

Azerbaijan, Bangladesh, Cambodia, Chile, Colombia, Costa Rica, Indonesia, Kazakhstan, Kenya, Kyrgyzstan, Nigeria, South Africa, Tunisia, Uganda, Uruguay, Viet Nam

Trade in Ideas as New Development Policy Pilot-Study

Invitation to participate in a pilot-study on North-South exchange in human ideas based on the patent system

The study will estimate the value of local patented inventions for global markets, leveraged by recent decades' investment in human capital formation, to further a policy discussion

If invited countries would consider nations that could benefit from such an analysis you are of course welcome to share this material.

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1. Invitation

What is the value of local inventions in the global market of ideas?

Today inventions are clearly created both in the political North and South but mechanisms are needed to make these ideas, especially technical ideas, accessible and tradable. Markets in patents, or patent licensing, provides such a mechanism with the potential of leverage the massive human capital formation that has taken place in the South over the last 20 years. The pilot-study's goal is to evaluate the economic potential of such Trade in Ideas, applied to North-South exchange, taking a first close look at this quite new development policy. However, honoring the inventor not only has to be in the laws—which was first done in Venice in 1474 giving the rightful inventor an instrument to trade ideas—but in practice, a policy issue.

What is the potential for countries to turn their human capital formation into patented technical ideas that can be explored globally in collaboration with partners? This approach thus builds on the *economic* proposition that *exchange* allows countries to benefit from their *specialization* in certain patentable technologies which *in turn* provides for wealth creation. Thus, trade in ideas – here based on the patent system – is a highly dynamic and competitive prospect, allowing for a global selection process of what to further invest in. In a sense, the technology developed have the promise of having higher value, more profitable, and more productive. This long-term productivity gain through better technology will allow countries to achieve a higher return on investments in human capital formation.

The project will thus look at countries' inherent capabilities and the actual value of opportunities to trade with the world. Better to light match in a dark room than have five blind people describing the proverbial elephant. Although data will be limited in this pilot-study it will shed light on this value. It will also help ask questions for follow-on projects that will broaden this information in a second stage, leading to a better informed a policy discussion.

This invitation is directed first of all to countries in four clusters (described below) with high recent development of human capital formation and varying levels of patenting activity. Most have quite a lot of both.

The invitation is to participate in a workshop where about 10 or so randomly selected companies who are patent active join, together with policy makers, for a discussion on successes and failures alike in contract licensing based on patents. We are particularly interested in finding out the value and cost, problems and solutions by these firms of contracts between North-South firms. Such data is hard to find which motivates the workshop format, providing anonymous sharing of data. But a broader strategic discussion of what problems are encountered will also be part of the workshop to inform the study and policy makers alike.

We can provide a random selection of patent active companies in your country by the data received through WIPO, a statistical project partner. However, the convening power of your governments is critical in organizing the workshop. Your ministry of trade and innovation or industry, together with you chamber of commerce would be ideal partners and may have additional companies and possibly universities that could participate.

Trade in Ideas as New Development Policy | **Invitation to Workshop**

The workshop format would be about 4 h long for each set of 10 firms and would primarily take place through video (Skype). However, travel to about 1-2 countries may be possible within the pilot-project funding.

If this is a project of your interest, please make contact directly to work out a practical plan.

Since this is a pilot-study we intend to run the workshops during Oct-Nov-Dec 2017. A report with findings, conclusion and possible recommendations for further follow-on projects in support of this trade in ideas North-South would be finalized during early spring 2018 and will be distributed to all participants.

Welcome to join!

Eskil Ullberg, PhD

2. Introduction

This pilot-study aims at evaluating the economic potential of Trade in Ideas as new development policy – licensing patented technology between North-South – focusing on *valuing local inventions for global markets*. Technology areas of food, energy and ICT are at the top of the list. This relatively hard-to-get data will be discussed in workshops with patent active companies and policy makers from a selected number of developing countries. These *contracts* between North-South will indicate the terms of trade in ideas and payments and receipt of royalty payments and fees translating into a country's balance of payment and thus contribution to economic growth.

To capture this potential the 196 countries of the world (of which about 130 are in the “South” and the rest in the “North”) were grouped into four distinct groups (or “clusters”) based on recent investments in higher education, patenting activity, royalty licensing payments and revenues from intellectual property rights (not only patents). In addition, a criterion of level of democracy was used reflecting rule of law¹ (institutional strength), essential to honor inventors², local or foreign, creating the value traded³. Countries with high ranks in HCF and at least some level of patenting activity were then selected from these four groups in the South plus one exception from the North.

The countries thus invited into this first pilot-study are (in alphabetic order): *Azerbaijan, Bangladesh, Cambodia, Chile, Colombia, Costa Rica, Indonesia, Kazakhstan, Kenya, Kyrgyzstan, Nigeria, South Africa, Tunisia, Uganda, Uruguay, Viet Nam*. Chile and South Africa could be seen as “regional invention hubs” working together in network like ways with intellectual neighbours (pacific rim, north-south exchange, etc.).

If you would consider other nations that could benefit from this analysis following current pilot-study please feel free to share this material with them directly.

1.1 Leveraging human capital formation through markets in patents, a background

Education provides for national welfare but also science and technology. It is the integration of the latter two that trade in ideas aims at achieving, in part through the patent system which grants exclusive and tradable (transferrable and licensable) rights on new, inventive and industrially applicable technical ideas.

Human capital makes people more productive, that's why human capital formation, HCF, is such an important policy, but integrating science and technology *increases* that productivity.

¹ Rule of law here refers to the institutions granting and enforcing patents, the right of association, the right to engage in contracts and the like, and the right to own the work of your *intellectual art*.

² Basic principle of the patent systems, first established in Venice in 1474. The inventors who contributed to the local economy should not be without “honor”, which translates to value of their inventions.

³ Contrary to trade in products – where the number of products matter greatly – focus here is the *value* traded of the inventions and patents created. Capturing this value is quite different from product flows and boils down to the contract.

Such leveraging of HCF best takes place through a market mechanism, selecting the inventions to be further invested in for productivity and wealth creation.

In today's industrial, service and digital economy these ideas are invented in a complex web across the globe – companies, universities working together, exchanging them. Human capital formation through higher education has rapidly grown in the South in the last decades calling for policies to give incentives to *leverage* such advances through exchange between locally invented ideas in the South with global market actors from the North.

1.2 Experimental findings, strategy matters

A central background to the study is the experimental research documented in *Trade in Ideas: Performance and Behavioral properties of Markets in Patents* (Ullberg, 2012).

The experimental research suggests that the dynamics created by such trade in ideas – through more efficient allocation by a competitive selection process in an organized market for contracts on patents – doubles the economic value of an idea, potentially and *indicatively* adding about 1% point to economic growth. For example: from 4% to 5% or 2% to 3%. This thus represents a boost in the growth rate of 25%+. This pilot-study has been organized to evaluate *actual* performance in today's exchange between companies North-South.

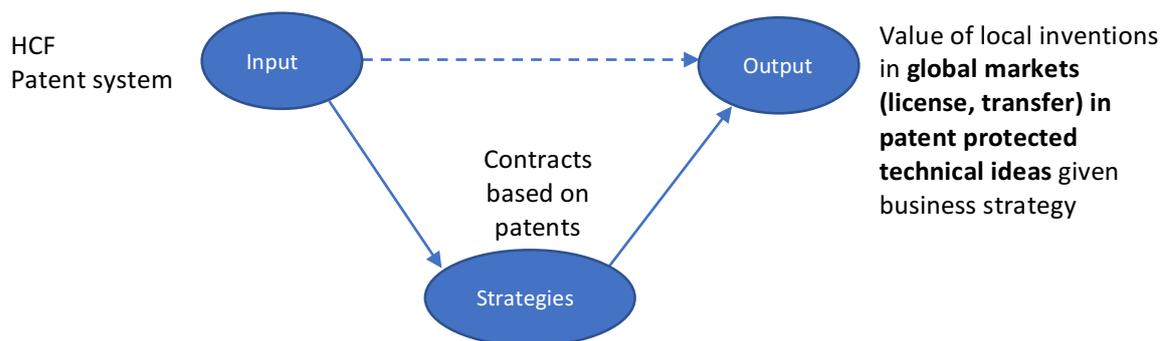


Fig 1. Strategies have a determining outcome on return on trade in ideas.

Of particular interest are the *strategies* that firms use when exchanging rights through licensing. Four such strategists are documented in (Ullberg, 2015). These strategies are quite different in the incentives to cooperate in exchanging technology. They also appear to have quite different returns from investments in patents and licensing. Comparing the clusters of countries and their companies' strategic behavior would thus give a guide to what impact this trade would have on the growth of technology and economic potential. What rules would give incentives resulting in a more economically efficient strategic behavior would thus be a fundamental element of a trade in ideas as new development policy input.

Such technology spill-overs from high-income countries can significantly accelerate the economic development of low-income countries. Similarly, the rapid educational advancements of low-income countries here noted can enlarge the global stock of ideas valuable for exports. This research was presented as part of the WTO Trade Dialogue Series in June 2017. See: https://www.wto.org/english/res_e/reser_e/tradedialogueslseries_e.htm

3. Pilot study overview

The pilot-study will build on the actual transactions taking place today between North-South and estimate the economic value of such trade based on contracts. This will then be the basis for an informed policy discussion based on the returns from each of the business strategies.

The study is outlined as: Theory and introduction, Selection of countries and invitation (this document), Planning of workshops, Collection of data, Analysis, Report, Publication – and presentation – of results, Practical and implementable project proposals promoting north-south exchange in ideas, Discussion at global forums with policy makers and business forums and academia and Follow-on projects on data gathering, pilot tests.

The development of GNI per capita versus academic publication volume for least developed (LDC), lower (LMIC) and upper (UMIC) middle income and high income (HIC) countries from 1996-2016 show a remarkable similarity in trend, but at different levels. The data suggest that there is about a 20-year gap between each group. See fig 2. However, the causality does not necessarily simply “more education” yields automatically more GNI per capita but “more development” yields publications which in turn sustain the growth. The problem may thus not be one of education but of *trust*, the basis of any economic system, which, when resolved result in higher returns on education, motivating individuals to make investment in HCF.

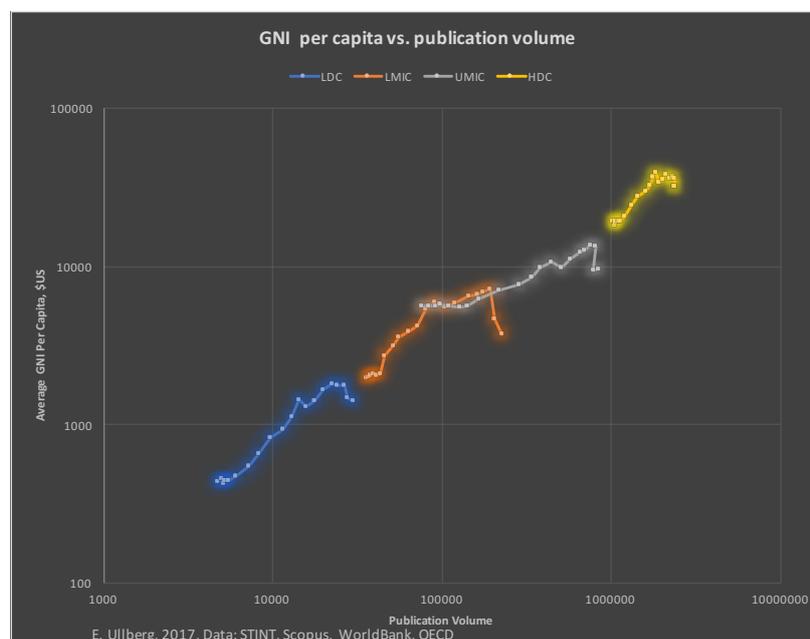


Fig 2. Relationship between economic performance and scientific publications 1996-2016

A fundamental concept in the way business operates is return on assets (ROA) and this translates here to patents (and other intellectual property rights). These assets are *tradable* assets (licensing, cross-licensing, transferring, financing, establishing standards, etc.) and thus opens for trade-based strategies in ideas. An important ratio on return from trade-in-ideas/HCF is then patent applications/HCF, i.e. creating the basic assets for leveraging HCF in the first place. A similar, but more tapering off, relationship can be seen in fig 3. There thus appears to be a “catch-up” effect for LDC, LMIC and UMIC countries.

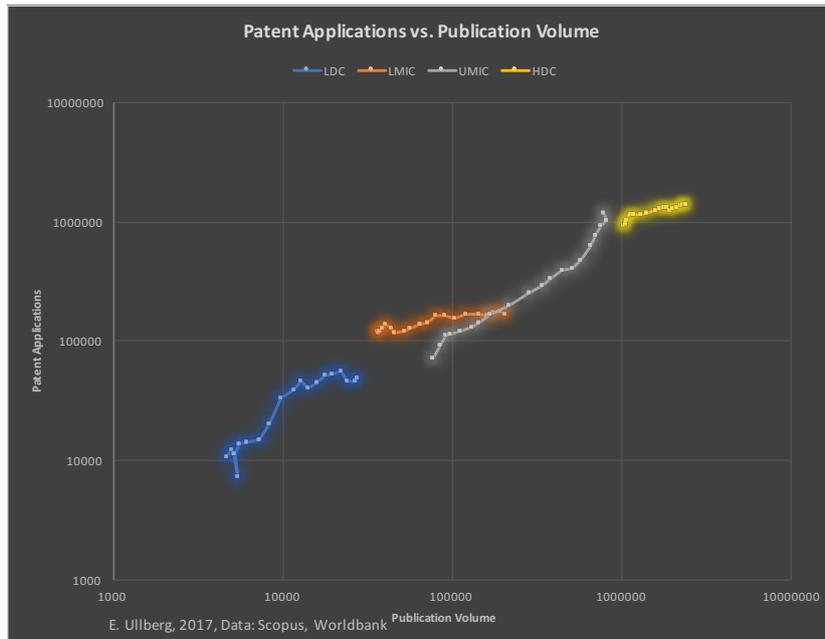


Fig 3. Patent applications vs. publications from 1996-2016 for development level

Using several dimensions for HCF, patents, royalty payments and receipts to create *four clusters*, representing similarity *within* the groups and differences *between* the groups across all these dimensions, is the basis for the selection process. The question is then to estimate the value of the local invention from each group based. “High score” countries who have a democratic or hybrid-democratic governance, from each cluster have then been selected.

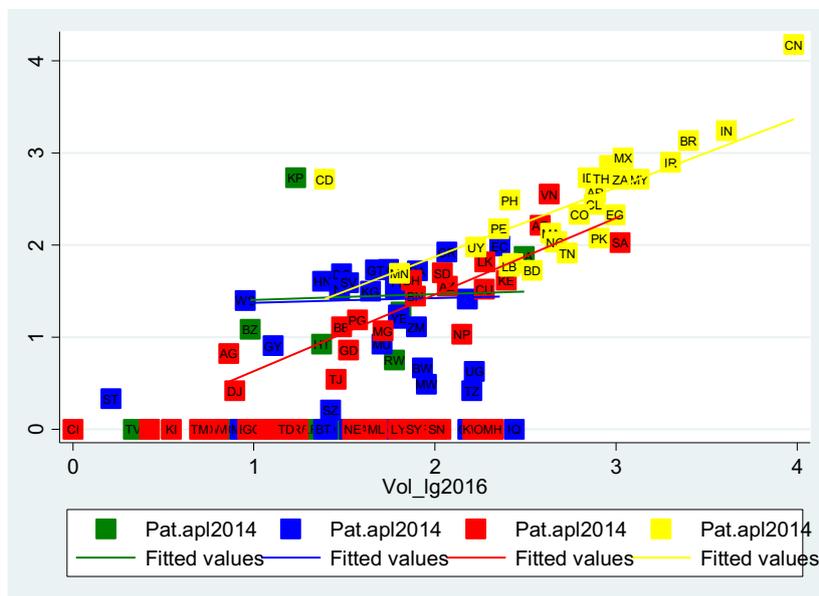


Fig 4. South country clusters based on performance in patenting, HCF and royalty trade balance

There appears to be an economic development policy dimension in fig 4. where the “yellow” and “red” clusters have established, or “institutionalized”, a connection between patented technology and science (fitted values) whereas the “green” and “blue” have a weaker, flat or slightly positive relationship, thus lower economic leverage from investments in HCF. This return represents an economic potential for *all* countries, since they have *all* advanced in HCF.

4. A practical test – proof of concept

4.1 A proof of concept

As a practical test, a separate test of a proof of concept may include direct cooperation with national patent offices, to increase the quality of patent use information for the benefit of lowering the risks for firms. Please express any interest in such a test.

4.2 Tech clubs as nodes in a global network

A particular interest will be placed on the identification or creation of “tech hubs”, nodes in a global network, paving the way for the ultimate policy goal: exchange in human ideas. (See proposal presented to the UN/Second committee at <http://report.ullberg.biz>)

5. Contact information

For interest in the pilot-study please email: Eskil.Ullberg@ullberg.biz

6. Project funding

This pilot-study is funded by the Ministry of Foreign Affairs of Sweden and is limited to a handful of countries, however if you would consider other nations that could benefit is such an analysis please feel free to share the material and forward contact information and we will take prompt action on possible follow-on studies to broaden this initial set of countries.

2018-02-19

Sincerely,

Eskil Ullberg, PhD
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