

Transnational Policy Paradigm Change and Conflict in the Harmonization of Vehicle Safety and Accounting Standards

Tony Porter
Department of Political Science
McMaster University
Hamilton ON Canada L8S 4M4
tporter@mcmaster.ca

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What impact does transnationalism have on policy paradigm change? This paper focuses on three aspects of policy paradigm change that have become more prominent as transnationalism has become more extensive. These are the increased impact of conflicts between *national* policy paradigms; the greater importance of *transnational* policy networks; and changes in the relationship between the ideational qualities of a policy paradigm and more material factors with which these ideas interact. The study of policy paradigms has evolved not just by applying a fixed conception of what a paradigm is to an increasing variety of cases and policy developments such as transnationalism, but also by continually re-examining and reworking the concept of a policy paradigm itself. The three aspects of transnational policy paradigm change that this paper examines also suggest a need to further rework the concept of a policy paradigm.

The paper assesses the significance of these practical and conceptual changes by examining two cases of transnational policy paradigms: vehicle safety standards and accounting standards. In both cases harmonization has involved policy paradigm clashes that relate to differences in US and EU regulatory traditions—but with very different outcomes. In the case of accounting a US-oriented paradigm that incorporates important international elements is becoming dominant globally while in the case of vehicle safety the European-oriented paradigm with certain international elements is winning out.

Re-conceptualizing policy paradigm change in a globalizing environment

What is a policy paradigm and how does it relate to its external environment? We can define a paradigm as a set of ideas that have three features: they come in large packages; these packages have sufficient autonomy or self-referentiality that they are not simply reflections of empirical patterns; and these packages of ideas can have an influence on practice, including the practice of policy (Hall, 1993), industry (Dosi, 1982), or science (Kuhn, 1970). While the merits of the notion of a paradigm can still be disputed, there is sufficiently wide acceptance that these general features of ideas are evident in some important policy cases, such as the shift from Keynesian policies to monetarism, that we can take this approach to ideas as a starting point and explore its potential and limits.

Recent decades have elevated the importance of transnational phenomena for national political systems. In part this effect involves the increased importance of phenomena that have

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always exceeded the boundaries of nation-states, such as diplomacy or trade, but it also involves the emergence of new phenomena. For much of the 20th century states were able to insulate their national policy processes quite well from transnational phenomena. It is not surprising then that when Hall (1993) developed his path-breaking analysis of policy paradigms he primarily focused on the relevance of a policy paradigm for understanding the interaction of actors and ideas that occurred at the level of a nation-state. However in the ensuing years the need to understand the effects of transnational phenomena has become pressing. Not only have traditional transnational phenomena become more important, but new aspects of transnationalism within and across borders have also become evident.

One useful way to analyze the increased effect of traditional transnational phenomena on national policy paradigms is to draw from the long and extensive history of the study of international relations. The dominant theme in this history is the state-centric realist idea that world politics is shaped by the conflict between states, and that the most powerful states always win. We may expect then that as international interactions between states intensify, differing national paradigms will come into conflict and the paradigms associated with the most powerful states will supplant paradigms associated with weaker states, perhaps directly through state-to-state interactions, or perhaps by the powerful state manipulating international institutions. Alternatively when power is more evenly distributed across the most powerful states a negotiated compromise may lead to a new paradigm that includes elements of each powerful state's national policy paradigm, particularly if some degree of harmonization is in their mutual interest. These are types of paradigm change that might display the characteristics of change that are usually associated with paradigms, namely long periods of incremental change interrupted by a relatively sudden wholesale change, but for very different reasons than have usually been identified in the literature inspired by Hall.

A secondary theme in this history that has challenged the state-centric realist emphasis on powerful states is the idea that international institutions and practices have sufficient autonomy to exert an influence on national policies that is more than the expression of the political power of other states. There is a long history of identifying such influences, and the older literature will alert us to the possibility that intergovernmental organizations such as the International Monetary Fund or the Organization for Economic Cooperation and Development may play a role in formulating or strengthening policy paradigms that is comparable to the role played by states at the national level.

However there is also a great deal of theorizing that suggests that today transnationalism has become much more complex than this. In this paper I focus especially on two contemporary features of transnational institutions that are highly relevant to policy paradigms. The first concerns the boundary between the realm of ideas, with which paradigms are usually associated, and material factors. The second concerns the degree to which the type of dramatic change that has usually been associated with paradigms involves a wholesale change in the *content* of the paradigm rather than a recombination of existing elements. I discuss each in turn. In each case the visibility of changes at the global level can be an inspiration for reworking the policy paradigm concept, but the effects of these changes are also present at the national level and their relevance is just as great for national policy processes as for global ones.

Ideational/material entanglements and policy paradigm change

A distinctive feature of our contemporary world is its knowledge intensity. Now, even at the international level where hard military power has sometimes been seen as the only force that

mattered, it is widely recognized that ideas play an important role in shaping the actions of states. Yet the knowledge intensity of international affairs goes well beyond the reliance of states and other international actors on policy ideas. It is increasingly evident that the ideational is entangled with the material in ways that challenge the assumptions of many theories. This is most obvious in financial markets, where derivatives are a set of commitments based on complex risk models but also products with enormous material values and effects, or where computer protocols allocate values and manage rules in ways that in effect are identical to decisions made by thinking human actors. More generally best practices, which have become important transnational policy instruments, are simultaneously a set of ideas about how things should be done and an accumulation of actual physical behaviours.

Hall's influential analysis of policy paradigms highlighted certain distinctive features of paradigms that have tended to be associated with their autonomous ideational properties. Following Kuhn, Hall's model is one in which a relatively integrated and autonomous system of ideas lodges itself in a state, only to change when an accumulation of anomalies or a growing number of critics lead to the creation of a new paradigm, which then replaces the old one. What is the source of the paradigm's integration and autonomy? Hall suggests that it is the ideas and the language used to communicate them: "Like a Gestalt, this framework is embedded in the very terminology through which policymakers communicate about their work, and it is influential precisely because so much of it is taken for granted and unamenable to scrutiny as a whole" (1993: 279). This then is reinforced by the social institutions associated with the state.

Moving away from this model to consider variations in the ideational/material entanglements of paradigms is important in exploring the impact of transnationalism on the longevity and the propensity to change of policy paradigms. The ideational elements of policy paradigms may be entangled with national or local histories whose persistence is enabled by their inscription in material artifacts, such as industrial technologies, regulatory manuals or built environments.¹ Globalization has been characterized as a process of disembedding from local contexts of social relations facilitated by expert systems of knowledge and finance (Giddens, 1990). However this disembedding has a material aspect as well. Trans-border technologies such as airports or the hard wires that implement visions of borderless financial markets display ideational/material entanglements. Moreover, like other older technologies such as railways or the automobile, the technologies themselves can have a paradigm-like character because they come in very large-scale integrated systems that are characterized by incremental change punctuated by a wholesale shift to a new system after a crisis or a long accumulation of problems (Dosi, 1982). If sets of integrated ideas, including policy paradigms, are entangled with these types of technologies then their paradigm-like qualities can be reinforced. If these technologies extend across borders then the policy paradigms entangled with them may be less associated with the state. When policy paradigms and the materiality of technology are entangled the latter can be a source of paradigm change or it can inhibit change and contribute to the longevity of policy paradigms.

A widely recognized restructuring of the state further enhances the significance of such entanglements of ideational and material elements of policy paradigms. This restructuring has been given various labels in different research traditions, including "regulatory capitalism" (Levi-Faur and Jordana, 2005), "governmentality" (Larner and Walters, 2004), the "disaggregated state" (Slaughter, 2004, Hansen and Salskov-Iversen, 2008), or the "new public management". These all suggest that there is a shift from more centralized command and control to governance mechanisms where general models, guidelines or benchmarks are used to make a

more decentralized set of actors implement policy by regulating their own conduct. Vertical chains of command decline in importance relative to networks and horizontal coordination. The policy landscape becomes a more hybrid mix of public and private actors and rules, some of which enjoy considerably greater autonomy than before. This includes the strengthening of private authority nationally and transnationally, with business actors creating and managing rules that traditionally would have been seen as the prerogative of states (Cutler et al, 1999). Hall's model and the case he chose to illustrate it are especially well suited to more traditional centralized policymaking, where a set of integrated ideas shape the decisions of top policy makers who then pull the appropriate levers to implement policy. However with more disaggregated forms of governance the ideas need to extend much further along the chain of implementation. In many cases the complexity of particular semi-autonomous fields of activity in this chain will lead to quite distinctive sets of ideas that are entangled with the material aspects of those fields, and this materiality is likely to influence transnational processes of change. These semi-autonomous fields may have key characteristics of policy paradigms, but their centre of gravity may have shifted away from the state. I argue below that both accounting standards and vehicle safety regulation are examples of this.

Paradigm change: wholesale replacement or recombination of existing elements?

The structure of international affairs makes it less likely than is the case at the national level that paradigm change will involve the wholesale replacement of one system of thought by another. At the national level it is not uncommon for one party to be defeated and for another party with a quite different set of ideas to gain control of the government. Even if a single party retains control of the national government, the centralized character of that control means that if that party is persuaded by a new set of ideas it can implement them thoroughly. At the international level, in contrast, power is distributed across a great variety of states, and it is likely that the replacement of one set of ideas by another will involve processes of policy transfer and diffusion that are more uneven and gradual than is the case nationally.

As the study of global governance has evolved there has been an increased recognition that structures of transnational authority are more likely to involve sustained horizontal and often informal coordination among states than the construction of formal bureaucratic international organizations that tell states what to do. Certainly powerful states can work with international institutions to pressure weaker states to adopt particular policies, but the power of state sovereignty as an organizing principle puts limits on this. Even large formal intergovernmental organizations such as the United Nations or the International Monetary Fund are intended to promote the interests of their member states and are constrained in trying to do more than this. Transnational policy networks can involve hybrid mixtures of public and private actors, adding further complexity. The disaggregation of the state that was discussed above contributes to this complexity but also means that lessons drawn from more horizontal forms of governance at the global level are more applicable to the national level than in the 20th century when the organizational differences between the two levels were much greater.

Despite the complexity of transnational governance certain integrated sets of ideas can develop considerable coherence and persistence at the international level. These can be big general ideas such as environmental sustainability or the market-oriented policies that came to be labeled the Washington consensus, but they can also be more focused technical bodies of knowledge such as the motor vehicle safety standards and the accounting standards that this paper examines below. These may be managed by public officials, private actors, or a mixture of

both. How can these ideas display the patterns of discontinuous longevity and change that are usually seen as a defining feature of paradigms? The previous section emphasized the material entanglements of these ideas, but also important is the way in which paradigm change can come about as a result of a dramatic recombination of existing elements in a new paradigm rather than a wholesale replacement of the elements of one paradigm by the elements of another.

The concept of an *assemblage* which originated in art to refer to a collection of objects with prior uses and relationships that are brought together into a new meaningful relationship with one another (Seitz, 1961) is an especially useful way to express this idea. Elements of one assemblage can “plug into” others, and the roles they play can change over time. Sassen (2006, see also Ong and Collier, 2005) has fruitfully used this concept to analyze the subtle ways in which a part of a state that at one point in time played a primarily domestic role has become part of a global structure of authority while retaining its domestic linkages. The *enrolment* of networks of humans, and objects into such assemblages is an important feature of power.² The concept of enrolment suggests that power is obtained in complex environments not by commanding compliance but rather by linking these networks to a particular program of action. The chain of action that a network represents can reorient itself from a national to a transnational level and establish new transnational linkages in doing so. However paradigm change can also occur more exclusively at the national or global level if networks of action that had been oriented towards one organizing principle begin to reattach themselves to a different one.

The discontinuous character of these shifts can be explained from a more sociological perspective that emphasizes the importance of frames for guiding action (Djelic and Sahlin-Andersson, 2006) or from a more rationalist perspective that emphasizes the sunk costs associated with existing practices and the cost effectiveness for most networks of awaiting an accumulation of signals from other networks that a new status quo will work before making the costly adjustments required to jump on board (Simmons and Elkins, 2004). In both cases the discontinuity can be related to the power of a program to enrol decentralized networks of activity rather than to capture the thinking of those at the top of a chain of command. This is a different model of paradigm change than Hall’s, and it is likely to be especially relevant transnationally, where there is an absence of centralized authority.

Operationalizing this approach

How might we operationalize these theoretical points in a way that makes them applicable to particular cases of policy paradigms and that allows their theoretical contributions to be assessed relative to alternative approaches? One task is to determine whether there is evidence of conflicts between states in which the more powerful states successfully promote their national policy paradigms against others, perhaps with the assistance of an intergovernmental organization. We also need to contrast two conceptions of the way in which policy paradigms function: one, consistent with Hall’s approach, which traces the integration and cohesion of a set of ideas to the character of the ideas themselves, albeit with a link to the effectiveness of the policies they inspire; and a second that stresses the ability of a paradigm in which the ideational and material are already entangled to draw together relatively autonomous and far-flung humans, objects, and networks to manage complex problems. In the first approach, change results when one paradigm weakens from anomalies and from the growth of external challengers, and then is replaced all at once by another. In the second approach, rather than replacement, change instead can involve a recombination of existing elements in the construction of a new assemblage in which networks of action, mixing ideational and material elements, are linked to other networks

in new ways. In assessing the relative merits of these empirically it will be important to pay close attention to the character of the boundaries between the ideational and the material, and between a paradigm and its environment, in the process of change.

Two cases: accounting and vehicle safety

Attempts at the global harmonization of accounting and vehicle safety standards have been very actively pursued since the mid-1990s. Both are important issue areas. Accounting standards are essential for the assessment and comparison of corporate financial reports that in turn are essential for stock trading, investing, and financial markets more generally. Vehicle safety standards are important in addressing the deaths of more than a million people in road crashes worldwide, along with as many as 50 million injured.³ Both cases differ from policies carried out in a more centralized “command and control” fashion, such as macroeconomic policy, since they instead involve standard-setting that is set apart from government and reliant on direct private sector involvement in the creation or implementation of rules to a greater degree. As noted above, this type of regulation is becoming an increasingly important aspect of public policy, and meaningful comparison across the two cases is facilitated by their similarities in this respect.

We shall see that both cases involve clashes between a US-oriented policy paradigm and a European-oriented one. In both cases lack of harmonization was seen as a problem for international business actors, creating unwanted costs in moving from one jurisdiction to another. These business concerns about costs exhibit a degree of tension with other public policy goals that would require standards not to converge on a lowest common denominator (goals of reducing road carnage and enhancing the stability of financial markets). In both cases an international institution became the locus of efforts to develop global standards: “Global technical regulations” (GTR) at the World Forum for Harmonization of Vehicle Regulations, (“World Forum”), at the UN Economic Commission on Europe and International Financial Reporting Standards (IFRS) at the International Accounting Standards Board (IASB).

Despite these similarities the outcomes of these harmonization efforts have been quite different: in accounting, global standards that most closely resemble the US paradigm have enjoyed very rapid growth and acceptance while in the vehicle case global standards have displayed relatively little progress and the European-oriented paradigm is becoming dominant. This then provides a good opportunity to assess the merits of the theoretical approaches set out above in explaining these different outcomes of processes of paradigm change. This section discusses each case in turn before comparing them.

Vehicle safety standards

The global harmonization of vehicle safety standards has been complicated by the persistence of two very different policy paradigms.⁴ In the highly integrated production system of the US and Canada vehicle safety regulation has been based on a manufacturers’ “self-certification” model. In this model a regulatory agency (in the US, the National Highway and Transport Safety Administration, the NHTSA) or department (Transport Canada in Canada) sets out relatively general vehicle safety standards. Manufacturers are then given a great deal of discretion in how they design and produce vehicle to meet those standards. They conduct tests on their vehicles and present this data to the regulator who then may conduct random spot tests. However the major compliance mechanisms are the threat of private litigation and the recall of vehicles that are found to fall short of compliance once they are out on the road. This self-certification

paradigm dates from the 1970s, when it was constructed in response to the types of auto safety problems dramatically revealed in Ralph Nader's 1965 *Unsafe at any Speed*.

In sharp contrast, the paradigm governing vehicle safety in Europe has been a "type-approval" model. In this model government approved labs establish more specific safety criteria for the design and construction of vehicles and parts and manufacturers must establish that they meet these criteria before they are allowed to sell the vehicles. Compliance therefore occurs through an interaction between government and firms before the vehicle is marketed, while in the North American paradigm it occurs in the market with a much higher degree of interaction between consumers and firms.

The first efforts at international harmonization of standards occurred at the UN Economic Commission for Europe (ECE)'s Working Party 29 (WP.29), created in 1952. It has focused on harmonizing regulations in the areas of active and passive safety (crash avoidance and crashworthiness), as well as two non-safety issues, environment and energy use. Until 1998 WP.29 primarily reflected European concerns. In its early years its focus was solving regulatory problems that arose from vehicles being driven or sold across European borders. The first harmonized standard, for headlamps, was agreed in 1956, and a more extensive agreement concluded two years later, the "1958 Agreement," has provided the framework for WP.29's subsequent work. Before 1998 there were no contracting parties to the 1958 agreement other than European countries and their immediate neighbours, but the transnational character of the industry and the eagerness of countries to exchange information about vehicle regulation led countries outside Europe to participate in WP.29. The US and Canada participated from the start and Japan and Australia attended WP.29 meetings for two decades before they became contracting parties to WP.29's Agreements (UNECE, 2002).

In 1998 WP.29 was renamed the World Forum for Harmonization of Vehicle Regulations to mark efforts to transform it into a more global organization. In addition to its name change, a new 1998 Agreement was signed, entering into force in 2000. This Agreement does not supersede the 1958 Agreement but rather works along side it. As of 2007 the 1998 Agreement had 29 contracting parties.⁵ In contrast to WP.29's prior practice the new Agreement initiated the creation of "Global Technical Regulations" (GTRs)⁶—common global standards that it was hoped would be incorporated into national regulations around the world, including in North America. It also called for recognition of both type approval and manufacturers' self-certification. In contrast to its relatively detached stance in earlier phases of WP.29's development, the US was strongly supportive of this new global initiative. Despite the new globally-oriented 1998 Agreement, the particular importance of the 1958 Agreement for Europe did not disappear. Indeed the accession of the EU to WP.29's 1958 Agreement in 1998 has facilitated increased linkages between EU regulations and the World Forum.

Considerable effort has been devoted to the development of GTRs but progress has been very slow. While more than 23 additional initiatives to create new GTRs or amend existing ones had been recorded by late 2007, only five GTRs had been established, and only one of these (for door locks) was really significant for auto manufacturers. By comparison the NHTSA administers over 60 Federal Motor Vehicle Safety Standards (FMVSS). Since this was seven years after the 1998 Agreement entered into force this is a pace that has been not unreasonably characterized by a US representative at the World Forum as "less than glacier speed."⁷

More important than the GTR process have been regional initiatives. Not surprisingly, the Canadian government has been very actively seeking to harmonize Canadian vehicle safety standards with the US. Elsewhere, however, by far the prevailing trend has been harmonization

with the World Forum's European-oriented 1958 Agreement, based on the type approval model. This is especially evident in the important Asian markets. The public/private Japan Automobile Standards Internationalization Center (JASIC), established in 1987, has played a leadership role in Asia in promoting convergence with World Forum regulations, especially with the 1958 Agreement. JASIC established and implemented a contract with the APEC Secretariat that formed the major part of APEC's Road Transport Harmonization Project. This involved creating a detailed inventory of the state of the region's vehicle safety standards, and the challenges involved in harmonizing. JASIC has also provided a great deal of information and encouragement to regional regulators on participating in and following the World Forum regulations and on vehicle safety regulation more generally, including through its website and presentations at regional meetings.

The main emphasis in Asian discussions, heavily promoted by JASIC, has been to adopt the World Forum's 1958 Agreement's type approval system (including the delegation of testing to third parties). This requires countries to mutually recognize certificates based on the regulations agreed under the 1958 Agreement. There are some exceptions to this enthusiasm for type approval regulation. South Korea has developed a self-certification system as an option and accordingly has greatly enhanced its recall system, while other countries (Australia, Brunei, Singapore) accept a manufacturer's self-certification for some parts of vehicles.⁸ JASIC and other actors are enthusiastic about the goal of the 1998 Agreement to bring together North American self-certification systems with the rest of the world's emphasis on type approval. Overall however, the slow pace of the GTRs has guaranteed that the 1998 Agreement will not be a significant counterweight to the rapid movement in Asia towards the 1958 Agreement. Elsewhere in the world regional agreements have not been as important and instead certain individual countries have adopted type approval systems that are more consistent with the 1958 Agreement's standards than with the North American self-certification system.

Accounting standards

In accounting too, global harmonization of standards has been inhibited by differences between European and American policy paradigms.⁹

In the United States accounting has long been oriented towards financial reporting in capital markets. The inevitable conflict of interest that can occur when firms hire accountants to create ostensibly independent verifications of their financial condition historically was handled by the creation of the private-sector American Institute of Certified Public Accountants (AICPA) which provided reputational incentives to hold accountants accountable, and which also became involved in the setting of standards, the Generally Accepted Accounting Principles (GAAP). In 1973 responsibility for setting standards was shifted out of the AICPA and an independent private-sector body, the Financial Accounting Standards Board (FASB) took over standard setting. Over time government oversight and support through the Securities and Exchange Commission also increased, but nevertheless the process was dominated by the private sector. FASB itself is a private-sector body; the Trustees that set its direction are primarily representatives of the private sector; and the standards setters, while not representing firms, have generally had extensive careers in accounting firms.¹⁰ The very heavy dominance of the US market by the "Big Four" accounting firms further enhances their ability to influence standard-setting. Following the Enron scandal, in which one of what were then the Big Five accounting firms, Arthur Andersen, failed to reveal financial wrong doing and subsequently collapsed, responsibility for auditing of accounting was shifted out of the AIPCA to a newly created Public

Company Accounting Oversight Board (PCAOB), the members of which are appointed by the SEC.

US GAAP has been distinctive not just because of its orientation towards capital markets and private-sector governance, but also because of its highly legalistic approach. Largely in response to the threat of private legal action, accountants demanded ever finer detail in standards.

¹¹ Excessive legalistic detail (“financial engineering”) was seen as having contributed to the Enron scandal: many of the questionable treatments of Enron’s financial data by accountants were within the letter of the complex detailed rules but violated what should have been the spirit of the standards—legal complexity was used to obscure the company’s financial condition.

In contrast to the capital markets-oriented US paradigm, in continental Europe accounting was traditionally much more closely linked to taxation. Consequently governments were much more heavily involved in standard setting. For instance from 1947 accounting standards in France were written by a government agency, the Conseil National de Comptabilité (CNC), a group made up primarily of public servants which included five trade unionists alongside a number of other non-accounting experts (Eaton and Porter, 2008). Outside Britain and the Commonwealth, which was influenced by the more market-oriented approach of the British, the state-oriented approach was common. These divergent approaches meant that for their first quarter century efforts to harmonize accounting standards globally that took place at the International Accounting Standards Committee (IASC), which was established in 1973, were very slow and tended to involve an insistence on national representation (Eaton, 2004). Until the late 1990s this slow pace, combined with the lure for foreigners of participation in the disproportionately large US capital markets, seemed to be leading to a de facto global dominance of US GAAP. For instance an increasing number of European firms were beginning to report using US GAAP, and the US SEC seemed to have an enormously powerful lever in being able to require foreign firms and investors to use US GAAP if they wished to participate in US capital markets.

In 2001 the IASC was transformed into the International Accounting Standards Board (IASB) and this marked a significant change in direction for the harmonization process. The number of representatives on the Board was reduced from 17 part time members to 12 full time and two part-time members. It was made clear that they would be selected on the basis of expertise rather than geographical representation. A four-level structure was created with a separation between the Trustees, who would manage the finances and appointments to the Board, the Board, which would focus solely on standard setting, free from direct external influence in its technical work, a Standards Advisory Council which provided a consultative mechanism for actors not on the Board, and a Standing Interpretations Committee, to deal with ongoing interpretive questions.

The signal sent by the creation of the IASB was mixed. On the one hand it represented a level of professionalization and institutional autonomy at the international level that seemed at odds with the idea that US GAAP, run by FASB and the US SEC, might become hegemonic. On the other hand the loss of the principle of national representation, the similarities in the structures of the IASB and the FASB, the prominent role that big US-based accounting firms were likely to play in the new arrangement, and the appointment of Sir David Tweedie of the UK as the IASB’s first chair led to a widespread perception the IASB was a vehicle to promote the global dominance of Anglo-American accounting. At its creation the IASB became a prime example of transnational private authority, since it was a private sector rule-making body with a high degree of autonomy. The highly concentrated character of the accounting industry, which is also

dominated internationally by the big four firms, reinforces the private aspects of transnational governance in accounting.

The history of the IASB since its creation indicates that while the IASB's practices are closer to the US FASB's than to the state-oriented accounting process present earlier in continental Europe they also are not simply promoting US standards. On the contrary, a key difference and advantage of international accounting standards over the GAAP that was recognized by the SEC in the aftermath of the Enron scandal was the more principles-based and less legalistic character of the former. The IASB's standards are being adopted rapidly around the world, including most significantly in the European Union, greatly increasing their credibility relative to US GAAP. While the EU has complained very vocally about the IASB's imposition of certain US oriented practices on Europe, it seems clear that the influence of jurisdictions outside the US on standard setting at the IASB will be much greater than had the FASB's US GAAP continued to become the de facto global standards. Indeed, following the global financial crisis of 2008 US concerns about European influence in the IASB were voiced, and the expectation that Asia would be given more influence was expressed by Tweedie and by Asian officials, making the importance for the IASB of balancing these competing pressures more evident.

Following the crisis the SEC, the FASB and the IASB reaffirmed their commitment to an intensive process of collaboration to promote convergence between US GAAP and the IASB standards in the anticipation that ultimately the latter will be accepted in the US. While the crisis made this convergence more difficult, especially with regard to differences in the degree to which financial assets should reflect their current market prices ("mark to market") as opposed to amortized historical values, it also increased political support for convergence, most significantly from the G20 leaders. The mark to market approach was widely seen as having contributed to the crisis when certain markets froze and the market value of the instruments in them collapsed. The effects on the general public and markets in other countries raised questions about the adequacy of the IASB's own accountability, which in turn led to important constitutional changes in the IASB, most notably the creation of a new Monitoring Board of public authorities. While there is a possibility that the increased politicization and complexity of accounting standards following the crisis will lead to a breakdown of international harmonization, it is more likely that it will lead to an increase in the IASB's ability to manage and balance competing political pressures, reinforcing the transnational character of accounting standards, especially considering the costs of turning back when most national jurisdictions have already adopted the international standards. In this regard there are similarities between the impact of the crisis on the fate of the Euro and the fate of the IASB.

Comparing vehicle safety and accounting

These two cases provide an interesting comparison. Despite their apparent similarities the outcomes of the clash between the European-oriented and American-oriented paradigms were quite different. In the case of accounting, a new paradigm, the IASB's international standards, is replacing the other ones. In vehicle safety standards a comparable new global paradigm has been relatively unsuccessful, and instead the European-oriented type-approval paradigm has gained influence. This allows us to test models of paradigm change against the evidence to see which is better able to account for these outcomes. Since both cases are transnational they also allow lessons to be drawn about the significance of the transnational dimension for models of paradigm change.

Hall's approach

How might Hall's model be applied to these two cases? Can we treat the paradigms involved as integrated cohesive sets of ideas that explain the different outcomes with reference to an accumulation of anomalies and the recruitment into the debate by state actors or external actors who then together install a new paradigm? The most promising application of this approach to these cases is to highlight the anomalies in excessively detailed US GAAP revealed by the Enron scandal and to compare this to the lack of anomalies such as these in the vehicle safety case. In the vehicle safety case the most comparable anomaly was the costs to transnational firms of complying with different regulatory paradigms in different markets but this did not challenge the foundational assumptions of the paradigm in the way that the anomalies in accounting did. In both cases external actors in the form of multinational businesses and their associations were important and by themselves can't explain the differing outcomes, but when combined with the differences in anomalies can provide a plausible explanation of the emergence of a new paradigm in accounting and not in vehicle safety.

There are, however, some important shortcomings of this explanation. The use of the notion of anomalies in this way tends to black-box the changes that occurred and to characterize them as problems that are restricted to their relationship to the internal operation of the paradigm. Such an emphasis on anomalies and state recruitment of external actors obscures both the role of variations in materiality in explaining these differences and the agency of external actors in initiating the anomalies and the responses to them, not just by making demands on the state, but by creating or failing to create new international practices—or to use the language introduced above, by enrolling humans, objects and networks into a new assemblage. Moreover this emphasis on anomalies and external actors cannot explain the differences outside North America and Europe in the two cases. Why would a European-oriented solution become dominant in Asia in vehicle safety, while a US-oriented solution became dominant in Asia in accounting? A focus on anomalies and recruitment of external actors does not provide an explanation.

The role of powerful states

Since the same set of state actors are involved in each case there are some limitations to the degree that the conventional realist international relations emphasis on the relative power of states can help explain this case. One can always offer tautological explanations about how outcomes necessarily reflect the self-interested calculations of states, but these are not useful analytically. Nevertheless one can certainly attribute part of the success of the European-oriented 1958 Agreement and the global ascendancy of the IASB rather than US GAAP to the growth in power of the EU relative to the US. As well the greater role played by Japan in pushing an alternative to a US paradigm in vehicle safety but not in accounting undoubtedly reflects in part the greater relative power of Japan in automobiles as compared to finance. Finally, one could argue that the US today is relatively more powerful in finance and accounting than in automobile manufacturing and this explains its success in bringing about a US-oriented global paradigm in the former but not the latter. However European financial and monetary integration, including the growth of the Euro and of European financial exchanges, the growth of massive monetary reserves accumulating in East Asia, and the ongoing size of the US market for vehicles should caution us against putting too much emphasis on these differences in relative power in these two issue areas.

Boundary blurring: the ideational and the material

What can we say about the entanglement of the ideational and the material in these cases? At a more macro-level the differences between US GAAP and the accounting paradigm that was common historically in continental Europe are clearly related to differences in the structure of the economy, differences that have been highlighted by the varieties of capitalism literature. These macro-level connections to different forms of capitalism apply as well to the differences between the self-certification and type approval paradigms in vehicle safety. The enthusiasm for markets, minimal government, and private litigation in the US are generalized features of the US political economy that are evident in this case, while the greater general reliance on governments in Europe in other issue areas is consistent with the heavier European reliance on government labs for vehicle testing. The economies, cultures and legal systems to which these bodies of ideas are connected give them a material weight that is significant and can account to some degree for the persistence of the differences between the European-oriented and American-oriented paradigms. However these macro-level factors are similar enough in the two cases that they cannot be used to explain the different outcomes that they display.

At a more micro-level the entanglement of the ideational and material differs significantly in the two cases. Accounting standards themselves, like other soft-law instruments, involve both ideational and material qualities. The standards are a form of integrated knowledge but they also have a material quality, including in the hardness they possess for an accountant who cannot deviate from them, and in the way in which they can establish the financial value of firms in the market, something usually seen as material. Accounting standards also achieve their enduring quality through their inscription in books of standards, annual reports, computing software and training manuals. However this differs very significantly from vehicle safety standards. The knowledge contained in a vehicle safety standard is entangled with the physical properties of the vehicle part and that part's environment, which could include the road, the vehicle as a whole, lighting conditions and the bodies of passengers. Permissible safety tolerances require complex estimates of the physical effects of these colliding in crashes. Even the test instruments, such as different crash test dummies representing different body sizes, have a complex materiality.

In the two cases the interaction of the standards with the firms to which they apply also differs. Accounting can have a very significant material effect on a firm in affecting its cost of capital and even its organization. Financial data produced by accountants can be used as performance and control measures for individuals and divisions within a firm. Intense political controversies over accounting standards for stock options, which revolved around whether these would damage the US lead in innovative high tech start ups where these are used to motivate executives, are a good example. Nevertheless, the material resistance and cost of altering accounting standards associated with such effects is likely to be considerably less on average than the case of vehicle safety standards where the tooling of the production line and test labs, as well as the coherence of any particular part with the car as a whole, has a much greater materiality.

These differences in the entanglement of the ideational and material affect not just the difficulty of measuring and narrowing differences between American and European standards, but also the way in which the material weight of differences in varieties of capitalism interacts with the standard setting process. In other words, although the jurisdictional differences by themselves can't account for the different outcomes, one can see that the impact of the interaction of jurisdictional differences with the greater materiality of standard setting in the vehicle safety case makes harmonization much more difficult. Overall then differences in the

entanglement of ideational and material factors in the two cases are important in explaining the fact that the clash of regional and national paradigms has resulted in a successful new global paradigm in accounting but not vehicle safety.

Variation in the situation in the rest of the world outside Europe and America is also related to the entanglement of ideational and material factors. In the accounting case the rest of the world is moving quickly towards the IASB's global but US-oriented standards while in the vehicle safety case it is moving quickly towards the European-focused type approval model of the World Forum's 1958 agreement. Why? The greater compatibility of models of capitalism elsewhere with Europe, including a greater role for government, cannot by itself explain this difference in outcomes since it should affect the two cases similarly. However the greater micro-level materiality of vehicle standards and testing is important. The interaction of the vehicle with its driving environment varies more across the regions than do the interactions of accounting standards with capital markets. The massive costs of design and crash-testing of vehicle parts relative to accounting makes it much more difficult to adopt a US type private-sector oriented solution in the developing world. The World Forum's 1958 Agreement comes with ready-made well-defined procedures for compliance and testing that governments can implement while the successful adoption of a self-certification model requires a government to manage a set of more complex mechanisms involving firms, courts, and consumer groups.

Wholesale paradigm replacement or a new assemblage of recombined elements?

Points made above about the interaction of jurisdictional factors with standard setting are relevant here as well. For instance the courts and consumer groups that are essential to the effective operation of the self-certification model of vehicle safety are relatively autonomous and devote only a small proportion of their time to vehicle safety issues. This is captured more effectively by the assemblage conception of paradigms.

In accounting a highly integrated body of complex standards is linked to far-flung chains of interaction with humans, objects, and networks that run through standards setting boards to accountants and their spreadsheets; to the inventory and sales flows of the firm's products; to professional accountancy organizations; to stock markets and other financial exchanges; to the legal support offered by governments; to the financial press; to senior managers in firms issuing annual reports and in large institutional investors deciding where to place their funds. The private character of the IASB and the dominance of the big four accounting firms contributes as well to offsetting the impact of national differences. In some cases it is hard to say with precision the direction of enrolment in these interactions. Is the FASB enrolling the SEC or the other way around? While the directionality of these types of enrolments cannot be established with confidence in each case, it is clear that overall, and despite important failures such as Enron or the accounting failures revealed by the 2008 global financial crisis, accounting is remarkably unified, effective, and functional at mobilizing all its connections with these humans, networks and objects to address the problem of establishing value around which it is organized. There are very few sets of transnational rules that play such a central detailed daily role in activities of such enormous economic value. The strength of an accounting paradigm like the IASB's standards is reliant in part on the integration and complexity of its ideas. The integration is evident at the level of the standards themselves, which ultimately need to be used to provide an overall financial picture of the firm in which the value of the parts is aggregated into overall values, but also in the rules for using the standards. For instance the IASB provides a "Framework for the Preparation and Presentation of Financial Statements". However the strength of accounting is

also dependent on the interaction of these with the other relatively autonomous parts of the assemblage that it constitutes.

In vehicle safety the standards are no less technical but they are much less integrated. To some degree, like accounting, the performance of one standard depends on the performance of another. For instance standards governing “roof crush” (the performance of roofs in crashes) and door locks interact with seat belt standards since the movement of an occupant in a crash that is permitted by belts will have consequences for injuries from roof crush or doors flying open. Moreover general engineering, bio-medical, and physics knowledge is drawn upon to assess vehicle safety risks and performance across all standards. However each vehicle safety standard is also connected to very distinct and relatively autonomous chains of humans, networks and objects. For instance windshields are connected to glass makers, models of light refraction under differing conditions, wipers, glazing chemicals, sunlight, rain, dust, and eyesight. Brakes and brake hoses are connected to the materials used to construct them, the likely road conditions the car will be experiencing, the weight and speed of the car, the reaction times of the driver, and the quality of road construction, among others. The two parts involve very different test instruments and processes. Automobile manufacturing, like accounting, is an oligopolistic industry, but the assemblage of human and objects that it involves is less easily integrated. From the standard setter’s point of view, the differences in implementing two accounting standards, for instance one on inventories and one on leases, is less.¹² While the ultimate referents of accounting standards are very diverse (for instance a piece of intellectual property, a financial derivative, and a bolt) they are presented to accountants in an already aggregated and refined state that makes comparison and integration easier.

The pathways that connect standard setters with the use of the products also vary. Both road networks and financial networks, the media through which these two products primarily travel, are relatively autonomous. These networks as a whole and particular parts of them (such as a freeway interchange or a financial exchange) have their own logics and parameters that also influence in predictable ways the flow of the products through them. Both have a materiality. However the financial networks are more connected internationally and commensurable. An example of the difference this makes is evident in the differing reactions of consumers to internationalization efforts in the two cases. In accounting there was little concern expressed by investors, who are already globally active, that the IASB is physically located in London. In contrast the consumer groups that monitor vehicle safety standards in the US were very concerned about the distance to Geneva and asked US regulators to press for some World Forum meetings to be held in Washington.

Overall then, both vehicle safety and accounting paradigms involve integrated and relatively autonomous bodies of knowledge that are remarkable in their ability to mobilize far flung humans, networks and objects, but the integration in the vehicle case is less and the relative autonomy of the humans, networks and objects that it enrolls into its assemblage is greater. Thus it is not surprising that the reconfiguration of the various humans, networks and objects in a new assemblage and paradigm was accomplished in the accounting case but not the vehicle safety case.

Conclusion

This paper has suggested that it is useful to make the concept of policy paradigm change more suited to a transnationalizing world by considering distinctive characteristics of the international environment, especially differences in the power of competitive states and the role of international institutions, and by altering the degree to which paradigms that might be lodged in

particular states are seen as deriving their integration and cohesion from the system of ideas itself. In place of more purely ideational paradigms this paper proposed a concept of policy paradigms in which the ideational and material are entangled, and in which paradigms are an assemblage of related but autonomous elements in which integration and boundaries are constructed and reversible.

The changes in the paradigms involved in the two cases, vehicle safety standards and accounting, clearly cannot be understood without reference to transnational actors and institutions. Cross-border harmonization is a key aspect of both stories. The key problem to explain is why the outcomes in these two cases were very different despite their many similarities, with a US-oriented but global paradigm succeeding in the accounting case and a European-oriented paradigm succeeding in the vehicle standards case. The model of an accumulation of anomalies and critics leading to the overturning of a paradigm performs poorly in explaining these differences. While it can help explain the abandonment of the older European approach to accounting it cannot explain the different outcomes, or other aspects of the cases such as why actors outside existing paradigms in Europe and North America choose one or another paradigm.

Consistent with realist international relations theory, differences in the distribution of power across state actors provided a partial explanation of the different outcomes by highlighting Japan's greater relative power in vehicle production as compared to accounting and the impact that its active campaigning for European standards in Asia had on the vehicle safety standards case. However the US remains very powerful in vehicle production and the multinational firms involved in the auto industry are oligopolistic and powerful enough that one might have expected global harmonization to have been more successful.

The comparison of the entanglement of ideational and material factors in the two cases and of the degree to which particular paradigms facilitated the mobilization and integration of diverse and relatively autonomous elements revealed significant variation across the two cases and explains well the differing outcomes. Vehicle safety standards involve interactions with a collection of diverse auto parts which in turn interact with elements in their physical environment, including the human body, the road, rain, light, and the physics of crashes and testing. By contrast accounting standard setters interact with financial data that has been processed so that its very diverse and often physical referents are already represented by relatively commensurable numbers. The degree of integration and autonomy involved in accounting standards is far greater than in vehicle safety standards. Thus it is not surprising that a global paradigm is emerging in accounting but not vehicle safety. These differences can also explain why the world outside Europe and North America is turning towards European standards in the vehicle safety case but US-oriented global standards in the accounting case. The greater difficulty of managing the physical properties of the former and of tailoring these to local conditions make the government-oriented European standards more attractive than global standards that rely on multinational firms for their implementation, a problem that is less pronounced in the accounting case.

How generalizable are these findings, and what are their implications for the future of research on policy paradigm change? Both cautionary and encouraging points can be noted. On the cautionary side, it is important to carefully consider the character of a policy field before applying this type of analysis. Similarities in these two cases meant that certain variables were held relatively constant, including the power of multinational firms, the range of states involved, the lack of civil society involvement, and the degree of transnationalism. Other cases may be

more exclusively national; firms and markets may play a smaller role; or particular powerful states may be more influential. In these cases this paper's emphasis on the entanglement of the ideational and the material, and on disaggregation, may need to be tempered by devoting more attention to other variables, including state power or the role of non-governmental organizations.

On the encouraging side, it is likely that entanglement of the ideational and material and disaggregation will be increasingly common across policy fields, and will continue to make clashing policy paradigms more common, varied, complex and important. This is likely to be the case even where other variables such as differences in state power are more significant than in these cases. The careful attention to detail that is needed to apply these ideas to particular policy fields and networks may reduce the ease with which generalizations can be applied, but the pay-off should be much better understanding of the impetus and obstacles to policy paradigm change in a transnationalizing world.

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Endnotes

¹ This approach is inspired in part by actor network theory (Latour, 2005).

² Enrolment is a concept drawn from actor network theory. For an interesting application of the concept that is similar to the approach taken here see Braithwaite and Drahos, 2000. For a development of a more general social theory of assemblages see DeLanda, 2006.

³ See World Bank/WHO (2004) which estimates that deaths and injuries are likely to increase by about 65 percent over the next 20 years.

⁴ This section draws on the author's ongoing research on the harmonization of vehicle regulation. For an analysis of North American policy paradigms in vehicle emissions see Perl and Dunn, 2007.

⁵ Agreement concerning the Establishing of Global Technical Regulations for Wheeled Vehicles, Equipment and Parts which can be fitted and/or be used on Wheeled Vehicles, of 25 June 1998. As of November 2007 the contracting parties consisted of Canada, US, Japan, France, UK, European Community, Germany, Russia, P.R. China, Republic of Korea, Italy, South Africa, Finland, Hungary, Turkey, Slovakia, New Zealand, Netherlands, Azerbaijan, Spain, Romania, Sweden, Norway, Cyprus, Luxembourg, Malaysia, India, Lithuania, and Moldova (listed in order of effective date). Status of the Agreement, of the Global Registry and of the Compendium of Candidates, World Forum report ECE/TRANS/WP.29/2007/92, November 5, 2007.

⁶ In most documents associated with WP.29 the acronym for Global Technical Regulations is in lower case (gtr). In this paper the more standard convention of capitalizing acronyms is followed.

⁷ Ken Feith, Transcript of NHTSA Public Meeting on Global Agreement, February 3, 1999 (Docket 1988-4956-0013).

⁸ Draft Final Report, APEC Road Transport Harmonization Project 1998.

⁹ This section draws upon Eaton and Porter (in press) and Porter (2005). On accounting see also Mattli and Büthe, 2005.

¹⁰ Part of the complexity of US GAAP comes from the multiple levels at which standards or interpretations can be made. In addition to the FASB's official standards, less authoritative but still significant standards can be issued by the AICPA's Accounting Standards Executive Committee (AcSEC), the Emerging Issues Task Force (EITF) and the FASB staff (SEC 2003, 2.A.ii).

¹¹ For instance, Benston notes that 45 pages worth of FAS 133, 137, and 138 standards specifying fair value accounting for derivatives are supplemented by 158 pages of an Implementation Guide, and 576 pages of a PricewaterhouseCoopers guide to their use (Benston, 2003: 1334).

¹² The IASB labels the standards it has created "International Financial Reporting Standards" (IFRS). The standards it has inherited from the International Accounting Standards Committee it labels International Accounting Standards (IAS). Inventories are covered by IAS 2 and leases by IAS 17.