

Collins, Jason Allan, 2015, "Essays on Human Capital Evolution and Economic Growth," University of Western Australia.

This thesis takes an evolutionary approach to economic growth and suggests that economic development is essentially driven by evolutionary forces, particularly males' urge for sexual attraction and is signalled by conspicuous consumption.

Overall it's an excellent thesis that is imaginative, analytically strong and shows that Jason has an in-depth understanding of economic models and calibrations. The quality of the thesis is easily in the top 5% theses produced in Australia. I also like that Jason goes beyond the, in my view primitive, utility concept used in economics and include other sciences to sus out the deep factors of economic development.

I suggest an unconditional pass since Jason has gone well beyond what is expected from a thesis.

I have a few comments that Jason may think about in in his future research.

1. The models in the paper implicitly adheres to the key implication of first-generation and second-generation semi-endogenous growth theories that innovations are proportional to population growth and, therefore, that productivity growth is proportional to population growth through product varieties. Schumpeterian second-generation endogenous growth models suggest that the innovations are diluted through replications as population grow and, therefore, that technological progress (vertical innovations) is unrelated to population growth (see the models of Peretto, JOEG, 1998; Aghion and Howitt, 1998). The empirical evidence give strong support for Schumpeterian growth theory (see [REDACTED]).
2. Historically, it is not always easy to see any positive relationship between population beyond a certain mass, and productivity. The industrial revolution started in Britain with less than 8 million people while China, with more than 200 million, missed out. I agree that a certain mass of population is required for technological progress and there is some evidence by Glaeser (Harvard) that high population concentration in cities aid innovation. However, high fertility impairs growth through diminishing returns introduced by land as a fixed factor of production, lower savings and investment and lower female labor force participation (see Galor's book, 2010).
3. In my view there is far too much reliance on the concept of competition to be mating partner. If you look at the true innovators, it is not those in the Mercedes', Ferraris' and Porches' that innovate; the people that engage in conspicuous consumption are often Bogans that are not often the talents that push the technology frontier. Most of the greatest scientists were not that competitive in the marriage markets and often had miserable relationships. In some primitive societies the status in the marriage market is often measured by number of livestock, which is probably closer to males' survival capacity.

4. While there is certainly some truth in the evolutionary hypothesis it is in my view far from the complete story. Culture and institutions certainly also play their part. The industrial revolution in Britain was very much a cultural phenomenon (Morkyr, Jacob) – you do mention that culture get encoded in DNA, but you do not pursue it in depth. As you mention Clark and Galor are into high fertility in the upper class; however, I am not at all compelled by their hypothesis. The landed class was not innovative, it was lazy and land was mostly inherited. Institutions may also have played a role – according to Acemoglu and Robinson this is the only thing that matters.
5. Related to the point in conspicuous consumption the evolutionary paradigm fails to explain the high savings rates in the masculine societies with a high ratio of males and females. China has a simultaneously high saving rates and high male-female ratio. Why don't the Chinese males engage in conspicuous consumption?
6. While I believe that natural selection forces may have been important in the past they are effectively put out of force in welfare states. It is not exactly the rocket scientists that get numerous kids in today's advanced countries but often those we don't want too many of, and that may well lower the innovative activity substantially and lead to an inverse relationship between population growth and productivity growth. The increasingly obese society also appears to go against the fitness hypothesis.
7. It would have been nice with some evidence of conspicuous consumption among males. I thought that females were more into that – but I may be entirely wrong.
8. Other sciences may object to the hypothesis that the purchase of a luxury car is driven by the fitness hypothesis. An economist may say that the luxury car gives utility (and it certainly does. TopGear reinforces that image). Psychologists say it is because of an inferiority complex or that you missed out in childhood. A sociologist would say it is status – an urge to feel superior). Probably all factors are at play and it would have been good with a more nuanced discussion of these aspects in the thesis.
9. Quite interesting last chapter – but I am unpersuaded.
10. I have always been a fan of Cramer's QJE paper, but, at the same time, it has to be made clear that it is all time-series evidence. The model probably runs into trouble when it has to explain cross-sectional evidence. The same applies to the thesis. I think it needs to be clearer on that.

