

Comment

Reflecting on ‘Measuring the globalization of health services: a possible index of openness of country health sector to trade’

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1. Introduction

The World Health Organization (WHO) had a program studying the degree of global openness to trade in the health sector (Smith, 2006: 338). How openness to trade impacts on health status, access to health services, inflation, economic growth and people’s well-being may have motivated WHO’s interest. Several studies were funded. Among them was the paper authored by Professor Richard Smith published in *Health Economics, Policy and Law* on ‘Measuring the globalization of health services: a possible index of openness of country health sector to trade’.

Smith’s paper reviews several measurement methods for openness which have been used for other sectors. He has selected ‘Trade Restrictiveness Index’ (TRI) as the most promising approach to measuring openness in health services trade (Smith, 2006: 323). He then proposes a methodology to develop an index of openness that relies on a framework offered by the General Agreement on Trade in Services (GATS). Its framework would identify and differentiate regulations and policies that may restrict trade in health services. In his paper, Smith outlines four modes (i.e. categories) of restrictions in health services. The most important mode is restriction on foreign investments, given a weight of 40%; portability of health insurance and visa restrictions on foreign patients, given a weight of 30%; restriction on qualifications of foreign health professionals, given a weight of 20% (what about the remaining 10%?). Smith illustrates that once an index is constructed, a simple econometric model could be used to analyze the contribution of ‘openness’ to health outcomes or access to health services (2006: 335).

My reflections focus on how an index of openness may contribute to our knowledge or inform policy. Openness to trade in capital, human resources, insurance and patients can have positive and negative effects on health outcomes, access to health services, equity in health outcomes and access, quality and cost

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of health services, and financial risk protection from catastrophic medical costs. The usefulness of an index needs to be examined first in a broad context of health, before we assess its impacts on GDP and inflation. What is the nature of health for any society? Is equity a principal concern in health policy? Do nations establish health policy to achieve more than just improving health outcomes and GDP?

My comment on this paper begins with a context about health services so we can examine the usefulness of an index, followed by what factors should be included in an index. An index has to consider the various types of health services and their production functions from which those factors that are affected by trade can be identified. Next, I comment on Smith's econometric model to assess how openness may influence health outcomes and the difficulties to obtain meaningful data to operationalize such a model. I further comment on how health services may play a minor role in gains in mortality or reduced disability-adjusted life years (DALYs) in advanced economies (Cutler *et al.*, 2006). My conclusions are summarized in the last section.

2. Context of health and health services

Openness to trade in health services is a means to ends. What ends are we trying to achieve with openness in the health sector? The answer partly depends on the ethical value we give to health and health services (Roberts *et al.*, 2008).

Good health is an essential part of human well-being, ranking equal to food, warm clothing, housing, safety, education and economic well-being. As a result, the UN convention declares health as a human right, many nations enshrine health as a human right in their constitutions (e.g. Brazil). Meanwhile, health services are to prevent diseases and illness, relieve pain and suffering, and heal ill patients. Since 2005, WHO has advocated that assuring equity in access to health services as a universal goal for all nations. In short, unlike most other goods and services, equity is a principal consideration in providing and accessing health services. For many nations, achieving equal health outcomes among different income, racial and ethnical groups within a nation is a major social and political concern. Thus, we can ask how an openness index may contribute to our knowledge of how to achieve the equity goal.

Free trade promotes efficiency in global resource allocation and productive efficiency. Global openness in trade has proven empirically its positive effects on economic growth and employment. However, its impacts on fair distribution of income and equal opportunity are highly questionable (Stiglitz, 2003). Equity and fairness in a nation depends on policies on taxation, redistribution of income and social sector programs such as education, health, housing and social protection programs. In health and health services, nations often place equity as priority and adopt health policies and regulations to achieve equity in health. For example, the United Kingdom taxes everyone to finance the National Health Service (NHS) so every citizen can have equal access to nearly free health services. Obamacare tries to extend health insurance coverage to every citizen so they can access affordable health care. Does GATS and TRI address equity goals in health services?

Besides equity and efficiency concerns, affordability of health services is another principle objective for health. In most advanced economies, health expenditures per person have risen at a higher rate than personal income or GDP per capita. The primary causes for the rapid rise are aging of the population and the burgeoning of new medical technology and drugs (Chandra and Skinner, 2012). How to regulate the diffusion of new medical technology and drugs challenges all nations. Health services are financed by taxes, social or private insurance premiums, or patients' out-of-pocket payment. The taxes, premiums or out-of-pocket payment have to be raised to pay for the new expensive technology and drugs. Alternatively, the NHS or universal insurance plans can restrict the payment for new expensive technology and drugs. Of course the payment restrictions would have an impact on the trade. This means there is a trade-off between openness to trade and affordability of health services.

Externalities of health services also have to be considered in studies of openness to trade in health services. For example, costs of health services have an impact on poverty generation. Openness to trade in new expensive medical technology and pharmaceuticals can have a significant impact on health service costs. If the patients have to pay when they demand the uncovered services, the costs of the health services may bankrupt their families and drive them into poverty. Empirical studies around the globe show that many people value their lives so much that they are willing to bankrupt their families, regardless of whether the new drug or technology is cost-effective (Xu *et al.*, 2003). Nations may want to restrict the import of these less cost-effective technology and drugs to reduce the poverty generated by their diffusion.

Finally, openness to trade in health services has to consider another crucial contextual factor. Health services markets suffer from serious market failures. For example, asymmetry of information between patients and physicians gives physicians the market power to set prices and to induce demand (McGuire, 2000). Openness in migration can have positive and negative consequences. Free migration of physicians may result in over-supply of physicians in affluent countries and a shortage of physicians in poor nations. The migration of African physicians to the affluent nations is a good example. Affluent nations that allow free migration of physicians can experience an over-supply of physicians. Empirical studies show that physicians can induce demand and set high prices to garner rent. The United States has an over-supply of surgeons, and studies found that approximately one-third of surgeries in the United States are done unnecessarily or inappropriately (Winslow and Carreyro, 2011).

3. Measuring openness

It can be argued that Smith's paper only tries to deal with the methodology to measuring openness, not how useful it would be. I offer some comments purely from the methodological perspective. Openness to trade deals with the trade on

the supply side of health services such as inputs required for producing health services and on the demand side such as portability of health insurance and patients that can freely move across national borders. First, an openness index has to capture the inputs for producing health services that are tradable. Second, how an index can be used to assess the impacts of openness on interested outcome variables.

3.1 How are health services produced?

Smith's paper separated variables in openness into four modes and gave a list of factors to be assessed in measuring the openness to trade in health services. Since 1975, there has been at least 14 markets in producing health services (Yett *et al.*, 1975; Hsiao, 1995). All of them have tradable aspects. Health services can be separated into several major products and often they are supplements or complements to each other. The 14 interconnected markets consist of insurance, physician services, hospitals, rehab centers, nursing home, capital, pharmaceutical, medical devices, medical supplies, medical education, research and development. The openness to trade in each market not only affects that market, but ripples through other markets. For examples, capital can substitute for human services; pharmaceuticals complement health services; physician outpatient services substitute inpatient services; nurses complement and supplement physician services. The openness to trade for capital, insurance, physicians, nurses, pharmaceuticals, medical education, etc. and freedom of movement of patients have to be considered separately. Using the market perspective, we can see the modes and variables enumerated in Smith's paper need to be much more comprehensive.

Giving weight to each variable to produce an index would require extensive empirical research and evidence. Many variables maybe correlated. Smith illustrates his proposed method by arbitrarily assigning the weights. What are their validity and reliability?

3.2 Openness to trade influences which outcomes?

I stated above that nations pursue more than one objective with their health services. Besides improving health outcomes, governments aim to promote equitable health, increase people's financial risk protection from catastrophic medical expenses and manage health expenditure inflation. To assess the influence of openness to trade on various outcomes, econometric studies have to use several dependent variables or build an index of the several dependent variables.

Smith's paper proposes to use mortality rates or DALYs as the dependable variable to assess the influence of openness to trade on health outcomes. Mortality rates and DALYs are very crude aggregated measurements for health outcomes. For advanced nations, these measurements are not likely to be sensitive enough to show changes in health outcomes as explained by the variation of the openness index in a statistically significant way.

For advanced nations, studies found that health services may only account for 20–30% of health outcomes (Cutler *et al.*, 2006). We know many factors, besides health services, produce health outcomes and access to health services. Other major factors that explain health outcomes include food safety, air and water pollution, road safety, income, education, socio-economic disparity, lifestyles, tobacco and alcohol use, etc. To assess the impacts of openness, the openness index has to be comprehensive and precise. It also cannot be highly correlated with other variables. Endogeneity of the variables maybe be a very difficult econometric challenge to researchers.

4. Conclusion

Smith's paper calls our attention to an interesting question: the degree of openness to trade in health services and its impacts. He made a serious effort to develop an index that measures openness. After reading the paper carefully and reflecting on it, I am offering a few comments to provoke discussion by questioning the value of developing an index to trade in health services. Unlike usual 'goods', health services are essential to our well-being. Governments have to assure their people of universal and equal access to affordable health services. Furthermore, health services markets suffer serious market failures. How do we consider openness to trade for such an essential social product embedded in equity considerations while serious market failures also exist? My comments further point out the tremendous challenges in identifying and measuring the variables that may constitute an index. Equally challenging is the need to find the science-based weights for the variables. Perhaps, a follow-up paper could advance research in international trade in health services by laying out the goals of health sector policy and showing how openness to trade would affect each goal positively and negatively as well as their trade-offs.

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