

BASIC INCOME IN AUSTRIA

Theoretical Analysis - Empirical Research - Mathematical Simulation - Socioeconomic Effects

Applicant

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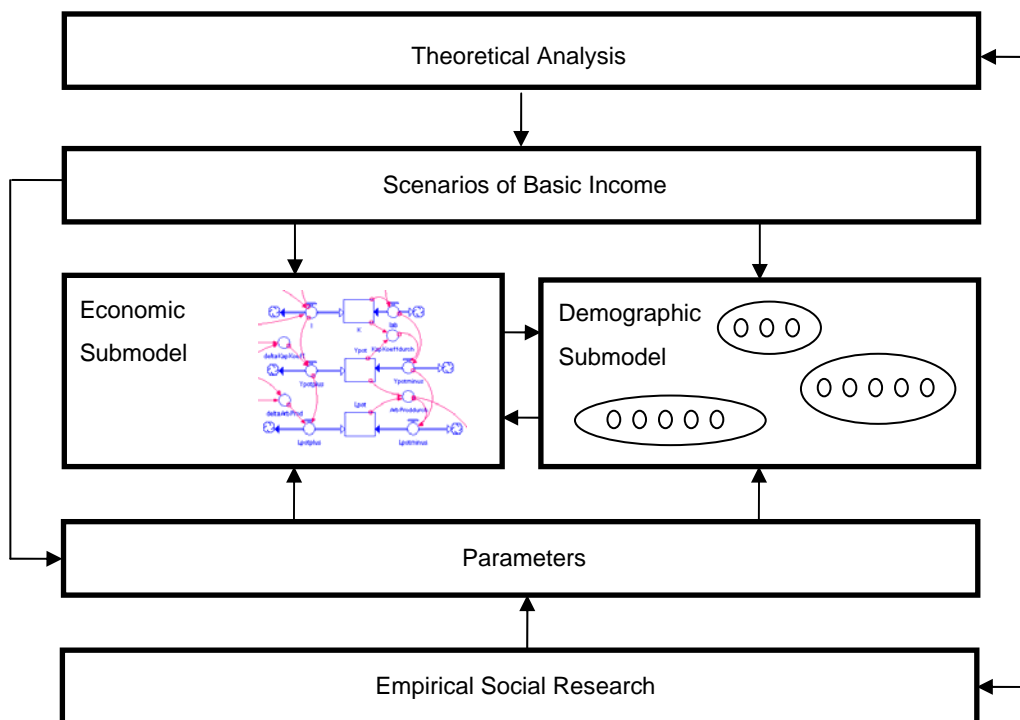
National Research Partners

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Project Description



BASIC INCOME IN AUSTRIA

Project Description

1 Scientific Aspects

The main goal of this trans-disciplinary project is the construction of a mathematical simulation model assessing the effects of various Basic Income (BI) implementations in Austria. Theoretical work and empirical social research will guide the construction of this model.

1.1 Guiding Research Questions

The basic question to be answered by the research project is: "What are the probable socio-economic impacts of introducing Basic Income (BI) under various scenarios in Austria?"

This research task can be further subdivided into the following research questions:

- How will the Austrian economy change up to 2025 with respect to various modes of BI?
- How should BI be implemented (esp. regarding modes of financing) to ensure economic and social sustainability (to ensure socio-economic well-being in the long run)?
- How will the distribution of formal work (employed or self-employed labour) and the occupational structure change with respect to various modes of BI? Which groups are inclined to increase/reduce their overall workload? What kinds of work will be preferred and what are the motives for preferring these kinds of work?
- Which changes can be expected in the employer-employee relationship, the wage-labour nexus, and wage compensations once a BI is introduced?
- How will informal work and leisure time (time-budgets) change in qualitative and quantitative terms?

These questions are based on theoretical considerations. To answer these questions, arguments and visions have to be specified and condensed to different scenarios, which are based on empirical investigations. The scenarios are tested and assessed by a simulation model¹.

Some observers of the BI debate conclude that there is a lack of scientific analysis of BI today and a focus on moral discourse. Vobruba (2006, 179), for example, argues that the new BI debate in comparison to the one in the 1980s is campaign oriented, whereas in the 1980s it was academic. An autonomous movement for BI would now exist, but the range of arguments would be narrow, focusing on unemployment and poverty. The project at hand is one of the first attempts in the German-speaking world of grounding the current BI debate scientifically and hence for resolving the deficit that Vobruba ascertains.

¹ Throughout this proposal the term "model" is used differently in different contexts. In a theoretical context it is linked to various proposals and variations of BI, in the context of simulation it is linked to mathematical structures implemented on a computer.

State of the Art

The idea of BI has a long history. One can identify links as far back as Aristotle. In the 18th, 19th and early 20th century several proposals related to ideas of BI were made, e.g. by Thomas Paine (1791), Thomas Spence (1797), Joseph Charlier (1848; 1894; Erreygers/Cunliffe 2006), Carl Ballod (Atlantius 1898), Josef Popper-Lynkeus (1912, Talos 1989: 142), and Otto Neurath (1917).

In the 1960ies Milton Friedman (1962, chapter 12) suggested the idea of a guaranteed minimum income for reducing poverty, based on a negative income tax. In 1966 Erich Fromm published a paper on the psychological aspects of BI (Fromm 1966).

The more recent international discussion on BI was significantly shaped by Philippe Van Parijs who developed in 1983 the idea of the "Allocation Universelle" (Van Parijs 1983). In 1985 Paul-Marie Boulanger, Philippe Defeyt and Van Parijs published a special issue on the topic in the journal *Revue Nouvelle* (Boulanger/Defeyt/Van Parijs 1985). In September 1986 they organized a conference on the topic in Louvain-la-Neuve at which the Basic Income European Network (BIEN) was formed and which is still active.

The academic debate on BI gained new momentum in 1995 with the publication of Philippe Van Parijs' "Real Freedom for All" (Van Parijs 1995). He argues that real freedom means that those humans who are endowed with the least possibilities in society are provided with the greatest possible opportunities.

Philippe Van Paris gave a generally accepted definition of BI. He defined it as "an income paid by a political community to all its members on an individual basis, without means test or work requirement" (Van Parijs 2000, 3; Van Parijs/Vanderborcht 2005). Besides such general definitions, there is much difference concerning arguments, world views, and models in the BI discourse, as the following discussion will show.

Opielka and Vobruba (1986, 6sq) distinguish between

- neoliberal positions that want to abolish the welfare state in connection with the introduction of BI,
- traditional-socialist positions that want to somewhat loosen the connection of income and wage labour, but don't see a right to income without wage labour, and
- a social-ecological position that combines the right to wage labour and the right to income in the form of BI as a lubricant for reduction and redistribution of working hours.

Corresponding to these three models they argue that there are three forms of implementation: 1. a negative income tax, 2. a minimum wage, 3. an unconditional social dividend that enhances the welfare state (Opielka and Vobruba 1986, 12sq).

André Gorz (1986) distinguishes between right- and left-wing BI models. In another publication he argues that the first type of models wants to set BI below the poverty level and reduce or abolish welfare, whereas the second one wants to set BI well above the poverty line (Gorz 1989, 335sq). Erik Olin Wright (2006) has recently added to this distinction by providing three criteria that are necessary for BI to become part of a socialist project (strengthening the power of labour relative to capital, decommodifying labour power, and strengthening civil society). The recent congress on BI ("Grundeinkommen 2007") in Basel has shown that Gorz' distinction is still topical. So e.g. Erich Kitzmüller (2007) argued at the congress that there are three discourses on basic income: neoliberal BI, and emancipatory BI, and BI as a poverty reduction measure.

Georg Vobruba (2006, 71sq) makes a distinction between: 1. BI connected to models based on total utopias of a post-scarcity society (e.g. Gorz) and 2. utopistic dual models that distinguish between necessary needs and luxury needs, in which the first are satisfied by BI (e.g. Adler-Karlsson). Concerning arguments for BI, Vobruba (2006, 176sq) makes a typology that distinguishes between political (autonomy, ecology, gender), economic, (alternative labour, purchasing power, unemployment) and social policy (poverty, bureaucracy, poverty trap) arguments.

Wispelaere and Stirton (2004) argue that BI models differ according to the degree of universality (extent of the population covered), directedness (individuals or families), degree of conditionality, degree of uniformity (degree to which all those who are eligible receive a similar level of benefit), frequency/duration of payment, modality (type of transfer, e.g. money, access to public goods, coupons, etc.), and the degree of adequacy (set below or above subsistence level). An example of the differences in the dimensions of BI models is exemplified by the two models of the Euro Stipendium and the Euro Dividend: Schmitter and Bauer (2001) suggest that a lump sum of € 1000 per year should be paid to every extremely poor European citizen (Euro Stipendium). Van Parijs and Vanderborght (2001) disagree with this model and suggest that a Euro Dividend should be paid to all EU citizens at levels differentiated according to the cost of living in the various member states. In this case there are differences concerning universality and duration of BI. Related to this discussion, Cunliffe and Erreygers (2003) distinguish between basic income (e.g. Van Parijs) and basic capital (a one-off endowment, e.g. Ackerman and Alstott (2000) suggest a sum of \$80 000 for each young American adult, while Matsaganis (2001) suggests a lump sum of €5000 for all newborn babies in the EU) as the two main types of basic security. Tony Fitzpatrick (2007) in this context distinguishes between BI streams and BI grants. He adds a further BI model, in which there are streams, but recipients can convert a certain amount of streams into a lump sum (BI pool), which would only be possible at a certain age.

Related to the typology of Wispelaere and Stirton is the one of José Iglesias Fernández (2002), who distinguishes between weak and strong BI models: The first would weaken at least one of the following features of BI: individual payment, universality, unconditionality, above the poverty line. Strong models would include additional features to these four requirements. Collective goods financing (a certain share of the total BI fund is devoted to financing collective goods, and the community decides how to use this share by way of participatory budgeting) would be especially important in this context. Engler (2005; 2007, 147) and Fleissner (2007, 204-208) argued recently for accompanying measures to activate citizens and to enhance the level of education.

As a conclusion from the above discussion, we ***base our research proposal on the following distinctions of BI models:***²

A. *Liberal Models:* Such models are based on the assumption that all individuals in a community have a human right to the same amount of BI. In some versions BI is accompanied by a reduction of social security benefits.

B. *Redistributive Models:* Such models consider BI as a means for redistributing income from wealthy groups to less wealthy individuals. They are based on a reform of the tax system, so that upper income classes pay higher taxes than at present, receive the BI, but overall are less well off than today, whereas the opposite would be the case for lower income classes.

² Revised according to reviewer A's proposal.

C. *Poverty Reduction Models*: Such models aim primarily at poverty reduction. Implementation schemes include e.g. a BI for all those who live below the poverty line, BI as development aid, minimum rates of unemployment benefits and welfare benefits (basic security, Grundsicherung).

D. *Basic Capital Models*: In such models a specific lump sum is paid to individuals at certain points in their life span.

The analysis of these different typologies and models shows *that a comparative perspective related to commonalities and differences of concrete models is missing*.

The task of this project is to undertake such a comparison with the help of social theory, empirical social research, and macro-economic simulations by applying different models to Austrian circumstances.

The situation in Germany and Austria

Recently, major German political parties developed concepts as to how to shape improved social security and fight poverty. On the Internet³ one can find basic assumptions of the Christian Democrats, the Greens/Bündnis90 and the Liberal Party, and also of Götz Werner, a German entrepreneur (dm Markets). Another German website⁴ lists around 100 authors, mainly of German origin, with recent contributions on BI.

The academic debate on BI started in Austria in 1985 with the publication of "Grundeinkommen ohne Arbeit" (Basic Income without Work) by Herwig Büchele and Lieselotte Wohlgenannt (Büchele/Wohlgenannt 1985). They argued that BI is a step towards a communicative society. Later on important contributions in Austria were made e.g. by Margit Appel (Appel 2005), Netzwerk Grundeinkommen (2006), Peter Fleissner (2007), Christian Fuchs (2005), Manfred Füllsack (2002; 2006a; 2006b), Luise Gubitzer (Gubitzer/Heintel 1998), Erwin Jerusalem and Wolfgang Russ (Jerusalem/Russ 1997, 59-72), Volker Kier (2000), Erich Kitzmüller (1998), Liberales Bildungsforum (1996), Karl Reitter (2000), and Emmerich Talos (2003, 2006).

Recently, the Austrian debate has gained new momentum with the publication of Manfred Füllsack's "Leben ohne zu arbeiten? Zur Sozialtheorie des Grundeinkommens" (Life without Work? On the Social Theory of Basic Income). Füllsack argues that the most concise definition of labour is to understand it as problem-solving capacity. Contemporary society would be so complex that problem-solving would continue to generate more problems that need to be solved by labour. In order to tackle this complexity of labour he argues that the introduction of a guaranteed BI for all would be an interesting option that deserves further investigation.

In October 2005 the first congress on BI "Grundeinkommen – In Freiheit tätig sein" ("Basic Income – Activity in Freedom") in the German-speaking world took place in Vienna (cf. <http://www.ksoe.at/ge2005/>). With more than 50 presentations in workshops and discussions and approximately 500 participants, the congress further advanced the academic discourse on BI. The congress proceedings were published, edited by Margit Appel, Ronald Blaschke, Christian Fuchs, Manfred Füllsack, and Luise Gubitzer (Netzwerk Grundeinkommen und sozialer Zusammenhalt – Österreich/Netzwerk Grundeinkommen – Deutschland 2006). Recently a subgroup of Attac Austria („Inhaltsgruppe Grundeinkommen“) developed various scenarios on how to introduce a BI.

³ http://de.wikipedia.org/wiki/Grundeinkommen#_note-0 (visited March 20, 2007)

⁴ <http://www.archiv-grundeinkommen.de/> (visited March 21, 2007)

After investigating most of the literature available the project proponents came to the conclusion that there are many philosophical and political texts, often related to dreams and fantasies, some of them rather sober and realistic. The discussion of the state of the art showed that many contributions have proceeded along social philosophical lines. They are characterised by abstract arguments and a lack of concreteness. Nevertheless, the project proponents could identify several empirical descriptions of BI concepts⁵ dealing with the necessities of finance and social and economic effects. Although they were well elaborated, they did not deal with the question of the dynamic effects of introducing BI and thus they were designed in a static way, for one point in time, and not for a complete period of several years.

Comparatively few research works dealt with analysis of concrete economic consequences after introducing a BI. An exception in this sense is e.g. the work of Philip Harvey (2006) who determined the relative cost of a universal BI and a negative income tax in the United States. Other works in this respect (based on economic modelling) were carried out by Atkinson and Sunderland (Atkinson/Sunderland 1988; Atkinson 1995), Gelauff and Graafland (Gelauff/Graafland 1994), Callan et al. (1999), Callan/Sutherland (1996).

For Austria no research exists so far, which endeavours to answer the research questions proposed here (see section 1.1) and with the mix of methods proposed here (especially by using a simulation model, see section 1.4).

Innovation and Impacts of Research

The innovative aspects of this project are:

- *Concrete* concepts for introducing BI in Austria and their socio-economic consequences are *systematically* discussed and analysed.
- The *dynamic behaviour* of the economy and of women's and men's engagement in work is simulated upon the introduction of BI.
- The *socio-economic sustainability*⁶ is assessed by the model behaviour.

The project proponents intend to establish research in the field of BI in Austria along the above innovative lines and to create a framework for further research activities.

Research Methods

The research methods applied are the following:

- (a) The theoretical desk research assesses the debate on social policies and economic frameworks, implications and effects of BI and shapes the basic structure of the simulation model
- (b) Specification of approaches to implement BI (by defining amount of BI, modalities of payments, financing, etc.)
- (c) Creating a mathematical simulation model with a combined approach of system dynamics and agent based modelling/micro-simulation on the basis of (a) and (b).
- (d) Quantitative and qualitative empirical social research to identify relevant parameters of the model

⁵ e.g. Atkinson (1995), Attac (2006a, b), Ackerman/Alstott (2000), Ackerman/Alstott/Van Parijs (2006), Althaus (2007, also Borchard 2007), Bundes-Arbeitsgruppe Sozialhilfe-Initiativen (2000), Mitschke (2000), Opielka (2004), Pelzer (1999), Rankin (1997a, b, 1996), Straubhaar (2006), Welter (2003), Werner (2007).

⁶ „Socio-Economic sustainability“ – as understood in this proposal – means to ensure socio-economic well-being in the long run.

The research methods are described in detail in the following:

(a) Theoretical Desk Research

Economic conditions and implications of BI have been discussed from many different theoretical perspectives. What is still missing is a comprehensive overview that doesn't concentrate on one singular theoretical approach, but categorizes, compares, and assesses existing approaches. Hence the method employed at the first level of research will be a comparative assessment of theoretical approaches to social policies and economic aspects of BI.

This discussion shows that existing BI typologies have been made based on e.g. political positions, types of utopias and societal models associated with BI, a differentiation of arguments for BI, and the degree to which certain features of BI are strengthened or weakened. What is missing in this scientific discourse is showing how concrete BI models relate to BI typologies and how BI typologies can be incorporated within and grounded by a larger social theory framework. In order to contribute to such an endeavour (which certainly can't be achieved within just one research project), the project at hand will compare political positions, parameters/qualities/dimensions, employed arguments, and expected impacts of topical BI models with the help of BI typologies. The typologies constructed in the project will go beyond the existing state of the art by dialectical synthesis that sublates the existing status quo. For the first time existing typologies will be compared and synthesized.

One novel quality of the BI debate during the past decade has been the emergence of various concrete political models. The debate has gained a more concrete political character, and it has advanced from the abstract scientific debate of the 1980ies to a more concrete level (Vobruba 2006). At the same time this concretization of the debate has also been accompanied by a lack of scientific analysis (Vobruba 2006). The main theoretical advantage that the project at hand provides is that it scientifically abstracts from the current concrete political debate by, for the very first time, systematically comparing and typifying concrete topical BI models with the help of typologies that are constructed at a meta-level of the debate.

Two basic questions concern the theoretical approaches that deal with economic aspects of BI:

1. What kind of changes did economic production, corporate organization and the world of labour change undergo during the last decades so that the idea of BI has gained new momentum?
2. Which positive and negative impacts of the introduction of BI can be expected in the economy? The task is to reconstruct the economic evolution of late-modern society, to show the economic context of the debate on BI and to make a typology of possible impacts of the introduction of BI. These impacts will be compared and assessed.

The novel aspect of the research method, at the theoretical level of the planned project, is that it doesn't take a single perspective, but that it constructs typologies from a meta-perspective which take into account the arguments of various theories and comparatively assess their arguments. Hence the theoretical framework is not one-sided, but takes into account the complexity of discussions on BI.

(b) Specification of approaches to implement BI

While the theoretical debate on BI on the one hand concerns more abstract questions such as conditions and implications of introducing BI, on the other hand it is necessary to specify the implementation modalities of BI in detail

which will serve as an input for the simulation model. All approaches to implement BI (as understood in this proposal) share the following principles: BI is an income paid to all members of a community on an individual basis, without a means test or work requirement (van Parijs 1995).

In detail the following aspects have to be defined / assessed:

1. The amount of BI that is going to be paid to various income groups.
2. Formulas for calculating BI and the total income one receives.
3. The modalities of receiving BI.
4. Modalities of integration into taxation schemes.
5. Modalities such as child care, social security, health insurance, unemployment insurance, old age insurance, eligibility for immigrants, children and youth under the conditions of BI.
6. Assessment of the costs of introducing BI.
7. Sources for financing BI and necessary reforms of the taxation system.
8. Interim arrangements before the approach can be fully implemented.

By comparing the differences and commonalities of existing approaches implementing BI and assessing their advantages and disadvantages a basis for the construction of a simulation model will be developed. Various scenarios that specify the above listed aspects will be defined and will be used as guidelines for the model structure and its parameters.

(c) Creating a Simulation Model

During the seventies, and up to the early nineties of the past century, one could see a boom of dynamic simulation models of socio-economic systems. They used system dynamics (SD) (see e.g. Forrester 1971; 1977; 1991; Meadows/Meadows 1992; 1992; 2004; Fleissner/Ludwig 1992), input-output (see e.g. Fleissner et al 1993), econometric⁷ (EC) (ÖNB 2005; Bruckmann/Fleissner 1989) or other mathematical/statistical methods. The parameters were either estimated by experts, by empirical research, by linear or nonlinear econometric methods or, less frequently, by methods applying neural networks.

While the above mentioned models are usually based on macro- (national economy) or meso-economic (branch of production) levels⁸, during the recent decades computer power has sufficiently increased to search out more detailed models, including the micro-level. Depending on their specific structure they are called agent based models⁹ (AB), micro-simulation models (MS) or cellular automata (CA). "In a pure CA all entities are spatially located within a grid of cells, and

⁷ Econometric models aim mainly at the appropriate estimation of parameters in behaviour equations.

⁸ The applicant of the project proposal has contributed to this area with the construction and/or analysis of several macro-econometric, system-dynamics and input-output models for various countries (Austria, Germany, Poland, Slovakia, and Vietnam) and meso-sectors (kindergartens in Lower Austria, memory chips production for Siemens, Germany) and amongst others published a book on Input-Output analysis (see <http://members.chello.at/gre/fleissner/default.htm>).

⁹ There is much information around (see e.g. <http://www.econ.iastate.edu/tesfatsi/acomplab.htm>, the websites of ONCE-CS (former EXYSTENCE) network: <http://complexsystems.lri.fr/Portal/tiki-index.php>, or the homepages of ANYLOGIC: <http://www.xjtek.com/>, SWARM: http://www.swarm.org/wiki/Swarm_main_page, NETLOGO: <http://ccl.northwestern.edu/netlogo/>, or REPAST: <http://repast.sourceforge.net/>).

all entities have only one attribute (alive or dead), with behaviours deterministically dependent upon the state of neighbouring cells. In a pure AB the emphasis is on the interaction between individuals, with the main attribute of each individual being their operating characteristics (behavioural rules), which evolve stochastically over time in response to the success or failure of interactions with other individuals. In a pure MSM transition, probabilities lack evolutionary and spatial dimensions" (<http://www.microsimulation.org/IMA/What%20is%20microsimulation.htm>).

By means of such types of models, individual economic, social, political or cultural subjects can be explicitly built into the models. This allows for a more precise representation of socio-economic and political-cultural interactions and also enables gaining deeper insights into ongoing processes between socio-political actors and/ or social groups. As we do not refer to the spatial dimension, we neglect CA, and focus on a combination of SD and AB/MS models.

All SD models consist of (non-)linear difference- or differential equations, usually on the aggregate level. SD/EC models are blind to individual actors or aggregate them into a small number of clusters (or compartments). Each compartment is homogeneous, i.e. all the actors of one compartment behave equally. Transitions between compartments depend on average or expectation values, eventually disturbed by stochastic variables. From the point of view of systems theory, SD/EC models include many positive and negative feedback loops. Together, with relatively few parameters, they define the type of dynamic behaviour of the model. For the past this behaviour can be compared to reality.

AB/MS models refer to the micro-level as the dynamic playground of interacting subjects (agents). They can handle the heterogeneity of actors and individual interactions. From there, group phenomena may emerge, which can be observed on the meso- or macro-level. SD/EC models cannot adequately deal with these phenomena.¹⁰ But the increased explanatory power of AB models comes at a price: Many numerical operations have to be performed. A large amount of parameters is needed. Sensitivity analysis is more complex because it can be done at many locations in the model, and comparison with reality is more difficult, because of the lack of sufficient empirical data.

AB/MS models show a new kind of uncertainty relation; the more we approach the level of the economic (a firm, a household, the state) or social subject (institutions like the family, association, group, community, and society), the less we can really expect to mirror the "true" behaviour of the subjects, because of lack of data. We have to move a step backwards, and be content with shaping the subjects inside the model according to "stylized facts". This means that we should not look any more for a one-to-one correspondence between reality and model on the micro-level, but only to a certain approximation of the indicators on meso- and macro-levels.

The method AB/MS models provide, is a kind of magnifying glass by which we can look through the surface of the macro- or meso-economy/society and make the inter-subjective relations visible, which are based on the notion of social practices related to resources of any kind.

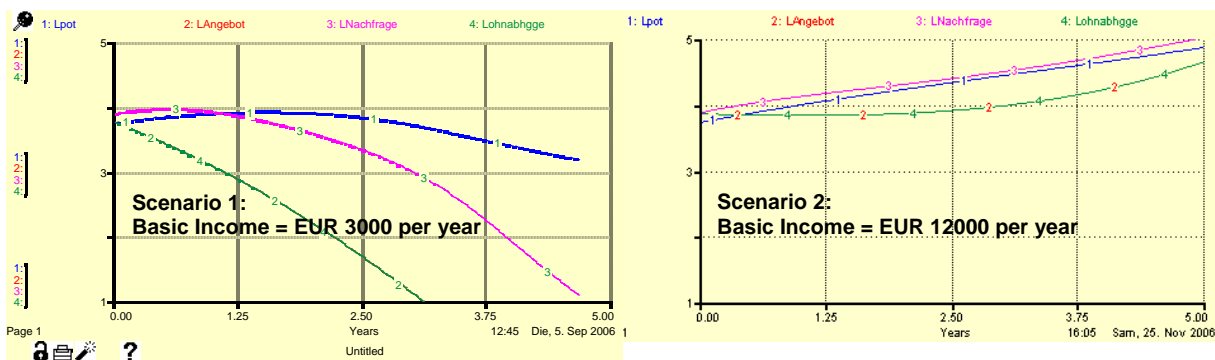
As a starting point and "pre-test" for the proposed project, a simplified prototype simulation model of system dynamics type has been developed which gives a first approximation of the effects to be expected (Fleissner 2007). Two scenarios

¹⁰ Agent based modelling and 2nd order social system theory (Luhmann 1984, 1986, 1997) lead to a distinction between 1st order "expectations" (what agents expect that other agents do) and 2nd order "expectations" (what agents expect that other agents expect them to do). Aggregating actions (like consumption) leads to indicators at the macro level. The limiting behaviour of (dynamical) 1st and 2nd order expectations leads to the meso level.

of the prototype model¹¹ are described here. They differ in the way BI is financed. In the first scenario, the aggregated value added the enterprises produce which is subject to taxation, while gross salaries and wages stay as they were before. The BI is added afterwards to them. In the second scenario, the fraction of all the wages and salaries is subject to taxation, as far as they are above the level of the BI, but there is negative taxation (that means that people receive money), if they are below it.

The following graphs are screenshots of the outcomes of the model for the following five years after the introduction of BI with respect to the two scenarios.

The development of labour market indicators is presented as an example.¹² The labour market indicators are measured in numbers of full time jobs. For the sake of simplicity, no difference between full time jobs and the number of workers is assumed. Four indicators are presented: Lpot is the potential full amount of jobs that technically speaking could be provided by enterprises. L_supply (in the graphs: LAngebot) represents the number of workers being inclined to sell their labour power on the labour market. L_demand (in the graphs: LNachfrage) is the amount of jobs enterprises would employ. The last variable gives the number of actually employed people as the minimum of supply and demand curves of labour (in the graphs: Lohnabhgige).



The results of scenario 1 indicate that an annual BI of even an amount of about 3000 EUR will not be sustainable (under the assumption of how BI is financed in scenario 1). The graphs illustrate quite well the shrinking of the economy. The graphs of scenario 2 indicate that, from an economic point of view, BI would be sustainable, if the annual amount is in the order of magnitude of 12.000 EUR. The second result encouraged us to further elaborate BI simulation models and to increase the level of complexity within the proposed project.

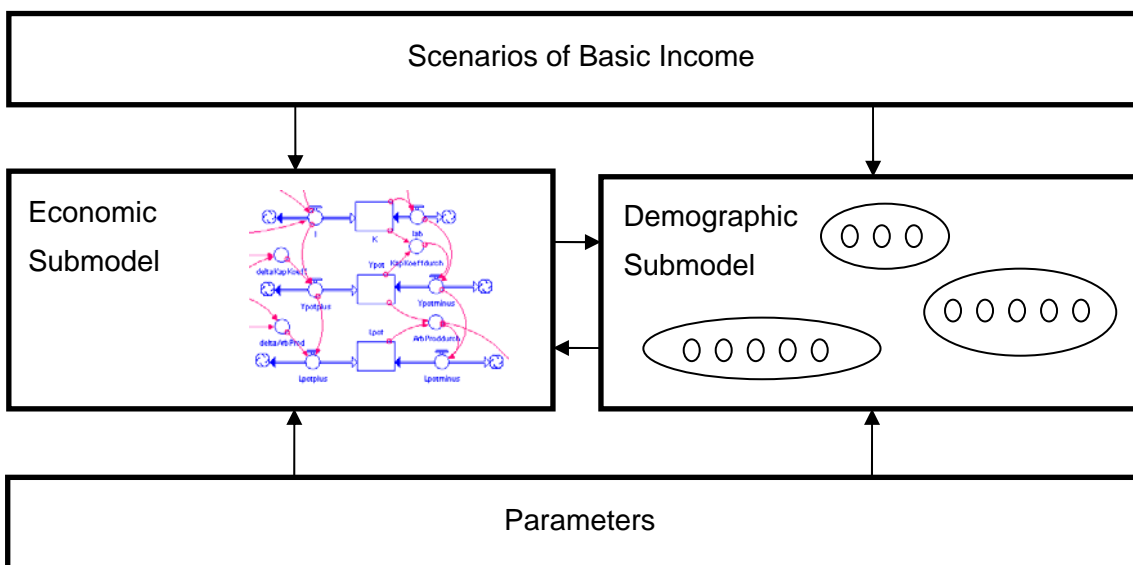
Structure and Parameters of the Model

The project team proposes the construction of a mathematical model with the following properties (see graph below):
 The mathematical model

¹¹ See the structure, the equations and more results of the prototype system dynamics model at http://peter.fleissner.org/Transform/Grundeinkommen_SD_Modell.pdf. For a more elaborated model of the Austrian economy which combines system dynamics and econometrics see (Bruckmann/Fleissner 1989).

¹² The prototype model is a simplified one: it is based on a closed economy and does not include work outside the labour market. These and other limitations should be overcome with the extended AB simulation model proposed here.

- will be based on empirical data of the past describing the Austrian socio-economic situation¹³, in particular the current implementation of the welfare state (transfers and social security), its cost and spending, and on empirically validated assumptions about the behaviour of specified social groups and actors for the future. Therefore in addition to the model construction, interviews and surveys have to be performed.
- will allow to implement different assumptions related to various scenarios and to be completely transparent about their use in the model environment and their effects.
- will be dynamic, i.e. it should cover a certain period of time and not only one year or month. Only with dynamic models can one assess the sustainability of the chosen type of BI.
- will be partly a SD/EC model and partly an AB/MS. While for the description of the economy we will use mainly aggregated macro (like GDP) or meso (like the output of various industries) variables, for mirroring individual or small group behaviour we will use agents. They will represent individual people, and – if needed – a few social groups. This choice should allow for a more realistic reflection of social and political reality. The agents carry the social, political and cultural aspects of the model. On the one hand agents are active decision makers and “create” the behaviour of the aggregates, on the other they “suffer” or “enjoy” the effects of the decisions of others (e.g. workers have the choice to work only on the condition of available jobs decided by management).



Several variants of implementing BI will be tested. The variants can be seen as scenarios which define the overall relations in the model and the assumptions on the behaviour of the agents in different ways. The simulation process doesn't focus on the testing of one specific implementation of BI, but will simulate the effects of a range of scenarios that

¹³ The applicants are, however, aware that these dynamics can be severely influenced by feedback stemming from changes in perception and normative attitude towards work and employment once a BI is implemented. For this reason the project foresees the necessity to broaden its scope and thus in addition will be attentive to simulation research, striving for comprehension of the emergence, diffusion and change of values and norms. Especially investigations along the lines of Axelrod 1981, 1986 and Epstein/Axtell 1996 seem promising to gain valuable insights in this regard (e.g. Bicchieri/Fukui 1999, Flentge/Polani/Uthmann 2001, Centola/Willer/Macy 2005, Andras/Lazarus/Gilbert 2006, Németh/Takács 2007)

are hypothetically applied to Austria. There is no specific limitation, several competing scenarios that reflect various political positions can be tested (e.g. redistributive scenarios Attac 2006a, b; BAG Grundeinkommen 2006; liberal ones, Blaschke (2005) gives an overview). At least one scenario for each of four different groups of BI implementations identified in section 1.2 (liberal e.g. Althaus 2007, Werner 2007; redistributive Attac 2006a, b; BAG Grundeinkommen 2006; poverty reduction; and basic capital scenarios) will be tested and assessed.

The challenge is not only to build adequate explanatory power into the agent based model but also to associate real subjects with the "agents" of the model adequately. There is a need for information on conditional potential behaviour of agents. With this information the model can be used for conditional forecasts.

The structure and parameters of the model will be taken from two main sources; firstly from theories available in economics, demography and other social sciences (see e.g. Garratt et al 2006; Romer 1996; Hinde 1998; Rowland 2003; Kozub 2003; Statistik Austria 2005; Sobotka 2005; Lehart/Münz 2003); secondly from empirical data, which is either available (for time-budget studies and socio-economic input-output tables see e.g. AK-Studie 2007, Schaffer 2005, Stahmer 2006, Eurostat 2004) or to be created as part of the project (see paragraph d, Quantitative and qualitative empirical social research).

The model consists of two main submodels¹⁴, the economic and the demographic one:¹⁵

Economic Submodel

The economic submodel mirrors the main balance equations of the System of National Accounts. It will reflect three methods (production, distribution, and use) as to how to end up with GDP (Kozub 2003).

Firstly, to model the production aspects of the GDP, the model will use production functions of the simplest vintage type one can have. Fixed capital is either new (as gross capital investment) or already in place (as fixed capital stock). Gross investment is associated with the marginal capital coefficient, enabling us to determine the marginal increase in capacity which is related to marginal productivity of labour, which in turn allows fixing the marginal number of additional jobs per time period. The marginal increments increase the associated stocks (fixed capital stock, full capacity output measured as a stock, and stock of jobs). The decrement is given by the products of respective stock variables and the respective average coefficients.

It is intended to include production functions with specific coefficients for large scale enterprises and for small and medium sized enterprises. To be able to see effects of BI on self-employment, a sector of micro-enterprises is foreseen. It is not yet clear whether a banking sector will be explicitly included. One would need it also to allow analysing effects of BI on consumers' debt.

Secondly, the model should mirror the use of GDP. For this reason private and public consumption, gross capital investment, imports and exports, will be included as behavioural equations. Their parameters will be estimated econometrically. Changes in stocks are determined as residual. Associated price indicators will be included to test inflationary effects of BI.

Thirdly, the model has to reflect the income distribution in detail. To do this, wages and salaries (see also below), profits (as a residual variable), property income, direct and indirect taxes, and depreciation will be part of the model.

¹⁴ The ecological dimension is not included in the model.

To be realistic, it is necessary to include a rough balance sheet of the state, and the balance sheet of social security (sickness and retirement schemes, unemployment scheme will be cancelled with the introduction of BI).

Demographic Submodel

While the economic submodel shows more or less traditional features of SD/EC models, the demographic submodel is a good example of an agent based model. If computer power is sufficient (running the model on a fast workstation will allow that) each person officially registered in Austria will be represented in the model. Of course, one should not expect any one-to-one correspondence between real individuals and virtual ones. In case computer power is not enough, individuals will be aggregated to clusters of e.g. 10, 100 or 1,000. This will reduce precision, but could be sufficient to get a proper insight into the effects of BI.

As in real life, people will be born; they will migrate outwards and inwards. When they are adult they will experience transitions into the working life as blue collar or white collar workers, or as founders of micro-enterprises. Later on they will retire and finally die. As workers, employees or self-employed, they will earn wages and salaries according to the Austrian statistics which is available either in quintiles of the basis of social security contributions ("Beitragsgrundlage") or as tax statistics by income classes ("Einkommenssteuerstatistik"), their income will be taxed according to Austrian law etc. The aggregated (e.g. income) figures are inputs for the economic model.

The outcome of this submodel will provide particular evidence that all the events and the transitions in the model do not happen in a deterministic way but follow certain predefined probability distributions. This will bring different results for the trajectories any time the model is started again (if the random generators start at different seeds, at any new run of the model. Fortunately enough, as one of the members of the project team has already tried in practice¹⁶, the differences between the outcomes of different runs are not that big).

d) Empirical social research¹⁷

The simulation model requires parameters that validly express the preferences and inclinations of individuals with respect to the implementation and effects of BI. For a long time social scientists were sceptical towards simulation. The first simulations expanding into social research were micro-simulations on the basis of social reporting and demography. But it was not before the 90ies, when the possibility emerged, to integrate social interactions of individuals or social units into simulation models, eventually convincing social researchers of its enormous potential (Diekmann 2004, Troitzsch 2005). Meanwhile it is uncontested that simulation is superior to conventional statistical procedures of social sciences especially there, where it deals with complex possibilities of the behaviour of interacting individuals or of decision units (Troitzsch 2005). Just as uncontested however, is also, that the quality of data on agents is essential for the quality of simulation results (Atteslander 2006).

For simulating economic and social effects of the introduction of a basic income, a variety of data bases are required, which have in common, that their analysis illustrates social realities, as detailed as possible on the individual, collective

¹⁵ Revised according to reviewer A's proposal.

¹⁶ See http://peter.fleissner.org/Transform/AK_Modell_11_07.ppt

¹⁷ Completely revised according to reviewer A's and B's proposals.

and institutional level. Beyond that it will be necessary, to end up with data on values, standards and attitudes of the participants based on their respective social relations.

For an appropriate choice of methods in empirical social research, the guiding research questions are of vital importance. The choice to use a multi-method approach by using both quantitative and qualitative methods of research seems to be compulsory within the framework of this project. Integrating both perspectives would allow us to find out, how individuals - as members of specific social groups and representatives of social categories with distinguishing social characteristics – would define and organize their future daily life under the condition of a basic income of a certain type. The qualitative approach will assist us in improving our understanding of complex phenomena and perspectives of the participants with respect to their inner argumentative and practical structure, i.e. the mutual interaction of individual, societal and cultural factors. Language regulates the competence of understanding. Only the filtering of the unconscious part of irritations, discontinuities and inconsistencies of everyday conversations allows for an understanding of its meaning. The quantitative approach on the other side will build on the results from the first qualitative phase and will allow for gathering representative information on significant parameters which are then going to be included into the simulation models.

The empirical phase within the project will thus include three main steps:

- 1) Qualitative problem-centred interviews using a thematic guideline;
- 2) Representative survey of the Austrian population; and
- 3) Focus groups after simulating the effects of different types of BI

The detailed work-flow within the empirical part of the project is described below:

(1) Two main goals should be reached within the first qualitative phase: First, we aim at finding out the relevant aspects, concerns and attitudes, the different options for action of the respondents with regard to the four basic income models and particularly to ascertain the thinkable changes in individuals' daily time budgets due to the implementation of different types of BI. The results of the analysis of the qualitative interviews will provide the basis for the survey in second phase, which will deliver significant parameters for the simulation models. Secondly, the qualitative content analysis will provide us with a deeper understanding, i.e. open new perspectives for the assessment of the outcomes the simulated models. Thus, we will broaden and extend the analytic perspectives as well as obtain valuable indicators for the simulation of the effects when implementing different types of basic income. The goal is to understand, why and how individuals will decide on their time budgets, if and how they will continue/start/stop their salaried work, or modify the content of it and/or other (non-salaried) activities, under the condition of a specific type of basic income. Particular attention is given to the subconscious, seemingly contradictory aspects in the subjective positioning of the individual, to the subjective significance of values, desires or anxieties, and the readiness and capacity to integrate a change of values into their own life. The content analysis aims at comparing significant issues across cases by using a software package for qualitative data analysis such as MaxQDA. Sociological theories and existing research on the question of identity formation through salaried employment and the significance of social status for a positive self-esteem will frame and underlay our approach within this step of the project (cf. e.g. Marie Jahoda, Regina Becker-Schmidt, Ingrid Kurz-Scherf et al).

Since it seems important to cover many different individual perspectives, opinions and socio-economic characteristics the selection criteria for the potential interviewees gain in importance. Within this project phase we plan to conduct 36 qualitative problem-centred interviews along a thematic guideline.¹⁸

(2) In the second phase of the empirical part of the project we plan to conduct a representative survey in order to get representative data for each of the problems in question. Indicators of individuals' time budget use according to the various basic income models will build the core of the questionnaire. The analysis of the quantitative data aims at defining significant parameters of the simulation models.

The second step of the empirical investigation consists of a quantitative face-to-face-inquiry of a representative sample of the Austrian population 16 years of age and older. The size of the sample is not determined by the total population size, but rather by the desired accuracy of the detailed results. It will be necessary to analyze regional (city/countryside) as well as social-demographic differences with appropriate detailed accuracy. On the basis of these basic data, the sample size n is calculated at 1000. The maximum statistical variation in a 50:50 result amounts to $n = 1000 + /- 3.2\%$ (in $n = 500$ for example $+ /- 4,5\%$).

As a selection procedure, the quota method of sampling is used, in which individual members of the sample are chosen in accordance with a quota so as to roughly match the national population on factors such as geographic area of the country, urban versus rural residence, sex, age, race, and socioeconomic status. Samples are defined according to demographic data of Statistic Austria. 120 sample points (settlements – "Gemeinden") are foreseen. Possibilities for individual future behaviour and expected time budgets under the condition of four different basic income models (see above, section "State of the Art") are queried. When possible, the questions will follow the pattern of items that are commonly used in general social statistics (e.g. EU-SILC Statistics on Income and Living Conditions). The results of this inquiry represent multiply stratified and valid data to be fed into the simulation model.

(3) After getting the results from the various simulations the project team plans to carry out three focus groups aiming at a discursive evaluation of the project's results (the micro and macro effects of different types of BI). Focus groups discussions are orientated towards the group process, that might be understood as an example of everyday conversation, and that reflects (hopefully appropriately) the interaction between individual and society. The participants in these focus group discussions will be asked to assess and comment on the results of the simulations in a discursive manner. The project team will conduct three focus groups with up to 10 participants each. The selection criteria for the participants will result from the analysis of the quantitative survey data and the simulation models.

1.5 Work and Time Plan, Dissemination of Results

The project will be finished within **30 months**.

¹⁸ Interviewees will be selected from three different regions, three different income groups resp. status' of employment, two age groups (< 35, >= 35), men and women.

Work Package 1 (WP1): Basic Income Theories Revisited

Duration: Project Months 1-24

Tasks: The overall task is to clarify the economic context that has conditioned the emergence of the current BI debate and to assess potential economic impacts of the introduction of BI. The specific research questions are:

What are the main common features and differences of BI approaches? Which ones are best feasible? Which approaches are suitable for a macro-economic simulation?

How do the parameters of BI scenarios (amount, modalities, financing) have to be set for a macro-economic simulation?

How is the change of economic production, corporations, and labour that has conditioned the BI debate conceived in different theories? What are the common and the varying aspects?

Which potential positive and negative economic impacts are discussed in different theories? What are the common and the varying aspects and how feasible are these forecasts?

Based on the results of theoretical research, concrete approaches to implement BI will be specified.

Research Methods: Firstly, a systematic analysis and comparison of BI concepts will be undertaken. A typology that shows the common and different aspects will be constructed. Based on this typology scenarios suitable for the simulation process will be worked out.

Secondly, a systematic comparative assessment of economic context conditions of the BI debate and of potential economic impacts of BI will be undertaken. No single specific theory will be employed, rather a meta-level comparison of different theories will be employed so that the complexity of the debate is taken into account and its full range can be shown and analyzed. The result will be typologies that show how context conditions and impacts are conceived in different theories. Furthermore the identified approaches will be assessed.

The basic research method of this work package is theoretical desk research.

Work Package 2 (WP2): Design and Construction of the Simulation Model

Duration: Project Months 1-14

Tasks: The overall task is to define the basic structure of the simulation model according to the results of WP1 and its implementation on a computer.

The specific research questions are:

- What are the essential balance/definition and behaviour equations of the simulation model?
- What is in particular the type and structure of the system dynamics model of the Austrian economy? What basic balance equations of the National Accounting Scheme will be taken into account? What kind of production function should be implemented? What level of disaggregation should be chosen? What behaviour equations will be tested empirically? Will the proposed structure of behaviour equations be compatible with empirical data? What lag structure of the variables is optimal?
- How good is the fit of the model variables compared to past behaviour of the Austrian economy (without BI)? Is the model mathematically stable? (see e.g. Fleissner 1990)

The model will be developed step by step and calibrated according to the empirical starting conditions.

Work steps in detail:

- Building a data base of economic and demographic data

- Design and implementation of the simulation model
- Econometric or neural network estimation has to be performed to end up with empirically sound parameter values. Integration of data of empirical investigations (WP4)
- Stability and sensitivity analysis
- Measuring the criteria of the suitability of the model

If necessary, the model structure and parameter estimation has to be modified to improve the suitability and stability. Possibly, this step has to be done repeatedly.

Work Package 3 (WP3): Design and Computation of Scenarios

Duration: Project Months 13-25

Tasks: The overall task is to evaluate how the implementation of a BI will affect the behaviour of the model constructed under WP2. The model as defined under WP2 is used as a reference ("standard" model, "standard" run).

The specific research activities are:

For each of the scenarios, interfaces and modifications of the standard model have to be defined and implemented on the software level. What are the variables to be influenced by the corresponding scenarios? The quantitative changes of the variables which are a result of empirical social research have to be implemented. What are the outcomes of the scenario runs? What are the differences to the standard run?

Research methods: In close interaction with the theory group of the project and based on the results of empirical social research, scenarios of implementation of BI approaches in Austria will be defined.

Probably a time period of 15 years (model time) respectively up to 2025 will be sufficient to be able to assess the effects of BI. There has to be a plausibility check. If this check is not successful, the above procedures have to be repeated.

Work Package 4 (WP4): Empirical Social Research

Duration: Project Months 1-10 und 22-25

Tasks: The overall task is to define in qualitative and quantitative terms the expectations of women and men under the condition of BI, with respect to changes in time budgets in their daily (possibility of engagement etc.) and working life (willingness to participate in the labour market, possibility to choose between paid and unpaid work, emergence of new sectors of work). Results of WP4 will serve as a basis for parameter specification of the simulation model.

Research methods: Based on the theoretical background, there will be a mix of qualitative and quantitative methods of empirical social research. Thirty-six qualitative problem-centred partly structured guided interviews with representatives of different groups will be performed at the beginning. The second step of the empirical investigation consists of a quantitative face-to-face-inquiry of a representative sample (1000 people) of the Austrian population older than 16 years of age. This representative survey will be the basic instrument to identify the effects of BI on individual levels. At the end of the research project three focus groups, each with up to 10 persons, will be held to discuss the main research questions and results.

Work Package 5 (WP5): Dissemination Activities

Duration: Project Months 25-30

Tasks: The results of the project should be disseminated to the scientific community and to the public. Various stakeholders should be integrated in a broader discourse.

WP5 will deliver texts on paper or on the Internet and software packages. Members of the project team have access to networks and grass-root groups interested in the issue of BI on national and international scales (e.g. national groups of attac, Netzwerk Grundeinkommen etc). They will assist spread the results to their associates, but also to the research community, political decision makers and the general public.

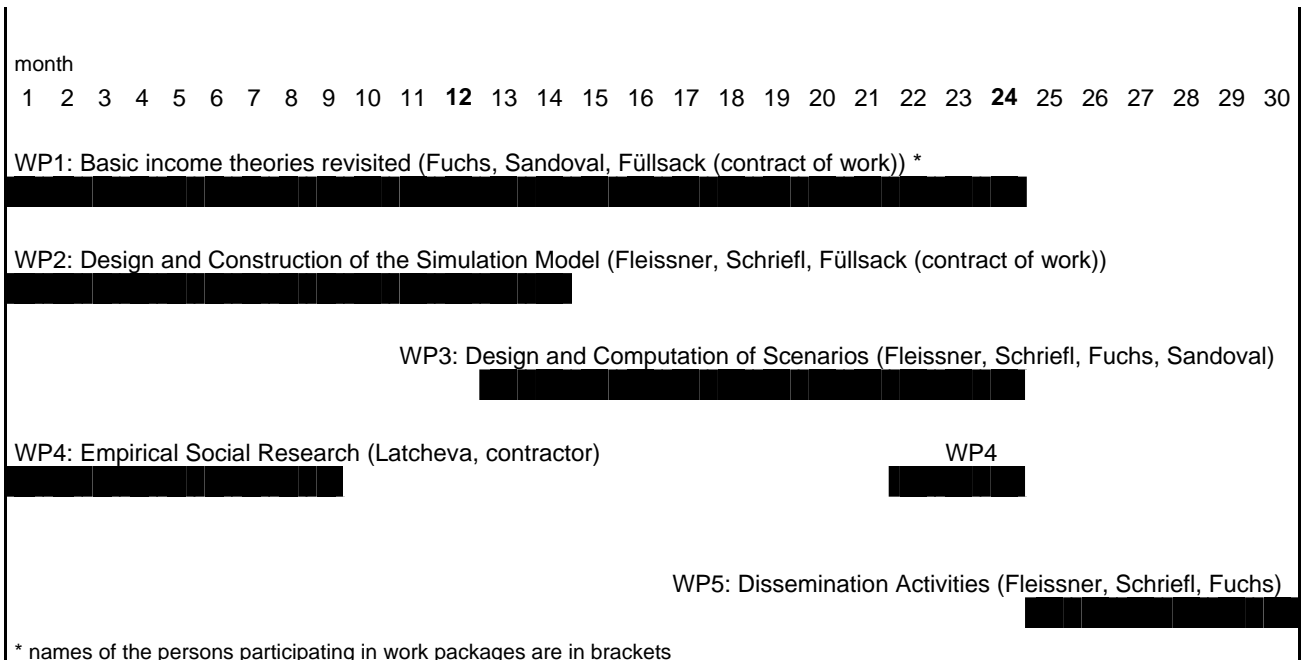
It is foreseen to use the Internet intensively for dissemination in two ways: Textual outcome will be put on a website, and the model will be made available as JAVA applet. Anybody interested will be able to access the model via a web browser and experiment with it.

Research papers will be drafted and sent to renowned international professional journals to have them accepted. First candidate is the international journal "Basic Income Studies". Because of the interdisciplinary character of the research project, also the following journals can be considered important for publishing: Journal of European Social Policy, Economy and Society, Theory and Society, American Journal of Sociology, New Political Economy, Artificial Societies and Social Simulation.

If financial resources will allow, a printed publication (a book in a German and English version) will be produced.

Furthermore it is planned to hold a dissemination workshop at the end of the project.

Time Schedule



Co-operation

The following national research partners will contribute to the project:

National research partner 1: Univ.-Ass. Dr. Christian Fuchs (ICT&S Center, University of Salzburg,):

He has written more than 60 scientific contributions in the research area of social theory and has co-organized the first Congress on Basic Income in the German-speaking world in 2005. He will lead the theoretical research (WP1) and furthermore contribute in definition of scenarios (WP3). It is planned to employ one doctoral candidate (Marisol Sandoval) in the partner's institution for the first 24 months of the project (see also overview on project finances). She will concentrate on the theoretical research part (WP1) and contribute for WP3 (definition of scenarios).

National research partner 2: Univ. Prof. Mag. Dr. Josef Hochgerner (Centre for Social Innovation, ZSI)

Prof. Hochgerner is Scientific Director of the Centre for Social Innovation (ZSI). ZSI is a multifunctional socio-scientific research institute, following a trans-disciplinary approach. It is planned to employ Rossalina Latcheva, Senior Researcher at the ZSI, for work on the project (see also overview on project finances). She will lead the empirical social research part of the project (WP 4), supervise and guide the work of the contractor who is responsible for the empirical field research.

Additional cooperation:

Dr. Manfred Füllsack (Institut für Philosophie der Universität Wien) who has the function of a consultant for social philosophy and – closely linked to it - of an advisor for the normative aspects of simulation (contract of work).

*Advisory Committee:*¹⁹

- Three foreign members, experts in BI: Georg Vobruba (confirmed), Yannick Vanderborght (confirmed), and one other (conditionally confirmed).
- Three Austrians: Lieselotte Wohlgenannt – BI , Alois Guger – macro economics, Emmerich Talos – welfare state (all three confirmed)

Human Resources

Scientific qualifications of the scientists involved

- Peter Fleissner (applicant) has long experience in simulation (economic, econometric, input-output, system dynamics and agent based models, several years of teaching model construction and simulation at Vienna University of Technology).
- Ernst Schriebl (to be employed at the applicant's institution) has profound experience in the area of mathematical modelling (economics, energy, and the environment).
- Christian Fuchs (national research partner 1) is renowned for his experience in research and publishing in the research field of social theory.
- Marisol Sandoval (to be employed at the first national research partner's institution) has studied communication science and has gained research experience in the area of social theory.
- Rossalina Latcheva (to be employed at the second national research partner's institution) has in-depth knowledge of quantitative and qualitative methods of data analyses, integration of quantitative and qualitative approaches and research design and analysis. Research interests are concentrated in the field of Political Sociology, national and European identity, migration and integration research, social exclusion and discrimination.

¹⁹ Introduced according to reviewer A's proposal.

- Manfred Füllsack (receiving a contract of work) is renowned for sound publications in the field of BI and has special knowledge of simulation models dealing with norms and values.

For more details on the scientific qualifications of the scientists involved see part “Scientific Curricula Vitae” and “Publication lists”.

Importance of the project for the career development of the participants

- Christian Fuchs playing an important role in the project as national research partner will have the chance of an important career step that will allow him together with his planned “Habilitation” to gain the experience needed for a potential future full professorship.
- Rossalina Latcheva. The project will broaden and deepen her knowledge on triangulation of different methodological approaches in social research. As regards content she will have the chance to expand her expertise in the interrelation of social exclusion and social change. She will have the possibility to publish specific results of the projects in peer-reviewed journals.
- For Ernst Schriefl the project will allow him to expand his knowledge and skills in mathematical model-building and thus enhance his research portfolio.
- Marisol Sandoval will gain further research experience from which she will benefit in her doctoral studies.

Potential additional aspects

The project has high socio-political relevance because it tackles social issues like poverty, unemployment, income distribution, and work-life balance. The project is transdisciplinary – it brings together the fields of social philosophy, sociology, empirical social research, economics, demography, mathematical modelling, statistics, and econometrics.

Financial aspects

Information on the research institution

The research institution has the infrastructural prerequisites to carry out the project because office space and the necessary equipment (computer hardware) are available. Other necessary equipment (software, literature, see non-personnel costs) is requested to be funded by the FWF.

Available personnel (not financed by the FWF):

The project leader/applicant (Peter Fleissner) and the two national research partners (Christian Fuchs and Josef Hochgerner) are not financed by the FWF.

Information on the support requested

Justification for the personnel requested

DI. Dr. Ernst Schriefl:

Position: post doc project employee at the applicant’s institution

He will mainly work in the field of model building and scenario formulation and participate in the dissemination activities (Work packages 2, 3, 5).

Length of involvement: 30 months, extent of involvement: 80%

Marisol Sandoval, Bak. Komm.:

Position: project employee at the institution of national research partner 1, Ph.D. candidate

She will work in the field of theoretical research (Work package 1)

Length of involvement: 24 months, extent of involvement: 75%

Mag.^a Rossalina Latcheva

Position: project employee at the institution of national research partner 2

She will mainly work in the field of empirical research and guide/ supervise the work of the contractor (Work package 4).

Length of involvement: 12 months, extent of involvement: 75%, 9 months in year 1, 3 months in year 2 (Work package 4 is divided in two parts, see time schedule)

Concise justification for the non-personnel costs

Material costs

Literature: 3000 EUR. Especially literature (books and papers) for the theoretical part of the project and for recent publications in the field of modelling and simulation

Travel costs

6 internal meetings of the project team (including 1 kick-off meeting, 3 of these meetings in Vienna, 3 in Salzburg): the costs for travel and accommodation (2 overnight stays) per travelling person are assumed to be 180 Euro, 2 persons (Fuchs, Sandoval) live in Salzburg, 4 persons (Fleissner, Füllsack, Latcheva, Schriefl) live in Vienna, thus overall travel costs for these meetings are calculated as 3240 Euro ($3 \cdot 2 \cdot 180 + 3 \cdot 4 \cdot 180$)

3 meetings of the scientific advisory committee (with three foreign members, three Austrian members) together with the project team (meetings in Vienna): travel and accommodation costs per foreign member per meeting are assumed to be 1000 Euro, resulting in 9000 Euro total for foreign committee members; plus travels costs for project team members from Salzburg ($3 \cdot 2 \cdot 180$ Euro = 1080 Euro); total travel costs for advisory committee meetings: 10.080 Euro

Other costs

Simulation software package (two licenses): 7798 EUR. It is planned to purchase two licences of the software package ANYLOGIC 6 Advanced. This software is especially suited for the project's purpose because it combines the possibility to integrate system dynamics and agent-based models. Because there is no comparable product available on the market no second tender was obtained. Two licenses of the software package are requested for enabling parallel simulations on two workstations (one license is needed for each computer). See also: http://www.xjtek.com/purchase/purchase_online/

One contract for carrying out surveys, interviews and focus groups (to deliver relevant parameters for specifying the simulation model): We received two offers, one with 99.000 EUR, one with 118.800 EUR (see attached offers/tenders).

The one with the lower costs (99.000 EUR) was accepted.

Carrying out a dissemination workshop: 2000 EUR

The costs include rental of an adequate room, catering, printing of information material etc.

Consultation honorary / contract of work (consultant social philosophy): Univ.-Doz. Dr. Manfred Füllsack will assist the project team in collecting and analysing literature in the field of social philosophy and will work as an advisor for normative aspects of simulation (5000 EUR).

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- Wright, Erik Olin. 2006. Basic Income as a Socialist Project. *Basic Income Studies* 1 (1).

Scientific Curricula Vitae

o.Univ.Prof.i.R. Univ.Doiz Dipl.Ing. Dr Peter Fleissner (*1944)

Applicant

1962 – 1968: Studies in electronics (communication technology) at Vienna University of Technology

1967 – 1969: Diploma in economics and econometrics, Institute for Advanced Studies, Vienna

1971: Doctoral thesis, title „Investigation of the stability of linear econometric models“

1971 – 1973: Researcher at Department for Economics, Institute for Advanced Studies, Vienna, Austria

1973 – 1978: Senior researcher at Institute for Socio-Economic Development and Technology Assessment, Austrian Academy of Sciences, Vienna, Austria

1974 – 1982: Part time affiliate at the International Institute for Applied Systems Analysis (IIASA), Laxenburg, Austria

1981: Inaugural Dissertation (“Habilitation”) in Social Cybernetics, Vienna University of Technology

1978 – 1989: Deputy director at the Institute for Socio-Economic Development and Technology Assessment, Austrian Academy of Sciences, Vienna, Austria

1990 – 1997: Full professor with tenure, Institute of Design and Technology Assessment, Social Cybernetics Group, Department of Computer Science, Vienna University of Technology

1997 – 2000: Head of unit „Technology-Employment-Competitiveness-Society“, Institute for Prospective Technological Studies, Joint Research Centre, European Commission, Seville, Spain

2000 – 2004: Head of unit „Research and Networks“, European Monitoring Centre on Racism and Xenophobia (EUMC), European Union, Vienna, Austria

since 2004: holding a series of seminars on mathematical modelling and simulation at Vienna University of Technology and Vienna University and University of Klagenfurt

2004 – 2006: back to Vienna University of Technology, retired since October 2006, Institute of Design and Technology Assessment, Faculty of Computer Science, Social Cybernetics Group, Vienna University of Technology, Vienna, Austria

Research fields / interests: applying mathematical simulation (econometric, input-output, neural networks, agent based) to social, economical, political and cultural problems

Peter Fleissner is author of more than 10 books and has written more than 120 papers on the relationship between modern technologies and the economy/society. Together with local teams he created large scale simulation models of the economies of Austria, Poland, Slovakia, Vietnam and the former German Democratic Republic under transition.

Recent research projects:

“An Agent Based Model of Public and Private Retirement Schemes in Austria – a Comparison” (part 1, 2006/7),

“Digital Media - New Possibilities for Democracy and Participation” (2007, with Vicente Romano)

“Atypical employment - Characteristics and types of precarity” (2000/2) (grant of the Austrian National Bank)

consultant to the ProVision project „Integrierte Modellierung von gesellschaftlichen und ökosystemaren Stoff- und Materialflüssen Eisenwurzten - Reichraming“.

Univ.Ass Dr. Christian Fuchs (*1976)

National research partner 1

1994 – 2000: Studies in computer science at the Vienna University of Technology. Major fields of study: sociological and philosophical aspects of informatics and computer science, information society, technology assessment, Human Computer Interaction, User Interface Design

1999 - 2000: Diploma thesis ("Selbstorganisation in der Informationsgesellschaft". "Self-organization in the Information Society")

2000 – 2002: Doctoral studies

2002: Doctoral thesis: Aspekte der evolutionären Systemtheorie in ökonomischen Krisentheorien unter besonderer Berücksichtigung techniksoziologischer Aspekte ("Aspects of Evolutionary System Theory in Economic Crisis Theories with a Special Sociological Consideration of Technological Factors")

Since 2000: Lecturer at the Vienna University of Technology

Since 2004: Lecturer at the ICT&S - Center for Advanced Studies and Research in Information and Communication Technologies & Society

2001 – 2004: Research assistant at the Institute of Design and Technology Assessment, Vienna University of Technology

Since 2005: Assistant Professor for Internet and Society at the ICT&S Center for Advanced Studies and Research in Information and Communication Technologies & Society (ICT&S Center, University of Salzburg)

Research fields / interests: Internet and society, social theory, social research

Christian Fuchs has published more than 60 contributions in the fields of Information Society Theory, Social Theory, and Systems Thinking, including 5 monographs and 2 anthologies.

Marisol Sandoval Gomez, Bakk.Komm. (*1984)

Project employee at the institution of national research partner 1

Marisol Sandoval Gomez is studying communication science at the University of Salzburg. Currently she is research and teaching fellow at the ICT&S Center, University of Salzburg. Her research interests are in the fields of empirical social research, social theory, media theory, and theory of new media.

Dipl.-Ing. Dr. Ernst Schriefl (*1969)

Project employee at the applicant's institution

1987 – 1994: Studies in Computer Science, Vienna University of Technology diploma thesis finished 1994, degree Dipl.-Ing.

1994 – 2000: Studies in Environmental Technology, Vienna Univ. of Technology, Univ. of Natural Resources and Applied Life Sciences, Vienna, finished with a diploma ("Diplomierter Umwelttechniker")

2000 – 2007: Research assistant at the „Energy Economics Group“ at the Institute of Power Systems and Energy Economics, Vienna University of Technology

2007: doctoral thesis, title: „Modellierung der Entwicklung von Treibhausgasemissionen und Energieverbrauch für Raumwärme und Warmwasser im österreichischen Wohngebäudebestand unter der Annahme verschiedener

Optimierungsziele", ("Modelling the development of greenhouse gas emissions and energy consumption for space and water heating in Austrian residential buildings assuming different optimisation objectives")

Research fields / interests: modelling in the fields of energy, economy and ecology; socio-economic aspects of energy use (e.g. analysis of user and investment behaviour in the buildings sector)

Mag.a Rossalina Latcheva (* 1970)

Project employee at the institution of national research partner 2

1991 – 1998: Studied Sociology at the University of Vienna at the Institute of Sociology in the Faculty of Social and Economic Sciences.

February 1999: Obtained Masters degree in Sociology at the University of Vienna, Austria. Thesis in the field of Political Sociology and Survey Research Methods (Subject: "Bulgaria between Authoritarianism und Democracy")

2002-2004: Postgraduate Scholarship at the Department of Sociology, Institute for Advanced Studies, Vienna, Austria.

Since 2005: Enrolled for a PhD at the University of Giessen, Germany by Prof. Peter Schmidt. Subject: National Identity and Ethnic Exclusion in Comparative Perspective

She is currently senior researcher at the Centre for Social Innovation (Zentrum für Soziale Innovation, ZSI), Vienna, project-leader and co-ordinator of national and international research projects, member of the supervisory board of ZSI.

Key qualifications: In-depth knowledge of quantitative Methods of Data Analyses, attempting to integrate quantitative and qualitative approaches.

Research interests are concentrated in the field of Political Sociology, National and European Identity, migration and integration, ethnic exclusion.

Univ.Doz. Dr. Manfred Füllsack (* 1960)

Receiving a contract of work

Studies in philosophy, sociology, mathematics, Slavic studies and musicology at the University of Vienna

Since 1989: Several research stays in Russia, Ukraine, Baltic and other eastern-European states, USA.

1994: dissertation, Institute for Philosophy, University of Vienna

2003: Habilitation in social philosophy, University of Vienna

Since 1998: lecturer at Institute for Philosophy, University of Vienna

Since 2000: lecturer at Institute for Eastern-European history, University of Vienna

Since 2005: member of the scientific advisory board of "Deutsches Netzwerk Grundeinkommen" (German Basic Income Network)

Research fields/interests: work and knowledge in contemporary society, BI, transformation processes in Eastern Europe/Russia

Manfred Füllsack published six books, among these in 2002 "Leben ohne zu arbeiten? Zur Sozialtheorie des Grundeinkommens" (Life without Work? On the Social Theory of Basic Income) and two in 2006. "Zuviel Wissen. Zur Wertschätzung von Arbeit und Wissen in der Moderne". (Too much knowledge. On the high esteem of work and knowledge in the modern era) and "Globale soziale Sicherheit. Grundeinkommen – weltweit"? (Global Social Security. Basic Income – world wide?). He is Associate Editor for the Journal Basic Income Studies (see <http://www.bepress.com/bis/>)

Publication Lists

Peter Fleissner (Applicant)

Selected Publications, mainly on simulation and system dynamics

For a comprehensive list see <http://members.chello.at/gre/fleissner/default.htm>.

Because Mr Fleissner spent seven years (1997 – 2004) as temporary agent (Head of Unit) of the European Union, during this period the number of publications was much less than before. Therefore also publications done before 1997 are listed.

Fleissner, Peter. 2007. Zur Metamorphose des Sozialstaats. Status Quo und Perspektiven in Österreich. In *Erneuerung des Sozialstaates in Europa*, edited by Lars Dieckmann, Lena Ellenberger and Frank Nitschke, 185-209. Berlin: Karl Dietz Verlag

Fleissner Peter and Vicente Romano (Hg.) 2007. Digitale Medien – neue Möglichkeiten für Demokratie und Partizipation? (Digital Media - New Potential for Democracy and Participation) series: network - cultural diversity and new media, vol 7. Berlin: trafo Verlag Dr. Weist ISBN 3-89626-553-9, 242 pages

Fleissner, P., and Fleissner, G. (1998) Jenseits des chinesischen Zimmers: Der blinde Springer - Selbstorganisierte Semantik und Pragmatik am Computer (Beyond the Chinese Room: The blind jumper - Self-organised semantics and pragmatics on the computer). In: W. Hofkirchner (Ed.) Information und Selbstorganisation - Annäherungen an eine vereinheitlichte Theorie der Information (pp. 325-340) Innsbruck Wien: StudienVerlag (download the related simulation model from <http://igw.tuwien.ac.at/peterf/springer/default.htm>, but be patient!)

Fleissner, P. (Ed.) (1994) The Transformation of Slovakia: The Dynamics of Her Economy, Environment, and Population (project team consisting of St. Adamec, St. Condik, F. Hajnovic, J. Haluska, K. Leutgöb, J. Meszaros, M. Olexa und J. Orsagova). Hamburg: Verlag Dr. Kovac ISBN 3-86064-178-X, 281 p.

Fleissner, P. (1994) Three Cultures - One Model, Experiences with System Dynamics Model Building in Three Countries. In: S. Katzikides, M. Campbell and J. Hochgerner (Eds.) Patterns of Social and Technological Change in Europe (pp. 257-275) Aldershot etc.: Avebury

Dell'mour, R., Fleissner, P., Hofkirchner, W., and Steurer, A. (1993) Substitution of Transport Activities - An Input-Output Approach to Determine Economic and Environmental Effects. In: A. Franz, and C. Stahmer (Eds.) Approaches to Environmental Accounting (pp. 282-294). Heidelberg New York: Physica-Verlag

Fleissner, P. (1993) The Construction of System Dynamic Models in Three European Countries In: Stuhler, E. A., and M. O. Suilleabhain (Eds.) Enhancing Human Capacity to Solve Ecological and Socio-economic Problems (pp. 68-84). München: Rainer Hampp Verlag

Fickl, S., Fleissner, P., Grundwald H., Hofkirchner, W., Höllt, A., Leutgöb, K., Mühlberger, M., Pohl, M., Steininger, K., and Steurer, A. (1993) Ökonomisch-ökologische Modellbildung (Economic-Environmental Modeling). Im Auftrag des Bundesministeriums für Umwelt, Jugend und Familie, Institut für Gestaltungs- und Wirkungsforschung der TU-Wien Vienna: Schriftenreihe der Sektion 1 des BMUJF, Vol 2 ISBN 3-901305-2-5

Fleissner, P. (Ed.) (1993) Input-Output-Analyse - Eine Einführung in Theorie und Anwendungen (Input-output analysis -

an introduction into theory and applications) Vienna: Springer Verlag (jointly with W. Böhme, H.-U. Brautzsch, J. Höhne, J. Siassi und K. Stark) ISBN 3-211-82435-9, 378 p.

Fleissner, P., and Ludwig, U. (Eds.) (1992) Ostdeutsche Wirtschaft im Umbruch - Computersimulation mit einem systemdynamischen Modell (East German economy in transition - computer simulation by means of a system dynamics model). Braunschweig/Wiesbaden: Vieweg Verlag ISBN 3-528-05192-2, 218 p.

Bruckmann, G., and Fleissner, P. (Eds.) (1989) Am Steuerrad der Wirtschaft - Ein ökonometrisch-sozialkybernetisches Modell für Österreich (Controlling the economy - A combined econometric and social cybernetics model for Austria). Vienna: Springer Verlag ISBN 3-211-82165-1, 0-387-82165-1, 212 p.

Dell'mour, R., Fleissner, P., et al. (1981) Mikroelektronik - Anwendungen, Verbreitung und Auswirkungen am Beispiel Österreichs (Microelectronics - application, diffusion and effects - example Austria). In: Bundesministerium für Wissenschaft und Forschung (Ed.) Mikroelektronik - Anwendungen, Verbreitung und Auswirkungen am Beispiel Österreichs (Microelectronics - application, diffusion and effects - the example of Austria) (pp. 56-94) Vienna: Springer-Verlag

National research partner 1 (Christian Fuchs)

Fuchs, Christian (2007, forthcoming) Internet and Society: Social Theory in the Information Age. New York. Routledge.

Fuchs, Christian (2007) Transnational Space and the "Network Society". In: 21st Century Society. Vol. 2. No. 1. pp. 49-78.

Fuchs, Christian/Horak, Eva (2007) Africa and the Digital Divide. In: Telematics and Informatics. Vol. 24. No. 3.

Fuchs, Christian (2006) The Self-Organization of Virtual Communities. In: Journal of New Communications Research. Vol. 1. No. 1. pp. 29-68.

Fuchs, Christian (2006) The Self-Organization of Social Movements. In: Systemic Practice and Action Research. Vol. 19. No. 1. pp. 101-137.

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