

607

Applied macro is difficult, I

Jon Faust

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► Applied macro is difficult because...

- Subject matter
 - is aggregates,
 - The assumptions of aggregation theorems do not hold even approximately in practice
 - Thus, can't naively reason from individuals to aggregates
- General equilibrium effects are often important
 - everything affects everything
- Expectations effects often important
 - anticipations of everything also affect everything
- Samples are very small in the relevant sense
 - e.g., total time spanned by sample short relative to duration of phenomena of interest.
- Theories are imprecise in the relevant sense
 - The solid bits of theory are not very precise about important dynamic features that dominate the data

► GE+Aggregates+Expectations matter

- Lemma: Almost nothing can be plausibly taken to be exogenous
- Lemma: Almost no valid instruments for any macro phenomena
- Samples are too short in the relevant sense.
- Standard samples have 20-50 years of data
- There are many phenomena in the data that are long-lived relative to the sample sizes we have

Recession every 10 years; crisis every 50; variables show 20 and 30 year secular trends

- Even when we are studying more short-lived phenomena, the possible general equilibrium interactions with longer-run phenomena may confound our results.

- ‘fresh data’ arrive slowly

Approximately at the rate of 1 annual observation per year!

- We seldom discover/create a new, relevant dataset

- Possible exceptions

- Create new historical data
- New data for other countries than previously studied.

- Relevance of ‘new’ data, when they arrive, is often questionable

Economic institutions and practices differ and change so different countries and time periods are of questionable value.

- Macro data are not from controlled experiments

- Thus, we know little about underlying structure

about distributions of shocks, etc.

- Imprecise theories

- For example, dynamics are a key issue, but modest changes in assumptions about small ‘frictions’ often lead to important changes in dynamic implications

- This might have been called another corollary of the subject matter being aggregates in GE with expectations playing a major role.

- Our theory actually tells us that primitives of economics do not in principle provide much structure regarding the behavior of aggregates.

e.g., google Debreu-Mantel-Sonnenschein theorem for this style of result

► Bottom line

- Throughout the term we will refer back to these points and fill them out
- But for now, note that drawing reliable conclusion from macro data is difficult
- This is good—so long as you are humble in your ambitions
- You can learn how to do this better than others

and scarce skills are rewarded