

## StatMind/UNIES

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Doctorate of International Studies  
Draft 2.3

1. StatMind in partnership with UNIES has developed a specialized **Doctorate of International Studies (DoIS)**; see Annex A/B).

The DoIS focuses on many aspects of international business, at the level of individual companies; countries; and regions (in terms of regional agreements).

2. The DoIS is a structured, 30-36 months programme, with two possible tracks. Students can attend one workshop (in Arusha); the workshop is open to non-DoIS candidates. The courses can be done by self-study and online, with one-on-one support from a supervisor (via Skype, or in one of StatMind's Research Centers).

Candidates benefit from support of StatMind's Research Centers in Europe and Africa. Analyzable data sets are available, along with complete documentation and manuals. Individual trainings and consultancy are included as part of the programme.

Data are based on *COMTRADE* data starting from 2005 up to the most recent year available (with yearly updates). Data are available at *SITC Rev3* level, for all imports and exports flows of the main African countries in eastern and southern Africa with one another, and with main or emerging partner countries (US; China) and the world as a whole.

The data sets are made in *STATA*. However StatMind has written sample scripts in **R**<sup>1</sup> accompanied by user-friendly manuals, for customized analyses and data visualization. The data contain commonly used indicators including:

- Revealed Comparative Advantage (Balassa Indices)
- Shift-share analysis
- Indicators of trade creation and diversion
- Technology content.

The structure of the basic data set is summarized in table 1. Programmes are available for quick extension of reporting countries and partners, or on more detailed product coded (SITC Rev3, 4-digit) on request.

**Table 1. Contents of StatMind’s international trade data set (version 2.0)**

Reporting Countries	Partner Countries	Data	Indicators
Ethiopia Kenya Mozambique South Africa Tanzania Uganda Zambia Zimbabwe	Ethiopia Kenya Mozambique South Africa Tanzania Uganda Zambia Zimbabwe China USA World	Imports; Exports 2005-2014 (to be updated) Missing data are estimated Level: Standard International Trade Classification, Revision 3 (3-digit level, 260 categories)	Revealed Comparative Advantages  Shift-share analysis: growth is decomposed into Macro- growth; Industry mix effects; Country Share Effects; and Allocation Effects (Esteban- Marquillas Model)  Exports by technology content (Sanjaya Lalls’ analysis)  Trade Creation and Trade Diversion
Standard Reports: - Country Summary Information & Trends - Industry Summary Information - Analysis of strong and weak industries by country - Visualized information of country portfolios (star industries; lagging industries) - And many more ...			

Table 2 gives an example of shift-share analysis for the eight African reporting countries.

<sup>1</sup> **R** is a free software environment for statistical computing and graphics. It compiles and runs on a variety of platforms. See <https://www.r-project.org/>

**Table 2. Shift-share analysis 2010-2013 (millions of US\$)**

Reporter	Exports in 2010	Growth 2010-2013	Macro-Growth	Industry Mix Effect	Country Share Effect
Ethiopia	2,330	1,747	456	1,092	199
Kenya	5,169	368	1,012	479	-1,124
Mozambique	2,243	1,781	439	-70	1,411
South Africa	82,626	12,486	16,180	-6,758	3,064
Zimbabwe	3,199	308	626	976	-1,294
Uganda	1,619	789	317	212	260
Tanzania	4,051	362	793	3,521	-3,952

*Examples:*

*The analysis shows, for example, that the actual export growth of South Africa in the period 2010-2013 is behind what was expected based on the trade growth in the set of African countries examined. The main reason is that the country is active in industries with relatively slow growth (Industry Mix effect). However within these industries the country is doing better than the other countries.*

*Kenya, in contrast, is active in relatively fast growing industries, but the country is not competitive in these industries.*

The analyses can dig deeper, and look at the product (SITC; or sector) level; examine winners and losers within sectors. The data can be used to test whether strong sectors in countries, will benefit from regional trade agreements. The overviews will be used as a starting point to answer the question *why* industries in particular countries perform well or poorly; is it about successful industry and trade policies, or do the competitive advantages stem from strengths at the firm level? In a series of (doctoral) studies we hope to give meaning to the national competitiveness indicators as published by World Economic Forum and IMD, and gain in-depth understanding of how and why the competitiveness dimensions (e.g. education; quality of management; infrastructure; and so on) have different impacts on sectors within the country.

Here the **two tracks** of the programme come into play. In both tracks students have six months for the analysis of secondary data and desk research. In this part of the research students with the guidance of their supervisors will make an in-depth comparative analysis of the revealed international competitiveness of an industry within a specific country. The revealed position will be backed up by

desk research (e.g. analysis of policy documents, or earlier empirical studies and reports). This sets the stage for follow up research in one of the two tracks.

Track 1 takes the **macro and sector level approach**. The driving question here is to what extent government (industry) policies across countries have contributed to the trends in international positions of sectors. The typical approach here would be a follow-up to the desk research, and interviews with key players in the sector.

Track 2 takes the **sector and firm-level approach**. Here the quest is to look at the role of (*local of international*) *lead firms* in the sector, and their relationships with suppliers; facilitators; governmental bodies; and other stakeholders. The dominant approach in track 2 is (an extension of) the High Performance Organizations (HPO) and High Performance Partnerships frameworks developed by De Waal (<http://www.hpocenter.nl/>).

Within each track StatMind and its partners will develop research proposals that doctoral candidates can apply to. Students are however invited to add to the proposals; “our” research proposals are a starting point but by no means a straitjacket.

3. StatMind will organize one workshop and training, both on the data set and the tools to analyze the data (technical), and on applied research using the data (descriptive statistics; testing of hypotheses; practical recommendations).

Key words are: (national) competitiveness; industry policies; high performance organizations.

## References

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## Annex A: Preliminary Structure of the DoIS Coursework, and Workshop

Course	Topics	Literature; Study Material
<b>1. Research Methods</b>	Formulating the Research Topic Research Objectives; Design Literature Review Quantitative and Qualitative Research Methods Primary and Secondary Data	Saunders, M, Lewis, P. and Thornhill, A. (2012). Research Methods for Business Students (6 <sup>th</sup> Edition). Pearson.
<b>2. Quantitative Methods</b>	Refresher in Basic Statistics Introducing International Trade Data (COMTRADE) Analyzing International Trade Data (Summarizing Trade Data; Growth Patterns; Computing Indicators like Balassa Index; Shift-Share Analysis; Trade Creation/Diversion; and many more	StatMind (2016). An Introduction to Statistics Using R – Application to Analyzing International Trade Data COMTRADE Data Sets Ready for Analysis
<b>3. International Trade &amp; Production</b>	An Overview of Classic and Contemporary Theories and Approaches, an	Krugman, P.R., Obstfeld, M. and Melitz, M. (2014)
<b>4. National Competitiveness</b>	A critical review of definitions and operationalizations of the concept of competitiveness. Interpreting competitiveness indicators. From competitiveness indicators to industrial policies.	Huggins, R. and Izushi, H. (eds.) (2011). Competition, Competitive Advantage and Clusters: The Ideas of Michael Porter. Oxford University Press

One 5-6 days training/workshop will be organized:

### Agenda

Day 1: Introduction to **Research Methods** & Qualitative Methods

Day 2: **Quantitative Methods**; a crash course in R for basic, descriptive statistics; getting familiar with international trade data

Day 3: **Quantitative Methods**, continued: international trade and competitiveness indicators; theoretical aspects; illustrations from the international trade data set.

Day 4: **International economics**: an overview of international trade and investment theories; understanding trade patterns; regional trade agreements; practical implications; illustrations from the international trade data set.

Day 5: The concept of **Competitiveness**: an overview of approaches; criticism; sources of economic growth and competitive advantages; industry policies. Illustrations of competitiveness studies.

Day 6: Presentations of (preliminary) research proposals; discussion

The workshop/training is open for DoIS and non-DoIS candidates. DoIS candidates are strongly recommended to participate.

Annex B: Structure of UNIES/StatMind Doctorate of International Studies programme

