Reflections on Regulatory Regimes Present and Future

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INTRODUCTION

Later this year we will launch the fourth cohort in our Certificate Program in Regulatory Leadership. This program is a collaborative enterprise of Carleton University and the University of Ottawa that contributes to improving the professional standards of the regulatory regime of the Government of Canada and the people who work there.

In our talk here today we would like to present our rationale for starting this program, what we have learned about Canada's regulatory regime to date, and our forecast for influential trends over the next ten years or so. Our teachers in the program have been many. The experts and practitioners who have presented accounts of their experiences in dealing with regulatory issues in a rapidly changing world have provided a terrific education. Of equal value, we are realizing, is the huge amount that our program participants can learn from each other, drawing as they do from their executive experience across the gamut of federal regulatory agencies.

BACKGROUND

It has been said that governments do just three things: they tax, they spend, and they regulate. Taxation and spending are the subject of almost continuous analysis, comment, and advice. The totals in both categories are well known and understood, and incremental changes and trends are potent political rallying points. On the other hand, regulations receive comparatively scant attention in spite of the fact that as a society and as individuals we rely upon them for the safety of our food, health-care system, and the cars we drive, as well as the security of our pension investments, among many other things. We do, however, pay attention when regulations fail and the consequences are catastrophic. The Lac-Mégantic rail disaster in 2013 and the global economic crisis of 2008 are two such cases that we all recognize.

The U.S. estimates that the cost of regulations in the health, environment, and transportation sectors is 3.9% of the GDP. We are not aware of any comparable estimate for Canada. That is not to say that the Canadian regulatory system has lacked scrutiny. Indeed, over the last 40

years there have been waves of attempted reform. We have witnessed the efforts of deregulation, smart regulation, regulatory streamlining, regulatory management, regulatory alignment, red-tape reduction, and one-for-one. These attempts at reform came about because the world was changing rapidly and the Canadian regulatory regime was found to be too

hidebound, cumbersome, and unresponsive. There was a sense that if Canada could get this right — by optimizing the benefits and minimizing the disadvantages, and doing it efficiently and effectively – then we could reap an advantage over other nations that continued to struggle with ponderous regulatory approaches.

The key drivers of change that have been forcing this reassessment include:

- Globalization of the economy
- Technological innovation
- Changing public expectations
- Management
- Evidence for decision making
- New players.

We will now look at each of these drivers in turn.

Globalization of the Economy

Goods and services are developed through global networks of design, manufacturing, distribution, and marketing that continuously seek competitive advantage anywhere they can find it. Single products may cross state boundaries many times, and businesses have come to expect an alignment of regulatory regimes in order to reduce transaction costs and times. Such measures are central to the current generation of trade agreements. For example, the Canada/U.S. Regulatory Cooperation Council has an ambitious agenda to seek alignment in areas where it makes most sense.

Globalization is also affecting the standard-setting process. Multinational and specialized international expert organizations set definitive standards for many sectors that are subsequently incorporated into domestic regulations for implementation. Canadian experts in this field are needed, both for their knowledge and to ensure that Canadian interests are understood and respected. The expertise and negotiating skills of these experts must be maintained at a global level if they are to be influential.

Technological Innovation

New technologies are being developed at an unprecedented pace, creating two tensions. First, early adopters and entrepreneurs exert substantial pressure to bring new products to market

quickly. At the same time, the very nature of novelty means that the evidence-based regulator is hard pressed to come up with the information needed for decision making. This conundrum applies across all regulatory fields and calls for application of a precautionary approach.

Secondly, novel products, such as food or drugs, may be accepted in one jurisdiction and not another because of differences in their regulatory systems. This situation almost inevitably leads to public confusion and at the same time a drop in confidence in the regulators.

Changing Public Expectations

It wasn't so very long ago that a new enterprise needed just two sets of licences before it could be launched. One was the commercial licence, which made the case for profitability and was issued by the board of directors with the support of investors and the shareholders. The other was the government licence, which came with the approval of all applicable orders of government and addressed matters in the public interest.

These days there has been a lot of talk about the need for a third licence — a social licence. This is a powerful rhetorical notion but is imperfectly understood. It seems to have originated some 25 years ago in the forestry sector, when public opposition mounted against clear-cut logging of old-growth forests, particularly on the west coast. You may recall the confrontations that took place in Clayoquot Sound, where there were violent objections to logging in accordance with government-approved logging licences. Certain non-government organizations successfully promoted market and consumer boycotts for forest products coming from the contested areas. Major changes in forest-management practices have since been instituted. Today, for example, Model Forest networks and collaborative agreements involving First Nations, industry, provincial governments, and NGOs are aimed at sustainable management of the forest in specific geographical areas. Such an arrangement could be considered a "social licence," which, once earned, requires audited performance in order to remain valid.

You are all familiar with energy production and transmission projects, pipelines, and mining proposals that have received approval from various agencies of the federal and provincial governments but become deadlocked because they are roundly condemned and rejected by various public interests and/or are being challenged before the courts. The importance of natural-resource development to the Canadian economy demands that a high priority be attached to locating a sustainable resolution to the impasse.

It is easy enough to lay the blame at the feet of the regulatory agency that provided the government permit. Their job is to receive and consider evidence on the merits of the proposal

before them and then provide advice or decisions, within the limits of their authority, on the terms and conditions that should be attached to the proposal if it were to proceed. Others are responsible for establishing the political context within which the proposal should be assessed. Recent experiences suggest that if the ground is not well prepared, the process will be fraught with uncertainty and the results inconclusive. The solution will demand an appeal to our better angels and will be an important pillar of nation building.

Management Practices

Most attempts at improving the management of regulatory agencies have focused on how to achieve policy objectives more efficiently and effectively. One of the most deliberate and ambitious efforts to do this is taking place in the energy sector in Alberta. In 2013 the Government of Alberta concluded that the process to develop and enforce regulations for the energy sector was not as efficient and effective as it should be. At that time three different agencies — The Alberta Energy Resources Conservation Board, The Ministry of Energy, and the Ministry of the Environment — were accountable for different aspects of the regulatory process. The key decision by government was to consolidate all three organizations into a single non-departmental regulator, and to clarify and simplify the roles for regulatory development, compliance, and enforcement. A major goal was to reduce overall system costs for both the regulated sector and the government, while at the same time upgrading the regulator's performance. This ambitious objective demands competence and courage from both elected officials and civil servants, and a supportive sector and public. Early results are noteworthy, including a 12-month projected saving of $400 million, a transition between two governments, major enforcement actions, and a targeted plan for the next five years. There is much to be learned from this exercise that should have direct bearing on the performance of other orders of government and other sectors.

Other management changes have led to the choice of new policy approaches, such as economic instruments, safety-management systems, and behavioural economics. These are important experiments, with considerable potential. They also merit close monitoring and evaluation, with adjustments as experience is gained. Conventional approaches would also benefit from greatly increased effort to determine the results of regulatory interventions to better understand what works well and what doesn't.

One of the common features of most evaluations of regulatory agencies is the finding that lots of attention is paid to the planning phase, but inadequate attention to implementation. This deficiency has been referred to as the "implementation gap" in one audit report. In response to this gap, a preoccupation with implementation is merited.

Examinations of catastrophes linked to regulatory failure often point to the absence of a safety culture that is comprehensively integrated into an organization. In this regard, it is encouraging

to see the inclusion of Human Resource Management Plans as essential components of operating licences issued by the Canadian Nuclear Safety Commission for nuclear power plants.

Evidence for Decision Making

Neither of us can recall a previous occasion when evidence for government decision making was a major plank in a winning campaign for federal election, as it was for the Liberals in the 2015 election. Their commitment was based on a renewed respect for science to serve the public

good, for openness in its conduct, and for broad engagement in its application. This is encouraging, because regulatory science is the basis for many decisions.

It is worth noting that however good Canadian science and scientists are, we are dependent on science that takes place beyond our borders. Science is a global enterprise in which we must participate, and the price for doing so is significant. New specializations like "translational science," "big data," and artificial intelligence hold promise for harvesting information useful for regulatory decision making.

New Players

At one time governments were almost the only regulators. These days many new players have entered the regulatory field. For example, multinational corporations have imposed comprehensive standards on their supply chains. These are far reaching and specify matters as diverse as acceptable raw-material sources and harvesting technologies, labour conditions, and the structural integrity of manufacturing facilities. Some have provided requirements through the entire product life cycle, including recycling and end-of-life disposal. These measures have been developed by industrial sectors or individual firms acting alone or in conjunction with non-governmental organizations and sometimes with governments. The motivation has been to tap into consumer preferences, maintain brand reputations, or both. Many of the standards led by the private sector address matters beyond the easy reach of most governments, are developed relatively quickly (certainly in comparison with most governments), and are independently verified.

To illustrate: the U.S. Environmental Defense Fund provided an interesting justification of why it opened an office in Bentonville, Arkansas. Bentonville is the home of Walmart, which has almost $500 billion in annual sales and an economic heft larger than many sovereign states. Walmart also has one of the most comprehensive supply-chain management systems of any multinational corporation. The U.S. Environmental Defense Fund wanted to be close at hand to offer guidance on how to reduce the ecological footprint of what they described as the largest regulatory agency in North America.

Many of these arrangements exist, each representing a coalition of the willing for that purpose at that time. Some compete with each other, and their longevity and stability are unknown. At the same time, they provide a potentially rich source of novel practices and alternative means for securing a policy objective outside of using a statutory instrument. For the regulator, key questions include accountability, reporting, and results.

CHALLENGES

The regulatory community faces many challenges, which we have summarized in the following six areas:

- Citizen-centered government
- Adaptive management
- Early warning
- Relationships
- Culture
- People

We'll take a look at each of these in turn, first looking at present-day examples and then projecting over the next 10 years or so.

Citizen-Centered Government

Over the years, regulatory authorities have learned the importance of not intruding on each other's areas of constitutional authority. At the same time, they've worked at avoiding overlap and duplication, to make sure that businesses and individuals don't face redundant regulatory requirements. This is particularly true of coordinating the work of regulators in the federal–provincial–territorial context.

Citizens tend not to pay much attention to divisions of constitutional responsibility and simply expect governments to deliver services efficiently and effectively. "Citizen-centered government" involves adopting a whole-of-government approach when designing government services and enforcing laws. It calls for high levels of intergovernmental cooperation, especially when establishing and enforcing regulatory requirements.

Citizen-centered government answers the expectation citizens have that government officials at every level should go beyond just avoiding overlap and duplication and work to achieve synergies across their business lines. For this to happen, regulatory regimes must be fully informed of the activities of other levels of government in a given field. Rather than just staying out of each other's way, governments should try to complement each other's activities, a level

of cooperation that should occur throughout the entire regulatory life cycle (from identifying a problem through to planning, design, implementation, enforcement, and review).

In areas such as food safety, environmental protection, transportation safety, and consumer protection, citizens are increasingly demanding that governments work effectively not just across departments within the same level of government, but across all regulatory agencies involved, regardless of jurisdiction. There is a growing expectation that "one-stop shopping" should exist across various levels of government, so that businesses need not navigate a host of agencies to get the information they need related to any one regulation. Businesses would also

like to see sufficient cohesion across government agencies that they can provide information just once to satisfy the needs of all regulators operating in the same field.

Present

New regulations and regulatory amendments must first be "blue stamped" by the Department of Justice during the drafting process before they can be approved by sponsoring ministers and cabinet. It is rare that regulations are subsequently challenged in court and found to overstep the legislation they support. This element of due diligence helps to avoid overlap and duplication in the design of regulations, a key aim of citizen-centered regulations. However, because it takes place at the earliest stage of regulatory approvals, it has little effect on how compliance and enforcement work.

Another initiative that supports citizen-centered regulatory design and implementation is Bizpal, an online service that provides businesses and government agencies with a cross-government inventory of regulatory requirements that various industry subsectors must comply with. This service generates a tailored list of the documents that a new entrepreneur or small business owner needs to start up or grow a business, and also allows businesses already in operation to verify that the correct licences and permits have been obtained. Bizpal was launched by the federal government in 2005 and is currently available in more than 600 jurisdictions across Canada. It provides an element of the "one-stop shopping" information service requested by clients for the subsectors covered. It also provides the raw data needed to make the administration of the various regulatory regimes more efficient.

Another example: Natural Resources Canada set up the Major Projects Management Office in 2007 to streamline the federal government's regulatory review of major projects within the natural resource and energy sectors. This office works with federal departments and agencies to develop guidelines, procedures, and service standards that put project leaders and federal regulators together early in the process and help clarify and standardize the way the federal government reviews major resource projects. The office serves as a single regulatory window for resource project leaders, providing guidance, coordinating project agreements and timelines between federal departments and agencies, and tracking and monitoring progress of these projects through the federal regulatory approval process. However, this window does not provide access to approvals needed by other levels of government.

Future

In the future, federal regulatory regimes will be designed and implemented with much greater involvement of other orders of government. Multi-year-forward regulatory plans will become regular items of business on regularly held intergovernmental meetings. Inspection regimes will be systematically reviewed to identify opportunities for better cooperation. An example of such cooperation is inspection agreements by which different orders of government inspect and enforce each other's requirements to improve efficiency for both for the regulators and for those being regulated.

Instruments such as Agriculture and Agri-Food Canada's Value Chain Round Tables could be replicated in other industry development departments and agencies. These round tables include stakeholders throughout various supply chains of the agriculture and agri-food sectors and look constructively at ways to improve industry–government cooperation to enhance sectoral growth. They have helped identify opportunities for regulatory reform and greater cooperation within and across all orders of government. Federal departments such as Health Canada, the Canadian Food Inspection Agency, and Environment Canada, along with their provincial counterparts, have been active in these round tables.

Other instruments could be created to bring the citizen's perspective into regulatory planning, design, and implementation. Their main task will be to improve the overall cohesiveness of regulatory activity in areas of citizen concern and to reduce regulatory red tape.

Adaptive Management

Federal regulatory regimes are evolving rapidly, with performance-based or outcome-based approaches replacing many of the first-generation command-and-control models of regulatory design. Departments and agencies are experiencing growing pains as they run up against unanticipated issues and challenges in the transition to more modern approaches. One particular pitfall they face is having to design a national regulatory regime without having all the necessary information. This is especially true in areas that depend on evolving science or incomplete social or economic data.

This information gap has led to some innovative approaches to regulatory design, including "adaptive management." This approach is used most often in the context of resource management when ecological data is incomplete, such as when the sustainability of harvesting levels over the longer term is unknown. In these cases, regulated limits on human activity in a delicate ecological system must be set in response to ongoing monitoring of the system, making this approach iterative. Adaptive management is not widely used in Canada yet, but it holds promise for the federal regulatory community when they are asked to regulate human behavior in settings where the sustainability of that behavior is difficult to define and measure.

Present

Adaptive management is different from conventional regulation in a number of ways. First, it is more responsive to change. Industry generally values regulatory certainty and predictability. Frequent changes to the rules add to the cost of compliance through, for example, staff training and changing equipment costs. As a result, regulators may be tempted to leave their programs unchanged unless adjustments are absolutely necessary. In contrast, under adaptive management, all partners in the regulatory regime understand that regulatory requirements will change in response to ongoing feedback. Businesses can build a similar responsiveness into their operations.

Secondly, much more time must be taken in adaptive management to design not just the regulatory requirements but also the monitoring program, so that effects of the regulated

behavior on the resource can be identified and measured. All parties must understand the monitoring model, agree to make adjustments as data is gathered and interpreted, and commit to a continual learning culture that is integral to the regime's success.

In North America, adaptive management regimes are currently being used to manage the harvest of forests, fish, and waterfowl. There is also interest in taking this approach to reduce greenhouse-gas emissions.

Successful adaptive management features three key components:

- Testing assumptions: using knowledge about the resource setting to establish a set of agreed-on assumptions about how to design the regulatory strategy and assess success
- Adaptation: changing assumptions and interventions to respond to new or different information obtained through monitoring of project experience
- Learning: recognizing that the regime both modifies human behavior and simultaneously gathers critical knowledge about the resource to be protected.

Future

Adaptive management regimes are still new in the regulatory community and work is needed to refine these approaches. They require a commitment from elected governments, cabinet ministers, and individual ministers. The iterative nature of these regimes requires ongoing engagement with elected leaders to ensure that sufficient resources are provided to maintain a viable monitoring capacity and to support adjustments as new evidence is gathered.

Once such regimes mature and thorough program evaluations have been conducted, it is likely that interest will grow in applying this approach beyond resource conservation, including some economic regulatory contexts. For example, regulations established to affect fluid labour markets, such as temporary foreign worker regulations, seem well suited to adaptive management principles. Similarly, the regulatory failures associated with oversight of the financial service sectors that led to the financial crisis of the last decade might provoke interest among oversight agencies in experimenting with adaptive-management approaches.

Early Warning

The current regulatory system is typically reactive rather than preventive in design. Food and product recalls are typical of this approach. Recalls largely result from inspections and testing of the final product at the production plant or at the point of sale. In effect, these regulatory interventions are made in response to an incident rather than in anticipation of public harm. It is true that the regulatory agencies responsible remove products from the market early, before widespread exposure occurs. But this strategy is essentially reactive, as harm has already been detected and product recalls are aimed at containing the damage.

Investigations of transportation and environmental accidents have the same reactive character. An incident occurs, lessons are learned, and regulatory steps are taken to prevent it from happening again.

Besides being suboptimal for public protection, these reactive approaches are also relatively expensive to implement and enforce. Precious inspection resources are devoted to administering costly testing protocols at the final stage of production in these systems. Though most agencies assign these inspection resources based on some form of risk calculation, the risk profile of the products tested could be reduced overall if preventive steps were taken to intercept high-risk ingredients or components earlier in the global supply chain of many food, health, and consumer products.

The Canadian regulatory community is increasingly interested in moving away from exclusively reactive regimes and in investing in tools and arrangements that would enable wider use of preventive approaches. In this vein, big data, particularly predictive analytics, is gaining the interest of regulators. As its name implies, predictive analytics is characterized by its ability to forecast, anticipate, or infer behaviour before it occurs. It is a form of traditional data mining that applies sophisticated mathematics and statistical analysis to data to discover knowledge and patterns. Software products are now becoming more readily available to companies to implement analytics in their business models to minimize risk, make unprofitable customers more profitable, reduce business expenses, identify fraud, and even to analyze the effects of health treatments.

Present

Law enforcement and intelligence agencies are generally preoccupied with risks and threats, so they have invested more effort than most other government agencies in predictive analytics. They use these tools to forecast “hot spots,” based on times and locations of previous crimes, incident records, and historical and sociological information about criminal behavior and patterns. Such tools help police move from “sense-and-respond” to “predict-and-act” strategies.

Service Canada’s Integrity Services Branch has used statistical software as part of a risk-analysis pilot project designed to detect employment insurance fraud and abuse. It analyzes multiple databases and significantly improves the identification of employment-insurance applicants who have been overpaid.

Health Canada is turning its attention to predictive analytics as a way of taking a more preventive approach to regulating the market entry of health and consumer products. For example, they are now investing in large case-study databases to identify higher-risk manufacturers and distribution points for products, rather than relying on complaints to point out consumer products that may not comply with safety standards. The department is also starting to use third-party data sources to augment its own data in its efforts to identify high-risk products.

The Canadian Border Services Agency is the single window for all regulated health products that are pre-cleared before import into Canada. It could collaborate with Health Canada to build a bank of industry-supplied data to which predictive analytics can be applied, for example to

target country of origin or product ingredients. This could enable Health Canada to focus its regulatory activities on products and components that are higher risk at key points in the global supply chain.

The Canada/U.S. Regulatory Cooperation Secretariat within the Privy Council Office is also interested in preventive approaches as a means of resolving regulatory differences between the two countries. By sharing predictive analytics and encouraging broader efforts in joint risk assessments, the Secretariat believes that better regulatory alignment between the two countries will result.

Predictive analytics are not the only way of taking a preventive approach. Forward-thinking regulatory agencies like the Office of the Superintendent of Financial Institutions conduct simulations of large-scale crises, or "stress testing," to test their emergency preparedness and ability to respond. These so-called “war games” help regulators to better understand the vulnerabilities of their regulatory systems. Conducted well, they provide an understanding of what went wrong in the past, but also point to what might go wrong in the future and how to better prepare for it.

Future

Moving forward, big-data analytics is likely to be used more widely by departments and agencies to identify hidden patterns in the data they collect, allowing them to catch hazards early, before serious injury or outbreaks occur. Preventive approaches and the use of predictive analytics will also answer the need to use inspection and enforcement resources more efficiently. Savings that come by streamlining inspection activities will likely more than offset investments in preventive approaches. International partnerships with other jurisdictions to manage the same risks will likely lead to greater interest in sharing analytics and working together to interpret the results and design appropriate regulatory responses. Similar partnerships can occur within Canada and across departments and agencies within the federal government.

Relationships

Others in the public service often view the regulatory community somewhat stereotypically, perceiving them to value their independence from political interference and policy agendas of the day. Their independence from the businesses and citizens they regulate is thought to be necessary to avoid undue influence by those special interests. As a result, regulators have sometimes been dismissed as technocrats who "live in the weeds" and have little relevance to the strategic policy of their minister and department. Their role is to design and execute the statutory obligations of the government in the least intrusive and most cost-effective way, and they are expected to "stick to their knitting," engaging with others only to the extent necessary while not compromising their independence or mandate.

The current reality, however, flies in the face of this stereotype. Today's effective regulator must engage with a wide array of partners and regularly reach out to many functional

communities, stakeholders, and political decision makers. This need to engage exists at all stages of the regulatory lifecycle, from design through to program review and evaluation.

Present

Establishing and nurturing effective relationships with key partners is proving to be a key ingredient in the effective administration of a regulatory system. We'll now turn our attention to some of the key drivers for greater engagement by the regulatory community.

<u>International Cooperation</u>

Likely the most sophisticated international cooperation our federal regulators must foster today is with their U.S. counterparts. This is being done under the Canada–U.S. Regulatory Cooperation Council initiative. Better alignment of regulatory regimes will come with even greater relationship building. These relationships are sure to involve joint planning of new initiatives; joint risk assessment, including collaboration in capacity building (such as investing in predictive analytics); ongoing assessment of each other's testing protocols and practices; and the sharing of dash-board indicators of implementation success.

<u>Citizen-Centered Regulations</u>

Traditionally, federal regulators have worked closely and effectively with their counterparts at both the provincial/territorial and municipal levels of government. With growing demands from citizens for better coordination between regulatory authorities at all orders of government in Canada, there is greater need to create regulatory synergies across areas of responsibility. As First Nations assume greater control of regulatory decision making on their lands, partnerships with them must become more complementary and effective. Initially, federal regulators will likely have a role in building regulatory capacity among First Nations communities.

<u>Co-regulation</u>

Perhaps the most important standard setters and enforcement agencies in the world today are in the private sector. Costco, Loblaws, Walmart, and any number of food or other consumer product manufacturers or distributors impose high standards on their suppliers to ensure

quality and safety for their customers. Effective enforcement of these standards is integral to protecting their brand. Their standards are often higher than those established by regulatory agencies, and penalties for non-adherence, such as cutting off an errant supplier, can be more effective deterrents than most government monetary penalties. Recognizing this, regulators are now designing and implementing regulatory regimes to complement rather than duplicate private-sector requirements. Various models of co-regulation are emerging in many sectors of the economy, especially for consumer products covered by the federal regulatory system. Long-standing fear that such collaboration could offer the private sector undue influence is giving way to the understanding that new partnerships can help government regulators fill the gaps.

Foresight and Policy Community

Regulations are usually a means of implementing government policy. New legislation is normally brought into force only once regulations are written and undergo consultation. In many cases, the regulatory community become the stewards of policy implementation and form an important feedback loop on the effectiveness of how policy is being achieved.

Policies and associated regulations are often implemented in fluid environments where new developments must be monitored and trends assessed and responded to. For policy to be adjusted based on new developments, regulators must maintain effective communication links with policy makers, including political staff. They must also develop relationships with foresight organizations who can help them identify innovations, products, and trends that pose new risks that may affect their mandates.

Practitioner to Practitioner

Few officials in Canadian regulatory agencies have no counterpart in other jurisdictions around the world. Whether considering chemical management, rail safety, drug approvals, or food safety risks, regulators in Canada are usually taken up with issues also being examined by their counterparts in Europe, Asia, and elsewhere in North America. Pooling their knowledge and expertise is critical to these practitioners. Regulatory agencies must invest in ways to foster such relationships if Canada's regulatory systems are to perform at a high level, keeping pace with news approaches being adopted in other jurisdictions that have application in Canada.

Future

The above inventory of drivers for investing in more enduring and meaningful relationships with other players is not complete nor listed in order of priority. Travel budgets and conference attendance will likely continue to be limited, and regulators will need to make hard choices regarding which partnerships merit investment in terms of professional time and money.

Canada's regulators will benefit from improved relationships with a wider array of partners only if they also provide value to our partners. Canadian regulators need to identify where they

have strategic interests in being "world leading" and where partners will recognize the value of engaging with us in sharing their best practices. To the extent that Canada is highly regarded, others will want to engage with us. If we have learned lessons and achieved success in areas that are of interest to our trading partners or to other orders of government in Canada, then they might reciprocate by inviting us to learn from their achievements.

Regulators in Canada likely need to work with ministers to create select "international expert events" where practitioners can gather to exchange experiences, knowledge, and plans. Organizing such events with the approval of ministers helps to elevate to political levels the importance of such events and make clearer the links between relationship building in regulatory fields and successful implementation of government policy.

Culture

Organizational culture is undeniably a powerful force in affecting organizational behavior. It is sometimes said that "culture eats strategy for breakfast; it doesn't even wait for lunch or dinner." Leaders seeking to introduce organizational change to implement new strategies or approaches must first understand the culture of the organization where change is to be introduced if they hope to be successful. If, for example, the culture of an organization is distrustful of major system change, then transforming a regulatory regime is bound to be difficult. Similarly, if the culture of an organization is based on hierarchical values, then strategies designed to be implemented through horizontal teams with non-traditional reporting relationships are likely to encounter resistance.

Regulators frequently identify the presence or absence of a safety culture as a key predictor of an organization's success in protecting the public interest. For example, a deep commitment to nuclear safety is evident in the nuclear power-generating industry, beginning with the regulator (e.g., the Canadian Nuclear Safety Commission and its international counterpart, the International Atomic Energy Agency) through to the industry (e.g., the Ontario Power Generator) and nuclear waste disposal organizations (e.g., the Nuclear Waste Management Organization). Interactions and practices of these organizations reveal a shared culture of attention to planning detail and a willingness to invest in safety-management practices and equipment that is likely unparalleled in Canada's other regulated industries.

In contrast is the case of the Montreal, Main and Atlantic rail company, whose train derailment in the Quebec community of Lac-Megantic in 2013 resulted in fatalities and massive property damage. The Canadian Transportation Safety Board's report on this disaster concluded that it resulted, in part, from the rail company's weak safety culture, which lacked a functioning safety- management system to manage risks.

Present

Leaders in most regulatory agencies are in the midst of introducing significant changes to the design and implementation of their regulatory regimes. They are moving away from traditional

prescriptive models to outcome-based models that define required outcomes but are more flexible in how these outcomes can be achieved. Such systems rely on businesses employing creative solutions to addressing safety risks, with the benefit that the cost of compliance will be less than under a prescriptive regulatory regime. They also rely more on regulatory inspectors who have the knowledge and expertise to exercise good judgment in assessing the adequacy of a firm's strategy to achieve required outcomes.

One agency that is currently modernizing its regulatory regime is the Canadian Food Inspection Agency, which has introduced legislation that enables a regulatory approach that is more risk based and less prescriptive. Agency leaders recognized that understanding organizational culture was fundamental to achieving program changes. Through an exercise to assess staff readiness for change, they identified three key shared values – courage, respect, and rigour – and built the agenda for change around these values. They came to understand that their

people would likely resist rapid change and concluded that a more incremental approach was needed to create programs that aligned with their peoples' core values.

Culture must also be accounted for within the firms being regulated. Failure to do this has, at least in part, caused many efforts toward modernizing regulatory regimes to take much longer than initially planned and budgeted for. Transport Canada's move from traditional prescriptive requirements to the outcome-based model featured in its Safety Management Systems is a case in point. Delays in implementing the new system arose because of the highly variable commitment to safety among the regulated firms. World-class firms like Air Canada were ready to proceed relatively seamlessly with the new system, because they already had a deeply entrenched safety culture. Many smaller firms, however, are less financially stable and do not have either the operational or professional staff needed to move away from prescriptive "check-lists" to ensure safety. They lack an established safety culture strong enough to endure financial pressures, which can lead to cutting corners. Transport Canada has had to maintain aspects of its traditional regulatory oversight to manage the risks posed by these smaller firms, while advancing its modernization agenda with firms whose safety culture has proven strong enough to make the transition. The resulting parallel regulatory regimes accommodate the different risks posed by the less or more mature safety cultures of different firms under regulation.

Future

It is naïve to believe that changes to national regulatory programs can be introduced effectively without understanding the organizational cultures that can affect the extent of those changes and the pace at which they can be made, both in regulatory communities and the industries they regulate. Leaders in regulatory organizations are under pressure to modernize their regulatory regimes, and this pressure is expected to intensify. In the regulatory sphere of public administration, where success is measured less in terms of the elegance of the underlying policy and more in terms of successful implementation, leaders must acquire expertise in recognizing, accommodating, and shaping their organization's cultural dynamics.

System planning, budgeting, execution, and review must all account for cultural influences within their own regulatory groups and their partner firms.

People

The typical staff make-up of regulatory agencies is different from other functional communities in the public service. Regulatory agencies generally place a higher value on technical skills, technical knowledge, and specialized expertise. Such talent is often recruited from the private sector or from specialized college or university undergraduate or graduate programs. It is not unusual for regulatory staff and managers to spend much of their pubic-service careers in the same agency or department, often in the same directorate or division. People with deep knowledge and specialized skills remain in the same organizations because those attributes are valued more in their home organizations than in other areas of the public service.

As a result of this pattern of career development, regulatory agencies become populated with highly knowledgeable people with highly specialized skill sets who have a relatively narrow experience base. These communities tend to look inward rather than outward in the search for leaders who can manage in a crisis and who have sufficient knowledge and professional judgment to serve the government well during those events. As a consequence, executives are often selected as much for their technical and specialized knowledge as they are for their broad leadership skills.

At a time when regulators face significant change, external scrutiny, and resource constraints, their leaders need professional development that is appropriate to today's challenges. They must be effective in nurturing and sustaining relationships with other organizations and jurisdictions. They must be able to frame issues in broad policy terms that can be understood and acted upon by political and other senior leaders in their departments and government. They must be sufficiently attuned to their minister's political environment that they can develop options for decisions that will resonate for the government of the day. They must be sensitive to the broader policy agenda of their organizations so that they can provide appropriate intelligence from their area to inform that agenda. They must also invest in and use big data to get ahead of the curve and convert their programs from reactive into proactive ones that value prevention as much as responsiveness. These are not new leadership qualities that have only recently been valued in the regulatory community. However, there has likely never been a more pressing need for these qualities to be emphasized and developed in regulatory executives than now.

Present

The Certificate Program in Regulatory Leadership was designed and is being delivered with the objective of improving the overall professionalism of the leadership cadre in the federal regulatory community. There is evidently no shortage of talent in these roles. What *is* lacking is a set of professional development initiatives that are tailored to the needs of this community. Intelligent, knowledgeable, and committed leaders exist throughout the regulatory community.

However, more effort must be invested in supporting development of the key attributes today's regulatory leaders must possess.

More than most leaders, regulatory executives must be expert in guiding implementation. Solid implementation involves accurate planning and budgeting, attention to detail and to feedback arising from implementation, adjustment as necessary to respond to the unanticipated, and a commitment to review and improvement as a program unfolds.

At present, there are relatively few leadership development programs oriented to the unique needs of the regulatory community. With few exceptions, graduate studies in public policy and administration in Canada have not emphasized regulatory streams in their course offerings. The academic community in Canada has not, for the most part, turned its attention to regulatory activities and programs as an ongoing area of review and publication. Unlike in the United

States, United Kingdom, and Australia, Canada's academics have not specialized in critiques of the regulatory system on an ongoing basis, and few have invested their careers in this area.

In short, there is an opportunity at present for significant new investment in the professional development of regulatory leaders at the executive and middle management levels in Canada. Departments and agencies are coming to the realization that this gap exists and have been supportive of the Certificate Program in Regulatory Leadership by providing deputy minister-level speakers to the program and by nominating excellent candidates for the limited slots available each year. However, this certificate program is a very small contribution relative to the need.

Future

Human capital is the key ingredient of the Canadian regulatory system. Public confidence in this system pivots on the ability of regulatory leaders to engage with partners skillfully and to design and execute regulatory decisions competently. The "social licence" sought by, for example, proponents of major resource projects will become increasingly elusive if citizen confidence in regulatory bodies declines. But citizen confidence is bolstered when regulatory overseers do their jobs with excellence.

Other professions have codes of conduct that govern practices and ethical standards of decision making. Regulatory professionals could well design and build similar codes and establish bodies charged with updating these codes and enforcing compliance. The regulatory community is often categorized into subsets of various professional disciplines, including safety engineers, scientific risk assessors, economic-modeling experts, and cost–benefit analysts. Each of these disciplines operates in a highly fluid, rapidly changing environment that challenges their professional understandings and forces them to constantly "raise their game." Universities and professional associations have a role to play in supporting these unique regulatory professions. In the same way they support the continuing education of those in the medical, financial, and

legal professions, universities should focus more energy on supporting the regulatory community and critiquing its performance, given its integral role in the public service.

People are indeed the greatest asset of the Canadian federal regulatory system. But it is a neglected community. Departments and agencies that become more strategic in identifying their talent needs, developing succession plans, and investing in leadership development will be the ones best equipped to respond effectively to ever-changing regulatory demands.

CONCLUSIONS

For Canada to survive in a rapidly globalizing world exposed to unending waves of disruptive change, we need a resilient, efficient, and effective regulatory regime. Rather than just survive, we believe that our goal should be to thrive and that we have all the essential talents to do that. Accordingly we have made a short list of recommendations:

- Improve management practices to get the best out of what we currently do.

- Invest in the education, training, and development of the incoming cadres of regulators and establish a professional status for current practitioners.
- Articulate a clear vision of the merits of developing a comparative national advantage in Canada's regulatory regime.

Management Practices

The great management guru, Peter Drucker, gave this advice: Plan, Do, Check, Adjust – and it is still valid today. The observation of those who have evaluated regulators is that we pay a lot of attention to the planning function but progressively less to the others. This means that the "checking and adjusting" functions are rarely integrated into management practices in a systematic manner and incorporated into the original plan. Both the regulator and the regulated should be operating in a transparent system so that cost distribution, progress towards results, and transaction costs and times would be readily apparent. Such data would allow performance bench marks to be established that could be used to improve efficiency and effectiveness.

Regulations are intended to change behaviour. The key word is *intended*. We also know about the immutable Law of Unintended Consequences. Management-information systems should provide early warning of the need to take remedial action in line with the principles of adaptive management. In addition there are some large change-management projects currently under way. These projects are taking place in all orders of government, and a systematic approach to diffusing the knowledge gained could produce early benefits.

People

More than 20,000 people working for the Government of Canada have said that regulations are job number 1 for them. The people needed for this work must obviously be proficient in the technical skills required. But they are also expected to thrive and lead in a rapidly changing

environment, and to be capable of integrated thinking, inclusive, open minded, and not spooked by new ideas.

Suggestions that illustrate this point include:

- Communities of practice can be effective learning environments and should be open to practitioners from all players — governments, private sector, First Nations, and civil society.
- Academic institutions should integrate regulatory affairs into undergraduate and postgraduate programs, as well as offer more specialized accredited courses designed to meet the needs of regulatory agencies and others engaged in regulatory affairs.
- In the regulatory work place, systematic approaches to skills development for practitioners and leadership development for executives should be part of career development.
- The notion of "professional" status should be promoted for the regulatory community, mirroring the attributes of existing established professions, such as accreditation, codes of conduct, and specializations.

Comparative National Advantage

The global economic crisis of 2008 demonstrated two important points: 1) when your regulatory system and its institutions are well designed and managed, then you have the capacity to minimize harm from disruptive change originating outside your borders, and 2) when your own house is in order, then you have the moral authority to be a leader in the global approach to assessing and managing the risk. During the financial crisis these two conditions prevailed in Canada. There was no massive bailout of the financial sector using public funds, although the economic recovery has taken longer than expected. Canadians were key players in the international negotiations and were able to represent our national interest with skill. Many of the same people have played important roles during implementation and continue to be influential in the global effort to restore stability in the financial system. This degree of skill and proficiency, it has been argued, parlays into high brand value and a comparative national advantage for Canada's financial-services sector and the country as a whole.

We argue that a similar advantage is available in other sectors if the requisite conditions are met. We suggest that sectors such as automotive, food, and energy are likely candidates, and also note that the provinces, territories, and sectors themselves would need to be full partners.

Closing

In closing, it is evident that the use of regulatory instruments deserves more focused and sustained attention from governments, academia, and other stakeholders than it has received to date. The Government of Canada needs to be more strategic in the development of its leaders and practitioners and more deliberate in learning lessons from modernization efforts across departments and agencies. The pay-off from thoughtfully accounting for the drivers noted above while effectively addressing the challenges we have raised could indeed be a significant national advantage for Canada in the field of global competitors.

As a parting thought, we would like to ask you two questions:

1. Twenty-five years ago Harvard Business School economist and strategy professor Michael Porter stood conventional wisdom about the impact of environmental regulation on business on its head by declaring that well designed regulation could actually enhance competitiveness. According to Porter, “Strict environmental regulations do not inevitably hinder competitive advantage against rivals; indeed, they often enhance it.” Is it time to reopen the discussion and see what we and others have learned over the past quarter century?
2. We are on the cusp of building a major new feature into our regulatory agenda, one that will be a significant presence for centuries. This new feature is climate change. What would it take to create a coherent and mutually reinforcing regime, and what would the benefits be of so doing and the disadvantages of not?