

Advanced development economics: Applied macroeconomic and policy analysis

January 2016

MARKING GUIDELINES

Introductory comments

To evaluate the essays it is important to recognize that students are likely to structure their answers quite differently. In doing so, they will also make different substantive points, implying that the content of essays will vary. This is perfectly acceptable – i.e., good answers, even top grades, will not all look the same.

As a result of the above, rather than provide “a” single model answer, the following guidelines seek to:

- (a) broadly describe the profile associated with different grades; and
- (b) identify ‘key points’ (plus associated evidence, examples, and references), based on the curriculum, that candidates might be expected to cover. Note that these key points are not comprehensive, but it would be difficult to achieve a top grade without covering a reasonable number of them in some way.

General profile of passing grades (informal description)

Grade	Description
2	Shows basic knowledge of the curriculum. Able to communicate at least one key point, with supporting evidence. Structure of the essay may be weak and / or somewhat unclear. Major gaps or misunderstandings may be present.
4	Shows reasonable knowledge of the curriculum and adequately covers one or more key points. However, important gaps in terms of coverage or misunderstanding of evidence or ideas may be found. Candidate is able to communicate and structure ideas with reasonable clarity. Some aspects of the questions may be given inadequate treatment.
7	Shows reasonable knowledge of the curriculum and adequately covers more than one key point. Ideas are communicated in a structured fashion and relevant evidence is used as appropriate. Some gaps in terms of use of evidence or coverage of key ideas may be identified. All aspects of the question should be addressed.
10	Shows good knowledge of the curriculum and covers various key points in depth. Ideas are well structured and relevant evidence is used consistently and appropriately. Very few gaps in terms of evidence or coverage is found. Adequate references are provided. All aspects of the question are fully addressed.
12	Excellent in all regards, reflecting a very high academic standard. Essay is thoughtful, very well structured and comprehensively covers many key points / issues. A full set of references is provided.

Question 1: “There is little evidence to suggest that IMF or World Bank lending programmes have been successful in improving macroeconomic stability and growth in developing countries. Discuss.”

General comments

There is a large literature that deals with the effectiveness of IMF and World Bank (WB) programmes. The existing academic literature covers a wide range of different outcomes, thereby reflecting the fact that such programmes have variously aimed at shorter-term macroeconomic stabilization (mainly IMF) as well as longer-term growth and development (mainly WB). Variation in objectives and programme design/content, the specifics of which have changed over time as thinking regarding appropriate strategies have evolved, represents one of the many problems of undertaking a rigorous causal statistical / econometric analysis of programme ‘effectiveness’. In addition, there are challenging endogeneity concerns – construction of a counterfactual is inherently problematic. As such, the quality of evidence can be considered weak.

Key points

- There is a critical distinction between stabilization and growth outcomes, and different papers often deal with different aspects (e.g., sometimes separately, sometimes not). Barro and Lee (2005) primarily consider growth outcomes but also consider other macroeconomic outcomes (e.g., inflation) as channels through which growth outcomes may be affected by IMF ; whereas Easterly (2005) considers macroeconomic distortions. It is not clear that these goals are always mutually compatible, at least simultaneously.
- Related to the above distinction is the issue of programme heterogeneity. This covers various issues, including:
 - (i) The distinction between IMF versus WB programmes – as noted above these institutions have different mandates and this is reflected in the content of their programmes (objectives and recommended reforms). Many papers [e.g., Barro and Lee, 2005] *only* consider the role of the IMF; but Easterly (2005) covers both.
 - (ii) The relevant dynamic horizon of expected programme effects – if the ultimate objective is to promote growth, then perhaps one should take a longer-run view. That is, in contrast to shorter-run stabilization measures, structural reforms may take a relatively long time to attain visible gains. (The latter point is relevant as many papers do not fully cover the improvement in macroeconomic performance, including growth, in many developing countries over the period since around 1995 – i.e., the horizon may be too short).
- The selection problem of who receives an IMF/WB programme makes *causal* econometric evaluation highly challenging. As is well known, IMF and World Bank programmes were not randomized. By definition, ‘bad’ economic performers were more likely to receive (more intensive or longer) programmes, but this may be due to factors other than the programmes themselves (e.g.,

specific aspects of country context). Put differently, performance could have been even worse in the absence of the programme.

- Strategies in the literature to deal with selection-bias vary. They include, simple OLS (kitchen-sink regressions), instrumental variables approaches (e.g., Barro and Lee, 2005), matching methods, and use of alternative dependent variables. None of these methods are without concerns. For instance, the validity of instruments is often called into question. Also, Easterly (1995) uses the intensity of adjustment as a key dependent variable – however, the underlying assumption is that the response should be larger for more intensive lending, which neglects the idea that more intensive lending may be necessary in some contexts but not in others to achieve the same results.
- There are significant challenges in measuring stabilization outcomes rigorously – i.e., there is no consensus on how to measure macroeconomic stability precisely. Easterly (1995) constructs a binary indicator based on various ‘distortions’, but this may be criticized as ad hoc.
- A lack of statistical evidence of significant gains in stabilization or growth due to IMF/WB programmes is not especially informative per se. On the one hand, a lack of evidence may simply reflect large standard errors or imprecision (i.e., the null cannot be rejected) which is different from positive evidence of failure. On the other hand, there are multiple reasons ‘why’ weak gains may have been registered. These include poor programme implementation (by recipients) or poor programme design (even if implemented perfectly, there is not a consistent mapping from the policy content of programmes to desired outcomes). The point is some care needs to be taken in interpreting the existing evidence (or lack thereof)

Other relevant points

- In many cases students would do well to provide descriptive evidence regarding the scope and nature of IMF/WB loans, as well as growth outcomes. Evidence of this nature is provided in Easterly (1995) among others. The superficial evidence is not especially positive – e.g., countries in SSA have been among the most active users of IMF/WB finance but show the slowest average per capita growth rates since 1970.
- Since the late 1990s, a key emphasis of both IMF and WB programmes has been on creating robust macroeconomic policy-making institutions – e.g., Central Bank independence; adoption of fiscal rules. There seems to be some evidence that adoption of best practice policy-making institutions does seem to raise macroeconomic performance (e.g., see Tapsoba, 2012). These considerations suggest a need for awareness of the substantive differences between having a IMF/WB programmes, the kinds of immediate policy objectives such programmes have entailed, and final outcomes.
- Students may reference contributions by Rodrik (e.g., 2005), in which he argues that countries adopting heterodox policies (such as China) have tended to outperform other countries, including those that have adopted IMF/WB programmes. He notes an important difference between principles of macroeconomic policy (e.g., sound money) and specific configurations of institutions/policies that safeguard such principles.

Question 2: “Should macroeconomic policy-makers in developing countries only focus on a price stability target?”.

General comments

This question refers to the choice of goals underlying macroeconomic policy-making. Over recent years, some scholars and practitioners have encouraged adoption of an explicit inflation-targeting framework as the foundation for macroeconomic management (especially, monetary and exchange rate policy as implemented by monetary authorities; e.g., see IMF, ‘Macroeconomic Policy and Poverty Reduction’, 2001). Under such arrangements, achievement of price stability, in the sense of meeting a specific core inflation target, is taken as the primary and often unique goal of macroeconomic management. In these cases, the inflation target represents the nominal anchor for the economy.

Inflation-targeting is one specific operationalization of a ‘price stability’ target, albeit one that is widely encountered in the literature. Other, somewhat broader definitions of price stability can be used. For instance, if we are to define price stability as maintenance of a stable nominal anchor for the economy, then a much broader class of activities might be encompassed (e.g., supporting a fixed exchange rate). Indeed, in its broadest sense we can understand price stability as pursuit of ‘macroeconomic stabilization’ – i.e., maintenance of core nominal aggregates on a stable path (e.g., moderate and non-increasing inflation; sustainable current account).

In their answers, I expect students to be explicit about the definition of ‘price stability’ to which they refer. The general issue, however, is that an *exclusive* focus on price stability naturally means that other potential goals are marginalized. Other relevant goals generally refer to the real side of the economy – i.e., raising efficiency by reducing misallocation of productive factors (including under-employment), or supporting the accumulation of productive factors. Considered in this way, a focus on price stability might be seen as more relevant where: (i) the economy is at or near its production frontier; and (ii) macroeconomic policy is considered less effective (inappropriate) to achieve growth/development goals.

Key points

- When viewed in broad terms as ‘macroeconomic stabilization’, the two primary reasons to justify an exclusive focus on price stability include: (i) stabilization is a necessary pre-condition for achievement of other growth/development goals (for discussion see Sirimaneetham & Temple, 2009); and (ii) the extreme welfare costs of failed stabilization (hyperinflation; crisis; examples include welfare losses in Zimbabwe/Greece; see Luttrell et al. 2013; Barro & Ursua, 2009).
- Justifications for adopting a narrower view of price stability (e.g., strict inflation targeting) include: (i) that an inflation target serves as the most practical and transparent nominal anchor (in many developed countries the transmission mechanism between monetary aggregates and prices broke down in the 1980s; see Lucas & Nicolini, 2013); and (ii) theoretical results which show that for

certain social welfare functions (and under other assumptions), it is sufficient for monetary authorities to target inflation alone and in doing so optimize social welfare, which includes a non-zero weight on the size of the output gap. (The relevant model was covered in lectures; this condition known as the ‘divine coincidence’; see Blanchard and Gali, 2007)

- There are various critiques of an *exclusive* focus on price stability. These include:
 - (i) At the ‘intensive margin’ there is evidence to suggest that there may be only quite small welfare gains from reducing the volatility of consumption (e.g., via more stabilization; see Lucas, 2003) or reducing inflation from moderate levels (see Gupta & Uwilingiye, 2008). In contrast, the potential welfare gains from reducing factor misallocation or raising growth are potentially much larger (on the former see Vollrath, 2009).
 - (ii) The social costs of unemployment may be ignored or under-estimated in pursuit of a price stability target (see Blanchflower et al., 2014).
 - (iii) A focus on price stability may induce inappropriate policy responses in some situations. One example is the policy response to a terms of trade shock that raises the price of imports. A potential response to minimize the inflationary impact of the shock would be to raise interest rates. However, this may well inhibit or even delay the relevant (and possibly necessary) adjustment that a shift in relative prices implies (e.g., toward domestic production). The more general point is that structural changes, which are generally expected in the process of development, are likely to require some price flexibility.
 - (iv) A more general statement of the previous point is that a focus on price stability may lead to a failure to address underlying causes of economic instability (i.e., price stability is a symptom of deeper, perhaps structural challenges). The case of Vietnam discusses this point (Pham & Riedel, 2013).
 - (v) Macroeconomic management, especially in developing countries, is more than just monetary and exchange rate policy. Fiscal policy plays a critical role, in part because the government is a major actor in the economy and user/manager of foreign exchange. A focus on price stability *qua* inflation-targeting may overlook the need for macroeconomic policy coordination as well as the active role that fiscal policy can play. A broader view of the role and scope of macroeconomic management appears to particularly relevant in response to external shocks and where ‘standard’ tools (such as interest rate changes) are weakly effective. This is shown by the China case study, discussed in Wong (2013).

Other points

- It bears noting that few (if any) countries are actually ‘strict’ inflation targeters. Especially since the global financial crisis, many countries have taken a broader view of macroeconomic management to include macro-prudential regulation (i.e., financial market stability) and, in some cases, more explicit employment-related objectives. This is a revealed preference argument against an exclude price stability target, viewed in the narrow sense.

Question 3: “What are the challenges of forecasting GDP levels over the long-run in developing countries, and what does this mean for policy?”.

General comments

The primary issue to address in this essay concerns the time series properties of GDP data – i.e., does GDP (in a given country) display a stochastic or deterministic trend? In the former case, shocks at time t have a permanent or indefinite effect on the level of the series; in the latter case, shocks will die out after some time and the only permanent effects on GDP levels derive from deterministic trend terms. The debate on the time series properties of GDP remains considerable and gained new force after the global financial crisis. While few scholars would argue that most GDP series conform to a simple (linear) deterministic trend, the opposite view of a pure unit root process is problematic in many cases. Broadly speaking, careful case-by-case analysis seems necessary.

Note that in order to answer the question fully, answers should refer to the specific challenges regarding GDP forecasting, which is distinct from retrospective description of the properties of the series. Also, some reflection on policy implications is to be expected.

Key points

- Fundamentally, the difference between stochastic and deterministic trends must be identified and explained, ideally with theoretical examples and/or empirical illustrations (simulated).
- Between the two ‘pure’ cases of a unit root without drift and a simple deterministic trend (e.g., linear) are many intermediate cases. A classic example is a unit root with drift, which includes a deterministic drift component and unit root behavior.
- A useful way of thinking about these intermediate (or mixed) cases is the concept of the degree of persistence in the series, as set out in Campbell and Mankiw (1989). The idea here is to be able to describe the broad time horizon over which some kind of mean-reversion might occur (if any) – e.g., what is the half-life of the shock?
- In the presence of a stochastic trend (unit root) the attention of long-run forecasting is typically on changes / first differences in the series -- i.e., we seek to forecast the long-run expected change, given the latest observation. When no unit root is present, then one need only fit a deterministic trend to the series in levels (i.e., the full set of past observations can be employed used).
- In the presence of a unit root the forecast interval with respect to the predicted first difference of the series grows without bound (specifically, the error is proportional to the square root of the horizon). In contrast, the forecast interval remains bounded for a stationary (AR) series.
- In practical terms a first major challenge is to identify whether a unit root is present. Tests of this kind are notoriously problematic and sensitive to the choice of the alternative. Standard Dickey-Fuller type tests are biased towards non-rejection of the null and have low power to discriminate

between unit root and near-unit root processes in finite (small) samples. They also perform poorly in the presence of structural breaks.

- Various other unit root tests have been devised, including tests against more complex deterministic trends (e.g., Cuestas and Garratt, 2011) or processes that may include one or more structural breaks. (Ying et al., 2014). However, it is important to note that in finite samples any stochastic series can be rendered stationary by some ‘flexible’ functional form. As such, these may perform well in-sample in the sense of indicating there is *only* a deterministic trend, the out-of-sample performance may be very weak and the specific form of the deterministic trend may be difficult to justify from a theoretical perspective.
- A more specific forecasting problem for LDCs concerns a wide range of data quality issues. Both aggregate GDP and sectoral data are fraught with problems – the quality and coverage of data on different sectors is mixed, as shown by recent national accounts re-basing efforts in various sub-Saharan countries. (References here are covered in the readings under Topic 4 in the curriculum).
- The policy implications of the difference between stochastic and deterministic trends are material. For example:
 - (a) To the extent that negative output shocks have a highly persist effect, then active counter-cyclical policy and/or efforts to promote resistance to shocks (insurance/diversification) are warranted. Where shocks are not persistent the justification for proactive government intervention is more limited.
 - (b) A corollary of the former is that if positive shocks are *not* persistent then there is a critical role for saving during boom times to ensure consumption smoothing (e.g., think about natural resource wealth). (A relevant reference here is Frankel, 2011).
 - (c) As noted above, were shocks are persistent, the forecast error on GDP becomes much larger as the forecast horizon increases. This needs to be taken into account in the formulation of long-run budget plans – e.g., ‘fixed’ social security payments, such as child care, and debt accumulation strategies.

Other points:

- In some answers it may be helpful to illustrate the problems of differentiating between stochastic and deterministic processes by drawing on the relevant empirical literature. Certainly, empirical evidence regarding the behavior of GDP in developing countries is scarce; but where it is available, it is mixed (see Ying et al., 2014).
- It may be helpful to note that a wide range of evidence suggests the presence of larger and more permanent shocks in LDCs, as well the presence of structural shifts or growth regimes (see Kar et al., 2013; Luttrell et al. 2013).
- Reference may be made to the political economy of forecasting and data collection, if relevant (e.g., Frankel, 2011).