New Economic System Based on 2D Money

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Abstract

This work proposes a New Economic System (NES), which includes the best aspects of planned and market economies and adds to them the economy of merit, sharing economy and others.

The operating unit of the NES is two-dimensional money (2 D money), consisting of two components, D1 and D2, which have a physical dimension and are not subject to fluctuations and drift.

The money component D1 describes the average amount of social labor required to create goods (goods and services). The unit of measurement D1 is time. D1 money is used for the profit-free purchase and sale of goods, and the credit interest on D1 is always zero.

The market in the NES is based on the money component D2, and this money is created “out of nothing” upon the delivery of one or another benefit, proportional to the corresponding useful work of the goods, and becomes the property of persons involved in the production, ownership and consumption of these goods.

The physical meaning of money D2 coincides with useful work in mechanics. The unit of measurement D2 is time to the second power. D2 money is used for the competitive purchase and sale of rights to purchase scarce goods, including public resources for creating and developing a business, and profit and credit interest on D2 are arbitrary.

Keywords:

planned economy, market economy, merit economy, sharing economy , time-based economics , non-profit economy, Islamic banking, new political economy, new economic system, finance, banks, money, two-dimensional money, 2D money, 2D money, 2D money project , "2D money project ".

Summary.

A market economy system in which entrepreneurs compete with each other and the best of them receive personal ownership of the largest share of the product of social labor, which they use to produce new goods in accordance with the needs of the market - this is a good model, which in practice works poorly because in the process of such competition, to a large extent, mutual suppression of the efforts of different groups of people occurs instead of their consolidation.

In addition, a large concentration of real resources in one hand is fraught with their useless or even harmful waste due to the greater likelihood of choosing erroneous goals in the absence of their preliminary competent study

and public approval.

A planned economy corrects many of the shortcomings of a market economy, but it also adds its own - excessive bureaucratization, low speed of innovation, and incomplete satisfaction of consumer demand.

Other, lesser-known types of economies also suffer from their own limitations and cannot fully replace the global systems described above.

In my opinion, the main problem of all economic systems known today is that real economic relations are not “one-dimensional” and cannot be fully controlled using the “handle of one tap” that regulates the flow of “one-dimensional” money.

If in order to wash normally in the shower we need two regulators - a cold tap and a hot tap, then really it should be easier to manage the economy of a large country or the whole world than with a household shower?

An additional problem of our “Old Testament” economy is the fact that there is no “hard” equivalent for any currency we use. The basic unit of measurement in economics - money - is too much like a "rubber meter".

Financial and economic innovation suggests itself: in order for the economy to find solid ground under its feet and become much better manageable (at least no worse than a household shower), its dimension must be at least doubled, that is, the introduction of two-component (two-dimensional, 2 D) money, as well as the linking of each individual component of this new money to a solid physical quantity.

This is exactly what the New Economic System (NES version 4.1) does, which integrates the best aspects of many well-known (including radically different) “one-dimensional” economic systems, economic principles and economic objects:

-market economy (for the purpose of making profit),
- lending at a percentage of profit,
-planned economy,
- profit-free economy,
- time-based economics (banks time, rose Peters) ,
-religious ban on interest rates (Islamic banking),
- sharing economy ,
-economics of merit (meritonomics),
- gender-balanced economy,
-Silvio Gesell's free money.

And what is characteristic is that NES not only combines incompatible things, but also achieves a synergistic effect!

All this becomes possible thanks to the introduction of two-component

money, D1 and D2, which have a solid physical dimension.

At the same time, the economy itself turns from one-dimensional to two-dimensional.

As you know, an infinite number of lines can be placed on a plane, some intersecting or not. It is thanks to this that on the two-dimensional plane of the NES, poorly or completely incompatible economic entities listed above (incompatible when placed on a one-dimensional line) can be placed without conflicts.

The main goal of the NES is not only to save the “old” world economy from total collapse, to which it will inevitably come if it is not replaced by a new one, but also to create conditions for the reproduction and controlled growth of the population of economically developed countries, which is currently steadily declining .

I will allow myself one more cardinal statement: only in the NES will the slogan of the Great French Revolution be fully implemented (in an expanded interpretation to complete gender equality):

"Freedom, Equality, Sisterhood and Brotherhood!"

In NES language this slogan has the following equivalent:
" Money - 2, Money-1, Sharing Economy + !" .

(" Sharing Economy +" is an expanded version of Sharing Economy - since in the NES, not only any commodity goods, but also money itself, and in addition - many personal goods and even the main part of the population reproduction process can be shared.)

Next I will give a technical description of the NES.

The main operating unit of the NES is two-dimensional money, consisting of two components, money D1 and D2, which have a physical dimension and are thus not subject to random fluctuations.

The money component D1 is based on the labor theory of value and it conveys the amount of social labor required to create a good. The unit of measurement D1 is physical labor time.

At D1, a significant tax is introduced into the state budget, which becomes a shared resource, distributed as an interest-free loan in D1 between private entrepreneurs in accordance with their market success.

The amount of money D1 in a person’s personal property is determined by the amount of time he works and it is naturally limited. Both the credit interest

and the profit of producers of goods according to D1 are always equal to zero.

Market relations in the NES use only the money component D2. At the same time, D2 has one mechanism for their consumption and several mechanisms for their arrival, designated as D20, D21, D22...

D20 is the receipt and expenditure of D2 money from the personal funds of individuals and legal entities.

All other parts of D2 - D21, D22 and so on - are c reatio ex nihilo ("creation from nothing"), they are created by the fact of bringing some benefit from the goods and become the property of individuals and legal entities involved in the production, ownership and consumption of these goods.

If harm is brought instead of benefit, then these parts of D2 become negative.

The physical meaning of D2 coincides with useful work, which in mechanics is equal to the product of useful power and the time the work is performed. The power of any good in the NES is proportional to its cost, which in turn is proportional to the labor time spent on creating this good. Therefore, the money component D2 has the physical dimension of time to the second power.

In the NES, a private entrepreneur has the right to arbitrarily dispose of all the income of his legal entity in D2.

The entire income D2 creates the total amount of money D2, which can be spent by its owner in any way, including invested as a deposit or issued as a loan at any interest.

But the main function of spending D2 is the purchase of the priority right to purchase any scarce goods, the demand for which exceeds their supply.

If goods are goods and services, then they have a fixed price in D1, equal to the cost of their production (including the cost of all additional operations necessary to get the goods to their final recipients), and if these goods are in short supply, then their price in D2 is determined free competition among buyers.

If benefits are money D1 from the budget allocated for the creation and development of any type of business approved by the state or society, then they are “rented” in the required quantity through a competition, the winners of which are determined by the criterion of the maximum ratio D2/D1, the ratio of money paid D2 to the money required for business D1.

Thus, the market economy of supply and demand is integrated into component D2, together with the economy of merit - the previously received social benefit from the production and consumption of goods.

Any operations with D1 and D2 can also be carried out by individuals and banks, with the only limitation: the credit interest on D1 is always zero. This restriction eliminates in the NES all the negative side effects of the market economy, which is entirely "locked" in the safe zone D2.

The full cycle of population reproduction, as an animated labor force, is included in the NES economy by analogy with the production of ordinary economic goods. Fundamental algorithms are formulated that integrate any person into the economic space as a producer and consumer of goods.

The equality of people in the NES is ensured by a pricing mechanism based on the labor theory of the value of goods, and it is harmoniously combined with another, market mechanism for the formation of the value of goods, ensuring the mutual difference of people, including on the basis of real data on the use of the useful results of their work.

The work proposes a universal series of formulas for generating flows of the second component of money D2, covering the entire economic sphere of production and consumption of goods and services, as well as the entire population reproduction cycle, analyzed from an economic point of view.

These formulas received a mathematical justification based on the laws of mathematical logic, as well as a physical justification based on the laws of physical mechanics connecting work and power.

A partial consequence of these formulas was the unambiguous conclusion that population reproduction, as well as the processes of raising and educating children and adults, are full-fledged economic acts that should be taken into account and paid for in general in the same way as the costs of producing goods and services.

Introduction.

This work completes the search for ways to save the world, proposing a new economic system of relations, which, unlike the one in which we all now live and work, is based on moral principles, in which universal equality and true democracy are harmoniously combined with useful competition and leadership.

By transferring into practice all my more than 30 years of reflection, described in the 5-volume work and other texts, one can hope to achieve the following global goals , without the use of any coercion and violence:

1. A world without wars and organized conflicts, "butter instead of guns."
2. Economic equality of all people, including full gender equality, and later -

economic equality of all countries.

3. True (not fake) democracy, but taking into account the cultural differences of peoples and countries.

4. Controlled reproduction of the indigenous population of developed and other countries, its growth or reduction (if necessary).

5. Getting rid of damage and harm caused to people and nature as a whole, both physical and verbal.

6. Healthy, hardworking and talented offspring, long life and productive activity for the benefit of society - for every person.

Ways to achieve :

1. Educating all passionate people and elites about the methods of achieving a symphony of innovative ("INN") and conservative ("CON") social forces.

2. Financial disarmament, transfer of "extra" D1 into public ownership (partially in exchange for D2). Simultaneous democratization of authoritarianism, "horizontalization" of power.

3. Building your own TIN and KON subsystems in all countries, creating a global bank TIN and cooperation TIN.

4. Implementation of NES in each country and at the international level.

5. Urbanization in accordance with NUS.

6. New 7th and school, honest media.

Information from other volumes (with additions).

Disadvantages of SES :

-the physical dimensionality of money causes instability of prices and, as a consequence, of the entire economy as a whole - it begins to depend not on objective indicators, but on the mood of people;

- the fundamental immorality of any business, since its main goal is to make a profit (legalized deception and robbery *), which translates immorality into all other areas of life (to give less, to take more in any way);

- the notorious credit interest, driving both businesses and individuals into credit slavery;

-allowing unlimited concentration of capital in one hand;

-eternal right of ownership, a mechanism for inheriting capital with almost no losses.

All this together gives rise to both the possibility of significant innovation (social changes at the will of one person) and the total irreplaceable power of a small caste of very rich people who put the preservation and increase of their power above the harm caused to the rest of humanity and nature as a whole.

Specific harm in the economy is expressed in monopolism, imperfect competition, price gouging, ruin and/or buying up of competitors, the phenomenon of financial bubbles and crises, the issuance of fiat money, robbery of weaker countries, waste of valuable resources, artificial creation of demand for unnecessary and harmful goods and services...

Such disregard for the interests of society will quite soon lead to the degeneration of humanity as a species, including due to the loss of the economic sense of leaving offspring, because this is unprofitable in the SES, where labor resources are freely alienated by capital (stolen on a “legal” basis) from their producers, both private (mothers and fathers) and public (emigration of the “best” from their mother states).

* Profit arises as a result of the victory of the “strong” over the “weak,” and the winners take for themselves “the lion’s share of the spoils,” including what the “weak” produced. This is how immoral ways of achieving “victory” are encouraged - deception, coercion by word or force, robbery, murder... As a result, in any economic act in the SES there is a considerable amount of immorality. Even in charity - “he stole almost everything, and then gave a little back.”

Formula of power - Ashby's law of necessary diversity - for managing society (cybernetic).

V(u) >= V(x) * Kx / (1 - Ku); This is formula (F.2.1.4.) from Volume 1.

The consequences of Ashby's law in simple language - the language of economics.

E >= Kx / (Kx + 1 - Ku); similarly (F.2.1.5.)

With high control accuracy with Ku = 0.5 (when out of 4 control acts only 1 is erroneous), we obtain a very simple relation

E >= Kx/(Kx+0.5),

which, with different safety margins of the system Kx, will give the following values of the minimum share of free capital E in the hands of the ruling elite necessary to ensure this strength (Table T.2.1.5.1.):

Kx	10%	25%	50%	100%	150%	200%	300%	450%
E	17%	33%	50%	66%	75%	80%	86%	90%

Example: if at least 66% of all economic resources of society are concentrated in the hands of the country’s government, then they will be enough to compensate for the maximum (100%) of its instability, when all the resources of the people will be directed against the state. (Kx > 100% is possible when taking into account the influence of forces external to a given state.)

The dichotomy of INN and CON societies , the analogy with the biological role of the sexes (m/f), the difference in the priorities of human rights and the

rights of society.

An irremovable conflict if one type of society dominates in each state. The only solution is to put both types inside each country. Russia as the best candidate.

Main part. The Gospel of Political Economy.

Below is a direct synopsis [L.5] , a presentation of NES version 4.1. Some passages are not summarized in Volume 5 but may be scattered throughout the text and/or may be implied there.

The problem can be solved by the NES , which is based on fundamental changes in its main instrument - the structure and functionality of money.

In addition, the NES includes **three moral principles** :

- “capital” (in SES terminology) should not bring “profit”;
- all types of labor that benefit people have the same basic value (according to D1);
-public resources for business should be allocated to those people who have brought the greatest benefit to this society.

Chapter 1. NES money is two-dimensional money.

About two thousand years ago, one of the main religious innovations arose and was accepted in that the Abrahamic One God “acquired” his three Hypostases - the monotheistic Trinity arose.

And about 4 years ago, one financial and technological innovation arose, which I described in the New Testament of Political Economy (volume 1) - this is the creation of one old entity - ordinary money - of two forms: “material” (Money-1) and “immaterial” (Money-2).

D1 reflect equality, and D2 reflect the difference of people.

Income in D1 is proportional to the volume of a person’s own labor.

Income in D2 is proportional to the benefit it brings to other people.

The same amount of work can bring different benefits.

Sometimes Labor is useless: $D1 > 0$, $D2 = 0$.

Sometimes Labor can be Harmful: $D1 > 0$, $D2 < 0$.

Sometimes Benefit is free, without Labor: $D1 = 0$, $D2 > 0$.

Section 1.1. Functionality of Money 1.

Unit of measurement D1 is the average labor time under average production conditions required to perform a certain type of work, measured among all

specialists in this type of work throughout the entire territory of one state (labor productivity will be different in different countries).

D1 = Kp * Ks * BP; this is the formula [R.1.1]-(F.1)

Where

VR is the physical time a person works.

Kp is the ratio of a person's labor productivity under ideal conditions compared to the average productivity of other people.

Kc is a complexity coefficient that depends on working conditions.

Typically (0.3 <= Kp <=3.0) and (1.0 <= Ks <= 3.0).

Section 1.2. Trading for Money 1.

In the NES, there is completely no profit in D1, and the selling price of any good is equal to its cost for the manufacturer, that is, labor costs.

Any labor on the market is exchanged for exactly the same amount of other labor. Any work is measured in the average amount of labor time, see formula [R.1.1]-(F.1).

The prohibition to have a profit also prohibits all other sources of unearned income under D1, including “loan interest.”

Also, the NES completely eliminates the right of inheritance of (large) property and money by individuals.

The benefits of an inheritance with a value above a certain threshold (several months of labor) are transferred to public ownership or to the ownership of legal entities specified in the will, but can also be rented by the heir, including with special priority.

Any property in the NES is the result of your own labor!

The same rule applies to money, but subsidies are possible here.

Therefore, the land, subsoil and all natural resources are in public ownership.

Instead of private ownership of expensive goods (which cannot be purchased due to their high cost), the right of priority lease is used, so the entire economy in the NES is a Sharing Economy!

Section 1.3. What is Money for? 2.

Scarcity is any good that is not enough for all the people who want to purchase it.

To provide people with fair access to "Scarcity" we need some mechanism to rank all applicants according to their preference as consumers of that scarcity.

In the NES, such a mechanism is Money-2.

In SES, the deficit is distributed either by a planned method (queuing by time) or by a market method (inflating prices).

An approximate formula for the market price of a good in SES:
RCB = K * SPB * DB; [R.1.3]-(F.1)
Where
RCB is the market price of a good,
K usually = 1, but for essential goods it can be >>1 , this is the so-called extortion, when people give everything to survive,
SPB is the cost of production of a good,
DB is the scarcity of a good.

DB = TB/IB; [R.1.3]-(F.2)
Where
TB is the required total amount of good for all those who want it,
Information security is the available volume of a good on the market.

Ordinary goods that are not scarce are sold in the NES only for D1, without paying D2 - this is a strict rule of the NES.

And scarce goods are sold for D1 and D2 simultaneously, and their price in D2 is determined in the same way as the regular price in the SES.

Let's rewrite formulas (F.1) and (F.2) in terms of NES money at K = 1:

RCB = D1 * D2; [R.1.3]-(F.3) D2 = TB / IB; [R.1.3]-(F.4)

If you imagine a plane with two axes X (in D1) and Y (in D2), then you can understand that the SES is a two-dimensional space of the NES, transformed into a one-dimensional one by multiplying the coordinates (X, Y) of each point of the plane.

In SES, the market price of a good with a high cost and low scarcity (say, a helicopter) coincides with the price of a good with a low cost and high scarcity (diamond pebbles or a painting by a “promoted” artist).

In the NES, these will be two points (X1, Y1) and (X2, Y2) very far from each other on the plane, where X1 >> X2 and Y1 << Y2, which speak much more about the nature of these very different goods than their identical price in SES

Money-2 is needed for the economical and fair distribution of the deficit.

Section 1.4. The main properties of Money 2.

To combine the market laws of supply and demand with the principle of fairness, we must provide people with more D2, the more benefits they bring to other people through their work.

Benefit is the time of useful work of the good, and it will also be proportional to the price of the good itself (in physics, benefit is simply work,

and (work = power * time), and power is proportional to the price of the good).

That. fundamental formula for designing D2:

D2 ~ K * T * SPB = K * T * D1; [R.1.4]-(F.1)

Where

~ is a sign of proportionality,

K is a certain numerical coefficient in the range from 0 to 1,

T is the time of work (exploitation) of the good,

SPB = D1 is the cost of production of the good.

Because D1 is measured by time, then D2 is measured by the square of time.

The value of D2 is very similar to the bank interest rate on a loan!

If you borrow a sum of money D1 from a bank, then your initial debt to the bank after time T (measured in years) grows by the amount:

D2 = PS * T * D1; [R.1.4]-(F.2)

where PV is the annual interest rate on the loan.

Why does D2 look so much like bank profit?

Because the benefits from investments in NPS have the same mechanisms as the profit from investments in SPS.

In the NES, D2 cannot be directly mixed with D1, but in the SES this is exactly what is always done - to the bank and then the amount (D1 + D2) is returned to the market.

D2 from the use of a good is accrued to the (first) person who produced this good. (And the second person, who directly uses the benefit, can also, in turn, benefit a third party and at the same time earn himself both D1 and D2.)

D2 for the use of goods arise by themselves, “out of nowhere.”

For D2 you can only buy the right to purchase a scarce good, and this good itself can only be bought for D1.

Chapter 2. Money 2 in the production and consumption of goods.

Looking ahead with the designations of D2 components:

When a good is exploited (by its owner or third parties), flows D22, D23 (and other flows D2) arise, which go entirely to the benefit of the producer of the good.

In the NES, the owner of a good must be personally interested in its use, therefore, all flows D2 in favor of the producer of the good (except for D20 and D21) during any exploitation of the good are also copied in favor of the owner of the good, regardless of who specifically uses the good - the owner himself, or third parties.

In the NES there is also copying of D23 flows in favor of the consumer of the

good, if the consumer is directly involved in the process of consumption (use) of the good.

Copying D23 in favor of the consumer of the good is completely independent of the above copying in favor of the owner of the good.

Section 2.1. Money 2 from durable goods.

We will assume that the acquirer and exploiter of the TDSS are one and the same person. And the entire process of producing a product will be "hidden" in the act of acquiring it. That. we will have only two main stages of generating D2: the acquisition of goods and the operation of goods.

I write "acquisition" and not "purchase" taking into account the fact that there may be goods for which the acquirer does not pay their cost in D1.

This does not mean that no labor was involved in the production of such goods. It's just that the way to compensate for these labor costs will not consist of requiring mandatory payment of D1 upon their acquisition.

Let us denote in the form D1x (x is a number) the different categories D1:

D10 is the "conditional price" of free goods.

D11 is the price of paid goods.

D12 is "D10 or D11", that is, the "generalized" price of the product.

We will use D2y similarly (y is a number): D20, D21, D22, ...

ED2 is the total value of D2 received by the producer of the good for the full cycle of its life - its acquisition and its use.

ED2 = D20 + D21 + D22 + D23 (+D25); [R.2.1]-(F.1)

D20. Payment for scarcity of a good. (TDSS)

D20 = 0 if the good is not scarce.

Otherwise, D20 is determined by the "market" method - the competition of everyone who wants to purchase this good (auction), and these D20 are paid from the personal funds of the purchaser of the good to its producer.

D21. A reward (or penalty) for producing a good. (TDSS)

A reward is not a payment!

The reward/fine D21, D22, D23 and D25 (for the fine these are negative numbers) is generated by the acquirer of the good "out of nowhere" (unlike D20), and becomes the property of the producer of the good.

D21 appear immediately upon the purchase of the good.

D21 = KB * KKPProizv * D12; [R.2.1]-(F.2)

Where

KB is the Quality of the Good, -1 ... +1;

KKPPProizv is the KKPP of the manufacturer of the good;
D12 is the generalized price of the good.

D22. A reward (or penalty) for the performance of a good. (TDSS)

D22 = KRB * KIB * VRB * D12; [R.2.1]-(F.3)
Where
KRB is the Quality of Work of the Good , -1 ... +1;
KIB is the Good Utilization Coefficient , 0...1 ;
VRB is the Time of Work of the Good;
D12 is the generalized price of the good.

D23. Reward (fine) for human (consumer) participation. (TDSS)

D23 = KUCH * KKPPotr * VUCH; [R.2.1]-(F.6)
Where
KUCH is the Quality of Human Participation in the work of good, -1 ... +1;
KKPPtr is the KKPP of the consumer of the good;
VUCH is the Time of Human Participation in the work of good.

D24. (TDSS) Always D24 = 0.

D25. Reward (penalty) for consuming the aftereffect of a good. (TDSS)
For a description, see R.2.4.

The total costs of all resources (time and D1) necessary for a person to acquire physical and mental abilities to produce any specific good can be expressed in the equivalent amount of invested D1, which I called the term "Capitalization of Producer-Consumer Competencies", CCPP.

The QCP has the dimension of time, and its design will be described in more detail later.

Section 2.2. How prices D10, D11 and D12 are calculated. (little important)

Section 2.3. Money 2 from short-lived goods.

The main generic difference between TCSS and TDSS is that the entire TCSS (as a rule) is consumed during its single use, so a completely different type of formula D22 must be used for them.

To determine its correct form, I had to turn to the analysis of all the formulas for generating D2 from TDSS in the language of physics.

We declare that the amount of D2 generated should be proportional to the (economic) benefit of the good. What is usually meant by economic benefit? Utility in economics is the amount of useful work. Useful work in physics is determined by the formula: Work = (Power) * (Work time);

Let's compare this physical formula with the economic formulas for D2 from TDSS and rewrite them in the language of physics:

if we remember that D12 is the same as Tproizv, then

D21 ~= KKPProizv * Tproizv = (Producer capacity) * Tproizv;

D22 ~= D12 * Tpotr ~ = (TDSS operating power) * Tpotr;

D23 ~= KKPPotr * Tpotr = (Consumer power) * Tpotr;

Here confirmation is required that (Power of TDSS operation) is proportional to D12, but this is exactly so both logically (two motors of the same power cost 2 times more than one) and empirically:

A limited test has shown that for those TDSS whose performance quality depends to the greatest extent on the power they develop, the ratio of their price to power is almost a constant of 10 rubles per 1 Watt. I've taken LED lights, gas powered generators and some cars without expensive extras unrelated to their primary purpose - movement.

To understand that the meaning of FCPP coincides with the meaning of power, it is enough to consider the connection between physical labor and human FCPP.

Conclusion: TCSS can only perform one-time useful work, the volume of which (D22) must be proportional to the volume of useful work required to produce this TCSS (D21).

Formulas for D2 from TKSS:

D20. Payment for scarcity of a good. (TCSS) (no changes)

D21. A reward (or penalty) for producing a good. (TCSS)

D21 = KB * KKPProizv * D12; [R.2.3]-(F.2)

KB at TKSS can take a full range of values from -1 to +1, because these goods are almost impossible to “check before buying”, their quality can only be known by starting to consume, so for them KB practically coincides with KB.

D22. A reward (or penalty) for the performance of a good. (TCSS) (other!)

D22 = KIB * KRB * KKPProizv * D12; [R.2.3]-(F.3)

Where

CIB is the Good Utilization Coefficient;

KRB is the Quality of Good Work;

D23. Reward (fine) for human (consumer) participation. (TCSS)

D23 = KUCH * KKPPotr * VUCH; [R.2.3]-(F.4)

D24. (TCSS) Always D24 = 0.

D25. Reward (penalty) for consuming the aftereffect of a good. (TCSS)
For a description, see R.2.4.

Section 2.4. Money 2 from all types of non-educational services.

Let's consider the production and consumption of goods in the form of services that are not directly related to changes in the consumer's CCP.

Unlike the production of goods, the process of providing services by their manufacturer (the process of producing services) is completely combined with the process of receiving services by their consumer, but the personal participation of the consumer of services in the process of receiving them can be variable.

For example, a haircut or massage requires the passive participation of the consumer. And to pass any tests, the active participation of the consumer is required. But if someone cleans your apartment or installs plumbing, then you, as a consumer, are not personally obligated to participate in the “consumption” of these processes (although you can).

However, the process of consumption of services is very different only from the process of consumption of TDSS, but it is very similar to the process of consumption of TCSS: their only difference is that the process of production and consumption of TCSS are two different acts, separated by an arbitrary period of time, and in the provision of services this period of time simply disappears and the two acts merge into one.

But for D2 generation formulas, this disappearance has practically no meaning and we can use all formulas from TKSS for services with a clear conscience.

A small adjustment is needed only for D22: unlike TCSS, where KIB <= 1, because the product may not be completely consumed during consumption, for any service KIB is always = 1 and can be omitted.

D25. Reward (penalty) for consuming the aftereffect of a good. (Service)

This component of the D2 generation formula for the case of service provision refers to the “aftereffect” of the benefit. This is the case when the

services have already been produced, but they can still continue to have a fairly noticeable impact on the consumer.

For example, the walls in your apartment were painted with slow-drying paint and it is impossible to stay in it for another day or two. Or you had lunch in a cafe, came home and felt bad because you were poisoned by something in this cafe.

Many TDSS and TCSS (for example, all food products) can also have an aftereffect.

But it is not yet completely clear to me what the exact formula for D25 is, and it is also not completely clear whether it may differ for different types of goods.

The first version of the formula for D25 is copied from [R.2.1]-(F.3), this is the formula for D22 from TDSS.

D25 = KRB * KIB * VRB * D12; [R.2.4]-(F.5.1)

Where

KRB is the Quality of Work of the Good (services with its aftereffect);

CIB is the Coefficient of Use of the Good (service with its aftereffect);

VRB is the Time of Operation of the Good (services during its aftereffect);

D12 is the generalized price of a good (service).

A more precise meaning of the CIB coefficient for the aftereffect of a service is how strong the aftereffect is compared to the strength of the effect of the initial action.

The second version of the formula for D25 is copied from (F.4), this is the formula for generating D23 from the service itself.

D25 = KUCH * KKPPotr * VUCH; [R.2.4]-(F.5.2)

Where

KUCH is the Quality of Human Participation in receiving the service (with its aftereffect);

KKPP is the KKPP activated by the consumer of the service (at its aftereffect);

VUCH is the Time of a Person's Participation in receiving the service (with its aftereffect).

For many types of services, or for specific cases of their provision, there is no aftereffect (CIB = KUCH = 0) and, accordingly, D25 = 0.

This could be, for example, a household appliance repair service, a transportation service, or other services.

I am inclined to think that for the aftereffect of a service the second version of the formula (F.5.2) is "more correct", because the effect of the aftereffect is very similar to the effect of D23.

Section 2.5. Money 2 from all types of educational services.

Educational services change the checkpoint of their consumer!

Human robots for 500 Kdollars, and human workers for free? No! People also need to be born, grow up and educate, and this is an expensive pleasure!

Let's compare the formulas from section P.2.1:

D22 ~ VRB * D12, where VRB is the operating time of the machine.

D23 ~ VUCH * KKPP, where VUCH is the time of human participation.

It can be seen that the human CPP is a complete analogue of D12 - labor costs for the production of a machine (robot).

Therefore, in the NES, all the costs of other people for the "production" of a new person are accumulated in his CPP and must be compensated first from the state budget, and then from the earnings of this person, when and if he begins to work.

And therefore, not only domestic work, but also raising children and even bearing them until they are born is the same paid work as any other - according to D1. But according to D2, this work is even more important than any other, and this fact will be marked by the introduction of D24 specifically for educational services - "services for the production of new people."

Accurately determining a person's general CKPP is a difficult task, taking into account the fact that both good (+KKPP) and bad (-KKPP) can be taught.

And when a person works, only a part of his total ACPP is used - it is this that is included in all the corresponding formulas.

ED2 = D20 + D21 + D22 + D23 + D24 (+D25); [R.2.5]-(F.1)

Formulas for educational services are copies of formulas for ordinary services (and therefore copies of formulas for TKSS), but the meaning of some of their parts has specific features.

D20. Payment for scarcity of a good. (Image) No changes.

D21. A reward (or penalty) for producing a good. (Image.)

D21 = KB * KKPPU * D12; [R.2.5]-(F.2)

Where

KB is the Quality of Good, the quality of service provided by the teacher;

KKPPU is the KKPP of the teacher (producer of the good);

D12 is the generalized price of the good (payment to the teacher for the lesson).

D22. A reward (or penalty) for consuming a good. (Image.)

D22 = KRB * KKPPU * D12; [R.2.5]-(F.3)

Where

KRB is the Quality of Good Work (the quality of service consumption on the part of the student);

KKPPU is the KKPP of the teacher (producer of the good);

D12 is the generalized price of the good (payment to the teacher for the lesson).

Example: a teacher with KB = 1, but a student is inattentive with KB = 0.

D23. Reward (fine) for human (consumer) participation. (Image.)

D23 = KUCH * KKPPu * VUCH; [R.2.5]-(F.4)

Where

KUCH is the Quality of Participation of a Person (student) in receiving a service;

KKPPu is the student's KKPP involved in consuming the service;

VUCH is the Time of Participation of a Person (student) in receiving the service.

D25. Reward (penalty) for consuming the aftereffect of a good. (Image.)

A possible form of the formula is copied from [R.2.4]-(F.5.2):

D25 = KUCH * KKPPu * VUCH;

D24. Reward (fine) for subsequent work of students. (Image.)

D24 = D2u * KKPPuU / KKPPu; [R.2.5]-(F5)

Where

D2y is the full value of D2 generated by someone for any work of a consumer of an educational service (student) performed by him after training (the value of D2y can also be negative);

KKPPu is the full value of the consumer (student) KKPP, which was necessary to perform useful work;

KKPPuU is part of the KKPPu, which was contributed by the educational service provider - the Teacher, when teaching a student.

It is important to keep in mind that the D24 award appears "out of nowhere" and only thanks to the student's income in D2, which depends on his KKPP.

Section 2.6. Consumption of educational services and CCPP.

This is a complex section that details how education affects CKPP and also elaborates on the details regarding D24. See Volume 5.

Section 2.7. Approximate values of human CKPP.

Formula [R.2.6]-(F.5) for the contribution of a semi-qualified teacher to the student's CCPP for the ideal case:

KKPPuU ~= VR, where VR is the teacher's working time.

Any human activity can be roughly divided into two parts - Physical work (for which the FKKPP is responsible) and Mental work (for which the UKKPP is responsible), each of which has its share in the total KKPP of a person, and KKPP = FKKPP + UKKPP.

Depending on the type of activity, some shares of these two parts of the CCPP will be used simultaneously in one proportion or another.

We can identify several periods of human growth and learning.

0. Zero cycle - growth and learning before birth.

knows something and UKKPP0 is approximately equal to 300 hours. And if we need to use the sleeping person's UKCPC anywhere, then it will be approximately equal to UKCP0.

The FCC of a newborn child should be much larger, because in the womb his body grows continuously, and this is the number of hours during 280 days of pregnancy:

FKKPP0 = 24 hours * 280 ~= 6700 hours.

This FKKPP occurs entirely at the expense of the mother's body, therefore this part of the child's FKKPP is entirely the contribution of his mother.

That. for a newborn, the total CKPP0 ~= 7000 hours.

An important consequence of the fact that in the NES the child in the womb is already a person and, accordingly, an economic actor: when consuming some goods by a pregnant mother, the contribution of her child must also be taken into account. For example, if a mother is driving a car, then her unborn child is also a passenger - a consumer of transportation services, and he generates D2.

1. Growth and basic learning of basic human skills , those that are always used.

For a rough estimate, we can assume that during the first 7 years a child learns to "be a human being" every day for 6 hours.

This will give us the value of UKKPP7 ~ = 15,000 hours.

It can be assumed that that by 1 year UKKPP1 ~= 3000 hours.

FKKPP is determined in an original way, based on the height and weight of

the child at birth and their further increase, see Volume 5.

UKKPP1 ~ = 3 K hour,
FKKPP1 ~ = 13 K hour,
KKPP1 ~ = 16 K hour.

UKKPP7 = 15 K hour,
FKKPP7 = 26 K hour,
KKPP7 = 41 K hour.

2. Schooling.

In general, we can probably assume that a person studies in and out of school for 8 hours every day for 10 years, of which only 4 hours he will actually need for his future career.
This will give us the value (UKKPP17 - UKKPP7) ~ = 15,000 hours.

3a. Vocational training in simple professions.

Let's take the same training figures as at school, but for 2 years.
This will give us an additional value of UKPP ~= 3,000 hours.

3b. Graduate School.

Training is 5 years, 8 hours a day, and all this is necessary for effective work.
This will give us an additional value of UKPP ~= 15,000 hours.

4. Gaining experience in production.

Probably the numbers here can be about 2-3 times less than for stage 3, that is, from 2000 to 5000 hours.

In total we get approximately :
1. Mental CKPPmax
-for simple professions 15+15+3+2 = 35,000 hours;
-for complex professions 15+15+15+5 = 50,000 hours or more.
2. Physical KKPPmax (after 25 years) = 50,000 hours or more.
3. Total KKPPmax = 85,000 ... 100,000 hours and more

It can be assumed that in the overwhelming majority of cases, the value of the CPP used for the production of goods is in the range from 40 to 80 thousand hours.

I can assume that the range of ECPP values required for (passive) consumption of goods averages from 1 to 10 thousand hours, and I have not yet made a final opinion regarding the similar range of FCPP.

Section 2.8. Generation of Money 2 in the production of goods.

Let's highlight a certain set of individual goods in the form of the production of fairly characteristic goods and services and calculate the D12 values for them, and then determine all the generated D2 flows.

There are about 160 working hours per month, this is equivalent to the median salary of 250 rubles per hour for the Russian Federation in 2022.

Everywhere D20 = 0, since mass goods are not in short supply.

1. Chair (office) . TDSS cost D1 = 10 hours.

KKPProizvod = 80 Kh, KKPPotr = 24 Kh.
D2 for 1 year of use of the chair (in brackets for 5 years):
D21 = 800 kW.hour (does not change)
D22 = 10 Kkv.h (50 K)
D23 = 24 mkv.hour (120 M)
ED2 = 25 mkv.hour (120 M)
Ratio ED2/D1 ~= 2.5 Mhour (12 M)
D22/D21= 0.013 (0.063)
D23/D21= 30 (150)
D23/D22= 2,400 (does not change)

2. Computer (PC) . TDSS cost D1 = 240 hours.

KKPProizvod = 80 Kh, KKPPotr (passive/active) = 20...60 Kh.
Maximum D2 for 1 year (5 years) of PC operation:
D21 = 19 mkv.hour
D22 = 900 kW.hour (4.3 M)
D23 = 150 mkv.hour (720 M)
ED2 = 170 mkv.hour (740 M)
Ratio ED2/D1 = 700 Kh (3.1 M)
D22/D21 = 0.050 (0.22)
D23/D21 = 8 (38)
D23/D22 = 170.

4. Car (personal) . TDSS cost D1 = 2800 hours.

KKPProizvod = 80 Kh, KKPPotr =10...50 Kh (passenger/driver).
D2 for 1 year (8 years) of vehicle operation:
D21 = 224 mkv.hour
D22 = 83 Kkv.h (660 K)
D23 = 35 mkv.hour (280 M)
ED2 = 260 mkv.h (500 M).
Ratio ED2/D1 = 90 Kh (180 K)
D22/D21 = 0.0004 (0.003)
D23/D21 = 0.16 (1.25)
D23/D22 = 420.

The same, carsharing (Moscow).

D2 for 1 year (8 years) of vehicle operation:
D21 = 224 mkv.hour
D22 = 670 kW.hour (5.3 M)
D23 = 1 60 M square hour. (1300 M)
ED2 = 385 mkv.h (1530 M).
ED2/D1 ratio ~= 14 0 Kh (550 Kh)
D22/D21 = 0.003 (0.024)
D23/D21 = 0.7 (6)
D23/D22 = 240.

7. Bread (plain, 1 kg) . TCSS cost D1 = 0.8 hour.

KKPProizvod = 60 Kh, KKPPotr = 12 Kh.
D2 when consuming 1 kg of bread:
D21 = D22 = 48 Ksq.hour
D23 = 24 K square hour
ED2 = 120 K square hour
Ratio ED2/D1 = 150 Kh
D22/D21 = 1.0
D23/D21 = D23/D22 = 0.5

When taking into account the aftereffect:
D25 = 80 kW.hour
ED2 = 200 Kkv.h
Ratio ED2/D1 = 250 Kh.
D25/D21 = 1.7

10. Programming courses are educational services.

Training time 100 hours, (increased) cost D1 = 200 hours.
KKPProizvod = 80 Kh, KKPPotr = 40 Kh.
D21 = D22 = 16 mkv.hour
D23 = 4 mkv.hour
ED2 = 36 mkv.hour
Ratio ED2/D1 = 180 Kh.
D22/D21 = 1.0
D23/D21 = D23/D22 = 0.25

Teacher's bonus in D24 if the student starts working as a programmer.

Let us assume that the programmer's software does not require human participation, so it generates the value D23 = 0.

(I note that the D23 value arising from software that requires human participation for its operation can be gigantic - see the video case below! So the teacher's bonus can also increase significantly.)

Then for each year of work of the student, the teacher will receive a bonus in the amount of D24 = 2.4 Mkv.hour.

Thus, if a student works as a programmer for 15 years, then the bonus generated by his teacher in D24 will already be equal to the amount of ED2 he received directly for the course of study.

In my opinion, not so bad... (and when taking into account the non-zero share of D23, this premium can increase 10, 100 and even 1000 times).

11. Raising children includes regular and educational services.

Let us determine the income of the mother of one child from the moment of conception until he comes of age at 18 years old.

We can propose such an economic model.

Any pregnant woman works for the benefit of the child 24 hours a day throughout her pregnancy. However, the intensity of this labor gradually increases from 0 to 100% in the period of time from the moment of conception to the moment of birth. This process of increasing the mother's labor intensity is similar to the increase in CIB in the formula for D22.

In order to determine the contribution of the woman's labor to the child she carries during pregnancy and, accordingly, the amount of payment for this labor, it is necessary to take into account many factors, not always strictly economic.

Next I will give my subjective opinion.

Let's assume that the expectant mother has not one, but three babies in her tummy. This case will mean 100% intensity of the mother's work at the end of her pregnancy, and in time it will be 24 hours of work a day, seven days a week.

In the usual case of pregnancy with one child, these figures should be divided by 3, that is, during pregnancy, the mother's working time should

increase linearly from 0 to 8 hours a day on the 280th day of pregnancy (this is the average period of gestation of a child), and if we take On average, this is 4 hours of work per day, seven days a week.

In this model, the mother's full working time at the time of the birth of the child will on average be as follows:

D1 = 4 hours * 280 days = 1120 hours, which is equivalent to 7 months of "regular" work of 160 working hours per month.

Now let's determine the woman's income in D2 during pregnancy.

We can consider this period as a continuous production of services - the services of bearing your child.

That is, during the pregnancy stage we can use the formulas for non-educational services from section 2.4 for the mother's labor.

Let's take the (minimum) maternal KKPProizv = 70 Kh.

In section 2.7. We determined that a child's CKPT at birth is 7000 hours. It can be assumed that it grows linearly from 0 to 7000 hours during pregnancy, and on average CPPotr = 3500 hours.

Then the approximate values of D2 for 280 days of pregnancy:
D21 = D22 = 78 M square hour.
D23 = 24 M square hour.
ED2 = 180 M square hour.
Ratio ED2/D1 = 160 K hour.
D22/D21 = 1.0
D23/D21 = D23/D22 = 0.31

Now let us consider the work of a mother in caring for a child, raising and educating him from the moment of birth until he comes of age at 18 years old.

[I leave this part of the section for the future.]

12. A video on video hosting is TCSS.

The parameters of the half-sum of the two top videos from Igor Rybakov's channel, which has about 2.5 million subscribers, are as follows: duration 0.25 hour, number of views 4 million, labor costs in D12 apparently about 10 hours.

Let's determine how much D2 you can earn on one video, if we assume that the number of likes is much greater than the number of dislikes, that is, the quality of the good is close to 1.

To obtain the total values of all components of D2, we need to take into account the number of views of the video for D23, KPR = 4,000,000 = 4 M times.

KKPProizvod = 80 Kh, KKPPotr = 10 Kh.

D21 = 0.8 mkv.hour
D22 = 0.2 mkv.hour
ED23 = D23 * KPR = 4,000 mkv.hour
Ratio ED2/D1 = 400 Mhour
D22/D21 = 0.25
ED23/D21 = 5000
D23/D22 = 20,000.

The popular video gets a crazy amount of D23 money, which results in a mind-blowing D2/D1 ratio of 400 Mega Hours.

But it should be remembered that this D23 figure for the video arose solely due to the huge number of its views - 4 million.

Ordinary videos on ordinary channels are viewed by approximately 1000 times fewer people. In this case, the D2/D1 ratio for similar videos will be about 400 Kilo-hours.

In connection with such a huge flow of D2, the redistribution of D2 from “rich to poor” becomes especially important - taxation of highly profitable D2/D1 industries and subsidies in favor of low-income industries.

14. Electricity for a private consumer is TCSS.

In 2023, the cost of 1 KiloWatt-Hour of electricity in Moscow was approximately 6.4 rubles. Let us determine parameters D1 and D2 when 1 person consumes 100 kWh of electricity in 1 month.

The cost of this electricity is 640 rubles, or 2.5 hours in D1.

The consumer's average ACPP and VUC are determined by the use of electrical appliances, in my case this is working on a computer, consumption of apartment lighting and cooking.

KKPProizvod = 80 Kh, KKPPotr = 30 Kh.
D21 = D22 = 200 kW.hour
D23 = 3600 Kkv.h
ED2 = 4 mkv.hour
Ratio ED2/D1 = 1.6 M hour
D22/D21 = 1.0
D23/D21 = D23/D22 = 18.

The ED2/D1 ratio, oddly enough, is very high (about the same as that of a computer over the entire period of its operation) and depends quite strongly on the consumer purposes for which electricity is used.

15. Gasoline for private consumers is TCSS.

Let's try to determine D2 flows for a gasoline producer using the example of its consumption in a Moscow private car.

Initial data:

-average vehicle load 1.4 people,

-average speed in the city is 25 km/h,

-gasoline consumption in the city is 10 liters per 100 km,

- the cost of gasoline is 50 rubles per 1 liter.

KKPProizvod = 60 Kh, KKPPotr = 10...50 Kh (passenger/driver).

D21 = D22 = 120 kW.hour

D23 = 216 Kkv.h

ED2 = 456 Ksq.hour

Ratio ED2/D1 = 228 Kh

D22/D21 = 1.0

D23/D21 = D23/D22 = 1.8

Compared to the production of electricity, the production of gasoline is 7 times less profitable in terms of the ED2/D1 ratio.

In addition, gasoline has a ratio of D23/D22 = D23/D21 that is 10 times less than that of electricity. The reason is that electricity is a much cheaper and more efficient source of energy than gasoline.

For Moscow car sharing .

D21 = D22 = 120 kW.hour

D23 = 296 Kkv.h

ED2 = 536 Ksq.hour

Ratio ED2/D1 = 268 Kh

D22/D21 = 1.0

D23/D21 = D23/D22 = 2.5

Section 2.9. Balancing Money 2: taxes and subsidies.

This is a section that describes how it is possible and necessary to redistribute various D2 flows from high-income areas of the economy to low-income ones, taking into account their usefulness for society.

It also sets out a number of ideas on which to make NES fully compliant with all principles of gender equality.

Section 2.10. Money rationing 2: no inflation!

This section proposes a simple mechanism for almost instantaneously (by economic standards) eliminating D2 inflation caused by the constantly growing mass of D2 over time.

At the same time, D2 money acquires the properties of Gesellian money, which in itself is very useful, since it significantly increases the economic activity of its owners.

Literature and links.

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2D economics - how to make money on “likes”
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[L.7] The Viridian Project https://www.viridian-project.org/en/
This is an interesting project to create two-dimensional money based on ecology,

convertible into regular money.

The Viridian Project - A digital currency to internalize external costs for a more sustainable economy https://www.viridian-project.org/paper/

Glossary of (some) terms and abbreviations.

D1 - Money-1, labor hours, labor hours, cost of goods
D10 - Money-1-0, conditional price of free goods in D1
D11 - price of paid goods in D1
D12 - D10 or D11, generalized price of goods in D1
D2 - Money-2, benefit from benefits, square hours
D20 - Money-2-0, payment for the scarcity of goods in D2
D21 - reward (or penalty) for producing goods in D2
D22 - reward (or penalty) for working goods in D2
D23 - reward (or fine) for the participation of a person (consumer) in D2
D24 - reward (or fine) for subsequent work of students in D2

CCPP - capitalization of producer-consumer competencies
UKPP - mental CCPP
FKPP - physical KKPP
KKPP0 - KKPP of a person on his birthday
KKPPxx - KKPP of a person aged xx years (xx is the number)
UKKPPxx, FKKPPxx - similar
KKPPotr - KKPP of the consumer of the good
KKPProizv - KKPP product manufacturer
KKPPU - KKPP Teachers or Teachers
KKPPu - KKPP student or student
KKPPuU - part of the KKPPu received from the Teacher or Teacher

NUS - new urban system - see volume 2.
NES is a new economic system described in this book
SES is an old economic system that currently reigns in the world

TDSS - long-life product
TKSS - short-life product

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This text was created on February 26, 2024.

The first version of the text, dated January 25, 2024, is published here:
https://www.vmgames.com/ru/