

Economics and Environmental Policy Research Network

Research Symposium

October 29th – 30th, 2018

Session Notes for Panel III: Ecosystem Risk and Securitization

1. Context of Discussion

This session sought to explore how we can enable the use of financial assurance instruments to securitize ecosystem risks. Fundamentally, financial assurance is needed in situations where there is both a risk to the environment from economic activity and a risk that the costs of environmental harm (should it occur) might fall to the public.

Key themes discussed in this session include:

- Central to a discussion on environmental and ecosystem risk is the tension between environmental protection and economic outcomes. The balance of how much ecosystem risk we are prepared to accept in the name of improved economic outcomes ultimately shapes how policies are designed.
- Liabilities can be divided into two types (expected and probabilistic). Probabilistic ones can be especially challenging in the context of uncertainty.
- Financial assurance should generally be treated as a complement to existing regulations. However, at the margin, certain kinds of financial assurance could be seen as substitutes for regulation in that they reduce the reliance on some regulatory tools, resulting in risk reduction outcomes.
- When designing financial assurance mechanisms, the idea of risk differentiation emerges as being key (i.e. the cost of obtaining financial assurance is proportional to the actual risk posed by an operation or firm). If a company can demonstrate a reduction in risk, it should pay less. In this way, financial assurance works not just as a mechanism to ensure sufficient funds are available to respond to environmental impacts, but also to incentivize reductions in risk, driving behaviour change. However, complications can arise from regulators having less information than firms.
- It is considered unlikely that there will be major innovations in law. Rather, what has substantial ability to change this field are advancements in science and technology, and to a lesser extent, market based instruments and financial assurance tools, and how they are used to manage existing liabilities and to incentivize technological advancement.
- When talking about financial assurance, larger firms typically have a greater ability to absorb the costs of their risk. Financial assurance requirements can therefore lead to a competitive advantage for large firms and/or market consolidation. But these outcomes can also be efficient in that they reduce risk. The concern for small business interests often dampens the political will to increase financial assurance requirements.

- It is not clear what success looks like when talking about applying financial assurance mechanisms and there is a need to define this more clearly. What level of residual risk equates to success? What level of remaining costs passed on to the public is considered acceptable?
- It is not clear what success looks like when talking about applying financial assurance mechanisms and there is a need for jurisdictions to define their goals more clearly. What is the appropriate amount of risk to the environment, when balanced against the desire to facilitate economic activity? Similarly, what level of remaining costs passed on to the public is considered acceptable?
- Regulators face a number of different challenges when it comes to changing financial assurance requirements for existing firms and operations; for example, relating to unused or inactive assets, the need to make end-of-life decisions for megaprojects, the risk of pushing some companies into insolvency, dealing with changing market conditions, and complementarity with existing traditional regulatory measures.
- When talking about environmental risk, the issue of legacy problems is a pervasive one and one where there is room to look to other jurisdictions to see how they are managing this challenge. Liabilities that have already been transferred to the public are not necessarily suited to financial assurance solutions.
- Crucial in this discussion is the consideration of how regulation and/or financial risk structures will respond to *new* developments. While it is often impractical to put the brakes on new technologies and their adoption, it remains a struggle for regulation to proactively prepare for and respond to such developments.

2. Research Questions Identified

- **How far are we prepared to go with ecosystem and public liability risk as compared to economic outcomes, and how far will we allow ourselves to err on one side at the expense of the other? From a social perspective, how far does weighing economic interests take us from optimal policy?**
- **Knowing that financial assurance is needed in situations where there is a chance that environmental risks might fall to the public, *how* might they fall to the public in different sectors (i.e., what are the “liability gaps”)?**
- **What financial assurance mechanisms have been used to date in which sectors, and to what result? i.e. conduct a jurisdictional scan of financial assurance mechanisms and their outcomes.**
- **How do we assess the accuracy of our current risk and liability estimates in different sectors? How can these estimates be improved? Once we have good estimates, how well do current financial assurance tools match these liabilities?**
- **How to design financial assurance for known large impact events that are very far off into the future? What about very high impact and extremely low probability events (so called “fat tails”)?**
- Financial assurance can generally be treated as either a complement to or occasionally a substitute for existing regulations. **What kinds of instruments complement vs substitute each other and how?**

Can we evaluate the complementarity of the regulatory process between financial assurance mechanisms and regulations?

- **Are there ways to bring in more financial assurance by looking at existing regulations and seeing what can be modified to be more palatable to different sectors?** E.g. two-track regulatory systems, with different rules applying to good and poor performers.
- **Are there ways of working within the existing regulatory regime and incorporating financial assurance so as to be risk differentiated (i.e. payments according to the risk you present)?**
- **How can we use new and emerging technologies to better manage existing environmental liabilities?**
- **When developing financial assurance policies, what distributional and equity impacts must be taken into account? How can any imbalances be corrected?** E.g. differential impacts on large versus small businesses, public versus private entities etc.
- **Among existing regulators, what extent of their activities are currently governed by prescriptive, command-and-control approaches versus more flexible market based instruments? Across different sectors and jurisdictions, is there room for increased use of market based instruments?**
- **What level of residual risk is acceptable given that there is no such thing as a zero risk world?**
- **How can we expand the existing analytical tools to make more refined, nuanced evaluations of the financial viability of firms?**
- **What is needed to support a transition towards developing more proactive, full-lifecycle measures that guide industry through decommissioning, remediation and reclamation?** i.e. how can we support a “planning to close” mindset? As we embark on the transition to renewables, could we use this next generation of assets as a test case to explore different proactive measures? How should the regulatory process function when a new form of energy starts being used?
- **How does the regulatory process address new developments within a sector (especially given the “gold rush mentality” that regulators can’t keep up with the dynamism of active entrepreneurial forces)? How can this process be improved to better keep up with new developments?** How do you build in and respond to uncertainty? Is it really possible for regulation to fully keep up with new developments, as we simply don’t yet know what the relevant life-cycle impacts are that we should be regulating against. **To what extent is there a role for the public sector in providing input to help manage any newly discovered/understood risks?**
- **How are other developed countries coping with the question of legacy problems and what could Canada learn from their experiences?** For instance, how could Canada’s management of oil sands risks be informed by the UK’s experiences with nuclear plant decommissioning?
- **How can we incorporate exogenous or newly discovered risks that impose new costs and prompt new requirements?**

- **How do we develop policies that incentivize due diligence, responsibility and disclosure, rather than compel fear about penalties?** Can we learn anything from the failure of the tobacco and other industries?
- **Could we envision the securitization of biodiversity outcomes?** This would necessitate consideration of cumulative risk of multiple plants in a similar environment. How would you aggregate the full impact of multiple operators on biodiversity? What knowledge, data and other gaps stand in the way of achieving such a true ecosystem securitization?
- **Linking this discussion to natural wealth, to what degree are these big liabilities included into natural resource wealth?**