

ORAL EXAMINATION

ESSAYS ON DEVELOPMENT ECONOMICS

WANG WEN, ECONOMICS

Abstract

This thesis comprises three self-contained essays that empirically study several topics on development economics. It seeks to uncover some potential deep-rooted factors that continue to influence contemporary economic and institutional outcomes, and to further our understanding of the differentials in economic development across countries.

Chapter 1 tests the hypothesis that societies with a history of rice farming culture tend to be less democratic today. We argue that this agricultural legacy helps explain variations in adoption of democratic institutions across countries via fostering the formation and transmission of a more collectivist culture, which in turn generates greater conformity pressures on political norms and detestation of institutional changes in society that hinder democratization. Using data on suitability of land for wetland rice cultivation as the proxy for rice farming culture, our analysis shows that there is a negative correlation between institutionalized democracy and rice farming culture at the country level. Our results indicate that an increase of one standard deviation in the rice suitability ratio leads to a decrease in the degree of institutionalized democracy by 0.138 standard deviations, holding other things equal. The estimation results remain robust when subjected to further checks and sensitivity tests. In addition, we consider alternative channels including pathogen stress, historical population density and colonization, which may also influence the degree of institutionalized democracy via the cultural dimension of collectivism/individualism. Our findings suggest that land suitability for rice cultivation remains as the major deep-rooted factor in explaining the implementation of differential political institutions across contemporary societies.

In Chapter 2, we focus on the deep-rooted determinant of knowledge intensity. Innovative knowledge is the key driver of technological advancement and thus, economic development. The literature suggests that some personality traits, in particular, novelty-seeking is closely associated with creativity and innovation. While novelty-seeking individuals generally are more exploratory and risk-taking, they are also susceptible to psychological disorders such as Attention Deficit Hyperactivity Disorder (ADHD). Using country-level data on DRD4 exon III allele frequency as a proxy for the level of novelty-seeking traits in a country

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(continued)

and the Economic Complexity Index as the measure of knowledge intensity, we examine the impact of such traits on national knowledge intensity. Our results indicate a robust inverted U-shaped relationship between the level of novelty-seeking traits and national knowledge intensity. Our findings therefore suggest that novelty-seeking traits have both positive and negative effects on knowledge intensity. Countries with moderate levels of these traits are able to exploit the advantages associated with the traits to promote technological deepening whereas both low and high levels of these traits are suboptimal for technological progress.

In Chapter 3, we document a robustly negative correlation between religiosity and the level of technology adoption in society. Heightened levels of religiosity in individuals tend to associate with more adverse attitude towards science and technology, and consequently are associated with lower levels of technology adoption in society. Using data from the World Values Survey (1981 - 2014), we construct an aggregate measure of religiosity at the country level and estimate that an increase of one standard deviation in religiosity is correlated with a decrease in the level of technology adoption by 56.4% standard deviations, holding other things constant. Additionally, we employ a measure on the historical level of pathogen prevalence as an instrumental variable for religiosity to establish the direction of causation from religiosity to technology adoption. Further analyses suggest that religiosity has similar effects on other aspects of technological progress. Our study thus contributes to the ongoing discussions on the enduring influence of religion on economic development in today's world.

Proceedings

Duration	Session
5 mins	Chair Welcome & Introduction of Panel
30-45mins	Presentation by Student
15 mins	Q&A (by audience – faculty / students)
Break	Audience to leave the room
30 mins	Q&A by Panel
15 mins	Chairperson to ask candidate to leave the room and wait outside Private Panel Discussion and Decision to Pass the Student
15 mins	Candidate invited back by Chairperson Feedback and Outcome of Oral Examination

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