Gekko steering committee meeting, June 10, 2022, at Statistics Denmark[1]

Proposed agenda

Part 1

1. Welcome + choice of minute taker + approval of last year's minutes.
2. Editor's report regarding 2021-22.
3. Status regarding Gekko 2.4 and 3.0
4. Feedback regarding Gekko 2.4 and 3.0
5. Prioritization of main lines regarding 2022-23
6. Organization and choice of editor for the next period
7. Date of the next meeting + any other business

Part 2

8. Commentaries regarding detailed checklist + prioritization of this
9. Other potential users
10. Status regarding documentation, help systems, etc.

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[1] Links: Gekko main webpage: www.t-t.dk/gekko, organization: www.t-t.dk/gekko/organization. Gekko on GitHub: https://github.com/thomsen67/GekkoTimeseries.

Re item 5. Main lines

(Note that "Gekko version 2.4" generally means Gekko 2.5.2, whereas "Gekko version 3.0" generally means Gekko 3.1.13.).

1. Better error messages in Gekko 3.0.
2. It seems there is a good potential for making it easier to navigate GAMS equations in a large model like MAKRO. This applies to navigating the equations, decomposing them (tracing effects), and perhaps other forms of navigation/visualization. These components could of course be used for ADAM-like models, too.
3. In the "new" DECOMP for GAMS style models, when linking up effects/equations and identifying which equations logically describe which variables, make it possible to somehow store this information for easy later reuse and inspiration (for instance, SQL uses the concept of "stored procedures" to this effect).
4. Modelling developments. Discuss the [Gekko model blueprint](#) among interested users. Decide how to represent models/submodels/equations as objects, and implement it. Also: more means than goals (interdependence between goals) via addition of a special discardable model block describing the interdependence. A prototype for doing this has been proposed. More goals than means (goals contribute partly to means).
5. Tracing of data in data revision programs. Try it out the new calc field for timeseries for a while, and then discuss it among users.
6. Regarding better INTERPOLATE (lower frequency to higher frequency): implement a convenient interface for the R package tempdisagg? This package implements Denton, Chow-Lin and many others. Does JDemetra+ contain temporal disaggregation capabilities?
7. Seasonal adjustment. Get JDemetra+ up and running from inside Gekko. This will probably entail understanding the JDemetra+ GUI enough to produce suitable xml files for the JDmetra+ "cruncher". The Quarterly National Accounts know how to do this and can help.
8. Improved PLOT window? A draft/proposal of this exists, inspired by RStudio.
9. More work on daily (and perhaps weekly) frequencies. Right now, a holiday calendar has been built into Gekko, but we may need to make it easier to print/plot/calculate on daily/weekly frequencies while handling/skipping weekends, holidays, etc.
10. Develop Gekcel some more, using the VBA "query" approach (also make it possible to feed data back to Gekko).
11. Introductory guides, examples collections, exercises, etc. Is more material needed?

Re item 8. More detailed check list

1. Improving the interface to StatBank Denmark (cf. for instance [this old blueprint](#))? Interface to other online databases like for instance Jobindsats?
2. DOC<browser> for html equation browsing for GAMS-type models. It could perhaps be interesting to provide time-difference DECOMP tables as part of DOC<browser>?
3. User-developed procedures/functions could possibly be hosted on Gekko's website, in the form of downloadable library packages (cf. the new LIBRARY command). An "authorized" official gekko.zip library package could be made available, containing general helper functions/procedures for general use and inspiration. Or maybe GitHub could be considered for hosting Gekko libraries?
4. Better GAMS to Gekko translator for equations. The current translator is reasonable, but using a "real" parser like ANTLR would be more reliable.
5. Better R/Python integration?
6. In the longer run, implementing dataframes in Gekko proper as a new variable type could be useful, also for handling Apache Arrow files and interfacing more easily with R and Python (the new DECOMP could use dataframes objects internally, too).
7. Make it possible to handcraft arbitrary tables by means of Gekko nested lists, and have them shown as text or html.
8. Showing Gekko options in a clickable tree structure with explanations? Because of some architecture changes in the Gekko source code, this would be easier to do now.
9. Think about migrating Gekko to .NET Core at some point (and migrate the main Gekko window to WPF, too). This ought to be considered in a timely fashion, before the existing .NET Framework is phased out.