



The Poverty of Macro Laws in the Social Sciences

Prof. Dr. Karl-Dieter Opp
Universität Leipzig (Emeritus)
University of Washington, Seattle (Affiliate Professor)
opp@sozio.uni-leipzig.de

Conference "Rational Choice Sociology," VIU 2015



Introduction

A major goal of the social sciences is the explanation of **macro phenomena**, such as

- the rise and fall of nations,
- revolutions or
- economic growth.

In order to explain such singular phenomena **laws** are needed.

Why?



Example: Assume the **Revolution in the GDR 1989/1990** is to be explained.

How can the causes be found?

Macro laws might include these causes.

Law: Rising and unfulfilled expectations in the past → revolutions
(James C. Davies 1962, 1969).

Implication: If there were rising and unfulfilled expectations in the GDR, then these are the causes of the revolution.



The explanation is:

Law: Rising and unfulfilled expectations → revolutions

Initial conditions: In 1989 in the GDR there were rising and unfulfilled expectations.

Explanandum: There was a revolution in the GDR in 1989.

This is the „covering law“-model by C.G. Hempel and Paul Oppenheim 1948.

Example is simplified ...



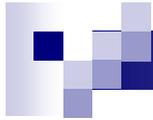
Macro laws (= macro theories) are defined as follows:

They are general (unrestricted to time and place) conditional statements which refer to collective actors (societies and all other kinds of groups) and which have been well confirmed empirically.

Example: If there are rising and unfulfilled expectation in a society, there will be revolutions.

This has the **form** of a law, but it is certainly **not confirmed**. The statement is thus not a law! Examples for laws come later!

Implication: Not only deterministic, but also **non-deterministic statements** are laws.



Why this definition?

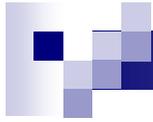
„Laws“ as defined before give reliable information about what the factors are that bring about phenomena to be explained.



If macro laws were available, the explanation of macro phenomena would be straightforward: We would immediately have access to the relevant causes of macro phenomena.

If **no laws are available** one may **speculate** what the causes of phenomena such as revolutions could be.

In principle, one could list **all events** as causes that occurred in the GDR before 1989/1990, assuming that a cause can only be an event that took place before the explanandum occurred. Such events could be:



- German championship in soccer of the SV Werder Bremen in 1988.
- A double tax agreement between Germany and Zimbabwe in April 1988.
- Introduction of Perestroika and Glasnost in 1985 by Gorbachev.
- Joint victories at Wimbledon by Boris Becker and Steffi Graf in July 1989.
- Etc.
- Etc.
- Etc.



How do people proceed to find the causes of an event when no laws exist?

Plausibility, intuition

Problem: Intuitions differ across individuals. Who is „right“?

Experience – one knows that sports events do not cause revolutions.

Note, that this is the **implicit application of a law!** „One knows“ refers to a general statement that is regarded as true, such as:

For every sports event: it is not the case that sports events lead to revolutions.

Thus, macro laws would help to provide valid explanations of macro phenomena.



Are there macro laws in the social sciences and, if so, what are these laws and do they fulfill scientific criteria?

We don't know!

An **inventory is missing**. There are reviews of findings and their empirical tests in various areas. One is:

Berelson und Steiner's (1964!) „Inventory of Scientific Findings“

and many other review about special fields such as hate crimes.

But empirical findings are no laws!



There are, it seems, serious **arguments against the existence of macro laws**: The rational choice approach seems to imply that there are not macro laws – as will be discussed later on.

Is this implication **correct**?

If „yes“, and if there is **only one macro law** there would be something wrong with the rational choice approach.

Thus, are there macro laws?

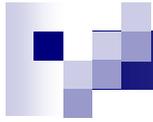
And if there are such laws: Are they „good“ laws, i.e. do they satisfy scientific criteria?

These are the questions that are addressed in this presentation.



Contents of this Presentation

- Are there macro laws in the social sciences?
- Problems of existing macro laws: What are their strengths and weaknesses?
 - Explanatory content
 - Truth (confirmation)
- Are macro laws compatible with the rational choice approach?
 - Implications of the micro-macro scheme
 - The derivation of covariation laws
- Conclusion: Some modest modifications of the rational choice approach



Assumption throughout this paper: There are **micro-laws** such as hypotheses from learning theory, social psychological theories such as dissonance theory or the Fishbein-Ajzen theory or rational choice theory.

This is, as everything in the social sciences, **controversial**. But these propositions come at least close to non-deterministic lawful statements, and they are applied to explain singular phenomena.



Are There Macro Laws in the Social Sciences?

Cultural Universals

- (1) All societies have an incest taboo.
- (2) In all societies there exist norms (e.g. about sexual behavior), and there is behavior that violates the norms.
- (3) In all societies there is a belief in supernatural forces.
- (4) In all societies children are raised (and not killed).
- (5) In all societies there is a division of labor between men and women.



Other Macro Laws (or General Macro Hypotheses?)

- (6) The expenses of governments increase over time („Law of increasing government spending“).
- (7) There is no democracy with central economic planning.
- (8) Democracies do not wage wars.
- (9) "Gresham's law" ("bad money drives out good money"): If the value of the metal of coins is relatively high, they are hoarded, whereas coins with low value are used for payments.
- (10) The iron law of oligarchy: In every organization the leaders increasingly pursue their own interests over time and not the interests of the members of the organization.



Problems of Macro Laws: Explanatory Content and Validity

The Explanatory Power of Macro Laws

Let us look at universal statements such as:

**All societies have an incest taboo – equivalent to:
For every object x: if x is a society, then x has an incest taboo.**

How can the incest taboo in Namibia be explained?

Because Namibia is a society, it is to be expected that Namibia has an incest taboo. This is the explanatory argument:

Law: For every x: If x is a society, then x has an incest taboo.

Initial condition: Namibia is a society.

Explanandum: Namibia has an incest taboo.



In the same manner, we can explain the incest taboo for every society.

Why are such explanations not satisfactory?

The exact conditions or processes for the origin of the explanandum are left open.

„Society“ is only a **proxy** for other variables which are the real **causal factors** for the explanandum. But what these factors are remains open.



Such universal statements have a **low explanatory value for another reason**:

Universal statements of this kind are often (always?) only simple **implications** (and not equivalences). It is thus left open which other conditions bring about the explanandum.

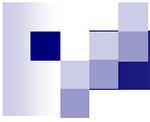
Implication: $(x)(\text{If } Sx, \text{ then } Ix)$ – if there is a society (S) ...

Equivalence: $(x)(\text{If and only if } Sx, \text{ then } Ix)$

Implications are also true if S is false and if instead other conditions lead to I. (**Altruism** → **Spending** ...) What these conditions are is left open.

Equivalences are false if S is false. Thus, only S can be a cause.

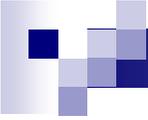
Cultural universals are implications. For example, the **incest taboo** does not hold only in societies but also in other groups.



A **third problem referring to the explanatory content**, is:

The phenomena explained are often very **unspecific** (i.e. the laws have a relatively low explanatory power).

Examples: The **kind of incest taboos** differs in different societies. The law that in all societies **norms** exist does not say anything about the kind of norms ...



Are Macro Laws Really Valid Statements?

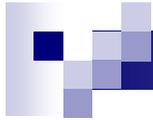
The cultural universals are well confirmed.

For some of the other statements mentioned there seem to be „exceptions“:

- Law of increasing state expenses: see Dluhosch and Zimmermann 2008,
- law that democracies don't wage wars: see White 2005.

There could be „**plausible falsifiers**“ – see below.

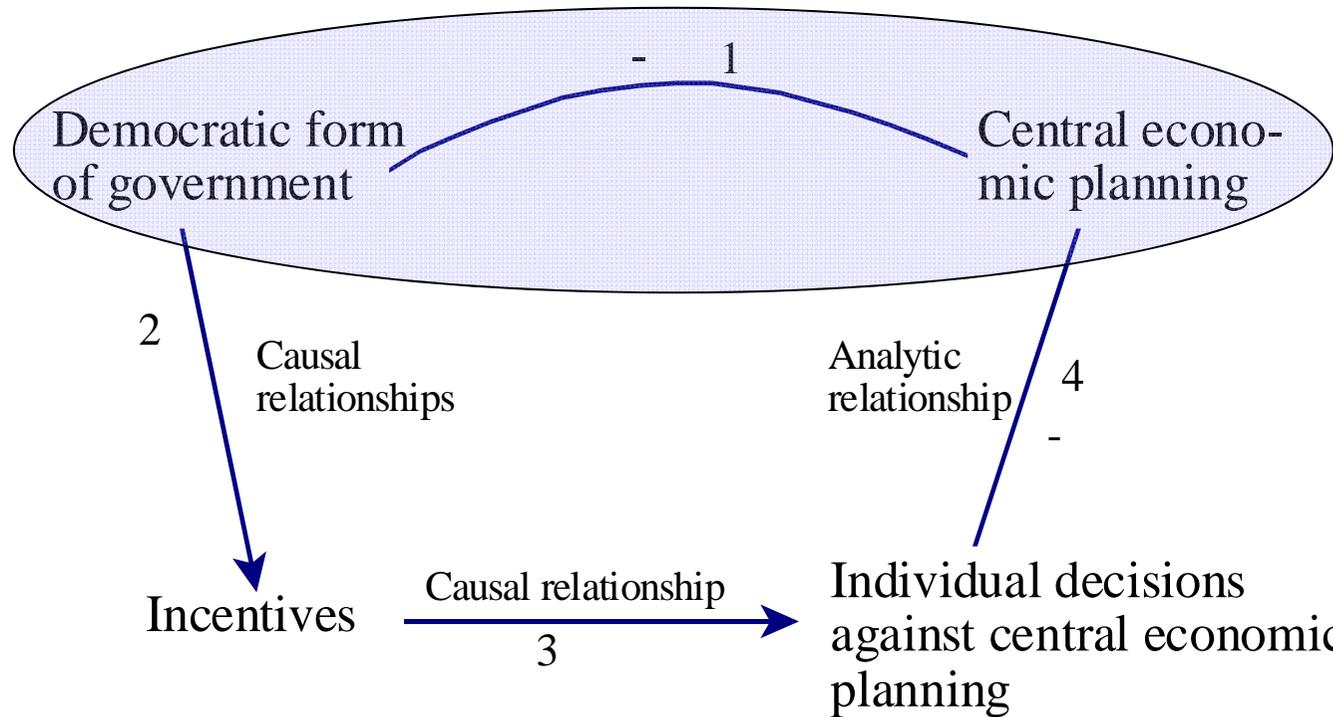
Conclusion: The examples mentioned suggest that there seem to **exist** some non-deterministic laws, but their **explanatory content** is not satisfactory, and perhaps there are (plausible) falsifiers.



Does the „Rational Choice“-Approach Really Imply that there are no Macro Laws?

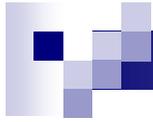
If the answer is „yes,“ then the **micro-macro scheme** should imply that there are no macro laws.

Let us look at an example:



See, for example, Hayek 1944: chapter V, or Friedman and Friedman 1980.

Relationship 1 is not a causal law because relationship 1 is explained **entirely** by **indirect causal effects** – via the micro level.



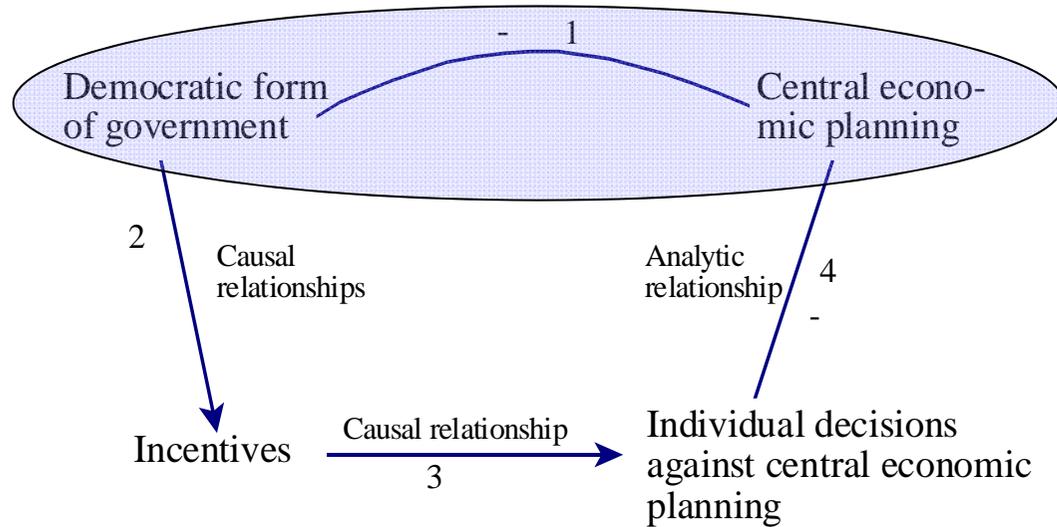
There are different **kinds of laws**:

There are causal laws and covariation laws.

A **law of covariation** is given, by definition, if phenomena always occur together, but if there is no causal relationship.

Example: The more frequently people visit a doctor, the more likely they die.

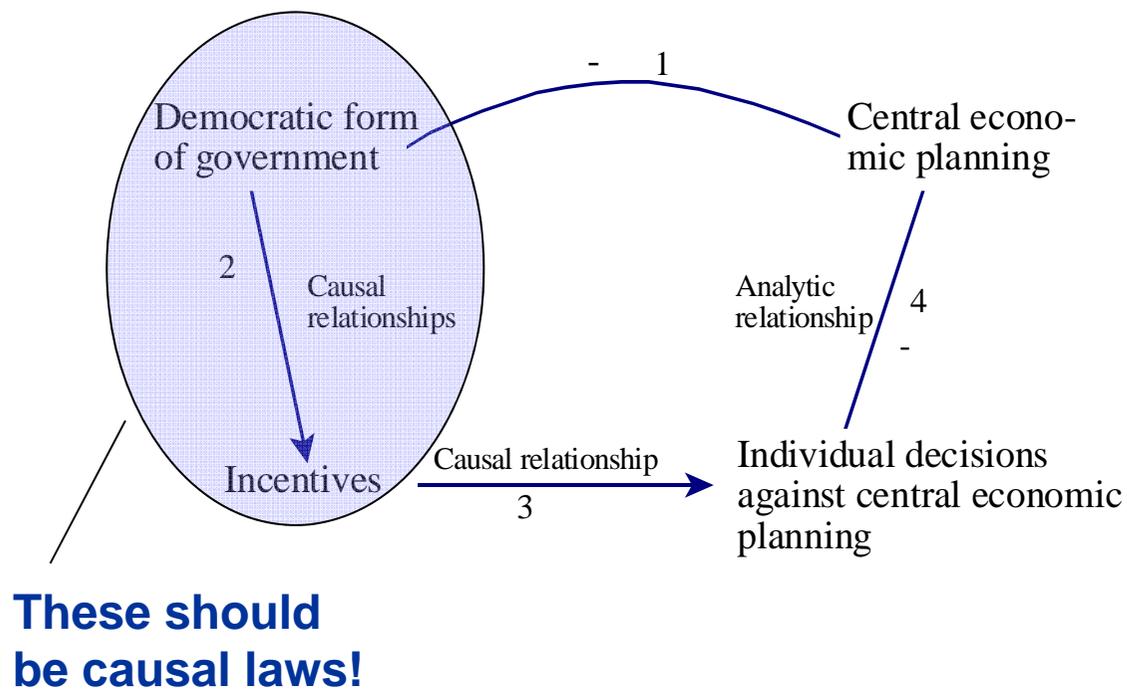
Could relationship 1
be law of
covariation?

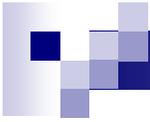


Question: Under which conditions will the macro relationship be a covariation law?

If there is a law of covariation, then a democracy should **always bring about** incentives that lead to individual decisions not to set up central planning institutions. In other words:

There are covariation laws on the macro level, if **macro-to-micro-relationships are laws.**





An interesting **question** is whether macro sociologists in general claim that their macro statements are regarded as laws and, if so, whether they assume causal or covariation Laws.

Many macro scholars sketch micro-macro explanations. In this case, it seems, they do not claim that their macro propositions are causal laws.



Implications:

- The conditions for the validity of the macro laws are the **scope conditions** for the validity of the macro law.
- These conditions are at the same time **falsifying instances** of the macro law.

In order to conduct a **plausibility test** of the macro law one could try to find situations in which the macro variable exists but not the conditions – **plausible falsifiers**.



Does the rational choice approach deny that macro-to-micro relationships are laws? Definitely not!

However, detailed **discussions** about the kind of the macro-to-micro relationships are missing. There are no arguments against the existence of causal macro-to-micro laws.

Conclusion: The rational choice approach implies that there **may be macro laws**, but these laws are **covariation laws**. **Condition:** there are lawful macro-to-micro relationships, which are **causal laws**.



Is the existence of macro-to-micro-laws really plausible?

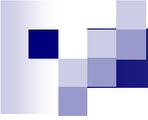
For example, do they exist for the laws mentioned before?

We don't know. What is missing in the literature is a detailed analysis of the lawful character of the macro-to-micro relationships.

The **search** for such macro-to-micro laws is **important for two reasons**:

- One **need not always analyze the causality** of macro-to-micro relationships;
- macro-to-micro relationships might reveal situations where the law does not hold = plausible **falsifiers** of the macro law.

Here is an example.



Could there be conditions for the existence of central planning in democracies?

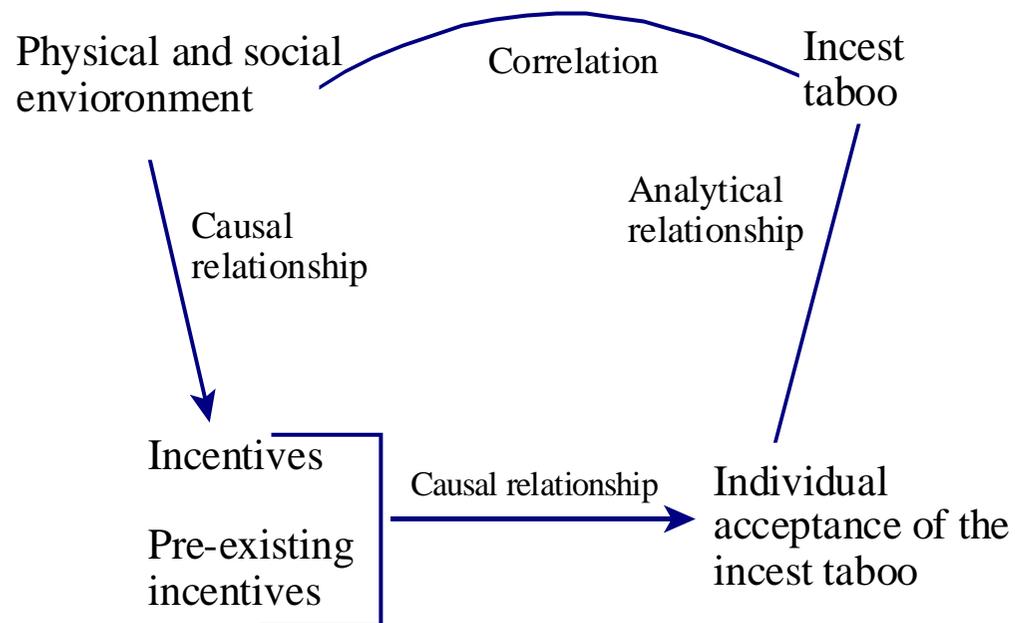
Possible process:

- In a given market economy the **economic situation deteriorates dramatically and no improvement is expected**. There are numerous strikes, high unemployment, a high crime rate.
- The parliament forms a **commission of experts** which can make far-reaching decisions for changing economic institutions (see Ermakoff 2008 on Hitler's Enabling Law (Ermächtigungsgesetz)).
- A majority of the citizens are convinced that the **market cannot solve the problems**. (See the notorious bad reputation of the market at present.) Such convictions are likely in a society in which state interventions and regulations are common.
- **Central planning** is introduced, also with consent of the parliament and the population.

Such situations did not yet exist, but there it cannot be excluded that they could exist in the future.

Could there be conditions for the absence of the incest taboo?

A Micro-Macro Model to Explain the Incest Taboo



For details see the oral presentation.



The **procedure** to find **plausible falsifiers** is:

Start with an **explicit formulation of the micro-macro model**.

In a next step **analyze** whether there **could be** situations where the macro-to-micro relationships do not hold. This is a **search for plausible falsifiers**.

Having found such falsifiers is not yet a falsification. But plausible falsifiers could **motivate researchers** to look for The falsifying situations.



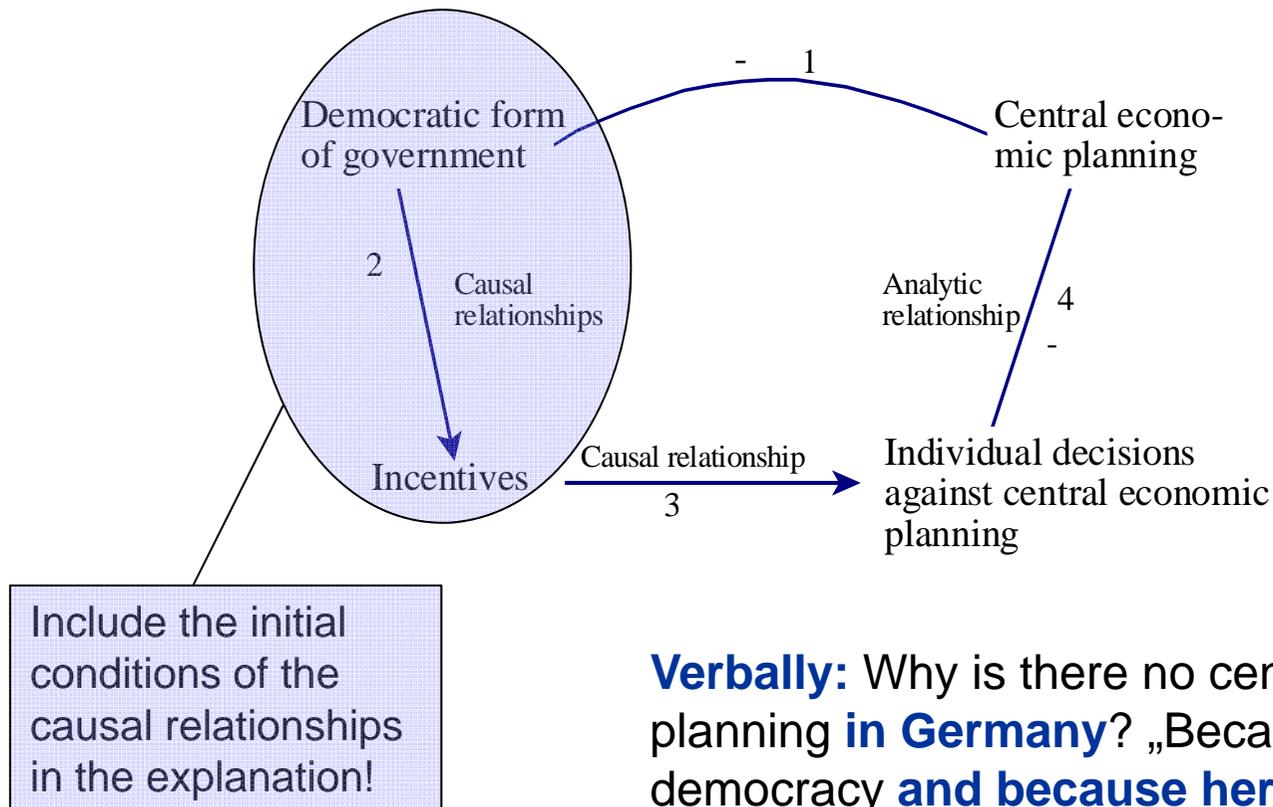
Are laws of covariation useful for explaining macro phenomena?

„Explanation“ usually means that the **causes** for an explanandum are found.

This is not possible with covariation laws.

As we have seen before, explanations with existing macro laws are unsatisfactory because the underlying processes are not spelled out.

However, covariation laws can be applied for explanations by **including the macro-to-micro relationships as initial conditions** = „complex explanations“ „macro-micro explanations of singular phenomena.“

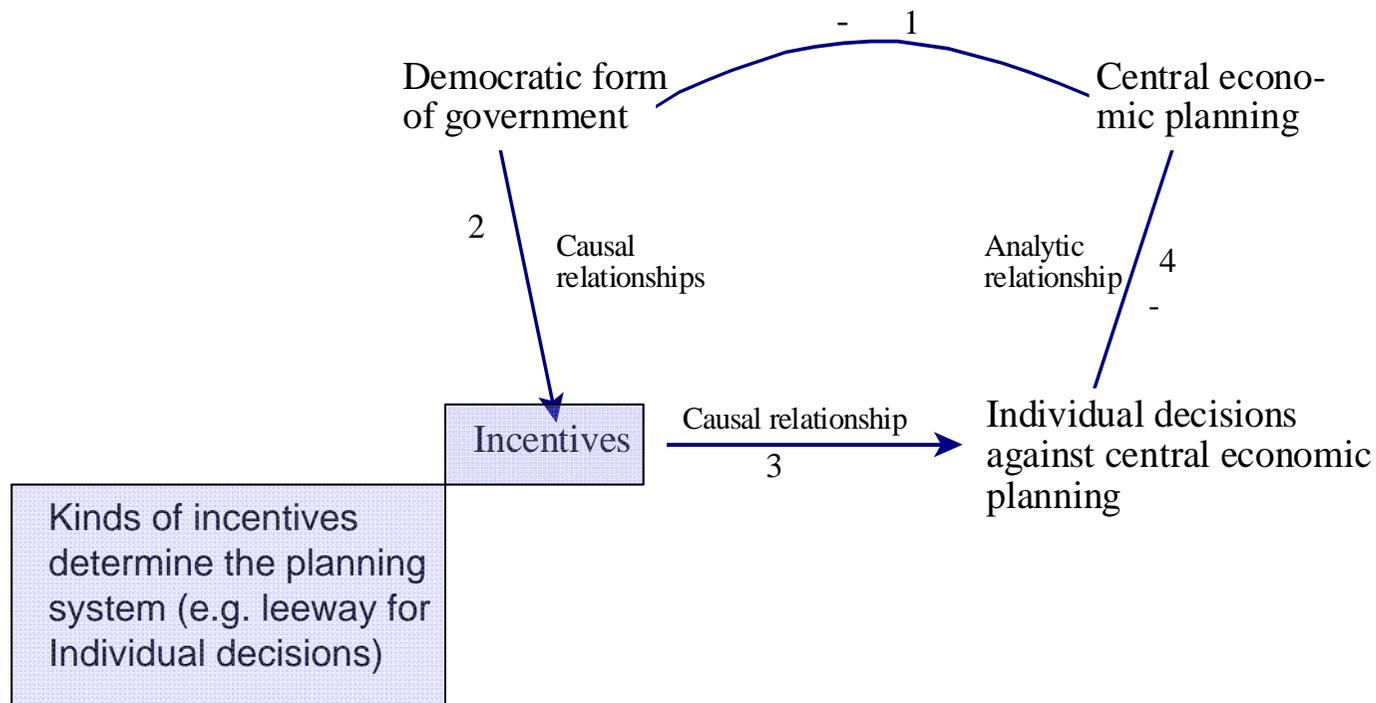


Verbally: Why is there no central economic planning **in Germany**? „Because“ this is a democracy **and because here** centralized economic decisions are against „democratic“ rules ...

Can the explanatory power of macro laws be improved by applying micro-macro explanations?

Example central planning.

One question that is open is the **kind of central planning** that is to be expected.





Conclusion: Some Modest Modifications of the Individualistic Research Program

There **exist macro laws** – examples are the cultural universals and other laws. But their **explanatory content** leaves much to be desired.

The **micro-macro scheme** implies that there may exist **covariation laws**, but no causal macro laws.

The **condition** is that there are causal macro-to-micro laws.

Are there such laws? Not clear.

A detailed analysis of macro-to-micro relationships would be an important **task for further research** – to find falsifications!



This presentation is based on:

Opp, Karl-Dieter. 2015. "Warum gibt es keine brauchbaren Makrogesetze in den Sozialwissenschaften?" In: Michael Wagner, Hrsg., *Soziologie und Reduktion. Velbrück*. Im Druck.

See also:

Opp, Karl-Dieter. 2012. "Can there Be Causal Effects on the Macro Level?" *Sociologica*, doi 10.2383/36897, <http://www.sociologica.mulino.it/doi/10.2383/36897> 1-7.



**Thanks for
Listening!**