

Brown Bag Seminar

Do's and don'ts in research project applications

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Content:

Overall structure and content of a project

Formal issues, writing style, ...

Other points of attention for specific calls

Follow-up to this Brown Bag Seminar

1. Overall structure and content of a project

Problem statement and state of the art

(= motivation why your research is necessary and important)

Objectives and research questions

(= what exactly will you do / what do you want to investigate / what is going to be your contribution?)

Methodology and data

(= how will you do it?)

There should be a direct and “linear” relationship between these parts in the project description!

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There should be a direct and “linear” relationship between these parts in the project.

Problem statement and state of the art / Motivation

Do I make it very clear what the problem/relevant topic is that requires research?
Do I refer to the main relevant literature, and make clear in what sense the existing literature is inadequate?

Objectives and research questions

Are my objectives – translated into specific research questions – a direct and effective answer to deal with the identified knowledge gap?

Methodology and data

Is my methodology clear, and is it adequate/effective to answer the research questions?
Can I convince that I have enough, well-defined and appropriate data available?

Direct/linear in both directions.

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1. Overall structure and content of a project (alternative)

Problem statement and state of the art / Motivation

Part 1 ABC

- * Objective and research question
- * Methodology and data

Part 2 XYZ

- * Objective and research question
- * Methodology and data

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1. Overall structure and content of a project

Problem statement and state of the art

(= motivation why your research is necessary and important)

Introduction of **an important issue** for society, for business, for economic policy makers, for the development of science,...

Description of a problem that needs to be dealt with, an important topic about which more knowledge needs to be created...

... that has received (some) attention in the **literature**, proving the relevance of the issue...

... but the treatment in the literature has been incomplete, weak,... there are **knowledge gaps**, there is room for progress (and you explain/motivate why).

3 examples

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Brecht Boone (FWO Fellowship): Employment, growth and distributional effects of public policy in an overlapping generations setting with imperfect labour markets

Rising pressure on the welfare state due to ageing forces all OECD countries to develop effective employment and growth policies since at least a decade. The need to raise employment is particularly pressing among **older workers and lower skilled workers**. Moreover, many authors stress **the problem of rising inequality** (see Stiglitz, 2011)....

Unsurprisingly, in recent years, **a huge literature** has started to investigate what kind of public policies can effectively contribute to higher aggregate employment, employment of different age and skill groups, and economic growth. These policies relate to different areas such as fiscal policy, pension reform, education policy,... (see e.g. Rogerson and Wallenius, 2009;.....,). The contribution of recent research has been huge. **Still there is room for progress.**

A **first** striking observation is that **the lion's share of the literature assumes perfectly competitive labour markets**. Such a stylized approach, however, cannot be representative for the European context, with rigid labour markets and strong unions (see e.g.). **Second**,.... **Third**, most papers **neglect differences across individuals in innate ability and human capital formation**. Yet, these are a major cause of inequality...

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Maggie Geuens – Iris Vermeir (BOF 2-4 year): The impact of product assortment on consumers' (un)healthy grocery choices

Despite the abundant effort of public policy makers to drive back unhealthy food consumption and to stimulate healthy food choices, **the proliferation of obesity has continued and remains a worldwide health problem** in today's society. In the US,, while Europe, [1,2].

At the same time, retail environments have been gradually reshaped (e.g., different sequence of products, bigger assortment sizes, etc.). **Although 70% of our grocery decisions are made in-store [3] and retail changes in product sequence and assortment thus might exert a significant effect on consumers' shopping baskets, they have somewhat slipped the attention of researchers in the context of the obesity problem.**

Therefore, this project aims to contribute to the understanding of whether and how such retail developments might affect consumers' food choices by looking at (1) the in-store sequence of healthy and unhealthy food assortments and (2) the large sizes of current product assortments.

Moreover, while extant research almost exclusively studied (unrealistic) binary choice contexts (e.g., respondents have to choose between an apple or a cake).... , this project will focus on more ecological settings, that is, on more realistic grocery shopping situations in which consumers have to make several choices between several products.

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Stijn Baert (BOF 2-4 year): Smartphone use and academic performance: causal impact, mediation via sleep quality and moderation by multitasking

In recent years, the debate on whether or not smartphone use is detrimental to performance and quality of life has taken **an important place in the public debate** (Brems and Cardoens, 2017;.....).

Scientific literature links smartphone use not only to reduced performance during driving, hiking and working, but also **with poorer study results** (Andreassen, 2015; Lepp et al., 2013;...)....

Several theoretical reasons predict an effect of smartphone use on study results..... On the one hand,..... On the other,.... (references). Apart from the trade-off in time spending, it has also been argued that smartphone use can have an indirect effect on study results through **sleep outcomes** (references). Etc....

In general, the existing literature summarized in Table 1 is characterized by **four main limitations**. First of all, **one cannot give a causal interpretation** to any of the recorded results. Second, the studies in Table 1 are based on **self-reported smartphone use (and often also on self-reported study results)**. Third, this literature does not provide any insight into **which of the theoretical mechanisms pass the empirical test** (Lepp et al., 2015; Rosen et al., 2016). In particular, it is **unclear to what extent the effect of smartphone use on study results runs through sleep outcomes...**

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1. Overall structure and content of a project

Problem statement and state of the art / Motivation

Some final remarks

State of the art : don't summarize the whole literature but focus on what is relevant for your project/on those elements that you will deal with.

(For BOF: sometimes research on a topic may also have been done in other disciplines.... education, migration, international relations,... For BOF it is then important also to refer to those disciplines).

Avoid (as only motivation):

“No one has ever investigated....”

“This is the first study on....”

There should at least have been attention to the problem (requiring research) in the literature.

Don't think that having a unique dataset is a guarantee for a proposal being approved.

Do not give the impression of “a new, unique dataset looking for a research question”.

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1. Overall structure and content of a project

Objectives and research questions

(= what exactly will you do / what do you want to investigate / what is going to be your contribution?)

1) It must be clear from the description of your project, that you will **deal with the defined knowledge gaps/weaknesses in the scientific literature.**

2) What exactly are you going to investigate? What are the **precise questions** that you will (try to) answer in separate studies?

Is there an effect of.... on.... ? And what is the sign and size of this effect?

What explains this effect?

What is optimal.... policy / planning / organization....?

....

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1. Overall structure and content of a project

Objectives and research questions

(= what exactly will you do / what do you want to investigate / what is going to be your contribution?)

2) What exactly are you going to investigate? What are the **precise questions** that you will (try to) answer in separate studies?

To answer these questions, in fundamental research, we are guided by **theory, a theoretical framework, an theoretical model.** Mention, describe them!

If possible: specify **precise hypotheses**, derived from this theory, that you will test.

Maybe new innovative/unexpected hypotheses.

3) Make clear **your contribution to the development of scientific knowledge?**

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1. Overall structure and content of a project

Objectives and research questions

(= what exactly will you do / what do you want to investigate / what is going to be your contribution?)

3) Make clear **your contribution to the development of scientific knowledge?**

New, reliable knowledge about the sign and size of the effect of on...

New knowledge about how to optimally solve / organize / reform /...

... which may guide decision makers.

New theory, more realistic theoretical model, generating more realistic predictions...

Settle theoretical discussions / conflicting hypotheses...

Go beyond explorative and/or stock-taking (“inventariserend”) research, which only or mainly uncovers and maps out facts.

3 examples

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Brecht Boone (FWO Fellowship): Employment, growth and distributional effects of public policy in an overlapping generations setting with imperfect labour markets

Objectives

This project is about public policy analysis in a **dynamic general equilibrium overlapping generations model**. We contribute to the literature by accounting for key features of European countries that are often neglected (and certainly not studied together): labour market imperfections (unions, involuntary unemployment) and heterogeneity among individuals in ability to acquire and build human capital.

Our **first objective** is **to construct and calibrate a more realistic overlapping generations model that integrates these key features and that can explain more variables of interest** than the models that exist in the literature. We want to explain **not only standard variables** such as aggregate output, growth and welfare, the public budget and aggregate employment. Our aim is **also to model and explain** a wealth of other variables like the relative wage of low- versus high-ability individuals, ..., involuntary unemployment among low-ability individuals, welfare of high- and low-ability individuals, etc.

Our **second objective** is **policy analysis**. Policies that we want to study concern changes in fiscal policy composition (i.e. the level and structure of taxes and public expenditures), pension reform,....

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Maggie Geuens – Iris Vermeir (BOF 2-4 year): The impact of product assortment on consumers' (un)healthy grocery choices

Objectives

1. IN-STORE SEQUENCE OF HEALTHY AND UNHEALTHY FOOD ASSORTMENTS

OBJECTIVE 1 is to investigate (1) whether the retail trend to position more healthy food assortments at the store entrance and more unhealthy categories store inwards affects the composition of consumers' shopping baskets, and if so, (2) what underlies this effect, and (3) how could this effect be countered?

While **'goal balancing' literature** assumes that consumers alternate between a healthy and an indulgent goal to arrive at a balance between both [6,7] and as such the sequence of the product assortments may not matter much, **licensing and depletion theory** point to adverse effects in case of a healthy-unhealthy sequence.

.....

H1: When shopping for groceries in stores that apply a 'healthy-unhealthy' [vs. 'unhealthy-healthy'] layout, consumers will buy relatively more unhealthy foods.

H2: Licensing and willpower depletion, which leads to diminished self-control, underlies this effect.

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Stijn Baert (BOF 2-4 year): Smartphone use and academic performance: causal impact, mediation via sleep quality and moderation by multitasking

The aim of this research project is to **measure the causal effect** of smartphone use on study results.

In addition, the aim is to gain an understanding of **why and when** this effect occurs in particular. On the one hand, by separating the direct effect of smartphone use on study results from an indirect effect ("mediation effect") via sleep outcomes. On the other hand, by studying multitasking as a moderator of the relationship between smartphone usage and study results.

With this objective in mind, our research proposal takes full account of the gaps in literature, as described in Section 2.1.1 and recognised by important recent contributions.

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1. Overall structure and content of a project

Objectives and research questions

Some final remarks

Avoid vague objectives like:

“Our objective is to deepen our knowledge about...” (and not much more)

“..... is to gain new insights into....”

If you formulate hypotheses, avoid vague hypotheses.

Formulate them precisely:

H1.

H2.

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1. Overall structure and content of a project

Methodology and data

(= how will you do it)

Describe the empirical model precisely: what are the relationships that you want to test, what are the equations that you want to estimate?

Define and operationalize variables and constructs precisely.

Describe the (adequate) empirical method precisely (prove that you know what the adequate/required method is)

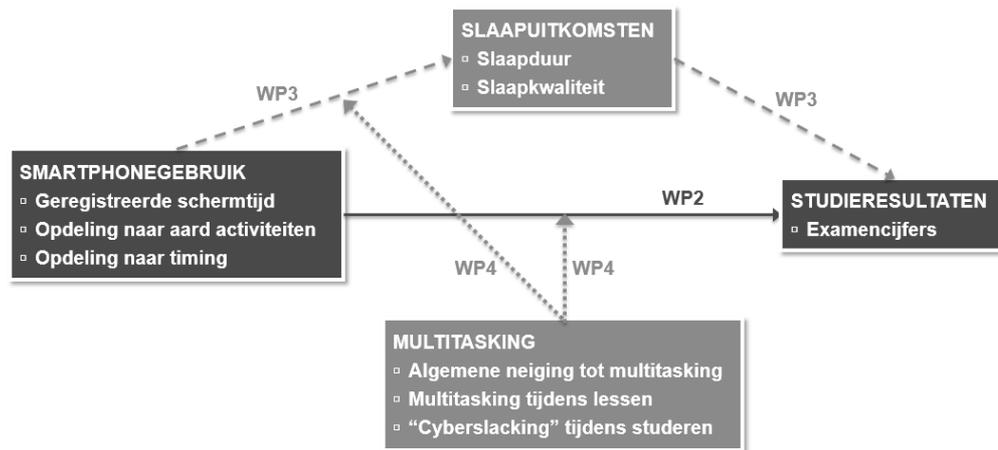
Data and data sources

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Methodology and data: empirical model

Empirical model (example, Stijn Baert):

All variables are precisely indicated, as well as the relationships between them.



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Methodology and data: empirical model

Equations to be estimated (inspired by Bruno Merlevede, BOF 2-4 year)

The empirical model can also be described as a set of equations.

“Our model will result in a specification like (1) where the log of outbound business trips from country i to partner j at time t is related to an index of visa strictness ($visa_{ij,t-n}$ cf. [data section below](#)) and control variables (distance, GDP, common language, ...). α_{ij} and λ_t are country-partner fixed effects and time dummies, $\varepsilon_{ij,t}$ is the error term.

Appropriate lags ($t-n$) of the explanatory variables or well-defined instruments should take care of potential endogeneity concerns (cf. [infra, econometric issues](#)).

$$\ln(BussTrips_{ij,t}) = \alpha_{ij} + \beta_1 visa_{ij,t-n} + \theta f(\text{controls}_{ij,t}) + \lambda_t + \varepsilon_{ij,t} \quad (1)$$

It's certainly okay to specify equations to be estimated, but make clear what i, j, t ... and all variables are. Also their counterpart in the data should be described.

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Methodology and data

(= how will you do it)

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Describe the (adequate) empirical method precisely (prove that you know what the adequate/required method is)

Data and data sources

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Methodology and data: variables and constructs

Variables in an empirical model must be defined, obviously.

Some need no further explanation.

For other variables/concepts/constructs it is crucial to explain how they will be operationalized, precisely and in a valid way.

So many examples....

- credibility
- human capital
- attentive leadership
- bias in product evaluation
- quality of accruals (in accounting)
- financing constraints
- economic integration / cooperation
- visa strictness
- optimal schedule / policy /... (what's the objective function?)

.....

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1. Overall structure and content of a project

Methodology and data

(= how will you do it)

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Describe the (adequate) empirical method precisely (prove that you know what the adequate/required method is)

Data and data sources

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Methodology and data: empirical method

A major issue!

Given the reality that you investigate, the context within which the research is done, and given your objectives (e.g. test hypotheses, compute causal effects,...)....

.... define, describe and motivate the appropriate method that you will use:

- theoretical model calibration and simulation
- econometric analysis
- experimental studies
- qualitative research
- ...

It is a good beginning to mention these, but you have to go beyond this. Always clarify what exactly you plan to do. What econometric method? This must be more than name dropping. And the method must fit your objectives. What experimental studies? What qualitative methods?

Avoid: "For example, I could use method X".

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Methodology and data: empirical method

If you plan experiments / case studies / interviews, carefully consider and mention:

- The number of participants (mention results of a priori power analysis)
- The appropriateness of the participants. Students are not always appropriate/optimal, e.g.
 - when it comes to study behaviour of specialist professionals (e.g. credit rating professionals, head hunters,...)
 - in studies where students are not representative for the relevant population, e.g. obesitas studies, studies on the behaviour of unemployed people, poor people,...
- The number of selected cases should be high enough to cover the variation/richness of possible contexts/determinants that may matter.
Carefully think of control groups that are not treated by certain policy measures/interventions.

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1. Overall structure and content of a project**Methodology and data**

(= how will you do it)

Describe the empirical model precisely: what are the relationships that you want to test, what are the equations that you want to estimate?

Define and operationalize variables and constructs precisely.

Describe the empirical method precisely (prove that you know what the adequate/required method is)

Data and data sources

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Methodology: data and data sources

Pay attention and be precise: what data along the cross-section, what data along the time dimension, what sample, how many, what is the data source.... ?
(cf. i, j and t).

For example, say more than:

“Amadeus: The database contains detailed accounting data for a broad set of European enterprises”.

“Datastream: The database contains stock prices, analysts' predictions, traded equity, etc.”

“Data source: OECD”

Convince that enough data will be available, or that their construction is realistic.

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1. Overall structure and content of a project**Methodology and data**

(= how will you do it)

Final remark

Don't introduce new research plans / objectives while describing the methodology.

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Content:

Overall structure and content of a project

Formal issues, writing style, ...

Other points of attention for specific calls

Follow-up to this Brown Bag Seminar

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2. Some formal issues, writing style,...

Be aware of the fact that - in general - evaluators are not specialists (BOF, also FWO).

- Ensure a direct and “linear” relationship between the main parts in the project description. Non-specialist readers need clear structure. Avoid reflections / nuances that break this direct relationship.
- Try to avoid highly specialist concepts. If you use them, define them.
- Avoid the use of (quasi) synonyms. Different words for more or less the same concept are confusing for non-economists. E.g.
 - recession – downturn
 - public debt – government debt (liabilities)
 - return – profitability
 - expenditures – outlays
- Avoid field-specific acronyms, especially for BOF (CDS spread, LTRO, GAAP, ROI,...)

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Take some time and some distance:

Lean backwards... Read and think about your own project as if you were from another field in economics/business (for FWO), or as if you were from a different discipline (for BOF).

(Reconsider the questions in red on slide 3).

Have your project read by a friendly non-expert colleague before submission (BOF).
Have it read by someone with the methodological skills needed in your project (unless you are the methodological expert yourself).

Respect the permitted length of the project description, font size and line spacing.

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Content:

Overall structure and content of a project

Formal issues, writing style, ...

Other points of attention for specific calls

Follow-up to this Brown Bag Seminar

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3. Other points of attention for specific calls in the next months

- Research fellowships (doctoraatsmandaat, aspirantschap)

Study results of the candidate are key. For BOF they are the most important criterion.

BOF : especially study results in the bachelor and master (relative position in the cohort: top 10% or – if possible even – better is absolutely necessary).

MaNaMa, Research Master, publications are assets, which may improve candidate score.

FWO : study results are less dominant, relatively more weight to the quality of the project.

More weight on having a research oriented MaNaMa or research master, additional specialist training, international experience,...

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3. Other points of attention for specific calls in the next months

- Interdisciplinary research projects

<https://www.ugent.be/en/research/funding/bof/iop/iop.htm>

Two-step procedure

Preselection: selection based on the **level of interdisciplinarity**.

- 1) The **disciplines and the kinds of expertise that are brought together in the proposal are dissimilar from one another**: FWO discipline codes are compared; the evaluation committee examines whether the codes correspond with the content of the project proposal.
- 2) The input of expertise, knowledge and methodology from **both disciplines must be equally essential** in order to carry out the proposed research. The research project can only be carried out in an integrated, concerted way and cannot be split up into 2 separated research lines. One discipline cannot be an auxiliary science for the other.
- 3) **The results of the interdisciplinary research lead to new scientific insights in both disciplines or contribute to the development of a new field of study.**

Possible combinations: alfa – beta, alfa— gamma, also alfa – alfa

(2016: alfa-alfa: EB-PP, EB-PS, EB-RE, PS-PP,... survived the preselection)

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3. Other points of attention for specific calls in the next months

- **Interdisciplinary research projects**

<https://www.ugent.be/en/research/funding/bof/iop/iop.htm>

Two-step procedure

Preselection: selection based on the **level of interdisciplinarity**.

Endselection: selection based on the **scientific value of the project proposal** and the **quality of the consortium**.

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4. Follow-up to this Brown Bag Seminar : ideas (CWO)

- An FEB repository of approved research projects.
- A “project readers team” of experienced colleagues willing to read and comment on first drafts of projects.
- A Brown Bag seminar on upcoming changes at the FWO (from 2019 onwards).

Good luck with your future research projects!

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