



## Poverty and Inequality in Germany Conclusions Derived from a Hegelian Overall Picture of Economic Activities in Human Society and Nature

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### Abstract and presentation

See <https://www.isi-web.org/files/docs/papers-and-abstracts/abstracthelmutmaierdenhaagjuly2021-474-579-maier-helmut.pdf>

*Keywords: System of National Account, Nature's real economy, poverty measures, Hegel's consistent overall picture, TARGET balances of European Central Bank*

### Preliminary remarks

1. Concerning *poverty and inequality in Germany*, this paper focuses four items which build on each other consecutively and finally culminate in a proposal for a reshaping of Official Statistics, in order to improve the statistical measurement of poverty in the System of National Account SNA of official statistics by considering the social self-production of the domestic population as economic production, too, and hence including it into the SNA.

2. *Evidence* that and how this proposal can work is exemplified by the design of the Input/output Table of the Federal Republic of Germany of year 2006 with 12 commodity groups and production sectors. *Empirical evidence* that the implementation of this proposal can efficiently reduce poverty and still ensures a positive economic growth path into the future is presented, too.

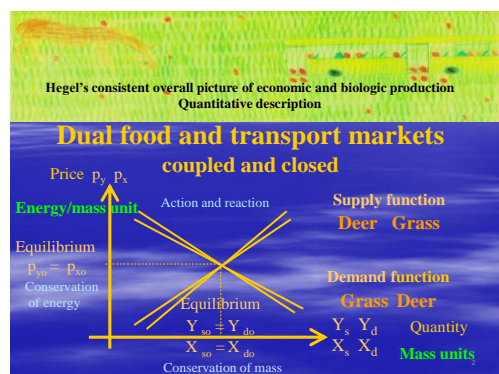
3. The explanations of the four items are supported by four tables and three graphs, which are inserted in miniature format, only, and may be accessed in the original size via the path above and/or zoomed. The *first item* (On Hegel's consistent overall picture of economic and biologic production) includes one graph (slide 2). The *second item* (Indicators to measure wealth and poverty in human society and natural world) includes three tables (slides 3-5). The *third item* (Poverty and inequality in Germany) includes a graph (slide 6) and a table (slide 7). And the *last item* (Proposal for a reshaping of Official Statistics) includes one table (slide 9).

4. The *proposal is result of author's research* about the economic and financial system (or order) of the natural world – short: Nature's real economy – the existence of which he supposed in year 2002, and which he confirmed step by step on basis of observation of natural and social phenomena and Hegel's philosophy; the natural world is defined as the ecosystem of earth with all species including man. Milestones of this research he presented at ISI sessions in Berlin 2003 (*What is the Money Equivalent in the Nature? Results of a Hedonic Approach*), Lisbon 2007 (*New Indicators to Measure Wealth and Poverty within the Natural World, An Approach to Respond to the Global Challenge of Poverty*), Durban 2009 (*The present banking and financial crisis reflected in the financial order of the real world*), Dublin 2011 (*Nature's economic and financial order, and the natural solution of poverty*), and Hong Kong 2013 (*Measuring the real value of production and its impact on distribution of global wealth and poverty, Reflections in the economic order of the real world*). This application incorporates the current status of this research and theory, respectively, which the author has been teaching at the International Summer School of Renmin University of China in Beijing in the years 2016, 2017, 2018, 2019, and 2021, and it refers to slides of this course, too (Maier, 2020b).

5. *Aim* of this paper and proposal is to promote a reshaping of Official Statistics in order to bridge the uncovered gap between the different measures of poverty in human society and the natural world and harmonize them for all species of the ecosystem including man. *Long-term aim* of author's research on Nature's real economy is to learn the conditions for a sustainable development of both human societies and the ecosystem of earth.

6. The *bibliography* includes titles of the author on the topic Nature's real economy, only; references to other authors are included there. Paths to all publications and social applications are provided.

**First item: On Hegel’s consistent overall picture of economic and biologic production**



slide 2

This graph, **slide 2**, shows Hegel’s consistent overall picture of economic and biologic production in the case of the observable natural phenomenon *deer are grazing on a meadow* which in a dual view – a decisive characteristic of Hegelian philosophy – can be interpreted as a quite different phenomenon: *grass seeds are waiting for transport to a distant location*. To find Hegel’s consistent overall picture we have to put these contrary observations together like upper and down side of a coin.

The *upper part* illuminates those dual views. The first view is related to a food market (with grass population as supply and deer population as demand) and the dual view to a transport market (with changed roles of supply and demand). Note, in the dual view a deer looks like a bus and grass seeds, red dots, are passengers in it or waiting outside; market place of both markets is the living area of the grass population which is the ground of the meadow.

The answers to the crucial questions after the *means of payment* and the *transfer of mutual payments* are: the deer pay for the food grass with *kinetic energy* which is transferred to grass seeds included in the food; vice versa the grass population pays for the transport of its seeds, its next generation, with the *chemical energy* included in the food. For a detailed substantiation see Maier (2003, 2007, 2020b).

Thus the observable eating procedure includes the transfers of both invisible energy payments, in different types like currencies with human money in human society. It’s a win-win situation, both populations sell what they can produce, and they buy what they can’t produce but need for survival.

The *lower part* of this graph shows the quantitative description of the coupled and closed dual food and transport markets on micro-economic level: quantities (on horizontal axis) are measured in *mass units*, either created, symbol X, or transported, symbol Y; and prices (on vertical axis), are measured in *energy/mass unit*, either chemical or kinetic energy equivalents. Subscripts s and d denote supply and demand, the subscripts x and y denote food and transport, for details see Maier (2007, 2020b).

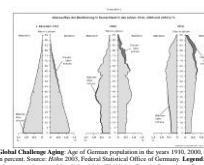
In case of *market equilibrium* (indicated by subscript o) on both markets which provides a *sustainable existence* for both populations of grass and deer in the long run all four functions of supply and demand (must) meet in the same point. Note, the area of the rectangle between the origin of this diagram (where horizontal and vertical axis meet) and the equilibrium point measures cost of deer population on the food market in a period (let’s say a year) in units of kinetic energy, and it measures its returns on the dual transport market in the same period in equivalent units of chemical energy. Vice versa the area of this rectangle measures cost of grass population on the dual transport market in this period in units of chemical energy, and it measures its returns on the food market in this period in equivalent units of kinetic energy.

As quantities are measured in mass units and prices in energy per mass unit the projection of the equilibrium point on the horizontal axis simultaneously satisfies the natural law of *conservation of mass in a closed system*, and the projection of the equilibrium point on the vertical axis satisfies the natural law of *conservation of energy in a closed system*. Furthermore, if we interpret supply of food grass by grass population as *action*, and transport of seeds of grass by deer population as *reaction* (or vice versa), then the supply function of grass and the demand function of deer on the food market simultaneously satisfy the *natural law of action and reaction (of forces)* which are the market forces of supply and demand (or vice versa). Hence we conclude that the uncovered Hegelian overall picture of economic and biologic production is compatible with natural laws which means it is consistent.

## Second item: Indicators to measure wealth and poverty in human society and natural world

slide 3

slide 4



slide5

**Slide 3** shows a table entitled *Leading Indicators to Measure Economic Efficiency, Wealth and Poverty in Human and Natural World*, it includes 8 leading indicators to measure economic efficiency, wealth and poverty in human society and the natural world, each 4 according the Domestic Approach of the SNA, in rows 1-4, and 4 according the National Approach of SNA, in rows 4-8.

We focus the explanation mainly to the measure of row 1, indicated by the red colored text “Look at row 1” in the upper left part of this slide, and refer for omitted details to Maier (2007b). Going from left to right according the header we start in the SNA of Human Society with the measure *Gross Domestic Product GDP in physical units*, either material goods or services (row 1, column 1).

In a first step we translate the meaning of this measure into the natural world, column 2; reminding that production within the ecosystem including man is biologic self-production and reproduction for survival, we conclude as equivalent in the System of Populations Account SPA the measure *Gross Regional Biomass GRB in mass units*, either created or transported (row 1, column 2). Note, statistical data for this measure is not available (row 1, column 3). In a second step we retranslate the meaning of the latter measure into human society, and we conclude the measure *Gross Domestic Human Biomass in mass units*. Note, statistical data for that measure is available (row 1, column 5), and we can illustrate this measure by the measure *Number of domestic population* (row 1, column 6) which is a *social indicator* (row 1, column 7). Looking in column 7 from top to down (row 1 to 8) we obtain throughout either social or biometric indicators.

Conclusion is that, for purpose of a sustainable existence and survival of a human society, *social and biometric indicators* are the decisive (leading) indicators to measure economic efficiency, wealth and poverty in the natural world, and not those of the SNA. Both measures are quite contrary.

**Slide 4** shows the *net reproduction rate in selected countries* for different periods 1950/55, 1965/70, 1980/85, 1990/95, and 2010/15, compiled by Federal Statistical Office of Germany in 2000, and based on data from United Nations, Revision 2000. This rate measures growth/decline in Nature’s economy.

Yellow marked is the development of Germany, France, Russian Federation, Turkey, United Kingdom from Europe; Nigeria from Africa; Brazil, Mexico, United States of America; and China, India, Pakistan from Asia.

As for Germany the development in those periods is 0.85 in 1950/55, 1.02 in 1965/70, 0.70 in 1980/85, 0.64 in 1995/2000, and **0.63** in 2015/15, the latter means that there were born 37% less daughters to replace the full population.

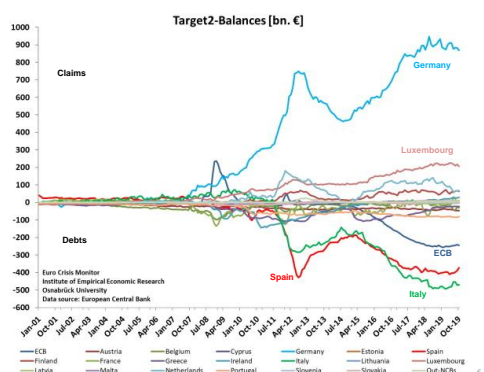
The corresponding rates for China are 1.85, 2.44, 1.12, 0.80, and 0.88; they are influenced by its one-child-per-family population policy from the 1980th years until year 2015.

We observe populations which are poor according the measure GDP of SNA and its growth rate at the same time are wealthy according the natural measure net reproduction rate.

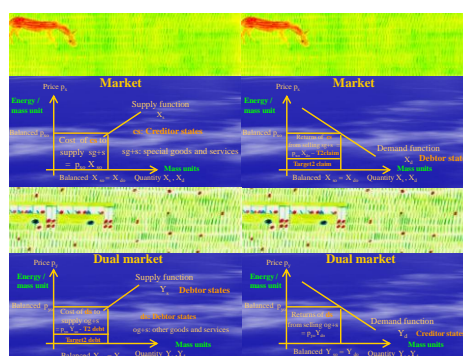
**Slide 5** shows the *age distribution of German population* in the years 1910, 1950 and 2050, the latter a forecast of year 2000. It confirms the finding that although Germany is wealthy in the measure of GDP of SNA, it is poor in the natural measure of its net reproduction (rate) which forces aging.

It is only mentioned that the *social phenomena* wealth and poverty of a society (or population) are *dual phenomena* like the phenomena of *grazing deer* and *waiting seeds*. Those societies who are wealthy in the measure of GDP are poor in the measure of the net reproduction rate, and vice versa those who are poor in the measure of GDP are wealthy in the measure of the net reproduction rate. Origin of wealth and poverty is the different allocation of the natural means of payment *energy* for different economic activities in Nature’s real economy; the more a society (or individual) spends for material production the less is left for biologic reproduction. For details is referred to Maier (2013).

### Third item: Poverty and Inequality in Germany



slide 6



slide 7

**Slide 6** shows the so-called TARGET2 balances of the 19 member states of the Eurosystem until year 2019 in billion Euros, the 19 members are indicated by different colors. It is a cross-border payment system implemented by the European Bank ECB in three steps until 19 May 2008; its full name is **Trans-European Automated Real-time Gross settlement Express Transfer System 2nd generation**.

Decisive characteristics are, details in Maier (2020a):

- When central bank money is transferred from one national central bank of the Eurosystem to another, claims (see upper part of the graph) and debts (see lower part of the graph) arise against the ECB, and they do not arise against the concerned member states.
- There is no upper limit for claims/debts and no obligation to clear these balances for the 19 member states of the Eurosystem as long as they remain in it which is very comfortable for debtor states.
- Only non-members (called Out-NCBs) which use it must have positive or cleared balances at the end of each day when those are updated with the ECB.
- As the sum of all debts and claims against the ECB at the end of each day when it is updated by the ECB is nearly zero, this payment system suggests working in balance.

The clear message of this graph is: Germany holds by far the highest claim, and Italy and Spain hold by far the highest debts. Obviously the development looks like an instable one. *Can this payment system, essential part of the money policy of the ECB, work sustainably?* To answer this question we replace in Hegel's overall picture of the first item the dual markets between grass and deer population by the dual markets of the *Intra-European Union exchange of goods and services* between both groups of creditor and debtor states, called Market and Dual Market, and we test whether it is consistent in *Nature's real economy*.

**Slide 6** shows the result of this test. Mapped are the four projections of the equilibrium point on the four straight lines of supply and demand on the Market, as well as the four rectangles in each period (here: a day) measuring cost of supply and demand on the Market (upper left and upper right), and measuring cost of supply and demand on the Dual Market (bottom left and bottom right).

We uncover two inconsistencies; they cause a steady one-sided redistribution of energy from creditor to debtor states since 2008, mostly on burden of Germany, and mostly in favor of Italy and Spain:

- The real cost in energy of the creditor states (upper left, concerning mostly Germany) are not covered by the returns from the debtor states (upper right, mostly Italy and Spain) because part of it is booked as *Target2 claim against the ECB* – not even in energy but in Euro what is a different measure.
- And the real cost in energy of the debtor states (bottom left, mostly Italy and Spain) are lower than their real returns in energy from the creditor states because part of it is booked as *Target2 debt against the ECB* – not even in energy but in Euro what is a different measure.

If deer and grass population would represent debtor and creditor states as the graph suggests, both would not survive in the long run because of lack of energy, first grass then deer population would vanish. This is a fatal inequality, especially for Germany, it erodes its economic vitality (measured by GDP), increases its poverty (measured by net reproduction rate), accelerates its demographic change (via migrations), and threatens the social peace in and between member states of EU.

Hence the answer is: No, in the long run this payment system cannot work sustainably.

## Last item: Proposal for a reshaping of Official Statistics

slide 9

How to bridge the gap between the two quite different poverty measures, GDP in human society and net reproduction rate in the natural world?

The proposal is: by incorporating the biologic production of domestic population *directly* into the SNA as it can be observed with the ecosystem of the earth (Maier 2007). It is quite contrary to suggestions of the Stiglitz-Sen-Fitoussi-Commission of 2009, to the set of indicators of the OECD of 2011, and to the 10 leading indicators of the Enquete-Commission of the German Parliament of 2013 which measure welfare by the GDP and accompanying indicators, for details is referred to Maier (2018).

**Slide 9** illustrates the design of this proposal using the input/output table of Germany of 2006 with 12 groups of commodities (rows) and 12 sectors of production (columns), general comments are skipped: On the *cost side* the (material) depreciations (row 19) are enlarged by new *social (or biologic) depreciations* which represent the cost of reproduction of the domestic population, and on the *yield side* the gross fixed investments (column 16) are enlarged by *gross mobile (social or biologic) investments* into the future which represent the value of the young generation. As all is measured in Euro there is no need to substantiate a relation between energy units and Euro which can be questioned.

Both new elements are marked greenish; missing data can be estimated. Yellowish marked rows and columns, row 21 (Gross value added GVA), row 22 (Production value = production input), row 24 (Domestic labor force), row 25 (Employees), column 19 (Total final demand/use), and column 20 (Production value = production output) show influenced positions.

What would be impact? Answer: Material poverty would be offset against population wealth. Vice versa material wealth would be offset against population poverty. GDP would grow; financial transfers depending from the GDP would change.

Is there any empiric proof that this could work and decrease poverty? Yes, indeed. China's population policy (one child per family) since the 1980th accompanied by an enormous decrease of poverty of several hundred million of people and parallel an enormous increase of material production, a well known phenomenon, is a robust empiric proof that this growth path works indeed and very efficiently!

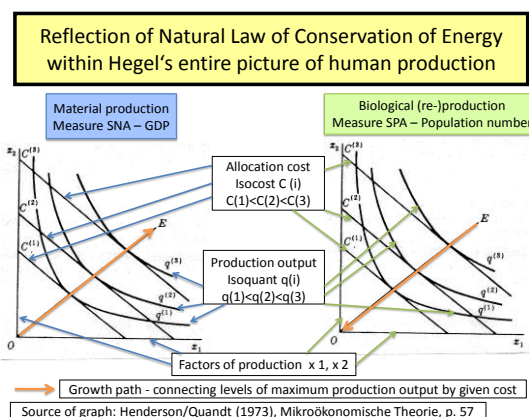
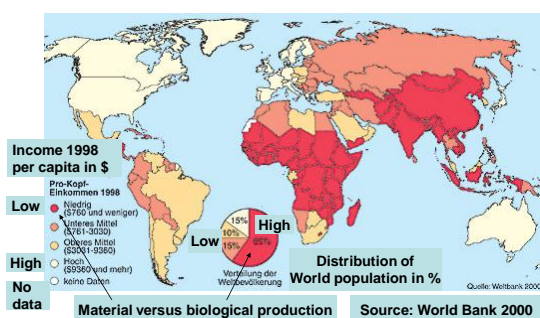
### Closing remarks

1. The discussant evaluated the presented approach as an interesting one; he asked how the potential of migrants can be used in a positive manner, as I understood. The answer is: Starting point is row 14 (*Imports* from foreign countries) this row is enlarged by *social imports* (immigrants). Like with material imports, social imports have *cost* and provide a *benefit*, both should be balanced via a *cost/benefit analysis* - like with material imports. If the total social cost of migrants (for integration into the society, for language training, education, housing, living, etc.) are below their total benefit (from labor, participation in the society, etc.) in long term then migrants' potential is useful for this society, either measured in energy units in Nature's real economy or measured in money units in human society (and economy). A similar consideration holds for exports (column 18). In addition, migrants' balance in the target country must be balanced against that of the origin country.

2. This written paper is *enlarged by two graphs* which were skipped in the oral presentation, see the following appendix. The left one shows *Hegel's overall (entire) picture of human production*, either material or biologic, and it confirms that wealth and poverty are dual phenomena. The natural solution of poverty (that migration start in poor countries and end in wealthy ones) can be derived from this picture via the *natural law of entropy* applied to humans (energy bundles) instead of heat molecules. The right one reflects the *natural law of conservation of energy* in the closed system of earth in this overall picture and provides micro-economic evidence that an *ascending economic growth path* of material production is accompanied by a *descending social growth path* (both arrows orange colored).

## Appendix

### The dual phenomena of wealth and poverty: Hegel's entire picture of human production



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