

Turn in each essay separately using this word template (delete the question/sections you are not answering). Please turn your answer to question MQ-1 or MQ-2 April 20th and your answer to MQ-3 after the IMF WEO Meetings April 24th. Sections in italics are optional for Masters or PhD students. Please write your answers in a separate font, single spaced, right after each question mark ? or phrase. If possible use Number Figures, copied from lecture notes or internet is fine, but use jpg format and include the source for all Figures and Tables in [WBLVC format](#) (no vertical lines) using quotes where possible (with citations and page numbers). Include a list of references at the end of each question, if you cite any. Cite using author (date,page) format where possible. All Figures and Tables should have unique numbers; [avoid vertical lines in Tables](#), use readable fonts, avoid dark shading, make lines and numbers you want to focus distinct with color fonts or little frames or circles; do use quotes and equations or other people's Figures, always clearly sourced by author date and publisher, including web pages. Use author, date format for references at end (see below).

MQ-1: Master students: A) Contrast Baldwin's argument regarding the top 1% with Piketty et al.'s "Plutocrat" theory of the top 1%. Which view is more consistent with that of Why Nations fail? B) Review the inequality and growth or the gender and growth arguments of the IMF. Why does the IMF argue reducing income (wealth?) or [gender gaps](#) will boost growth? Do they follow their own advice in the April WEO? C) Focus on a developing region you care about (Africa, Asia or Latin American or Eastern Europe). What does the IMF say complicates or their [April WEO growth outlook](#) (see Chapter 2 and the related video below)? They mention world interest rates, which does this matter. D) Alternatively please discuss the new development initiatives [China](#) and [India](#) have embarked on (for China include new land reform and Syngenta... how will this ease wage pressures? On India see also [Duflo's 2017 Ely lecture](#)). How do might these development plans boost growth for them and for the world economy? Does the success of these plans depend on external trade and capital flows, directly or indirectly. *If it fits your case study country discussed WIDER's extractive industries growth model. How does this model appear similar to problem of coping with automation?*

MQ-2: PhD students: A) Use the long Barro model with government to explain why decentralized capitalism leads to underinvestment. Relate this result to the efficiency of $r > g$ (Piketty's argument). B) one happy explanation of Piketty's rising capital share is a high elasticity of substitution between labor and capital. Why does this lead to growth forever (endogenous growth). What distributional problems does this lead to (similar to the extractive or automation models).

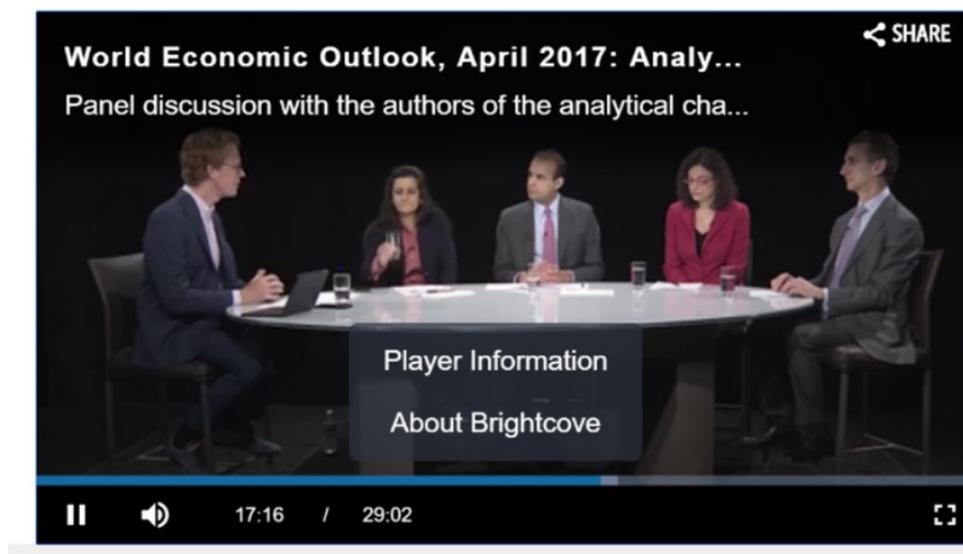
MQ-3: Asia growth question: President Trump claims China's real exchange rate undervalued. (a) Use the PWT 9.0 to download the real exchange rate data for China and other Asian countries. Has China's exchange rate appreciated or depreciated in recent years? Compare these estimates with other available estimates of China's real exchange rate (the IMF REER series for example). (b) Take a look at the IMF [WEO released in April 10th](#). What is their outlook for China, India and Africa? Why are is the growth of these countries connected and vital for the world economic outlook? (c) Look at [PWT 9.0 TFP](#) growth for the major Asian countries; it is consistent with the Krugman-Young "myth of the Asian miracle" argument. Use basic growth accounting to explain the Krugman Young argument. Is TFP growth slowing in Asia and the OECD nations? Is this consistent with Piketty's argument re long term growth?

Please include references to readings in your answers. A url is not a reference, though it is a nice gesture, if you encourage others to read what you have read. Please use this format for your references (including these ?).

Ostry, J. D., & Berg, A. (2011). [Inequality and unsustainable growth: two sides of the same coin?](#) (Working Paper No. 11/08). International Monetary Fund, Washington DC.
<http://www.imf.org/external/pubs/ft/sdn/2011/sdn1108.pdf>

Ostry, Mr Jonathan David, Mr Andrew Berg, and Mr Charalambos G. Tsangarides. *Redistribution, inequality, and growth*. [International Monetary Fund, 2014](#).

Berg, A. G., & Ostry, J. D. (2011). [Inequality and efficiency](#). *Finance & Development*, 48(3), 12-15.



Please take a look at this IMF [WEO Chapter 2 and 3](#) video, the first five minutes and the last 15 minutes (starting about minute 16 as shown above).

MQ-1. Growth and convergence in a Global Economy: "[Convergence](#)" in per capita income across regions or countries occurs when and if poor countries grow faster than rich ones. Globally and nationally this is what development economics is about: how can poor economies "catch up" with richer economies. The answer to this question has become more important as the income gap between rich and poor nations has grown from 10 (high) to 50 ... absurdly high. (a) Conditional convergence is a robust and widely accepted result of growth empirics (see Sala-i-Martin's or Barro and Sala-i-Martin, 2006 ([Bsim](#)) [Introduction](#)). Use old [lecture notes](#) and/or evidence presented [Acemoglu Chapter 1](#); [Sachs and Warner](#) (1996) [Fischer \(2003\)](#) or [Dollar \(2001\)](#) or [BSIM Chapter 11](#) to list three different examples of absolute and conditional convergence (six in total). **Clearly number your growth rate and initial income figures. Why is finding absolute convergence for a more geographical region (the world, States or provinces within a country, or continental Europe) different than finding convergence among OECD countries for example?** b) Briefly mention why conditional vs. absolute convergence have different implications for development policy? Given the results of all of the above authors Levine and Renelt 1992 for example, or Barro, 1997, what seems to be the minimum necessary precondition for absolute convergence? (hint: the augmented Solow model or Lucas, 1988). Is conditional convergence strong evidence for Solow-Swan exogenous growth as Sala-i-Martin claims in "[15 years of growth theory](#)? Hint: can we have both conditional convergence and endogenous growth? **PhD students Use one of the Inada conditions and the CES model to illustrate the fundamental difference between endogenous and exogenous growth models (see [BSIM chapter 1, page 68](#)).** D) Use Figures C-2 and C-3 below or [here](#) to distinguish between β (beta) and σ (sigma) convergence, which implies the other? Galton's Fallacy makes it necessary to check both beta and sigma convergence, explain clearly and briefly? *The difference between Masters and PhD students? Answer: Masters actually have to read/listen to Piketty! ... Masters students: Piketty takes absolute convergence as a given, using the reversal of fortune and post WWII Europe as examples, provide some quotes demonstrating his view. Does he think foreign aid will be necessary to achieve convergence? Please use brief quotes with page numbers... PhD*

students: include the formal definition of both types of convergence, review [Danny Quah's 1993 divergence big time argument](#). Was he wrong? How do we know or not know? MA Students only: show sigma vs. beta convergence for your case study country or countries in a figure if possible. Explain briefly why Figures B-1 and S-2 [here also](#) illustrate beta and sigma convergence? E) EC PhD students: use and econometrics package (Eviews, Stata, what else?) and the Jones Appendix C data set 2nd or [3rd edition](#) to determine what is necessary to obtain conditional convergence circa 1960. Use the Solow-Swan growth rate diagram levels diagram (as in Sachs, et al. 2004) and two Inada conditions to i) explain why the Solow-Swan model implies absolute convergence; and ii) to rule out poverty traps and iii) to rule out endogenous growth (and create a steady state income level).

MQ-2 Credit, inequality and growth: The growth-reducing impacts of inequality can be mitigated by credit or redistribution: similarly poor nations/households can in principle borrow from rich nations house/households. However, are inherently inefficient since they involve a promise of future payment leading to incentive problems (moral hazard and adverse selection). The good news is that redistribution via transfers/taxes seems be less problematic than thought (witness [falling inequality with higher growth](#) in Latin America). (a) Use the [Solow model diagram for two households](#) to demonstrate and provide an intuitive explanation of why transfers to the poor increase both the *growth rate* and the *level of income* in the model with imperfect credit markets as presented in see also [Garcia Peñalosa](#) Aghion, Chapter 1 of [Aghion and Williamson, 1999](#). Anticipate (explain) the empirical evidence on inequality and redistribution [presented in Ostry et al. 2014](#) with reference to [Barro \(2008\)](#), [Aghion et al., 1999](#) and other articles reviewed in the [lecture notes](#). Why is redistribution redundant with perfect credit markets? Why don't credit markets work well in developing countries, including [Nogales Mexico?](#) Relate this to the [Debt Overhang \(lecture notes\)](#) and see part D of F-4 below. B) PhD students only present a model using equations to explain why credit markets are imperfect, and why debt relief can help developing countries, see [Aghion and Williamson, 1999](#) or the debt overhang notes above. C) Masters students only: Find a growth incidence curve that illustrates your countries experience with inequality, keep this inequality data a growth incidence curve, or a Gini coefficient for your case study. *You can find inequality data in povcalnet.org*. D) Optional: In honor of the Sen lecture, present some evidence regarding Gender bias in your country. For this you can use the [WDR, 2012 gender](#), [Gender Stats Edstats](#) or [Barro and Lee](#) (education is one of main indicators of mass participation in economic progress, unfortunately coverage and indicators are uneven, let me know if you help with this one, send me an email with your key countries). The [2013 GFDR](#) (not 2014) suggests an expansion of private credit as share of GDP reduces inequality (see Figure 1.1 page 20). Is there any evidence of this in your case study countries? Private credit data in the WDI or World Bank [Global Development Finance data base](#).

M-Q3 Trade, FDI and Growth: See the revised trade and growth lecture notes and the [Growth in Open Economies](#) handout. Even skeptics of trade's ability to increase economic growth such as Rodrik admit that export processing zones and a weak RER has been "levers for growth" for many countries, including China and Vietnam. A) Despite a strong correlation it has been surprisingly difficult to demonstrate a causal link between trade and growth. Briefly, why might trade stimulate growth (hint: demand side poverty traps). Masters students briefly describe a model in which trade reduces or increases growth (we discussed [several models in class](#), including the classic Sachs and Warner paper, as updated by *while PhD students write down equations for two growth models one in which higher tariffs raise growth and one in which higher tariffs increase growth, providing an intuitive explanation of both outcomes* (see [Rodriguez & Rodrik 2000 \(R&R\)](#) or [Sachs and Gallup, 1999](#) or [Basu and McLeod, 1992](#) or [Mileva and McLeod 2011](#)). What is the difference between tariffs and a weak RER? In your view does the success of Asian exporters validate low inequality and industrial policy? Recall the consensus view of integration presented by Rodrik in Growth Strategies. How did Asian economies capture the best of free trade and self discovery (industrial policy). B) Briefly summarize this 2nd & 3rd round evidence in response to such as Warner, 2003 [R&R's](#)

[\(2001\)](#) argument that trade does not increase growth. (C) **Masters students only:** Use the [MIT Observatory of Economic complexity](#) (or the WDI or [PWT 8.1](#)) plot trade/export growth for your case study country. (D) *Optional: PhD students only: do what you can with the Challenge question in the [Growth in Open Economies handout](#).* (E) *Optional anyone if you have time: did an increase in trade or openness to FDI boost growth in your country or countries? If possible plot the [net barter terms of trade](#) from the WDI online and/or the real exchange rate from the [WDI-IMF REER](#) series or the [USDA ERS Macro database](#).* Has your country used the RER as a lever for growth longer term? Should it or can it? Explain.

M-4 Poverty traps: a) Outline two demand side and two supply-side poverty traps. Illustrate these poverty traps and explain each poverty trap graphically. Does the evidence on savings and growth in Asia suggest Asia was in a poverty trap? If yes, which one? Is there evidence African countries were in a poverty trap 1980 to 2000? Why does this matter for Africa's growth prospects right now. B) Banerjee and Duflo (2012) and Barro and Sala-i-Martin (2004) argue there are no poverty traps, summarize their arguments/evidence (one not both). Cite some evidence from the steady state calculations from Jones Chapter 3 that Haiti and Madagascar are in a poverty trap (see the [Jones spreadsheet](#)). Show this using a standard levels poverty trap diagram from Sachs et. al. 2004 or the lecture notes. What is Collier's plan for [Haiti's recovery](#)? Is his plan consistent with the "[weak institutions](#)" [levers for growth](#) cited by Johnson et al. 2006? C) Poverty traps and endogenous growth models appear to strikingly different implications for development policy (and the future of the World Economy). Why from a policy point of view this difference may be less relevant than it first appears (hint: conditional convergence, hybrid models; growth levers).