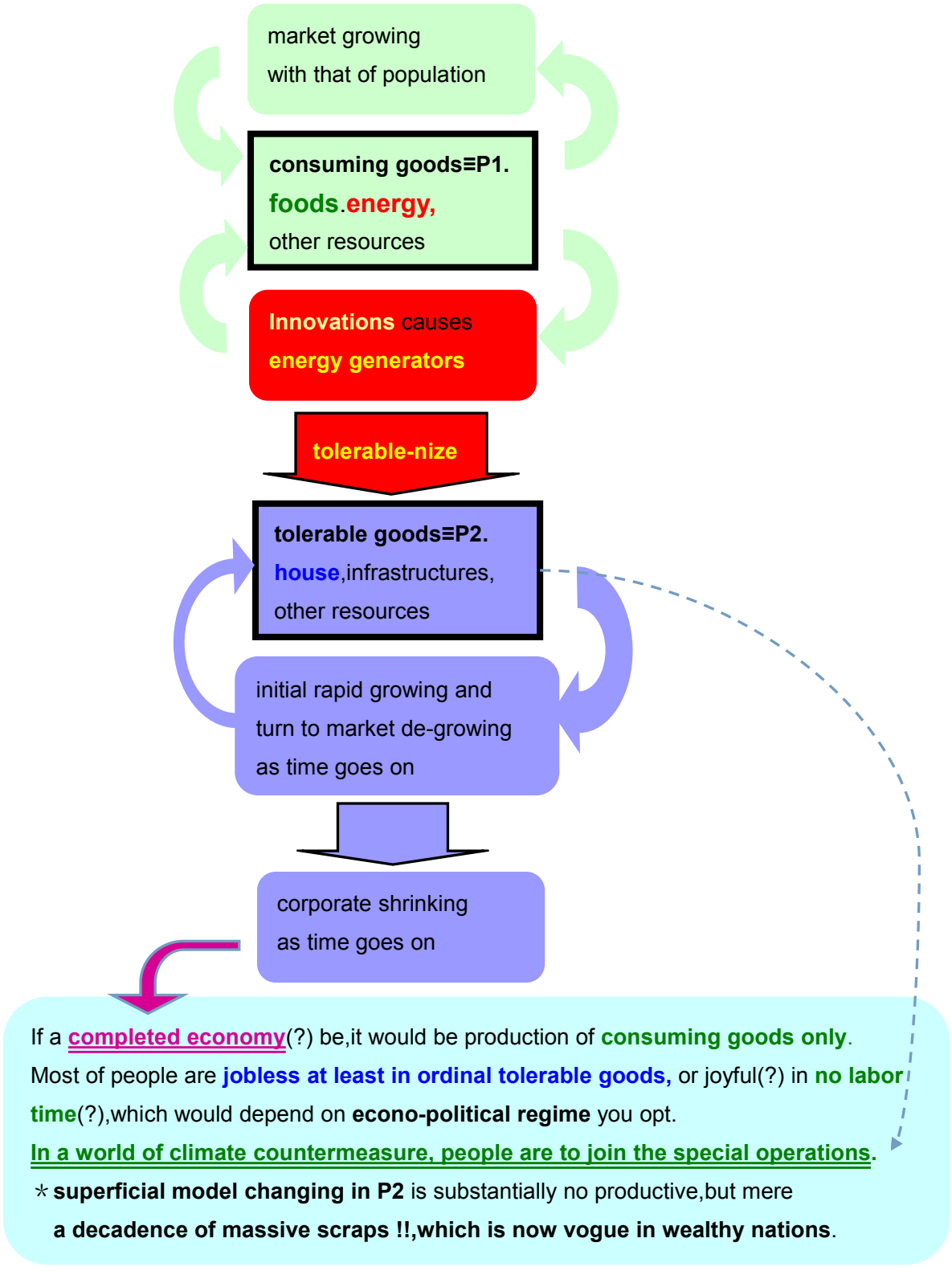
(c)**government no-red** enforce **bank red**<(3)(5)>**.**

(d)some corporates are red,while others are black in (6)<$\delta M+\delta E$>

(e)**Final conclusion=”bank must be red ??!!”.Then is what bank ?!!**

Reds should be vanished(default) while those are small.In such economy society would be almost **zero sum state** in incoming and payment.

APPENDIX_1:**Economy the Macro Conceptual Model_1.**



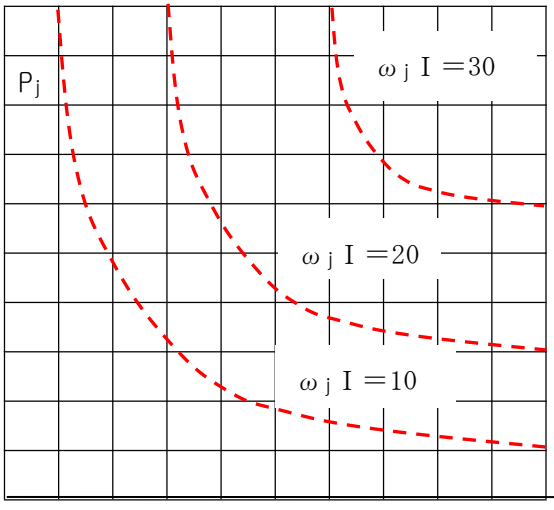
APPENDIX_2:Primitive Model of Inflation and Deflation .

Following are pure relation of accounting in **commercial dealing** .Note meaning of ω_j.

$P_j N_j = \omega_j I$. 〈Macro "I" is monetary flow sum in a nation〉

price of "j"	supply of "j"	payment for "j"	possible total payment	payment probability for "j"	probability condition
P_j	N_j	$p_j = P_j N_j$	$\Sigma_{j=1}^{N} p_j = I$	$\omega_j \equiv p_j / I$	$\Sigma_{j=1}^{N} \omega_j = 1$

Suppose goods N_j is **necessary.** Then payment$= p_j = P_j N_j = \omega_j I$, never be decreased ,even if **income** I decreased.,or P_j price increased . Then ω_j is to increase. ω_j is a **demand intensity** for goods "j". It is a measure of **buyer's will(=mind).**



$P_j = \omega_j I / N_j$. is to increase by

(1)**supply** N_j decreasing.

(2)payment $\omega_j I$ increasing by linearly.

(3)**demand** ω_j increasing

(4)**money supply** I increasing

(possible payment increasing)

(5)it becomes **uncertain** by ω_j increasing while I decreasing,or the reverse case.

(6)Most accurate is $P_j = \omega_j I / N_j$.

$\omega_j I^{(k)} \equiv \Sigma_{k=1\neq j}^{N} \omega_{jk} I_k \equiv \omega_j \Sigma_{k=1\neq j}^{N} I_k \equiv$total payment ratio to goods "j"..

$I \equiv \Sigma_{k=1}^{N} I_k$.

$I^{(k)} \equiv \Sigma_{k=1\neq j}^{N} I_k \equiv I - I_k$.

$\omega_j \equiv \Sigma_{k=1\neq j}^{N} \omega_{jk} I_k / \Sigma_{k=1\neq j}^{N} I_k$. 〈the average in each goods of $\{j=1, 2, 3, \ldots, N\}$〉

$\omega_0 I \equiv \Sigma_{k=1}^{N} \omega_{kk} I_k \equiv \omega_0 \Sigma_{k=1}^{N} I_k \equiv$sum of surplus.

APPENDIX_3:Price＝Cost Calculation Model 2013/11/12

⑴Supply Side Economics（＝PN):

Problem of **cost analysis(P)** and **demand(market size(N)) anticipation** is crucial in **Supply Side Economics in Pragmatical one**.

total	man-power ＋education －education	energy	resource-consume	resource-tolerable	(de)**profit** **surplus (debt) -for investment** ±Q	tax(grant) ＋t
	management engineering labor	electric, oil others	materials commu-transport services	land, residence, tools,etc		
P＝	＋m	＋e	＋r_c	＋r_t		

http://www.dwmbeancounter.com/tutorial/lesson03.html

http://www.slideshare.net/k1maeda/ss-21655773

⑵What and How much shall we product the goods?

＝How many the consumer would be ?.

This is a crucial problem of **supplyers**,as are known well(N＝**market size problem**).

⑶Demand Side Economics(＝$\omega_{jk}\,\mathrm{I}_k$).

Demand Side Economics is that of **consumers(k)** who decide how much and for what (j) they shall pay＝$\omega_{jk}\,\mathrm{I}_k$ from possible payment＝I_k.

⑷Dealing in Market is balance measure for supply side and demand one.

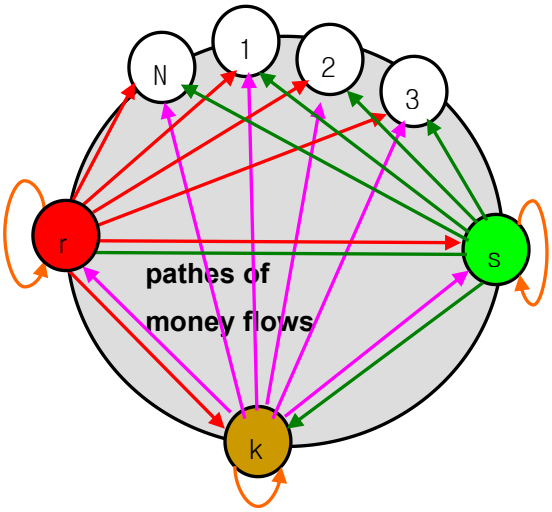
$P_{jk}N_{jk}=\omega_{jk}\,\mathrm{I}_k$.

APPENDIX_4：Multiplier Effect(outgo propagation by money injection).

Cash is to proliferate by many times **spending** in many paths of buyers to sellers

(1)Money is a wonderer in **Economy Networks** from someone to someone as time goes on.

Then cash could expand to be more money than original cash amount in process(paths).



In the below model,economy actor=k get income= ΔI_k.which outgo toward{1,2,....k,...,N} at fist time,

Then k's income pay to deposit$=\omega_{kk}\Delta I_k$.

Those(r=1,2,...,k,...,N} who got from k by $\omega_{rk}\Delta I_k$

is to outgo toward {s=1,2,...,k,...,N} by $\omega_{sr}\omega_{rk}\Delta I_k$.

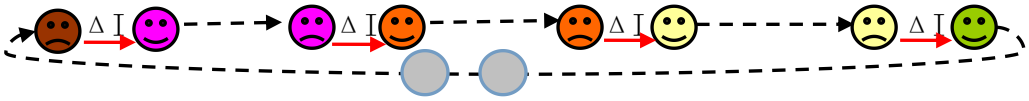
Then also deposit sum is $\Sigma_r\omega_{rr}\omega_{rk}\Delta I_k$.<2nd time>.

Those(s=1,2,...,k,...,N} who got from r by $\omega_{sr}\omega_{rk}\Delta I_k$

is to outgo toward {t=1,2,...,k,...,N} by $\omega_{ts}\omega_{sr}\omega_{rk}\Delta I_k$.

Then deposit sum is $\Sigma_{s,r}\omega_{ss}\omega_{sr}\omega_{rk}\Delta I_k$<3rd time>.

t_0	t_1	t_2	t_3	t_3
I_1	$I_1+\omega_{1k}\Delta I_k+.$	$\Sigma_r\omega_{1r}\omega_{rk}\Delta I_k+$	$\Sigma_{r,s,}\omega_{1s}\omega_{sr}\omega_{rk}\Delta I_k+$	.....
I_2	$I_2+\omega_{2k}\Delta I_k.+$	$\Sigma_r\omega_{2r}\omega_{rk}\Delta I_k+$	$\Sigma_{r,s,}\omega_{2s}\omega_{sr}\omega_{rk}\Delta I_k+$	.....
.....				
.....				
$I_k+\Delta I_k$	$I_k+\omega_{kk}\Delta I_k+$	$\Sigma_r\omega_{kr}\omega_{rk}\Delta I_k+$	$\Sigma_{r,s,}\omega_{ks}\omega_{sr}\omega_{rk}\Delta I_k+$	.....
.....				
I_N	$I_N+\omega_{Nk}\Delta I_k+.$	$\Sigma_r\omega_{Nr}\omega_{rk}\Delta I_k+$	$\Sigma_{r,s,}\omega_{Ns}\omega_{sr}\omega_{rk}\Delta I_k+$	.....

$\alpha\ \Delta I=$ 

Note cash in hand is dead(deposit),cash become **alive only by having spent !!!**

In money wondering,own paying of **deposit in hand** become no payment to others which does not expanding consuming in next times.Note sum of each $\{t_k\}$ is ΔI_k,but some portion had become deposit by ratio $(1-\mu)$. That is, consuming money sum very coarsely becomes $J=\Delta I_k[\mu+\mu^2+....+\mu^n+...]=\Delta I_k\mu/(1-\mu)=\alpha\ \Delta I_k$,<$0<\mu<1$>as time goes on.

Note $J=J_1+J_2+....+J_s+.....+J_N$. <"s" sector has its-own distribution ratio$=J_s/J$>.

Once the wondering money got into no consuming(especially in recession),

propagation effect becomes downward. The reversal is also right.

⑵**effect by monetary supply expanding：**

multiplier effect constant(?) is told about order of $\alpha \fallingdotseq 10$.

⑶**Monetary base**

http://www.honki-kabu.com/report/a00012.html

US$（currency amount 73.2T¥ / GDP≒ 14.5T$）

EC€（currency amount 82.9T¥ / GDP≒ 12.5T$）

China Yuan（currency amount 40.8T¥ / GDP≒ 5.9T$）

Japan yen¥（currency amount 76.8T¥ / GDP≒5.5T$）

⑷**Wide meaning currency**

http://doraa.weblog.to/archives/1906963.html

US$ ＝12.4(T$）

EC€ 8.463(T ε)×1.406＝11.9（T$）

Japan¥ 1050.6(T¥)×0.011＝11.5（T$）

	GDP	wide meaning money	monetary base	α ＝wmm/mb	
US$	14.5T$	12.4(T$）	0.805(T$）	10.0	
EC€	12.5T$	11.9（T$）	0.912(T$）	13.0	
Japan¥	5.5T$	11.5（T$）	0.845(T$）	13.6	
	2010	2008	2007		

Note $1 ＝91¥ in above conversion..

APPENDIX_5: Monetary base could create deposit moneys non-cash. 2013/11/14

(1)**The primitive model of stimulated monetary flow in deposit by monetary base .**

Note the definition of M1,M2 here is similar,but different from actual ones.Reader must be familiar with **zero sum theorem**<**total sum of debt**=**total sum of bond**>.

http://www.777true.net/Zero-Sum-Theorem.pdf

(a)Central Bank issues **cash of volume**=$M1_{CB}(t)$ by **own debt**[1] to commercial banks with the **bonds of interest rate.** . .....$M1_{CB}(t)=\Sigma_{k=1\neq CB}{}^{6}M1_k(t)$.

[1]See **APPENDIX_6**: [2] See **APPENDIX_4**:

(b)**Low of No Idling Cashes**(**monetary multiplier**[2]) .

Economic actors leave **minimum cash**=$\Sigma_{k=1\neq CB,\,pb}{}^{6}M1_k$ in their hand and deposit **rest cash**=$M2_{pb}$ to banks to gain interest. None wish **idling cashes !**.

$M2_{pb}=\alpha\,\Sigma_{k=1\neq CB,\,pb}{}^{6}M1_k$. $(0<(1/\alpha)<1)$. <rate of cash in hand>.

α_h=deposit average/household cost average by cash=$M2_h/M1_h\fallingdotseq 300/30$

α_c=deposit average/corporate cost average by cash=$M2_c/M1_c\fallingdotseq 300/30$

$\alpha_g=M2_g/M1_g\fallingdotseq 0$、 $\alpha_a=M2_a/M1_a\fallingdotseq 0$.

"Very coarsely to be told , α (monetary multiplier) $\fallingdotseq 10$(USA), 13(Japan) " .

(c)rest cash in **bank account**(=**M2**) could be used as a cash by interbank dealings.

It is **debit card dealing**.

(d)Thus money is not only cash,also **various deposits** could be cash in dealings.

	household	corporate	**finance private**	governme nt	**Central Bank**	abroad
Cash	$M1_h$	$M1_c$	$M1_{pb}$	$M1_g$	$(-M1_{CB})$	$M1_a$
Deposit (Bond)	$M2_h$	$M2_c$	$M2_{pb}$	$M2_g$	$M2_{CB}=M1_{CB}$	$M2_a$
Debt	D_h	D_c	D_{pb}	D_g	$D_{CB}=M1_{CB}$	D_a

$M1_{CB}(t)=\Sigma_{k=1\neq CB}{}^{6}M1_k$. <**Monetary Base at time=t** >

$\Sigma_{k=1\neq CB}{}^{6}M2_k=\Sigma_{k=1\neq CB}{}^{6}D_k$. <**Total monetary asset=Total debt**>

(e)rate of ready cash money in private bank $\xi_{pb}=M2_{pb}/M1_{pb}$.

(f)No idling cash principle is to mean whole of {M1+M2(=debt)}is and was being in dealings. That may be possible payment I ,however the duration is not a year..

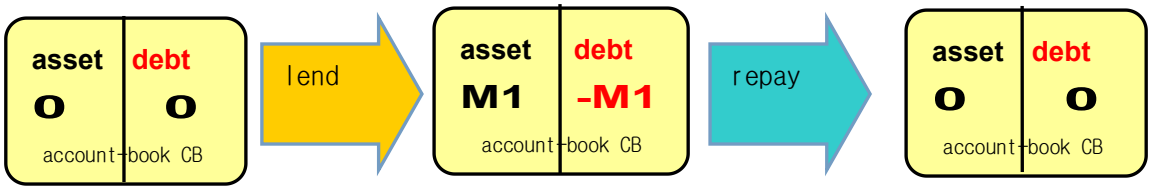
(g)Possible payment I in a year may be proportional to monetary base=$M1_{CB}$.

That is,the variation may be the same ?. $\Delta I/I\fallingdotseq\Delta M1_{CB}/M1_{CB}$.

APPENDIX_6：The Significance of Own Debt of Central Bank.

(1)Reader must completely recognize **zero sum theorem** in finance<**0**＝**bond**－**debt**>.
http://www.777true.net/Zero-Sum-Theorem.pdf

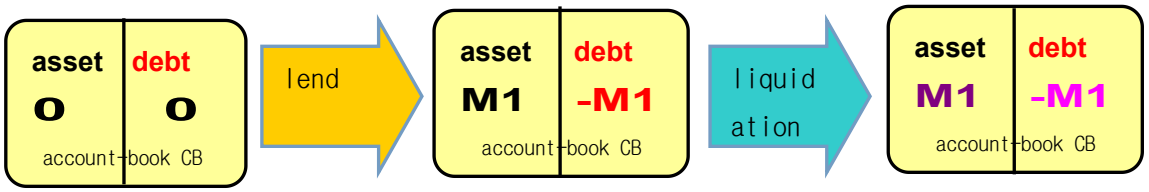
Issuing Printed Money into commercial banks(debt for the banks and **bonds for CB**)is **rationalized by own debt of CB**,the money must be vanished to **zero** when commercial bank have repaid to CB.This is entirely rational so long as **keeping zero sum theorem**.



"In this scheme,any time zero sum theorem has been not being broken"

Gold or silver coins are valuable(price) by its substantial value which are given by issuer government who make **additive value by works**.This is comprehensible by anyone.
While printed money has no such value,but the creditability authorized by government.
The actual price could be maintained the zero sum theorem mechanism(own debt).
Unless the mechanism,much issuing money is to cause inflation of reducing value of the printed money.So long as the mechanism of own debt would be,money may be credible,

(2)**If commercial banks or debtors would have failed in repayment debts,....**
Those are defaults,which must be liquidation-ed by purchasing guarantees.
So called QEX in USA,Japan have been substantially purchasing bonds,and assets of them



(a)If CB succeeded to resale M1(guarantees) and got cash M1,M1 must become vanished to zero(case(1)). This is normal mode.

(b)If failed to resale M1,**zero sum theorem is to be broken to inflation.**
Because printed money could not to return to CB for must becoming zero

(c)**Moral Compensation for Causing Inflation**＜This is authors opinion,but not...>
CB must be public which authority can be due to **massive people's trust**. Those **accumulated assets** in CB should be redistributed to public.**CB purchasing guarantees is nothing,but Nationalization of Wealth !!!.** If you do not wish nationalization,those debtors must opt **defaults with liquidation** by own private efforts **without aid of public CB**.

APPENDIX_7：Effect to Price Index by Financial Operation by Government .

Price index is directly crucial for nation people's life,which could be operated by financial policy of government who has been in **deadly debt hell** in recent years.

Central Bank(CB) began **massive monetary supplying** called **quantitive easing(QE)**.

(1)**Price Index(≡PI)**:

(a) $P_k N_{kj} = \omega_{kj} I_j$. <**micro relation**> {j,k=1,2,3,....,f,.....,N}

(b)→ $P_k N_k = \omega_k I$. <**macro relation** in market "k">

$\sum_{j=1\fallingdotseq k}^{N} P_k N_{kj} = \sum_{j=1\fallingdotseq k}^{N} \omega_{kj} I_j$. <summation in domestic>.

$P_k \sum_{j=1\fallingdotseq k}^{N} N_{kj} \equiv P_k N_k = \sum_{j=1\fallingdotseq k}^{N} \omega_{kj} I_j \equiv \omega_k \sum_{j=1\fallingdotseq k}^{N} I_j \equiv \omega_k (I - I_k) \equiv \omega_k I^k$.

☞: In above summation for goods k,actor producing k will not buy own product=k.

In general, $\omega_{kk} I_k$ is **payment to own**,it is **surplus for deposit** not relating with PI.

＊$\omega_k \equiv \sum_{j=1\fallingdotseq k}^{N} \omega_{kj} I_j / \sum_{j=1\fallingdotseq k}^{N} I_j$. <average value>;

＊total pay value： $I^k \equiv \sum_{j=1\fallingdotseq k}^{N} I_j \fallingdotseq (?) \fallingdotseq \sum_{j=1}^{N} I_j \equiv I$.

.

(c) $P_k = (\omega_k / N_k) I^k$. . . . . this is a relation for market "k" in the statistical averaging.

☞: There is **no official statistics** on $I^k \equiv \sum_{j=1\fallingdotseq k}^{N} I_j$.

(d)Relation of monetary operation between ($\Delta M1_{CB}/M1_{CB}$) and ($\Delta I^k / I^k$).

How much monetary supply increasing=$\Delta M1_{CB}$ would effect that of market "k"= ΔI^k ?.

The details could be seen in **APPENDIX_5<caution this is rather uncertain at now!!>.**

(e) $\Delta P_k / P_k = \Delta(\omega_k / N_k) / (\omega_k / N_k) + \Delta I^k / I^k = \Delta(\omega_k / N_k) / (\omega_k / N_k) + \Delta M1_{CB}/M1_{CB}$

$= \Delta \omega_k / \omega_k - \Delta N_k / N_k + \Delta M1_{CB}/M1_{CB}$.

(e) "***price(goods "k") variation ratio***
=that of demand−that of supplying+that of monetary."

＊$\Delta(\omega_k / N_k) / (\omega_k / N_k) = [\Delta \omega_k / N_k - \omega_k \Delta N_k / N_k^2] / (\omega_k / N_k) = \Delta \omega_k / \omega_k - \Delta N_k / N_k$.

$\Delta\omega_k > 0$ demand increase	$\Delta N_k > 0$ supply increase	uncertain
$\Delta\omega_k > 0$ demand increase	$\Delta N_k < 0$ supply decrease	**price higher**
$\Delta\omega_k < 0$ demand decrease	$\Delta N_k > 0$ supply increase	**price lower**
$\Delta\omega_k < 0$ demand decrease	$\Delta N_k < 0$ supply decrease	uncertain

Price could not be operated only by monetary operation($\Delta M1_{CB}/M1_{CB}$)in general.

However **the massive long years operation** could cause **drastic change in price index !!**

example_1)10％PI increasing/year would be (1.1)^10＝2.6 times in 10 years.

example_2)20％PI increasing/year would be (1.2)^5＝2.5 times in 5 years.

example_3)a price of **rice** soared 2500¥/10Kg to 3500¥ (40％ high)in a year in Japan.

⑵**"quantitive easing(QE) by CB" into financial sector(zero sum game players).**
The brutal and relentless Investers with global massive money has been entirely seeking **the most profit** in the markets of **stock**, **bonds**, **exchange**,and **goods** trade markets (**foods**, **energy**(oil,),**gold,**and...)by the **marginal profit**.

☞:**Bigger money** could "**rule prices**" in markets !!!.QEX is the typical example !!!.

⑷$P_{kj}N_{kj}=\omega_{kj}I_j$. {j,k=1,2,3,....,f,.....,N} j=general buyers and sellers.
⑸$P_{kf}N_{kf}=\omega_{kf}I_f \fallingdotseq 0$?. f=financial buyers(including abroad)
By QEX,financial market is now good,while other are bad in 2013.
"More than $2.5 trillion has been erased since Ben Bernanke said…" 6/13, 2013
http://www.policymic.com/articles/64699/fed-press-conference-why-qe3-will-never-end
Note USA GDP=16.38T$. Government Budget=3.803T$.
Massive money was injected to markets,while the response seems local,but not global? .

⑹effect in general goods markets: Mentioned in ⑴.

⑺**effect in exchange market:**
The direct effect is N_{kf}=increasing volume of monetary supply itself in $(¥)market.
Also cheap price demand decreasing ω_{kf} in **foreigners** causes ¥ price down in exchange market by foreigners.
$P_{kf}=\omega_{kf}I_f/N_{kf}$. < ω_{kf} decreasing(?) and N_{kf} increasing causes lower price of <¥>.
View from **importer**,own money price down causes higher cost in import ,which turn higher goods prices in domestic.

⑻**effect in stock markets:**
Investing money increasing I_f causes buy trend for possible higher price goods in financial market(no idling money low),,that is evident-direct-inflation in the markets.
$P_{kf}=\omega_{kf}I_f/N_{kf}$. < I_f increasing causes higher prices>.
Therefore Investing money decreasing I_f is to turn the situation at now(2012,2013).
15 Signs That We Are Near The Peak Of An Absolutely Massive Stock Market Bubble
http://propheciesoftheendtimes.com/15-signs-that-we-are-near-the-peak-of-an-absolutely-massive-stock-market-bubble/
The financial markets have been soaring while the overall economy has been stagnating. Reckless injections of liquidity into the financial system by the Federal Reserve have pumped up stock prices to ridiculous extremes, and people are becoming concerned

(f)**effect in national bond markets**：

＊Higher stock price causes higher interest in bond market due to relative weak flow into bonds.

In a bond market,,goods is debt of money amount＝M_{fg} with interest R_{fg}.

Seller is **financial sector**="f "and **buyer is debtor** government="g" who must pay price of interest＝$\omega_{fg}I_g$ periodically in a certain time interval.ω_{fg}＝**interest cost ratio in budget.**

$M_{fg}R_{fg}=\omega_{fg}I_g$. 〈Price is interest rate＝R_{fk}＝,debt volume＝M_{fg} in **bond market**>

Above is **interest(price)payment** by debtor government in dealing volume.=M_{fg}. Then **injecting money into financial sector by QE(X)**,then **product volume** of M_{fg} becomes larger which turn **price** of interest R_{fg} lower.It is merit of government for a while.However **soaring financial cost total**≡$\Omega_{fg}I_g$＝(1+R_{fg})M_{fg}＝(**principal+interest**) is crucial against inflation risk in coming future,which would have been higher & higher toward catastrophe.

The last way is **risk-less CB** who would have been buying toward **hyper-inflation**.

See "broken down of zero sum theorem" in **APPENDIX_6**：(2)(b)

APPENDIX_8：Government Bonds in Coming Years .

Mentioned in above,debts in private has been trading into government and central bank.

Once again the basic is reviewed here. **Bond operation** would be crucial in coming years.

(1)Monetary assets＝Bonds by ZST(zero sum theorem).

$A(t)\equiv\omega_{jj}(t)I_j(t)$： **surplus**

$D(t)\equiv D_j(t)$. ： **debt**

(2)Real Assets＝lands,residence,gold,.....,corporate(stock),

In coming future of **climate collapse world**,real assets(foods,energy)would become crucial.

Never focus not only on monetary assets,but on real assets.Possession of productivity of foods & energy would become crucial in coming era !!!. This fact must be **national policy**.

Also real assets would become **guarantees** in liquidation by default.

$R(t)\equiv\int_{-\infty}^{t}dt\sum_{k=1\neq s}^{N}\omega_{kj}(t)I_j(t)$：accumulated **real assets** by current prices.

＊$\sum_{k=1\neq s}^{N}$ means sum on tolerable goods,not in service,or instantly consumable goods.

$R(t)\equiv\int_{-\infty}^{t}dt\sum_{k=1\neq s}^{N}\omega_{kj}(t)I_j(t)\exp(-t/\tau_k)$：

accumulated real assets by **depreciation function**=$\exp(-t/\tau_k)$ with the constant?＝$\tau_k(t)$.

If $\tau_k(t)<0$, then goods price in reservation are soaring.

	household	co-goods	co-finance	govnment	Cent-Bank	abroad
household	$A_h - D_h$ R_h					
co-goods		$A_{cg} - D_{cg}$ R_{cg}				
co-financ			$A_{cf} - D_{cf}$ R_{cf}			
govrnment				$A_g - D_g$ R_g		
Cent-Bank					$A_{cb} - D_{cb}$ R_{cb}	
abroad						$A_a - D_a$ R_a

In coming inflation era,real assets would be **real effective** and has been in each sectors.
Note real assets become also **guarantee** for **liquidation by default event**.

⑶Too much national bonds would cause catastrophe at last !!!.

The global recession has been due to entirely private sectors,but not public one.Then bailout is monopoly of government,however it is the government who has been being most damaged by **national bond** which essentially must be paid **by wealthy** in private sectors.
"By anyhow, government could not repay the outrageous debts by normal ways"
By anyhow,prolonging current regime, catastrophe(**hyper inflation or default**) in someday is inevitable.The doomsday would become **double by both financial and climate crisis**.

⑷Difficulty of government repayment by increasing Ω_{fg} with decreasing I_g.

Now government has been in debt hell in repaying debt by increasing debt !!.
It is **"financial cost expanding" in less revenue for** I_g by **increasing** principal repayment M_{fg} with interest payment $(1+R_{fg})M_{fg}=I_g$.
Note **government budget of** $(1-\Omega_{fg})I_g$ ={**social welfare,public works,.....**.}has been becoming lower & lower as time goes on,which turn to cause more **social poverty.**

⑸**The deadly Government financial situation.**

⑷**USA**(USA GDP=16.38T$,Budget＝3.803T$).

USA government 2013 data: http://www.mofa.go.jp/mofaj/area/usa/keizai/eco_tusho/us_2013.html		
income＝3.803T$	income contents rate	**outpay＝3.803T$**
revenue＝2.902T$	76.3％	budget＝3.803T$
debt＝(3.803-2.902)＝0.901T$	**23.7％**	financial cost % ???

Government total debt is **$16.77 trillion** as of M/ 31/ 2013.

http://en.wikipedia.org/wiki/United_States_federal_budget

Financial cost in government is payment sum of **interest** (R_{fg})**$223 billion** in FY2012 (6 ％).and **principal**(M_{fg}).＝???

⑸must see **AMERICA'S TOTAL DEBT＝59T$(+117$T).**< GDP=**16.38T$**>.

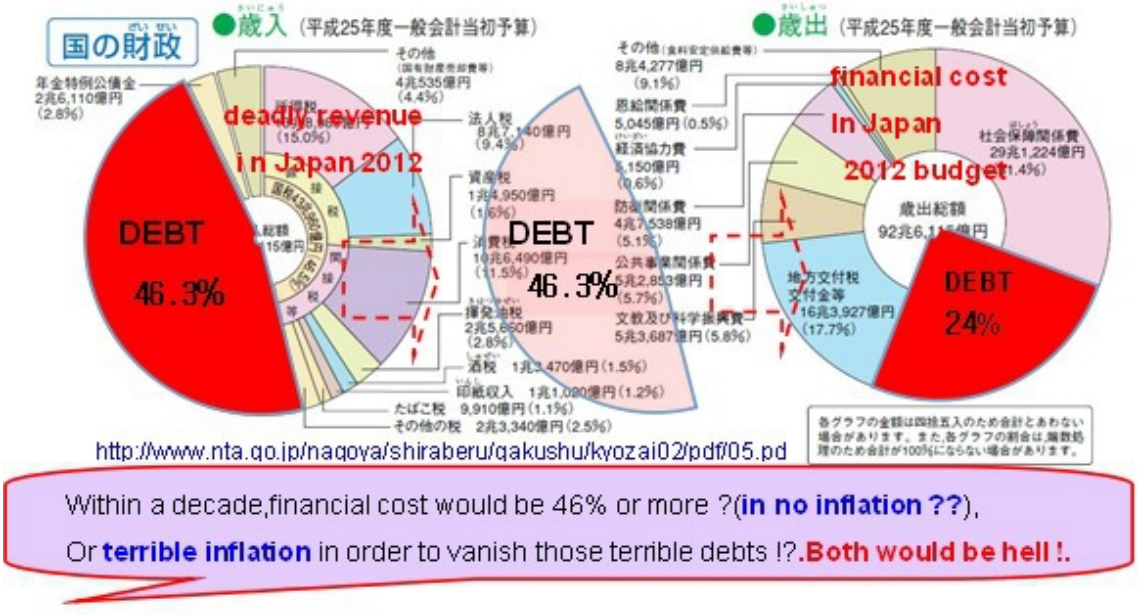
http://grandfather-economic-report.com/debt-summary-table.htm

Especially note that **USA** has been the **top debt nation** in the world !!.

⑹**JAPAN(**Japan public DEBT＝1008T¥,GDP=520T¥,Budget＝90T¥**).**

Following are data in **Japan** government 2012.They has been just in **debt hell** at now !!!.

http://www.chuo-u.ac.jp/research/institutes/economic/publication/discussion/pdf/discussno205.pdf#search='QE3%2C%E6%B3%A2%E5%8F%8A%E5%8A%B9%E6%9E%9C'



⑺**increasing national financial cost** in the interest and principal(24% in Japan).

Higher principal and the interest with less credibility is fatal for **nation budget**.

⑻the higher interest might enhance investment by degree of **default & inflation risk** for the time being,however **less revenue is to cause massive national bond again & again with higher interest** ,and which is to cause more poverty of government toward **repeated massive issuing bond** or **default** due to **increasing portion of financial cost** in **national budget** day by day .

⑼**Massive bond purchasing by central bank would cause inflation at last.**

If none will buy nation bonds due to higher risk in coming future,then what to do ?.

The last only way is buying by central bank,which is to break zero sum theorem.

See "broken down of zero sum theorem" in **APPENDIX_6**：⑵(b)

Inflation degree may very globally and coarsely be measured by PI＝Ｉ(t)／Ｉ(0)

where Ｉ(t) is **monetary flow at now**＝(t).. Ｉ(0) is that of standard year.

In coming future,perhaps **foods price** would soar due to less supplying by climate collapse, while massive people belonging not to **agri-business** might lose their jobs.

The evil global elites dose not wish recovery of peaceful,but challenging the final game.

The inflation is to be decisive to poverty<**operation EndGame**>

⑽**Default Option by Government**<There are nothing,but two options !!>.

Once again see **[0]**： ⑹***How to decrease Debts ??!!.***

It is government who has been **the most debtor(in substantially bankruptcy)** !!.

Nothing government would be anarchy state of confusion !!!.

(a)**Total Debt Decreasing in relative value could be possible by growing inflation which is possible only by issuing money by Central Bank.**

It is long term chronical death of massive people with less pain.???

(b)**Total Debt Decreasing in absolute value could be possible only by default(or,..)with liquidation(debtor & creditor canceling dealing).**

It is sudden death of wealthier creditor with larger pain ?(gaining guarantees !).

Author consider (b) is normal with some confusion, while (a) is global chaos.

(b)could not allow continuing debt by anymore,so the **liquidation** and **new money** would be necessary.It's a **revolution** !!!.

⑹**They should have been tax payer,while gaining profit from nation.It's upside down !**

To tell from very beginning,**nation has been victim by wealthy** who should have been **decent tax payers**,while they have been evading decent duty.Consequently ,nation had become poorest.They must be accused for their moral-less.However the moral could not apply for **foreign creditors**.They should be repayed by **guarantee**. The world now has been ruling by those who have been upside down against righteousness .

⑹Historical viewing on **hyperinflation events**,those were almost massive chaotic world. Perhaps normal tasks would have been intercepting due to the unnecessary chaos. Such events would not be allowed when the world has been facing deadly climate collapse. In era of global emergency,inflation would cause more chaos⑾.

⑹Hyperinflation would be an important plot of **operation EndGame** to damage people.

⑹To tell **strict economy principle for monetary policy,**those must be consistent with **zero sum theorem** which will not allow fraud printing money without returning to central bank to be annihilated.**It is also righteous and crucial mechanism intercepting inflation. A printing money without substantial value** must originally be zero. Nothing returning money to central bank is **violence** with **the original rule of ZST**. Those buying private sectors assets by central bank is evident violence with the ZST. It also betraying on **massive trust on decent printing money by people**.

＊See "broken down of zero sum theorem" in **APPENDIX_6**：⑵⑹.

However Inflation in order to cancel deflation by policy may be allowable by certain degree.

⑾**Guessing hyper inflation world !!!.**

Conservative current trend strongly indicates coming inflation era,because the conservative has been hating default event.While government finance has been becoming poor and poor. It is quite similar with current trend of **strong neglecting climate debt**(CO2 accumulation causing deadly climate).The latter debt must be reduced,or we would face mass extinction. Similarly,**continuing monetary debt increasing** could nothing,but increasing money printing by CB, which could not be nothing,but hyperinflation at last. It's also nothing ,but **global chaos**. **People had better to become farmers to secure own life in coming era. Also nation policy must recommend and assist this crucial and fundamental project.**

⑿**The announcement reaction.**

Those who could see coming inflation era,they would not invest long term bond.
That is losing creditability of bond,which would sore bond interest,which would cause more poverty of government.Then money printing by CB would become crucial.
This is also toward hyperinflation.

⑬**Barter trading(zero sum theorem)would become popular in coming inflation world.**

This is preferable by no concern with exchange rate of money(**prices by virtual money**).

Honest satisfaction both in buyer and seller could be possible. **Study this system !!!.**

http://www/pakalertpress.com/category/survivalism/

Above all,real assets is real in coming unstable world !!!.

⑭**New money regime with new policy.**

Default declaration by government is crucial on national finance policy,because none would lend debt to those debtor by anymore.Then **liquidation procedure** shall become real.Also **new money policy** shall become real.It is revolutional event which must be well programed. Because **the debt money sum is unprecedented and outrageous !!!.**

Because of those,**certain degree of inflation** become crucial for debtor government.

Yes, inflation policy would have been crucial for debtor government for a while.

Or compromise option might be cheaper guarantees dealing in earlier default operations.

It is equivalent to default dealing in hyperinflation time.It would be far better than to make bond toilet paper. By anyhow,nation people life would be compel poverty ,but new money regime must be active to settle coming chaos..

New money regime must be considered also climate bankruptcy,reality of which is far more crucial than financial one. The more details of this problem shall be mentioned in http://www.777true.net/Life-Assurance-by-National-Strategy-in-coming-climate-WAR-TIME.pdf.

W Liquidation in finance & climate debt toward building new money regime.