

Dele - GUI

A Simple Application for DSGE-
Based Analysis in CBR



Moderní nástroje pro finanční analýzu a
modelování, Praha

Zuzana MÚČKA

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Motivation

Why

do we need to deal with this?

Situation Description

- **Large macro-economic model performing many tasks**
 - Many MATLAB functions, .m script files
 - External toolbox

Problems

- **Small output adjustment = (possibly) large changes in the code**
vulnerability, inefficiency, maintainability
- **Perform a task = run a lot of scripts**
redundancy, inefficiency, extensibility, security
- **Tasks delegation: very questionable**
security, level of knowledge

How to solve this puzzle?

Answer

GUI



Dele-GUI



Requirements & Expectations

User

Developer

- Expected Results = Obtained Results
- Efficiency & Performance

- User friendly environment
- Intuitiveness
- Procedures fluency
- Minimal inputs
- Fancy

- Security
- Maintainability, Modularity
- Extensibility, Reusability
- Robustness, Fault-tolerance
- Scalability, Portability

Challenges & Obstacles

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Technical Issues:

- Proper definitions of roles, **use cases** and activities
- **Software architecture** choice, **OOP** approach needed
- **Quality measures**: efficiency, security, maintainability, extensibility
- (Un)met expectations and requirements



Design

- **Old-fashioned & parsimonious MATLAB-based GUI**
 - undocumented MATLAB features
 - Extensive usage of **Java** (swing) and **JIDE** components

Practical Demonstration

What still need to be done?

- Performance issues
- Figures style interface redefinition
- GUI components style unification
- Help file, User Manual

Extensions

- Forecasting
- Data export
- Reporting

Bibliography

www.rozpocetovarada.sk

Download the paper from our Web-page:

<http://www.rozpocetovarada.sk/svk/rozpocet/318/fiscal-policy-matters-a-new-dsge-model-for-slovakia>

Web References

- <http://www.mathworks.com/help/matlab/gui-development.html>
- <http://undocumentedmatlab.com>
- <http://docs.oracle.com/javase/tutorial/index.html>
- <http://www.jidesoft.com>
- <https://docs.oracle.com/javase/7/docs/api/javax/swing/>
- <https://netbeans.org/features/java/>



Council for Budget
Responsibility

Imricha Karvaša 1
Bratislava 1
813 25
Slovakia

Thank you for your
attention