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RESEARCH PAPER

Institutional stickiness and coordination issues in an idiosyncratic environment: the grape and wine industry in Ontario, Canada

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This article explores the foundations of an industry whose rate of growth is surprising to most observers. Starting from an historical institutional (HI) perspective, we demonstrate that moderately adaptive institutions have been instrumental to the success of the Ontario wine industry up to this point. An analysis of coordination using a Triple Helix framework reveals, however, that the particularities of the institutional design have more recently served to reinforce a suboptimal policy trajectory that has consequently frustrated attempts to forge a coherent industrial strategy. Exploration of the role played by institutional venues as fora that encourage cross-coalition learning provides for a deeper understanding of an idiosyncratic sector and raises important theoretical issues concerning path dependency and the role of the state that can be overlooked easily in superficial applications of Triple Helix theory. The findings of this study suggest important lessons for sub-national innovation systems and innovation networks in high value-added, small market and low export industries.

The ways in which policies change and evolve over time are intrinsic to the arguments advanced in the contemporary literature on industrial clusters and the Triple Helix framework in particular (Etzkowitz and Leydesdorff, 1996; Furman *et al*., 2002). Within what is by now a well-established historical institutionalist (HI) approach to the analysis of policy change, it has been theorised that 'locked-in' policy trajectories will generally be characterised by increasing returns for a modicum of stakeholders (Mahoney, 2000; Pierson, 2000, 2004). Speaking to the lasting influence of the concept of incrementalism introduced by Lindblom (1959, 1979), the current orthodoxy on the roots of policy change posits that major policy change, or 'policy revolutions', are almost invariably a consequence of adaptation prompted by some sort of exogenous shock (Sabatier, 1988, 1998; Baumgartner and Jones, 1993; Jones and Baumgartner, 2012).

Policy dynamics are determined by such theories to be *homeostatic* in that, absent of external perturbations, an internal equilibrium will tend to develop and hold within a given policy subsystem (Baumgartner and Jones, 2002, pp.9–12; cf. Gould and Eldredge, 1977). From this perspective, there exists little hope for those affected by established institutional norms to alter their circumstances, notwithstanding external events that may prove to produce outcomes more adverse than the status quo (Daugbjerg, 2002). Recent empirical studies suggest, however, that past

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emphasis on subsystemic homeostasis may have been exaggerated, downplaying or ignoring the importance of policy-oriented learning that may take place in the absence of major systemic shock (see Coleman *et al.*, 1996; Howlett, 2009; Steinmo, 2010; cf. Capano, 2003; Mortensen, 2005). Observations such as these may be responsible for recent modifications to causal theories of the policy process that reinforce the role of institutions in fostering and regulating processes of policy-oriented learning (cf. Sabatier and Weible, 2007).

The concept of equilibrium is important to any analysis of institutions that attempts to make temporally-based arguments, whether looking backward or forward in time. The central premise of the Triple Helix framework – that coordination among institutional variables matters – can only be properly assessed by taking time and sequence seriously (Abbott, 2004). Among the three thorough studies of the Ontario wine industry that attempt to account for innovation within the cluster as determined by institutional structure and coordination, Mytelka and Goertzen (2004) prompt an historical–institutional question with their conclusion that institutions established in the early to mid-twentieth century were essential to the twenty-first century success of the industry (cf. Mytelka and Goertzen, 2008; Carew and Florkowski, 2012). The examination undertaken in this paper affirms this lag time hypothesis across several other institutional cases within the sector. Contrary to the way the Triple Helix framework has been conventionally used, however, evidence presented in this article indicates that, in spite of critical reforms to the more directly manageable institutions identified by Mytelka and Goertzen, institutions that were originally designed to help may eventually come to hinder processes requisite to industrial growth. We attribute such circumstances to the phenomenon of 'institutional stickiness', in which formal institutions in particular outlive their usefulness but are resilient to change or dissolution (Hacker, 2004; Streeck and Thelen, 2005; Boettke *et al.*, 2008).

Our concept of institutional stickiness is informed by the work of both economists (North, 1990; Boettke *et al.*, 2008) and policy scientists (DeLeon, 1978; Peters and Hogwood, 1982). While these disciplines approach the problem from very different perspectives, there is consensus that institutions can seldom be dissolved to the last trace. Even where formal institutions undergo transformation (Mahoney, 2000), so-called 'lower-order' elements of previous policy tend to be fed back in to operating procedures in processes of dispersion (Greenwood, 1997). In many instances where it may seem that institutional reconfiguration has been successful, the issue is complicated by the persistence of informal 'administrative traditions' (Capano, 2003; Helmke and Levitsky, 2004).

This is not to discount the importance of institutions in encouraging growth by promoting information and technology transfer or reducing transaction costs. Indeed, the essence of the Triple Helix framework is that state institutions may exist as facilitators of economic development in a more-or-less harmonious relationship with industry and research institutes (Etzkowitz and Leydesdorff, 2000). In a subtle but important amendment, we suggest that some form of hierarchical authority is desirable for ensuring continued coordination among agents within the Triple Helix. In particular, we argue that authoritative decisions are required to 'unlock' or 'un-stick' suboptimal policy trajectories in order to actualise gains produced via communicative discourses and subsystemic learning (Dodge, 2009; Carstensen, 2011). The reader of this special issue will find that rather than a decentralised, *sui generis* self-organisation as suggested by the Triple Helix, the successful cases in our study

– Australia, New Zealand and Oregon – have been able to create peak decision-making organisations, a crucial factor that is missing in the other cases, including Ontario.

Far from advocating centralisation, we suggest that an appeal to neo-institutional and neo-evolutionary versions of the Triple Helix Model is conceptually necessary to understand the relative penetration of the state into industrial and academic spheres (Leydesdorff, 2012). This is because many influential actors traverse multiple helices, both simultaneously and over time, and operate in areas that do not fall discretely under the three conventional categories. Unlike non-hierarchical conceptions of the Triple Helix, we stress that the state ought not to be treated as (and ought not to position itself to be) an equal partner within industrial networks (see Braun and Benninghoff, 2003). Drawing from Haydu (1998), we instead argue that state authority is used periodically at 'switch points' to lock-in alternative institutional rules (Ostrom *et al.*, 1994), thereby affecting historical trajectories.

This paper aims to address the following questions in their relation to the evolution of the Ontario wine industry. First, do institutions matter? That is, are there individual or networks of institutions whose existence, position and function can be traced to specific outcomes? Second, in what ways do institutions matter? If the crux of the Triple Helix framework – that properly aligned institutional networks will have a better chance of producing innovative techniques and policies – is accurate, we should be capable of explaining observable correlations to this effect over time. Combining data analysis with process tracing techniques and stakeholder interviews, we address questions of institutional relevance by highlighting key changes to the institutional, industrial and legal framework and how they align with the industry's performance over a 20-year period. Several formal institutions in the Triple Helix (state, universities and industry) and the relationships among them are explained in detail, providing a nuanced picture of the industrial and regulatory structure. We conclude with a discussion of the lessons to be drawn and the challenges ahead for the Ontario industry in terms of re-articulating its structure and strategy.

The key finding of this study is that, while past instances of active coordination have been central to the success of the cluster, several divisions within the industrial network, which are reinforced by mandated institutional authority and industry norms, have more recently served to derail the successful trajectory of the industry. While this turn of events has recently been acknowledged by several important observers, the state is now needed to dislodge a locked-in institutional arrangement that is largely of its own creation. Additional efforts at the legislative and ministerial levels to consolidate the province's industrial strategy are therefore necessary to overcome the friction that characterises the current institutional framework.

The theoretical implications of this study are that, whether institutions are defined in the conventional sense or simply as rules that govern behaviour in a given policy context (Clemens and Cook, 1999; Ostrom, 2005), we can be certain that institutions do matter. Issues in determining whether institutions matter for better or for worse suggest, however, that they should be conceived of in a much more benign way than is typical for the literature (see Przeworski, 2004). While institutions may be sticky, we suggest that endogenous processes of policy-oriented learning are already evident within relevant policy communities in the Ontario case. Any change that may materialise from an exogenous shock to the status quo would therefore constitute what is at most a *quasi-homeostatic* process of policy change (see Cashore and Howlett, 2007). However, the preferred course of action, from a stakeholder perspective, would instead involve internal reorganisation prompted by political will in the absence of any crisis-like scenario.

1. The Ontario wine industry

The wine industry in Ontario Canada is approximately 1/33rd the size of its largest North American competitor, California. Nevertheless, the Ontario cluster is celebrated for being a 'billion dollar industry' in a national economy where making inroads in value-added manufacturing has historically been challenging (Levitt, 1970; Science Council of Canada, 1971; Niosi, 1978; Pratt, 1981; Wolfe and Lucas, 2004). While Canadian wine makes up less than half of wine consumed nationally, Ontario wine dominates made-in-Canada production in volume and sales. The Ontario cluster grew to approximately $613 million in retail sales and 58 million litres in 2011 from $589 million and 56 million litres in 2010, putting contributions from the Ontario cluster above 66% of the Canadian total (Statistics Canada, 2012b; Winery and Grower Alliance of Ontario [WGAO], 2012; Liquor Control Board of Ontario [LCBO], 2012a).[1] Exports from the Ontario cluster, which amounted to $30 million in 2009, were roughly equally composed of ice wine and table wine and continue to be mostly destined for the US, China, East Asia and the UK (Wine Council of Ontario [WCO], 2011; Statistics Canada, 2012a).

The Ontario grape and wine industry is an unusual case for sectoral analysis for several reasons. It is increasingly considered to be a success in an unlikely jurisdiction, given the cool climate and size of the local market. Though most renowned internationally for its award-winning ice wines, since the turn of the century, high quality Ontario table wines have enjoyed a significant share of domestic wine sales, commanding over 40% of the market share in the province. Unlike many wine-producing regions, the Ontario industry is heavily regulated, subject to routine recourse to legislation and organisational policy instruments that are rare by North American standards (see Hood, 1983). Most significantly, the Liquor Control Board of Ontario (LCBO) holds a Crown monopoly on the retail and distribution of intoxicating substances, while a privately owned and operated marketing board, the Grape Growers of Ontario (GGO), holds the legal mandate for negotiating floor prices on behalf of all grape growers in the province.

With respect to legislation, the *VQA Act* and its organisational counterpart, the Vintners Quality Alliance of Ontario (VQA), regulate and enforce winemaking and labelling standards for most wines made from 100% Ontario grapes, while the *Wine Content Act* and surrounding legislation determine content requirements for other wines made in Ontario. There are thus 'two distinct businesses' within the Ontario wine industry, with 100% Ontario VQA wines tending to compete at mid- and high-range price points, whereas wines blended with imported material, 'International–Canadian Blends' (ICB), compete with lower priced wines. There are no mechanisms to regulate production and consumption beyond provincial borders, and therefore no coherent export policy. The success of the Ontario table wine industry has been predicated almost entirely on an insular strategy. In spite of the market access afforded by coordinated production and retailing and the unusual bifurcation of the industry into VQA and ICB categories, the share of the domestic market held by Ontario wine is unusually low for a wine-producing region. Those who view Ontario wine to be of competitive quality are therefore perplexed by the 60%

provincial market share commanded by imports, which has been consistent since the late 1980s (see Nash, 2010).

The rapid growth of the Ontario wine industry is impressive and has largely been contingent on the continued institutional support it has received over the course of its development. The highly regulated structure of the industry has therefore been integral to the cluster's success, though adaptation has proved crucial to overcoming obstacles as they arise. New challenges are consistently presenting themselves to the sector and, as the cluster enters what will likely be a new phase of consolidation due to impending changes to protectionist legislation and increasing land values within the cluster's core, achieving coherency in terms of industrial strategy will be critical. However, the 'disjointed-incremental' approach to sectoral policymaking has paradoxically produced several divisions between industry stakeholders that jeopardise the rationality of the Triple Helix (Lustick, 1980). As a consequence, there is no clear indication of consensus as to what the future direction of the Ontario wine industry should be. What is of most concern is that there is now deep-seated controversy over the appropriate role of government intervention in the cluster. Given that provincial support has been so critical for the cluster's evolution and growth, rolling back provincial management over certain areas of the industry runs the risk of prompting the province to relinquish its coordinating capacity to third parties incapable of or unwilling to fill the void.

This article considers insights drawn from historical institutional (HI) analysis and assesses their value for improving understandings of the Triple Helix approach to evaluating institutional coordination. Our aim is to communicate and reflect upon the impact that institutional stickiness can have on the logic of an industrial sector that depends upon well-established institutional support. Conceiving of the state as a multi-level actor (Conteh, 2013) and basing our analysis at the subsystemic level (Freeman and Stevens, 1987), we demonstrate that in the case of the Ontario wine industry, myriad institutional authorities advocating for specific interests have begun to hinder the cluster's growth and capacity for innovation, which has in turn served to erode the industry's adaptive abilities. A coordinating authority at the provincial government level is advanced as the key but missing variable required to 'un-stick' this suboptimal trajectory and restore the industry to a preferred evolutionary path.

2. The impact of institutions and strategy on performance

2.1. Background and literature review

The Canadian wine industry was born in southern Ontario over a century ago. It was not until the 1970s, however, that the industry underwent a transition from the dominance of local grape varieties – primarily Labrusca and Concord – to varieties more conducive to quality winemaking. The investment cycle required to research and develop varieties capable of withstanding Canadian climates was over 50 years long. This programme began with Oliver Bradt, a World War II veteran and researcher for the Ontario Ministry of Agriculture, who, in late 1948, arranged with Brights Wines to import French hybrids for experimentation. The adaptation of French hybrids to Canadian conditions had the effect of completely shifting the breeding programme at the seminal government research facility, Vineland Station, toward dryer varieties, eventually culminating in the development of the VINCENT hybrid in 1967 (Fisher, 2006, p.94).

Institutional linkages and support networks in the Ontario cluster date back to its infancy. It was not until the middle of the twentieth century, however, that institutions became crystallised, first with the Liquor Control Board of Ontario (LCBO) in 1927 and then with the formation of the Ontario Grape Growers Marketing Board (OGGMB) in 1947 – later renamed the Grape Growers of Ontario (GGO). Mytelka and Goertzen (2004) identify these two institutions as being responsible for guiding the development of the Ontario cluster.

Concerning the LCBO, Mytelka and Goertzen (2004, p.45) note that 'a variety of less-explicit policies also affect the innovation process by shaping the fiscal and legal parameters that constrain opportunities for new growth', though they allude to opportunities afforded by such mechanisms by conceding that 'there is a long history in other innovation systems of the use of state purchasing power to stimulate innovation and support the growth of local enterprise'. Mytelka and Goertzen argue that the LCBO has been instrumental in forging a rigid strategy for retail success that has not always served to promote innovation within the industry. While the literature on the LCBO's relationship with the wine industry has factored in noteworthy marketing support for smaller producers (see Acheson, 1977; Andrikopoulos *et al.*, 1997), the most consequential role played by the LCBO is one whereby considerable revenue is generated via mark-ups on imported products and reinvested in the industry by way of general revenue. Myltelka and Goertzen (2004, p.66) therefore conclude, 'from a policy perspective, such consideration will need to be set against the relative employment, value added, and environmental impacts of Ontario wine production as compared to wine imports'.

With respect to innovation in grape quality, Mytelka and Goertzen (2004, p.45) identify the development of brix schedules and 'sugar bonuses' as tools specifically intended to create a more attractive market for vinifera grapes in the province. Sendzik (2005, p.18) suggests, however, that while experimentation with 'noble' vinifera varieties was constitutive of a leap forward in terms of grape growing on the Niagara peninsula, as late as 1988 there remained doubt as to the viability of vinifera grapes in the Canadian climate. The persistent issue with Labrusca grapes – as well as all hybrids that are derivative from the Labrusca – is that the unique and undesirable 'foxiness' of Canadian wine seemed virtually impossible to overcome. In the early 1970s, LCBO CEO George Kitching met with Donald Ziraldo and Karl Kaiser, two men interested in moving beyond Labrusca varieties commercially, to negotiate the licence for Inniskillin Winery. The foundation of Inniskillin Winery in 1975 by Kaiser and Ziraldo is thus widely credited with marking the rebirth of the Ontario wine industry (Wang and Madhok, 2008, p.200). This credit is due not only to their achieving the first commercial viability of vinifera grapes in Canada, but also to their introduction of award winning Canadian ice wine in 1986.

The success of Inniskillin with vinifera varieties and a general push to increase the competitiveness of Canadian wines with the inception of the 1988 Canada US Free Trade Agreement (CUFTA) prompted a multi-million dollar 14-year joint federal–provincial replanting scheme under the purview of the Ontario Wine Assistance Program (OWAP). What is more, the establishment of the Vintners Quality Alliance (VQA) as a voluntary board in 1989 served to remove some of the burden of enforcing quality standards from LCBO, which had been mandated with quality control of Canadian wine since the repeal of Prohibition in 1927. The introduction of an appellation system was significant for the cluster's maturation and considered by some to be constitutive of a paradigmatic shift 'not in quality, but in pride' given that VQA helped establish a 'centre of origin mentality' in Ontario.

Bramble (2011) addresses the paradox of self-regulation in the case of Ontario wine. Identifying Niagara entrepreneurs as the movers behind the emergence of VQA regulations, Bramble traces the origins of the VQA appellation system to 1982 and the leadership of Donald Ziraldo in establishing differentiating criteria for wines from the Niagara region. The volunteer-based membership of VQA was comprised mostly of smaller 'entrepreneurial' wineries, but over the years larger wineries joined discussions on institutionalising an appellation system in the run up to free trade talks, supposedly because large wineries were wise to the fact that they could not compete against American imports in a liberalised market. In the wake of the 1994 North American Free Trade Agreement (NAFTA), Bramble (2011, p.36) argues that the voluntary VQA system could not 'go on forever as a gentlemen's agreement'. The need for more regulatory powers of enforcement therefore serves as an explanation for the consolidation of VQA as a formal authority. This is not to say that the early years of VQA are of limited relevance. On the contrary, as the old mechanisms of network integration became overwhelmed by the explosion of wineries in the 1990s, the VQA system is cited as acting as a venue for cooperation among industry players.

Carew and Florkowski (2012, p.42) cite successful VQA branding as the recipe for post-recession growth, especially in the CA$12–15 range, and champion the VQA strategy for its ability to offset premature consolidation of the industry. As of 2001, regulated labelling standards have thus factored in to the province's oversight of wine marketing in ways that introduce a complementary logic to the 'big box' retail strategy of the LCBO. The contribution of blended wines – formerly 'Cellared in Canada' (CIC), now 'International–Canadian Blends' (ICB) – to industry growth and grape consumption has, however, received scant mention in the literature on innovation in the Ontario wine cluster. The omission of analysis of the ICB category is likely due to two considerations. First, legislation guaranteeing significant and consistent Ontario content in ICB wines has only been in place since late 2009 and is scheduled to partially phase-out in March of 2014. Second, there exists considerable animosity between advocates of 100% Ontario wines and those who produce for both VQA and ICB categories. Such animosity typically boils down to value judgements on what ought to constitute Ontario wine. Given that both categories have been successful, largely as a result of being afforded their own unique and at times contradictory institutional mechanisms, there has been little in the way of official movement toward consolidation of a holistic strategy (see Zittoun, 2009, p.71). Instead, regulation is typically enacted at the behest of one category of producers to offset perceived preferential treatment of the other.

In spite of being relatively little known for its table wine, the seemingly life-or-death push to increase quality in the face of international competition throughout the 1990s and into the new millennium appears to have worked out well for the Ontario cluster. Within the competitive environment post-FTA there is a sense that the Ontario industry is 'miles ahead' of most if not all other cool climate jurisdictions due in large part to the specialisation of the Cool Climate Oenology and Viticulture Institute (CCOVI) at Brock University (Lord-Tarte, 2012). The elements of the Triple Helix (government, industry and universities) are well established in the Ontario cluster. The next sections highlight the strengths and weaknesses of the type and level of coordination between state, industry and public research institutes.

2.2. Institutional structure: the Triple Helix as the recipe for cluster success

2.2.1. GATT, CUFTA and OWAP: 1988–2002

For the purposes of this analysis, it is useful to define the institutional framework around 1988 as the 'initial conditions' from which the contemporary industry evolved. This starting point is justified given considerable reorientation of policy that took place between 1988 and 1993 to prepare the industry for market competition under the CUFTA agreement. While the overarching rationale was one of liberalisation, it is important to note that from a Triple Helix perspective government–industry–academia relationships remained 'etatistic' (under the direction of the state) until 1997 when government research responsibilities were delegated to independent universities (Etzkowitz and Leydesdorff, 2000, p.211).

Two noteworthy policies were enacted during the 1988–1993 period to bolster the competitive position of Ontario wines in the face of imports. One had to do with technological consolidation and took the form of a joint federal–provincial mass (re) planting of vinifera vines beginning in 1988, which was pre-empted by subsidies to growers in the form of the 'grape growers preservation guarantee fund' instituted by Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) in April of 1988 (see Ontario Parliament, 1988b, 1988c). The other aimed to consolidate the industry's market competitiveness by limiting, as a matter of policy, the practice of blending Ontario wine with foreign content (see Ontario Parliament, 1988d, 1990).

The logic of an institutional foundation that promoted both protectionism and competition can be explained by the temporal sequencing of policy initiatives that took place between a protectionist Liberal programme under Premier David Petersen and a free-trade oriented programme under NDP Premier Bob Rae.[2] While significant content policies, along with more market-oriented changes to the LCBO retailing structure, did not materialise until 1993, these policies had mutually complementary effects with the, then voluntary, 1988 VQA framework in the sense that government and industry seemed to agree that wines made from 100% high quality Ontario grapes possessed the greatest ability to compete with high quality imports.

Due in large part to the OWAP replanting programme, a two-fold increase of vinifera vines took root between 1993 and 2005, culminating in 21,825 acres (Hope-Ross, 2006). Figure 1 demonstrates the effect of the 1988 VQA framework and the OWAP replanting programme from 1990 to 2002 (when the OWAP programme ended) in counteracting what pressure there may have been for destructive consolidation following the CUFTA agreement.

Though contraction in the supply of grapes in Figure 1 is evident from 1989 to 1993 (when the issuance of new licenses to blend with foreign content was discontinued), impressive growth in vinifera is visible until the end of the OWAP programme in 2002. Other important changes to the institutional structure also took place during this period, such as the transfer of government research responsibilities from OMAFRA, who had placed considerable emphasis on oenology from the 1980s onward, to the University of Guelph in 1997. While Fisher (2006) notes that during this period the oenology programme was de-emphasised in favour of focus on soil management, vineyard maintenance and the development of cold-hardiness techniques, these changes coincided with the shift toward a more academic orientation to agricultural research and development that contributed to the establishment of the specialised viticulture and oenology lab at Brock University in St. Catharines in 1996.

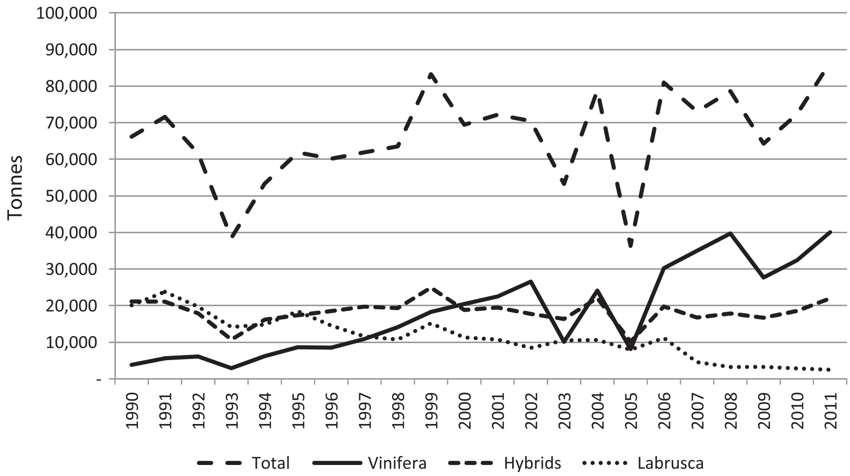

Figure 1. Grape purchases by processors
Source: GGO.

With regard to the retailing structure in this period, former Conservative party leader and cabinet minister, Andy Brandt, was appointed CEO of the LCBO by NDP Premier Rob Rae in 1991 and charged with completing and expanding the framework of modest reforms in place since the mid-1980s (see Bird, 2010). This package of reforms was aimed at distancing the LCBO from government control and shifted the LCBO mandate toward maximum revenue generation but without an accompanying emphasis on increased consumption. The LCBO thus came in the early 1990s to extensively promote the consumption of higher value products. While one aspect of this reconfiguration involved some elimination of mark-up differentials between domestic and imported alcohol, as early as 1992 the use of protectionist mark-ups on imported wine was apparent once more, as evidenced by the 1992 amendment act (Bill 85) that appointed federal customs officers, 'as agents of the LCBO', with responsibilities to collect on alcohol purchased outside of Canada (see Ontario Parliament, 1992). The use of various policy instruments tantamount to pricing differentials to promote local consumption has been a lasting feature of the cluster strategy, which became even more pronounced with the inception of the 2009 policy for the wine industry (see LCBO, 2012b).

While the elements of the Triple Helix have clearly existed from the outset, conceptualising the relative level of overlap between universities, government and industry is a complex task that becomes further complicated by processes of decentralisation and recentralisation. In spite of periodic reform to its mandate, the LCBO as a state enterprise remains a government actor *and* an industry player given its retailing and marketing capacities. Similarly, the VQA as a voluntary organisation clearly existed as a representation of industry interests, but when VQA gained regulatory authority in 2001 to enforce labelling standards, regulatory responsibility fell back into the ambit of the state as regulation took on a new guise. As the industry continues to evolve idiosyncratically, it becomes increasingly necessary to appeal to some parallel of Leydesdorff's (2012) quadruple and 'n-tuple' helix metaphor to accurately account for the particularities of the state's penetration into industry and academic spheres.

2.2.2. 'Poised for Greatness' and VQA: 2002–2009

From the end of the OWAP programme in 2000, the push for innovation within the cluster depended mostly upon interactions between industry and support institutions on the one hand, and between vintners and grape growers on the other. In 1999, long-term industry targets were set in the 20-year strategy for the industry, *Poised for Greatness*: the product of three months of consultations between grower and winery representatives, the LCBO and three pertinent ministries. The strategy began with a $20 million marketing and tourism initiative stemming from a partnership between the Wine Council of Ontario (WCO), OGGMB and the VQA, the latter of which had become a regulatory authority with the passage of the *VQA Act* in 1999. Emphasis on VQA marketing is evident within the strategy, given that 2020 targets called for $1.5 billion in annual sales, 60% share of the Ontario market and 90% consumption of Ontario grapes for VQA wines (Ontario Parliament, 2001). A remarkable feature of the strategy, however, was that its marketing component was directed almost entirely at winning over the loyalty of Ontario consumers, leaving important trade issues – such as access to European markets beyond ice wines – a matter to be resolved sometime in the indefinite future (see Ontario Parliament, 2002).

Figure 2 is indicative of the marketing success realised under the 2002 strategy. In spite of increased marketing support for VQA, including bolstering VQA marketing within LCBO locations, VQA sales from the beginning of the programme until its reformation in 2009 were lacklustre, declining in absolute terms from 10,432 litres in 2004 to 8174 litres in 2005. While 2005 was a short crop year, gains from 2004 volumes were not realised until 2008, when output reached 10,501 litres.

The relative performance of ICB wines for the duration of the 2002 policy framework suggests that increased VQA marketing alone was insufficient to achieve the 2002 policy goals. As evident in Figure 2, VQA sales as a percentage of the volume of Ontario wine sold remained below 2003 figures until 2008, due to disproportionate growth in the ICB category.

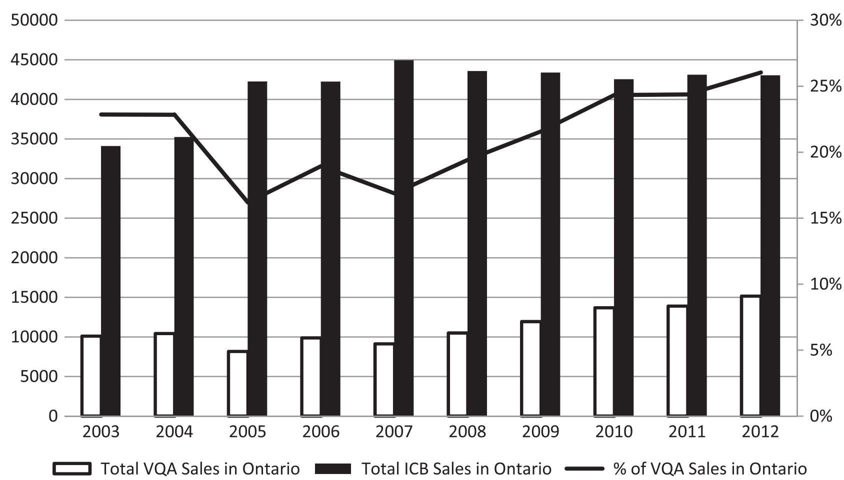

Figure 2. VQA sales in Ontario by volume (in '000s litres)
Source: GGO.

Following the short crop year in 2005, multi-year pricing agreements on grapes became policy (Ontario Parliament, 2005), and re-emphasis on innovation in cold hardiness began anew in 2006 when five million additional dollars were budgeted to improve the grape and wine industry, of which $3 million was dedicated to assisting small and medium sized VQA producers and $1 million was dedicated to advanced research on cold hardiness (Ontario Parliament, 2006). In 2008, the institutional infrastructure was remodelled along these lines with a $25 million OMAFRA start-up grant for the Vineland Research and Innovation Centre. CCOVI, similarly, underwent restructuring in 2008 to become a multidisciplinary research institute with an emphasis on industrial applications.[3]

2.2.3. The Ontario Wine Strategy: 2009–2014

Partly as a result of the market share enjoyed by ICB wines (in spite of the 2002 policy), and in the absence of more overt provincial coordination, the institutional structure of the industry experienced a partial breakdown that culminated in the October 2009 government policy on the wine and grape industry. The 2009 policy is aimed at promoting VQA wines and included $4 million in provincial funds to purchase non-contracted grapes, a commitment on the part of the province to better integrate the LCBO into a sectoral strategy, an inquiry into how grape marketing and pricing could be improved, the imposition of the '40–25' Ontario-grown content regulations on blended wines, and the province's varietal plan (see Ontario Parliament, 2009a).

The 40–25 law – so called because it legislated a 40% average of Ontario-grown content per winery and a minimum of 25% Ontario-grown content per bottle in ICB wines – is particularly relevant considering the market share enjoyed by ICB wines and issues involving demand for Ontario grapes.[4] Paradoxically, however, from the outset of the current regulation, the government has been clear on the transitional aspects of the 2009 plan, identifying a five-year sunset on existent content requirements. As such, the 40% domestic content requirement on wineries is set to expire on 31 March 2014 (see Ontario Parliament, 2000, O. Reg. 81/11, s). Renewed emphasis on innovation in grape quality is, however, apparent in OMAFRA's four-year, $12 million Vineyard Improvement Program and the Varietal Plan, which are intended to tackle issues of cold hardiness and grape quality, respectively (OMAFRA, 2012). In sum, the 2009 plan indicates that the state has been willing to act as an administrator in times of crisis or deadlock. That said, the 2009 policy framework itself expressed a preference for such measures to be temporary and for industry and academia to be more self-sufficient and more capable of self-coordination.

2.3. Institutional evolution and success over time

Though the relative performance of the industry into the free trade era is undeniable given the marked increase in number of wineries beginning in the late 1980s, the new millennium signalled a renewed phase of consolidation that was characterised by somewhat monopolistic behaviour on the part of new and very large firms (Mytelka and Goertzen, 2004, p.52).[5] Destructive consolidation appears to have been offset by provincial policy since 2005 with the passage of the *Green Belt Act* protecting the cluster's core from urban encroachment, and the 2009 policy statement on the Ontario wine industry, which reinforced content regulations and labelling standards and complemented the *Green Belt Act* in the sense that it virtually guarantees a market for Ontario-grown grapes in both VQA and ICB categories.

As indicated previously in Figure 2, sales growth over the last decade reversed from ICB outpacing VQA to vice versa, with the switch occurring around 2007. Figure 3 demonstrates the growth of the cluster under current and previous strategies and indicates that success has been most forthcoming under higher levels of provincial coordination, such as during the OWAP replanting initiative (1988–2002) and under the 2009 policy framework.[6] As is evident in Figure 3, the 2002 policy goal of promoting VQA at the relative expense of ICB was ineffective, with the most *laissez-faire* Triple Helix configuration (2002–2009) yielding the least desirable performance in terms of rate of growth in the VQA category. Ironically, ICB sales were responsible for keeping total Ontario sales afloat during the 'VQA-only' period.

3. Stickiness and sub-optimality: the effect of feedback loops; from coordination to friction

Thus far the paper has chronicled the successful evolution of the industry to 2009. While challenges have appeared at numerous junctures, the industry (with ample state assistance) has been able to weather a series of potential crises. With every reconfiguration of the Triple Helix, however, the influence and privileges enjoyed by certain industry players tilt disproportionately in relation to those enjoyed by other actors in the network. More importantly, the layering of institutional legacies suggests that as time goes on, veto opportunities are continuously afforded to opposing interests within the cluster (see Immergut, 1992; Thelen, 2009). As predicted by Tsebelis (1995), the bestowment of veto points has contributed to policy stability and deadlock such that endogenous change is unlikely in the absence of the exercise of state authority.

The clearest example of institutional friction in the historical data has to do with legislative support for both VQA and ICB categories, the latter of which gains the majority of its legislative backing through the flexibility of the *Wine Content and Labelling Act*. Though there is insistence by some that the VQA–ICB differentiation

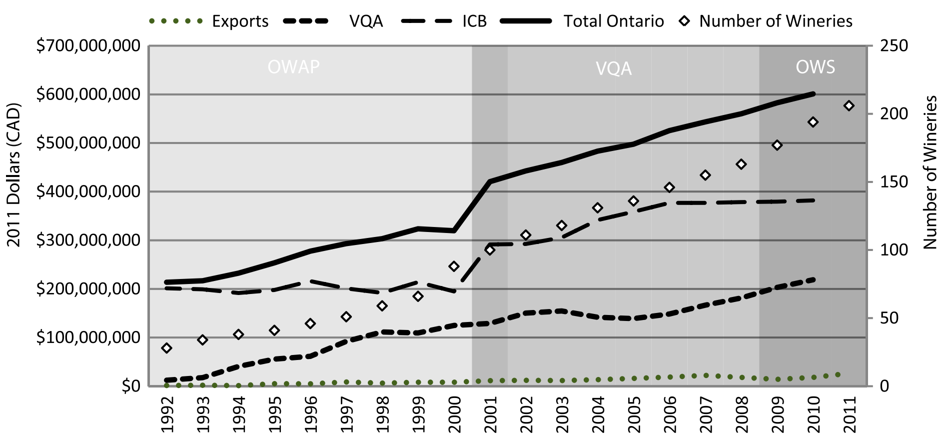

Figure 3. Industry growth 1992–2011
Source: Industry Canada (2012), LCBO (*2000/2001 data not directly comparable).

has little or no impact within each respective 'marketplace', common regulatory structures necessitate compromise situations on several fronts.[7] The division of interests between advocates of VQA and ICB wines is evident in the 2009 breakup of the Wine Council of Ontario (WCO), into two industry organisations, the WCO and Winery and Grower Alliance of Ontario (WGAO), the latter of which tends to represent larger wineries that produce both VQA and ICB wines.[8] While these organisations lobby government and the LCBO independently for the purpose of influencing legislation and marketing, they at times exist in an uneasy relationship with the Grape Growers of Ontario (GGO), which holds regulatory authority of its own.[9]

The inception of the CUFTA and NAFTA agreements served to exacerbate the idiosyncratic characteristics of the regulatory structure in Ontario, which has created tension among industry players over advantages afforded to those whose operation predates trade agreements. Pre-FTA licences for 290 off-site retail outlets are, for example, a source of major contention within the industry. Similarly, emphasis on VQA from 1988 onward precipitated a moratorium on blending rights whereby only wineries holding operating licences issued prior to 1993 are permitted to produce ICB wines. The bourgeoning number of estate wineries in the province has meanwhile put a consistent strain on the shelf space available at LCBO locations, which is a source of distaste for newer and smaller wineries that cannot meet the sales volumes required for LCBO listing. The perception of a legislatively determined shortage of retail opportunities thus serves to contribute to present-day divisions within the industry.

3.1. Sticky according to whom? An industry divided

Provincial focus on strengthening the Ontario wine industry generally and VQA production specifically is at least in part due to a sense that the value added in the sale of wine is far greater than that of alternative beverages with respect to virtually all aspects of the supply chain. In 2008, KPMG released a WCO-commissioned report indicating that one litre of Ontario VQA wine purchased put \$11.50 back into the Ontario economy, while the purchase of one litre of imported wine contributed only \$0.67 (Bramble, 2009, p.183). The results of the KPMG studies have become contentious, however, according to an interviewee, for 'argu[ing] that the LCBO should be treated as a customer of the Ontario wine industry and not a component of it' when considering the economic impact of government wine sales. Given the economic gravity of government subsidies – such as preferential mark-ups, mark-up and levy-free direct delivery to licensees, free freight, free advertising and in-store promotions, additional shelf space, special store shelving and fixtures, permanent product features in LCBO consumer publications, staff training in local wine promotion, and \$2 million per year in marketing support – one critic of the KPMG analyses emphasises that 'the Government of Ontario collects far more per bottle of imported wine sold in LCBO stores compared to similarly priced Ontario VQA wine sold through a winery retail store … imported wines account for a quarter of LCBO net sales'.[10]

As demonstrated by the data on exports in Figure 3, Ontario wine currently caters to its domestic market. While there is some effort being put into devising an export strategy (see Dorozynski, 2011), some stakeholders indicate that the industrial strategy must be focused on the 'ninety nine percent' of Ontario wine's consumer base, which is local, while others point to external trade constraints or the LCBO as a barrier to developing an export strategy. One party contacted for this study cited a 2003 Agreement facilitating trade in alcohol between Canada in the EU (in which 'the provinces and industry played a major part') as evidence that the reasons that Ontario lacks an export strategy stem from within the industry itself (see Investment Agriculture Foundation, 2003). While limited acreage in production and a perceived emphasis on ICB over VQA wines were identified by this source as contributing to the internal logic for the industry's insularity, 'tremendous profit incentives' for selling wines locally through winery retail stores were suggested to be significant in stifling export growth. The effect of such incentives has been reiterated publically by LCBO representatives Philip Olson and Bob Peter (see Ontario Parliament, 2012, pp.A-151–52, 155).

The position taken by the WCO, as indicated by the proceedings of the recent agency review of the LCBO, is that monopolised retailing and annually-negotiated prices for grapes are two features of the regulatory structure that most hinder the competitiveness of Ontario VQA wines (see Menon, 2012), while the GGO and WGAO came out in public support for the retailing structure as it exists under the 2009 framework (see Ontario Parliament, 2012, pp.A-83, 88). On the subject of more private distribution, the GGO representative warned the committee that specialty wine shops would serve more to flood the Ontario market with imports than bolster VQA sales (pp.A-89, 91). For the WCO's part, it has been criticised for omitting ICB producers from its provincially-funded tourism brochures – a responsibility that dates back to the 2002 industry strategy that gave the WCO oversight of the component having to do with tourism marketing.

4. Un-sticking institutions: the role of policy-oriented learning

Perhaps due to heightened scrutiny, the GGO and LCBO have been the two organisations most conducive to reform considering either the current or historical context. While the GGO and WGAO perhaps have cause for public disagreement over content standards, these two organisations have been the most willing to work within the existing paradigm, advocating for incremental reform, while the WCO has been active in its espousal of wholesale revisions to the regulatory and institutional framework. It appears as though proximity to government in the case of the LCBO and GGO has forced these organisations to be adaptable in instances of provincial leadership, while increased distance between the province and the WCO under the 2009 policy framework has created a rift between the government and estate-sized processors. The province's ability to mend divisions between industry has, however, proven itself in the case of mandated negotiations between GGO and WCO in 2008 for the end of forging a 'strategic vision' (see Dombrowsky, 2008). The province is therefore capable of playing the role of policy broker between quarrelling coalitions, a phenomenon said to promote cross-coalition learning by Sabatier (1998).

Although the WGAO came into existence over dissatisfaction with content legislation, areas of consensus between growers and processors that emerged in the forum of the LCBO agency review suggest that industry interests could viably be brought into a coherent strategy, but that this would require that the network become formalised via political action (see Ontario Parliament, 2012, p.A-149; cf. Knoke, 1993). The first task would be to bring the WCO once again on side by way of, failing other measures, legislative or ministerial coercion, in the interest of coordinating dispersed 'veto players' and encouraging longer term policy investments (see

Jacobs, 2008). On this note, an area of consensus that emerged throughout the review consultations was that a specialised committee should be created at the provincial level whose mandate it would be to set industry targets and coordinate strategy. Though emphasis at the June 2012 consultations seemed to be on reaching the 50% market share goal that had been laid out in 1999 and published as part of the 2002 strategy outline, doubt was cast on the viability of the goal in the face of continued pressure to secure provincial revenue through simultaneous growth in imports (see Ontario Parliament, 2012, p.A-155). The alternative avenue of selling beyond Ontario revealed that, while the appropriate political venue was at the ministerial level, this element of the Ontario Wine Strategy is badly in need of articulation.

In terms of scientific research, the academic community tends to believe that the future direction of the Ontario industry will depend on the nature of weather patterns and the effect of erratic weather on wine-producing regions (see Sinibaldi, 2011; cf. Homer-Dixon, 2012). A substantial grant dedicated to modelling the impact of climate change on the industry is therefore underway at Brock University, and scientific personnel are hesitant to comment on the future direction of research until such modelling begins to produce substantive results.

In spite of this recent proliferation of large scientific grants, many in the research community feel as if other jurisdictions are reaping the rewards of more thoroughly-funded basic research. As one respondent mentioned, 'Australia's research is really impressive … cutting edge, but it requires heavy funding – we can't do anything like that' due to the relative non-specificity of agricultural research in Ontario and Canada. In this sense, it is arguable that the Ontario strategy is perhaps too exclusively industry-driven to benefit from long-cycle research and development, and that more government leadership is required to address this dimension as well.

While there is, to our knowledge, little or no thrust to enter into discourse over the appropriate government response to shortcomings in the field of research and development, calls for the state to act as a mediator of interests, if not outright coordinator of the entire industry, are well pronounced in the deliberative fora set up to address deadlock between industry interests. As the Triple Helix Model implies, proximity and communication between actors serves to align common interests. This process is observable in the case of the summer 2012 debates that yielded some unlikely alliances between industry groups. Inability to garner crucial compromises appears, however, to have granted legitimacy in the minds of industry players to the idea of a managed growth and mandatory consensus. Whether government is willing to dedicate resources to the means by which industry influence may be checked by the power of the state, or whether officials will prefer to delegate power by continuously tilting the balance of resources and veto points afforded to industry players, is another question.

5. Conclusion

The preceding analysis has summarised the successful evolution of a value-added industry in an unlikely jurisdiction. Employing the tools of historical institutional (HI) analysis, we have demonstrated that the exercise of coordinating authority has received insufficient attention in conventional conceptualisations of the Triple Helix. Although real-world configurations are unlikely to ever mirror an 'equal partners' framework, we have argued that equality among partners in the Triple Helix would be undesirable. Rather than advocating for centralisation, we stress that alternative tools are required to adequately describe the extant and appropriate role of government in industrial clusters.

Attention to neo-institutional and neo-evolutionary variants of the Triple Helix framework provides a promising means for analysing changes to the relative depth of state encroachment into the business of industrial networks over time (Leydesdorff, 2012), but additional care is required to explain the means by which governments empower and disempower groups via institutional creation and destruction (Haydu, 1998). The political will that is required to 'un-stick' recalcitrant institutions must not be understated, though in many cases consensus may develop whereby subsystemic actors agree that the state is the appropriate authority to act as broker, mediator and coordinator, yet government will lack motivation to assume these roles. The current state of the Ontario wine industry is arguably emblematic of the latter scenario.

Sectoral strategy that has tended toward ad hoc and reactive policy has served the Ontario wine industry well up until now, but it has also had the effect of maintaining divisions between industry players more than it has served to bring them into a cooperative network. While a concerted focus on securing access to the Ontario market has been workable under the existent framework, dissatisfaction over prospects for future expansion has prompted profound differences of opinion on the two most regulated aspects of the industry: grape production and wine retailing. The strict oversight of local content in Ontario wine – the crux of VQA marketing – is currently scheduled to be phased out at some point in the near future, but reversion to half-hearted or reactive intervention, the likes of which tended to characterise the 2002 policy framework, will likely serve to exacerbate the divisions that came to a head in the lead up to the 2009 policy and resulted in the rupture of the main industry organisation. The current impasse would thus be best resolved by an authoritative assignment of long-term priorities via mediation between organised interests.

In spite of the solutions-oriented tone of such an approach, resistance to cooperation should be expected by interests hoping that a policy revolution will materialise as a consequence of the contradictions inherent to a trajectory predicated entirely on corrective reactions to discord within the industry. A continuation of incremental reform, as opposed to institutional revolution is, however, the most likely course for the Ontario industry. This conclusion has been reinforced by the recent review of the LCBO by the Standing Committee on Government Agencies, though the WCO's denunciation of two of the central features of the regulatory and institutional structure indicate that this organisation will have to be better integrated – indeed, re-integrated – into the broader institutional framework for an industrial policy to go forward. Despite these important differences, a major theme of the proceedings was that the industry should become more integrated through enhanced cooperation between the established organisations, and that the industry organisations should become better integrated with the provincial government. What remains to be seen is whether hardship precipitated by an exogenous event will be required to prompt action out of the policy-oriented learning currently taking place.

On the latter point, the findings of this paper affirm that assumptions concerning exogeneity as a prerequisite to policy-oriented learning should be relaxed in favour of readdressing long forgotten calls to bring politics back in to network analysis (Weir and Skocpol, 1983; Evans *et al*., 1985; cf. Hall, 1993). An HI perspective on the evolution of the Ontario wine industry does just that. The evidence presented in this paper, for instance, provides for a considerably more nuanced, and much more contingent, interpretation of the role of the state than typically allowed for by Triple Helix advocates. Contingencies surrounding the definition of the state as a blessing or a burden for industry have tended to come down to the unique power of the provincial government to set and break policy trajectory in the case examined. What is more, venues that promote learning across coalitions whose views may otherwise be deemed incommensurable appears to have a much greater effect in terms of consensus-building when there is a sense that authoritative brokers are presiding.

Although a key theoretical issue raised in this paper has been that the Triple Helix framework has tended to ignore path dependency and shirk advancing a holistic account of the state, strong indications of endogenously-determined and solutions-oriented policy in case studies such as this one bode well for the assumption dear to many students of innovation systems that actors within the Triple Helix are, in large part, the masters of their collective destiny. The level of learning that may occur, be transmitted, and transformed into policy is likely to be determined, however, by the characteristics of the policy subsystems of which a given industry is a part. Questions concerning such characteristics that should be asked in thorough applications of the Triple Helix framework are legion, though two areas that ought to receive emphasis, as demonstrated by this paper, are the historic sources of policy punctuations and the mechanisms through which actors can gain influence in shaping policy outcomes. Sufficiently accounting for the mechanisms of policy change will provide for a better understanding of the art of the possible in given industrial contexts and shed light on areas where more can be done on the part of the state to improve industrial performance, thereby growing the economy at large.

Index of abbreviations

CCOVI – Cool Climate Oenology and Viticulture Institute
CIC – Cellared in Canada (see ICB)
CUFTA – Canada–US Free Trade Agreement
GATT – General Agreement on Tariffs and Trade
GGO – Grape Growers of Ontario
ICB – International–Canadian Blends
LCBO – Liquor Control Board of Ontario
NAFTA – North American Free Trade Agreement
OGGMB – Ontario Grape Growers Marketing Board (see GGO)
OMAFRA – Ontario Ministry of Agriculture, Food and Rural Affairs
OWAP – Ontario Wine Assistance Program
VQA – Vintners Quality Alliance Ontario
WCO – Wine Council of Ontario
WGAO – Winery and Grower Alliance of Ontario

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Notes

1. Jordan (2011) estimates total Canadian sales in 2010 to be approximately CA$897 million.
2. A 1988 legislative debate on phasing out mark-ups on European wines in the face of a GATT complaint between Liberal Premier David Petersen and Conservative Opposition leader and later LCBO CEO, Andy Brandt, highlights the differing views of the two parties on what constituted an appropriate amount of industry protection given the circumstances. Petersen stresses that 'In our judgement, that free trade agreement, the bilateral agreement, would effectively wipe out the substance of our grape-growing, wine-producing industry, with all the farmers and all the productive land in that regard. We do not accept that. We do not accept the federal government's right to make a treaty in that particular area of provincial jurisdiction', while Brandt rebuts 'I ask the Premier, in light of the comments he has just made, is he prepared then to accept retaliatory action on the part of other nations that are partners to or part of the EC and have brought these particular concerns before the GATT tribunal, with respect to the decision it made?' (Ontario Parliament, 1988a).
3. CCOVI has an executive committee that is a subset of a 25-member advisory council that includes Brock's President and the Vice President of Research. The advisory council has representation from CCOVI's research staff, the WCO, WGAO, GGO, VQA, LCBO and several other academic institutions.
4. Aside from the 40–25 regulation, there are myriad other laws designed to encourage the consumption of Ontario grapes industry-wide. The 2009 *Ontario Tax Plan for More Jobs and Growth Act*, for example, introduced a 10% tax on off-site retail sales of ICB (then called CIC – Cellared in Canada) wines for the purpose of funding VQA support programmes, thereby creating incentive for all wineries to produce wines made from 100% Ontario grapes (Ontario Parliament, 2009b, p.38). Aside from temporary measures, a complex and variety-specific levy system exists within the province that is used to steer the direction of what is produced by the industry writ large (see Ontario Parliament, 2010). An additional federal tax relief measure to the tune of approximately $460 per ton for 100% Ontario grapes serves to offset incentive for wineries to import cheaper material for blending.
5. Wang and Madhok (2008) note continued clustering in the Niagara region up to a figure near 85% of all VQA wineries in Ontario. While it may be true that VQA production is concentrated in the Niagara region, interview material collected for this research indicates that the cluster is beginning to spread out and that wineries on the periphery continue to experiment with hybrid grape varieties.
6. As shown in Figure 3, differentiating between growth in VQA and ICB wines is telling in that overall performance has often resulted from growth in one area while the other is temporarily suffering. VQA wines appear to experience higher rates of growth under more direct forms of intervention (such as the OWAP replanting programme and the 2009 Varietal Plan/40–25 law) than under VQA regulation alone. After impressive growth under OWAP, VQA experienced a reduction in retail sales between 2003 and 2006, a time in which provincial policy had largely left coordination of the industry to third party organisations and the market.
7. Though the allowance of blending has created controversy for, among other things, stirring up fears about the potential for future grape surpluses, VQA and ICB wines are not typically in direct competition. It is therefore arguable that Ontario wines as a whole (ICB and otherwise) have access to parts of the market that wines made from 100% Ontario grapes could not. Ontario wines are therefore positioned to dominate the local market, with ICB wines competing against imports in the below $10 category and VQA wines competing with premium imports.
8. While critics of blending might point out that ICB production tends not to give way to growth in VQA in grape surplus years (such as 2009), the ostensibly uneasy relationship between VQA and ICB production in Ontario is justified in a strategic sense when considering the development of a price point strategy. The frequency of grape shortages in the province has arguably necessitated a flexible local content regime and has negated full-fledged production of VQA wines as a cluster strategy. Blending legislation is thus incorporated into an informal strategy in the sense that ICB wines absorb 54% of the grape crop (with VQA wines absorbing 46%) (WGAO, 2012).

9. There appears however to be a functional relationship between various parties with respect to research and development, given somewhat recent emphasis on 'industry driven' research in the province via the three party ownership of Ontario Grape and Wine Research Inc., which serves to streamline research levies collected by the various industry organisations into programmes beneficial to the industry writ large.
10. According to LCBO data obtained through its Freedom of Information Office, LCBO supports for the domestic wine industry exceeded $31 million (annualised) in 2010–2011 (cf. LCBO, 2012b).

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