



**Economic Analysis of International Commercial Law Reform Project
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Discussion Paper 1

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Relationship between the framework's variables

The effort made by the Oxford-Unidroit project on economic assessment of international commercial law reform is laudable. The interaction between internal law scholars and economists in defining specific economic impacts of international law reform has been traditionally low in the first stages of law reform conception. Introducing economic considerations (efficiency, welfare gains, costs) in the incipient law reform is not only desirable but necessary to correctly assess ex-post effects of law reform.

This project has worked to develop the Economic Assessment of International Commercial Law Reform Project "EA ICLR" Framework¹. The framework describes the economic impact (economic assessment [EA]) of an international law reform as a result of:

$$EA=(A+B+C)*D - E$$

Where (A) are direct effects, (B) is network effects, (C) is systematic effects, (D) is implementation of the law and (E) is the cost of implementing the law reform initiative. Although not stated in the formula, the intention is that the framework captures economic impact across countries, interdependencies across countries, and how these effects play out over time.

The framework is informed by a view of how legal reform has an economic impact but is not derived from a formal economic model. This would be difficult as economists have moved away from "one size fits all" models of the kind described by the EA framework. Instead, they have moved towards economic models that are highly context specific and could not typically be applied across different law reform efforts. They have done in this part to be clear in what contexts their models are valid and under what assumptions. This allows for the validity of models to be tested using appropriate statistical techniques (as Harvard's Dani Rodrik (2015) suggests).

Because the framework is not derived from an underlying theory there are difficulties implementing the approach. This paper suggests two approaches to do doing this that are partly complementary. The first is (i) as a structured framework for evaluating commercial law reform initiatives when they are still nascent, and (ii) as an input to formal economic analysis. This short note will discuss both approaches in turn.

The EA formula as a structured framework

The framework could be used to establish a "Economic Assessment" score for proposed initiatives. The score would be derived using qualitative indicators for the formula such as 1 (small effect) to 4 (large effect). What is a "large" and "small" could be determined relative to other initiatives such as the Aircraft Equipment Protocol, the MAC Protocol, the NY Convention and others.

The intention is that the score would facilitate a quick evaluation of the reform's likely impact at an early stage in the process. This would inform decisions to "go" / "not go" ahead with a proposed commercial law reform initiative. The approach would thus guide an evaluation of the likely impact of the reform, facilitate comparison across potential law reform initiatives, and do this without the investment of substantial time and money. One approach would be for the score to be determined by UNIDROIT's staff in consultation

¹ An alternative description could be the REAIL framework: Rapid Economic Assessment of International Commercial Law Reform

with external experts. It would lay the groundwork for a subsequent detailed analysis of the kind conducted for the Aircraft or MAC protocols.

Broadly similar frameworks are used in a wide variety of contexts such as for evaluating debtor risk, determining whether a transaction is anti-competitive, or whether an investment has a socially beneficial impact. While the details of such approaches vary they typically entail referencing a pre-determined set of indicators against pre-specified benchmarks. For example, in antitrust cases authorities typically look at how concentrated the market is (the indicator) and consider whether it is highly concentrated or not by reference to a benchmark. In the case of antitrust cases the if one firm has 80% market share the market is concentrated and so a merger is more likely to be anti-competitive. These frameworks range from an approach that has an underlying formula and so reaches a single score (as below) to one that just specifies a range of factors to be considered in reaching a decision. Both approaches are equally valid and the approach described below can be used for both approaches.

An approach to calculate the score is described below (or factors to be considered).

Category	Rating	Proposed factors to consider	Proposed sources of evidence
(A). Direct Effects: The benefits that stakeholders will experience from the reform initiative	A score from 1-4	The direct effects of a legal law reform initiative are likely to be a result of factors such as the size of the market(s) affected by the law reform in terms of investment, trade flows, expenditure, and the expected change in those markets brought by the legal reform. For example, the expected fall in the interest rate at which lenders provide loans	The size of the market(s) could be evaluated using trade and FDI data. There is also useful datasets on Non Performing Loans and similar. The expected change could be determined based on interviews with legal authorities, companies and financiers involved in the market.
(B) Network Effects: The benefits that will arise as more countries adopt and implement the law reform	1 - 4	The expected network effects are likely to be a result of the benefit of legal harmonization across countries, and the number of countries that join.	The benefit of legal harmonization could be evaluated through discussions with general counsel at firms affected by the reform
(C) Systemic effects: The knock on impacts of the law reform initiative	1 - 4	The systemic effects are (arguably) a function of issues such as the multiplier effects.	This could be evaluated using economic data sets that evaluate multiplier effects . Firms active in the markets, and economic research could provide guidance.
(D) Implementation of the law. The extent, that the new rules have been or will be effectively applied by courts and authorities	0 - 1	The difficulty of implementing the law will (to some extent) be a function of the level of <i>legal sophistication</i> in a country, and the extent of changes required by the legal reform.	The general counsel at firms could provide guidance.
(E) Expenditure on establishing and implementing reform	1 -2	This will depend on the magnitude of legal reforms required, and where they will occur.	Past experience of UNIDROIT's expenditures, as well as a sense of what costs are required on a national level

Category	Rating	Proposed factors to consider	Proposed sources of evidence
(EA) Economic Assessment score:	<i>A score from -2 to 10 calculated from the results above</i>	$(A+B+C)*D - E^2$	

The economic impact score could be calculated as below. A possible rating system would be:

- (0-1) Low economic impact which implies these reforms are not pursued
- (2-3) Medium economic impact suggests reforms can be pursued
- (3-10) High economic impact likely, suggests reforms should be pursued

The strength of this approach is:

- General application: It can be applied to a wide range of cases
- Background: Factors have been verified by experts in the field
- Qualitative: By being inherently qualitative (a scale from 1 to 4) it provides a consistent "measuring stick" for evaluating impact and so avoids issues around quantification such as the relevant units, bounds, relative vs absolute terms
- Structure: Provide guidance to an analyst that is asked to review a prospective law. Facilitate comparison across different reform initiatives as all these initiatives are evaluated using a broadly similar approach
- Perception: Introducing the relevance of economic analysis in early stages of law reform.

The weakness of this approach is that it is:

- Subjective in that the analyst will ultimately decide how large the effect is by selecting the relevant benchmark. This can be reduced somewhat by explicit reference to previous reform initiatives, for example the direct impact could be found to be "large" because it is a large market (same size as the international aircraft market), and the size of the change is substantial (similar to the change brought by the NY Convention).
- Aggregated in that all three effects (direct, network, and systemic) are assumed to make the same contribution to economic impact.
- Empirical flexibility: The formula's closed-form definition limits its empirical applicability
- Economic modeling: The formula is not derived from a standard economic model

² Note that this formula could be different. For example $(A+B+C)*(N*D) - E$, where N is countries adopting so as to capture $(A+B+C)$ is intensity of impact), the formula could also be $((A*B*C)^{1/3} * (N.D) - C)$ (where multiplying A, B and C captures that the effects are probably cumulative). The ultimate scoring system would be broadly similar and it is worth noting that maintaining simplicity for calculation is important in practice.

The EA formula as a starting point for formal economic analysis

From an academic economics perspective, an attempt to use the formula in a tractable empirical way in its current state is a rather frustrating effort. To actually evaluate EA using the framework (or a more sophisticated) one is very difficult because one would need:

1. An appropriate measure of benefit – one could use trade flows, value add, investment and so on. It is likely that all these measures would be appropriate,
2. An understanding of the relationship between the different variables, does changing the law have the same effect on output, or investment? It is plausible that this relationship is different across variables
3. A way to aggregate across countries and time. This is not shown explicitly in the formula above but in practice one would want to capture across all countries and there are likely to be important inter dependencies between them.

To reach a broader audience that include academic economists, our suggestion would be to maintain the essence and the insights of the formula with but a different packaging. For example, in its simplest terms, the economic impact of law reform is viewed as a general function of a set of variables:

$$EA \rightarrow f \{X_1, X_2, X_3, \dots, X_n\}$$

Where X_1 could refer to the level of legal development, X_2 refers to transport costs, X_3 to costs of production and so on. The specific definition of the function, values and weights of the variables should be part of the technical economic modeling. The advantage of using a more general high-level and mathematical independent specification is its flexibility and adaptability to a specific context. The expected values and the form that they interact is precisely the task of economic modeling and hypotheses testing. The most efficient way to construct realistic models is to agree on the key ingredients (and maybe expected values) and tailor them to specific cases. In our opinion, this approach would reach an ampler consensus on economics and law academia.

For example, we could be interested in studying how law reform fosters growth in international trade (our expected outcome). If we where we can estimate the ex-post effects of legal reform, we could use the gravity equation of international trade (Anderson, 2011) feed with the information provided by expert's assessment score.

If we were interested in an ex-ante analysis, we should turn to quantitative trade models, which incorporate the channels through which trade affects consumers, firms and workers. These applied general equilibrium models provide estimates of how real incomes change under different trade policies, using readily available data on trade volumes and potential trade barriers (Kehoe et al., 2017). In this scenario, the EA ICLR framework could be used to feed the model with the expert's analysis on the trade policy changes due to law reform.

References

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