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“Economic Governance of Railways in a Federation”

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Economic Governance of Railways in a Federation

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Abstract

Until recently, Australia's State Government-owned railways operated almost entirely within their home states. This has begun to change, in response to the new dynamics unleashed by economic and structural reforms which began in the 1990s. The economic regulatory system that governs third party access to track infrastructure is still a mix of State and Federal regulation, which has led to calls for greater consistency. However, it is not clear how much centralisation is optimal. This paper examines railway governance from an historical and a functional perspective, and argues that the best approach is not technocratic, but institutional.

Keywords: railways, governance

JEL Classifications: L92,L49,L51

Economic Governance of Railways in a Federation

Introduction

Dean Bailey, a former professor at the University of Melbourne Law School suggested in a speech to his US colleagues that, “this matter of economic regulation constitutes the insoluble dilemma of federalism” whilst Justice Stone of Minnesota admitted that interstate commerce was a “nut (he) did not know how to crack” (Ross, 1943, p888). There is much truth in both of these characterisations of economic regulation when viewed from the perspective of constitutional law, and the date of the quotations suggests the issue is not new. The economic boundaries of railways rarely fit the political boundaries of the jurisdictions within which they operate, and there is thus a tendency to move towards centralised control, to match the centralising tendency of the railways themselves. At the same time, however, the adverse impacts of railways which regulation tries to address are often local, leading to calls for local supervision. Too much of either form of control renders governance unstable. The art of railway policy involves striking an appropriate balance between centralisation and fragmentation. This paper seeks to contribute by examining both the history of railway governance and the haulage tasks it performs in Australia today. It finds that the art is not in finding the right balance between centralisation and fragmentation, but in developing an institutional framework within which the balance-point can evolve.

Section Two of this paper outlines the current state of play in terms of economic regulation of Australia’s railways, briefly discussing the costs and benefits of a federated system. Section Three looks at historical responses to the same governance questions Australia faces today. Section Four examines Australian railways from the perspective of their haulage tasks to ascertain differences between the governance each type needs and how conflicts might be resolved. Section Five makes some conclusions about the way forward.

The Regulatory State of Play

Operationally, rail has always performed the same task; transporting freight and passengers in the most efficient manner possible. However, public policy has expected railways to perform other roles, almost from their inception. These have included; consolidating empires, supporting regional development, advancing social welfare, supporting political integration, improving labour relations and supporting sustainable environmental development. More recently, in Australia and Europe, rail has been called upon to improve competition in the transport sector. This is important for the economic governance of railways for it introduces two new elements to the railways not seen in Australia prior to the 1990s:

- Treatment of the above (trains) and below (track and signalling infrastructure) rail components of the business as separate entities within one organisation or divested into two separate organisations, with the latter being a form of common property accessible to all train operators.
- Regulation of prices (for access to track) by a third party economic regulator independent to the industry.

Neither element is particularly new. The very first railways were conceived as multi-user infrastructure like extant toll-roads. However, it soon became apparent that the

engineering characteristics of railways (limited ability for trains to pass each other and poor brakes on early trains) mitigated towards vertical integration. Lardner (1855) provides a detailed account of this history. Regulation of price began in the UK with Gladstone's *Railway Act* of 1844 and its "Parliamentary Trains" (Harding, 1848) and in a more comprehensive fashion in Continental Europe with French Railway Concessions in the 1850s (see Dobbin, 1994). Regulation of price in the US began with the Granger Laws in the 1870s, discussed in more detail below.

In Australia, economic regulation of railways has a much shorter history. Until very recently, Australia's railways were owned and managed by government.¹ This brought with it a large number of non-commercial objectives which impeded the efficient operation of the railways. By the 1980s, Australia's railways had become moribund, crushed under debts of \$3.7 billion (BTCE, 1995 - 2005 dollars) and in need of significant reform if they were to survive. The Industry Commission (1991) divides the reforms which followed into two phases. During the 1980s, the railways engaged in internal reforms which improved productivity but which did not change their structure. For example, excess workers were shed, lines were closed, non-profitable traffic was abandoned and government owners allowed the railways to set their prices on a commercial basis. By the early 1990s, these reforms had largely played out, and policymakers began to explore structural reform of the railways. This somewhat uneven process involved horizontal separation of their businesses into the potentially profitable freight services and the public service of passenger rail provision. In some cases (FreightCorp in NSW, National Rail and Westrail in WA) these freight businesses were eventually sold to the private sector, whilst in others (QR) the government-owned businesses were corporatised.

Structural reform also involved vertical separation, either by ring fencing (WA, Victoria and Queensland) or by divestment into a separate company (NSW and nationally), and the provision of access to track infrastructure by third parties. Management of track infrastructure was privatised in Victoria, SA, Tasmania and WA, but Victoria and Tasmania later bought back the infrastructure from its lessees. The notion behind separation was that rail consisted of a natural monopoly component, the track, and a potentially competitive component, the trains themselves. Moreover, by providing access to third party train providers, policymakers thought they might motivate competition in the above-rail sector, and improve the efficiency of the industry as a whole. Given the natural monopoly nature of the below-rail infrastructure, this access would need to be regulated.

However, development of regulated third party access was uneven. The States were reforming at different speeds and developed their own regimes. WA, Queensland and NSW put their regimes to the National Competition Commission (NCC) for certification as to their 'effectiveness' in 1999, but only NSW was certified, and then only temporarily. The idea was that, rather than half a dozen different regimes developing, each regime would adopt one consistent regime based on that being developed by the Australian Competition and Consumer Commission (ACCC). However, the States were not prepared to sign up to a regime still under development, and hence fragmentation has remained. Table One shows the current state of play.

¹ This excludes the iron ore railways of the Pilbara, the sugar railways of Queensland, and some other smaller private lines. These were not the focus of reform in the 1990s, although the NCC is endeavouring to impose third party access on the iron ore railways at present.

Table One: Australian Rail Access Regulators

Regulator	Jurisdiction
ACCC	National track and NSW non-urban track (see footnote 20)
Queensland Competition Authority	Queensland
WA Economic Regulation Authority	WA south west (WestNet Rail and PTA track)
Independent Pricing and Regulatory Tribunal (IPART)	NSW (metropolitan area only)
Victorian Essential Services Commission	Victoria
South Australian Essential Services Commission	South Australian track and Tarcoola-Darwin railway

Not only are there multiple access regulators, but there are also three ways in which a piece of railway track can enter the sphere of regulated access:

- It can be made subject to a State-based regime.
- It can be made party to a voluntary access agreement filed with the ACCC under Part IIIA of the *Trade Practices Act*.
- It can be subject to declaration as ‘nationally significant infrastructure’ by the National Competition Commission, whereupon railway track owners are required to develop an access agreement.

Most access occurs through State-based regimes. The exceptions to this are the Australian Rail Track Corporation’s (ARTC) interstate track, and the Tarcoola-Darwin Railway, which is operated by Freightlink and which had its access regime certified by the NCC in February 2000 as part of the public-private partnership under which the line was constructed. The former is regulated by the ACCC and the latter by the South Australian Essential Services Commission.

Three different paths to regulated access is problematic not just for its diversity, but also because it provides scope for regime shopping. In particular, track which is covered by an uncertified State regime could formerly be subject to declaration by the NCC or an undertaking by the ACCC. For example, in February 2002, Freight Australia, frustrated by the difficulties in its dispute with the Victorian regulator (see below) submitted its track for declaration with the NCC. At the time, not only was the track subject to a Victoria State-based regime, but the regime itself was before the NCC for certification. Prevention of regime shopping has been enhanced by recent amendments to the *Trade Practices Act (the Trade Practices Amendment (National Access Regime) Act 2006)* which prohibit the ACCC from accepting an undertaking on infrastructure which is already subject to an effective State regime, and the Council of Australian Governments (CoAG) recently agreed that all State access regimes would be put to the NCC for certification by 2010 (see below).

Regulators in Australia have approached the issue of regulatory diversity in the same way that their counterparts in the US did a century ago; they meet regularly and discuss how they can promote greater consistency in regulatory practice. The result has been some convergence in recent years, but in reality, the regimes were not particularly different at the outset. In each regime, the regulator may determine ‘floor’ and ‘ceiling’ revenue levels for the infrastructure under its jurisdiction, and these are based on some form of a cost-based ‘building-block’ approach (see ACCC,

1995) which takes into account the incremental costs of service for the floor and full economic costs for the ceiling. The most important difference is the way in which asset values are calculated; all adopt the Depreciated Optimised Replacement Cost methodology, except the Economic Regulation Authority (ERA) in WA which uses the Gross Replacement Value method.² All have adopted a ‘negotiate-arbitrate’ regulatory model, though each has its own process to trigger regulatory intervention, with some acting prior to an access request, and some acting ex-post, only when access negotiations have failed. Some railways (the ARTC and QR) have included reference tariffs to guide negotiations in their access arrangements, and these have been accepted by regulators. To date, only Victoria has required reference tariffs, which must be calculated by a methodology determined by the regulator.

Greater consistency through regular contact amongst regulators can only go so far, as each is limited by the legislation under which it operates. There have thus been calls to change this legislation. The topic was dealt with in some detail in the recent Productivity Commission investigation of road and rail infrastructure pricing (PC, 2006), which supported greater consistency, and also in the Exports and Infrastructure Taskforce (2005), which made similar conclusions.³ The response by government came in February 2006, with the release of the *Competition and Infrastructure Reform Agreement* (CoAG, 2006). Under this agreement, policymakers have agreed the following in respect to third party access:

- To consider the introduction of price monitoring, rather than price regulation, in certain circumstances where this would be effective.
- All third party access agreements should include object clauses to promote economic efficiency in the operation of and investment in infrastructure.
- Agreements should have simple and consistent principles defining access prices.
- Pricing should allow the recovery of efficient returns and incentives for productivity improvements. Multi-part pricing and price discrimination should also be permitted, but steps should be taken to ensure a vertically-integrated monopolist cannot price in such a way as to favour its downstream arm.
- Nationally significant interstate rail infrastructure should adopt consistent access regimes based on that of the ARTC and similar intrastate infrastructure should do the same where there are benefits from doing so.
- Time limits for reviews of six months, except in extenuating circumstances.
- Provision should be made for merit reviews of regulatory decisions.
- All State-based regimes should be submitted for certification by the NCC by the end of 2010.
- Where governments are creating infrastructure with natural monopoly components, they should consider competitive tendering to reduce the need for subsequent regulation.

On April 13th 2007, CoAG met again, and the National Reform Agenda was refined further.⁴ Amendments to Clause Six of the *Competition Principles Agreement*,⁵

² See http://www.era.wa.gov.au/3/235/48/grv_vs_dorc.pm for a comparison of the two methodologies.

³ Note that neither advocates that all railway access regimes should be the same. The Productivity Commission (2006) in particular, devotes considerable space to both sides of the debate. BTRE (2006) also discusses the issue of fragmentation and centralisation at length, incorporating safety and occupational health and safety regulation into the analysis.

⁴ Substantive details pertaining to this agreement can be found at http://www.coag.gov.au/meetings/130407/docs/coag_nra_competition_reforms.pdf

which implement the above dot points were agreed upon, along with a timetable for their implementation. A timeframe was also developed for the review of the various State access regimes, such that they could be certified by 2010. To date, only Queensland has made substantial progress in this regard, recently releasing amendments to its *Queensland Competition Authority Act 1997* for comment.⁶ More specific to rail, CoAG agreed on a target date of December 2008 to implement a consistent system of rail access to agreed interstate and major intrastate freight corridors. At the same time, CoAG working groups are investigating the possibility of adapting the existing ARTC access undertaking to cover both vertically integrated and vertically separated railways.⁷ The interstate network to be covered includes the track owned by the ARTC as well as track operated by WestNet between Perth and Kalgoorlie and by QR between Brisbane and the NSW border. CoAG intends to explore means of bringing the latter two sections of track under a national system of regulation (at present, each is regulated at the State level) through a process of commercial negotiation. Major intrastate freight routes have yet to be identified, and process of case-by-case identification is due to start in December 2007. A working group within CoAG has been working on these issues, and is set to continue to do so.

Policymakers appear to be moving rather quickly towards a centralised solution. The position of industry is rather different. Initially, much of the pressure for greater consistency came from industry. Federal Treasury thus approached the Australasian Railway Association to examine industry views on what kind of a consistent set of regulations industry might prefer at the beginning of 2007.

However, recent consultations with industry suggest consistent economic regulations is no longer a major issue. There are some concerns that the national regulation of 'major intrastate freight corridors' would actually increase the regulatory burden for many operators, who ship freight along branch-lines and then onto main-lines as it approaches ports for export. At present, most of these operators face just one State regime, but the CoAG process outlined above would mean they would face two. NSW already faces this issue on some of its track through the lease of much of its intrastate track to the ARTC, and other States are loath to follow its example.

Industry appears to be more concerned about what is in access regulations rather than whether they are consistent with each other or not. However, industry players are somewhat divided on the question of what an ideal access regime should contain. This is unsurprising, given the diversity of interests within the industry and highlights the need to consider in more detail the process by which consistency is achieved. As argued in the concluding sections of this paper, if policymakers move too far ahead of industry needs in regards to consolidation then the balance between centralisation and fragmentation may no longer be appropriate for industry.

⁵ Which deals with the interaction between and content of State and Federal access regimes. See <http://www.ncc.gov.au/activity.asp?activityID=39> for details.

⁶ See <http://www.treasury.qld.gov.au/office/services/regulatory-reform/qcaaat-review.shtml> for details.

⁷ These two types of railways have quite different incentives; vertically integrated railways have an incentive to foreclose access to downstream rivals through high prices and/or restrictive conditions, whilst vertically separated railways do not. Thus, vertically integrated railways generally require stricter access conditions than their vertically separated peers. It is unclear why, CoAG has sought to lump these two very different types of railway together, nor quite how it intends to do so.

Costs and Benefits of the Current System and Striking a Balance

Both the Productivity Commission (2006) and the Bureau of Transport and Regional Economics (2006) provide detailed accounts of the costs and benefits of fragmentation versus centralisation of governance structures in Australia's railway system. This section of the paper highlights some issues from the perspective of the trade-off between centralisation and fragmentation. The current fragmented system in Australia has three obvious and immediate costs. For rail operators seeking to cross Australia, the plethora of regulators mean that access to each section of railway track in different jurisdictions may be on different terms, increasing the costs of traffic. For the regulators themselves, multiple regulatory offices with their associated support staff may represent wasteful use of resources. Thirdly, for the industry as a whole, multiple regulators raise the risk of divergence and potentially contradictory regimes which may hamper the development of national rail systems.

There are also, however, two key benefits. The first of these is proximity of interest. A regulator located closer to the regulated entity and with fewer responsibilities over other firms is more likely to be receptive to the idiosyncrasies of the particular firm being regulated than a more distant regulator with a wider portfolio of firms being regulated. Such a distant regulator is more likely to seek points of commonality in a 'one-size-fits-all' solution to regulatory problems. At the very least, it will consider the ramifications of a decision which takes into account the idiosyncrasies of one railway on its other regulatory decisions. Perhaps more importantly, railways seldom stand alone, but rather sit within logistics chains. If other elements of these chains (roads and ports, for example) are managed by a local or regional level of government and the railway at the Federal level, this could lead to mis-coordination in the governance of the chain as a whole. The current CoAG proposals for nationally significant intrastate routes (see above) are especially troubling from this perspective, as they would actually increase the regulatory burden for many rail users, who cross from branch lines to track designated as nationally significant. This is why examining railways from a functional perspective is particularly useful.

The second is the possibility, with numerous regulators, for experimentation in different approaches. This has proved very useful in Australia. When third party access regimes were first created, they differed from State to State more widely than they do today. In particular, the regime in Victoria was particularly light-handed, with loosely defined roles for the regulator. The reason for this was that most of the freight task in Victoria was associated with export grain, which was hauled by the vertically integrated incumbent. It was considered by policymakers that ancillary, small freight tasks being sought by third parties could be relatively easily accommodated by commercial negotiation. However, in 2001, GrainCorp, the major customer of the incumbent railway operator, decided to operate its own trains, and sought access, very much against the wishes of the railway operator. The result was several years of delay and confusion. The light-handed Victorian regulatory regime proved entirely unsuitable for the task of determining how an access regime would be structured; the price determination process was opaque and complex, and the regulator lacked the requisite powers to obtain information from the railway operator. The railway was sold to another company, and the case eventually resulted in Victoria promulgating a new regime (based upon the more successful regimes of WA and Queensland) in January 2006. Victoria has a relatively small share of the overall rail freight task, which limited the impacts of the imbroglio. If all of Australia had been

covered by the same regulatory regime as in Victoria, the consequences for the rail industry would have been substantial. Fragmentation gave the regulators opportunities to learn from each other, and improve their systems.

In reality, a trade-off exists; railways are neither so similar that all can be governed under the same regime (or under several regimes which are all the same), nor is each railway so different that it requires an entirely different regulatory regime. The use of State and Federal control allows policymakers to reflect differences between railways in a potentially useful manner. However, simply installing a Federal regime and several State regimes is insufficient and may lead to little more than wasteful duplication of oversight. Worse still, there does not appear to be a generalisable, practical way to determine which agencies should regulate which aspects of the railways (in a third-party access sense). It is partly for this reason that the paper considers the functional task of Australia's railways. However, what is clear is that a balance-point does exist between over-centralisation and over-fragmentation. The lesson from the long history of rail and public policy is that, rather than looking for the balance-point itself, policymakers would do better to develop an institutional framework within which it can be found. This historical lesson is outlined below.

Governing Railways in a Federation in History

Australia today is not unique in facing a situation where railways are beginning to cross State borders. In fact, Australia has faced a similar issue in the past. The railways of the 19th Century were owned by the colonial governments.⁸ Moreover, pricing was directly controlled by government, and ultimately the ballot-box, so pressures such as the Granger Movement (see below) did not arise. There was, however, pressure for some form of supra-State control over the railways at the time of Australia's Federation, which meant that railways played a large part in the constitutional debates in the decade preceding Federation (some 304 pages of debate, according to Maskell, 1982), and that three sections of the Constitution (102 to 104) were devoted to an Interstate Commission, which was intended to provide (limited) Federal oversight of the State railways.

The pressures came from a series of acrimonious disputes which had flared up as the railways reached the colonial borders and began to "poach" freight from other colonies. The disputes were fiercest in the Riverina region, where Victoria, NSW and SA each competed to export the agricultural produce of the region using very low freight rates to do so (see Clark, 1908, for a detailed account). The problem for the colonial governments was that there seemed to be no way out of the prisoners' dilemma they had created for themselves at the borders, and they hoped that Federal oversight (suitably circumscribed so as not to subvert their development policies) might provide a way out of the dilemma. US railways sought the same kind of stability from regulation (see below).

The Interstate Commission was not founded until 1912, and did not rule on any railway cases during its short life.⁹ However, this did not adversely affect the railways because they had by then discovered another way out of their prisoners' dilemma (also attempted by US railways, but with less success); they formed a cartel

⁸ As is the case today, there were some private rail links, especially at borders.

⁹ See Stevenson (1987) for details, including the reformation of the Commission in the 1980s

to control pricing at the borders, and thus took the heat out of the railway price wars. This took two attempts, one in 1895, which the Victorian government overruled, and one in 1905 which was more successful. Clark (1908) provides further details.

In 1905, with only a small amount of cross-border traffic, direct government control of the railways and no *Trade Practices Act*, a cartel was perhaps a useful solution for the governance of interstate traffic. However, such collusion is unlikely to be either acceptable or effective today. For this reason, it is more useful to concentrate on a different experience of governing railways within a Federal system; that of the US over the 50 year period (roughly 1870 until the 1920s), during which it developed a governance system for its railways incorporating both State and Federal oversight. This history is discussed below.

United States and the Movement to Federal Regulation

The early experience of the nexus between government and business in the context of railways in the US did not augur well for the future of railway governance. Whilst the private sector largely built the railways of the US, Federal, State and local governments provided significant cash and land grants as incentives to speed railway construction. This led to rapid development of the railways, but it also led to overcapacity, lines with unviable traffic and a considerable amount of fraud and corruption. This latter aspect caused the public to be highly sceptical of any form of government involvement in the railways (see Dobbin, 1994).

However, the behaviour of the railway barons did little to endear them to popular opinion either. With their high sunk costs, railways inevitably (and efficiently, see Ramsey, 1927 and Boiteaux, 1971) engage in some form of price discrimination. However, in order to cover the costs of marginal lines and the consequence of intense competition on routes between cities, the railway barons raised prices considerably on the lines to rural hinterlands where they held a monopoly, compared to the lines between cities where they competed with other railways. Since this involved different charges for essentially the same service, it was met with great hostility. Moreover, it was clear that the common law was insufficient for dealing with grievances associated with this discrimination, largely because of the vast disparity in the financial resources railway operators could bring to a court case, compared with their customers. This led, eventually, to Americans choosing an increased role for government oversight of the railways, as the lesser of two evils. The progress was slow and carefully considered, which makes it illuminating for policymakers today.

The first regulatory commissions were established in the New England States, beginning with Massachusetts in 1838, and spreading to all of these States by the 1860s. These commissions, often established in response to complaints about railway rates, had relatively limited powers. They could undertake investigations and publish their results, but they could not compel the railways. Instead, they relied upon moral suasion based on the reasoning that if the misdeeds of the railways were sufficiently egregious, the relevant local community would deal with the misdeed via legislation.

For many customers, particularly farmers facing high rates from monopoly railways, this was insufficient. In 1867, a group of farmers formed the National Grange of the Order of the Patrons of Husbandry (or Grangers) to address the concerns of farmers at the political level. A major concern was discriminatory railway rates. The

movement, which still exists,¹⁰ grew rapidly, with membership rising to 800,000 by 1875. In the late 1860s, they gained control of the legislature in Illinois, Iowa, Minnesota and Wisconsin, and began passing legislation to control railway prices through regulatory commissions. Illinois created the first of these commissions in 1869. Minnesota followed in 1871, and Iowa and Wisconsin in 1874. By 1886, 25 States had such commissions, and further five controlled railway prices by legislation. The new commissions were much more powerful than their New England peers, most particularly in their ability to set prices.

The response of the railways was to either work around the commissions by subverting the (often poorly drafted) legislation, or to challenge the authority of the commissions in the courts. These challenges, doubtless irksome to policymakers at the time, were crucial to the development of robust regulatory practice. The first challenge related to the right of government to regulate business. In a series of cases in 1877, the Supreme Court found that government did in fact have this power for businesses which were 'clothed in the public interest'. Dunbar (1895) provides a detailed account of these cases. The second challenge was based on the 14th Amendment to the US Constitution which forbade the deprivation of life, liberty or property without due process of law; an amendment originally made to protect Negroes under slavery. The railways argued that regulation was a taking of property without due process of law, but the Supreme Court disagreed (again, Dunbar, 1895 provides details). It did, however, set limits on what regulators could do, requiring them to provide 'fair and reasonable' compensation on a 'fair valuation' of assets. Determining fairness was a task the Court believed best left to the executive, not the judiciary, which was ill-equipped for this administrative task. It became a key role for the regulatory commissions, who developed 'scientific' methods to value assets which were almost identical to the building block approach (see ACCC, 1995) used by Australian regulators today. Virtue (1909) outlines the approach and contemporaneous criticisms of it.

The one challenge that the State regulators could not meet however, was the contention by the railways that State regulation was impeding interstate commerce. By 1866, almost three-quarters of railway traffic was interstate traffic (Pegrum, 1973), and it was very difficult for State regulation not to affect such traffic. After a series of cases (see Morrow, 1959 for details), the Supreme Court found in the Wabash case of 1886 that the States could not regulate interstate commerce, and hence interstate railway rates. This created a vacuum into which the Federal Government had to step.

During the 1870s and 1880s, the Federal Government had not been idle. On the legislative front, more than 150 bills to regulate the railways had been considered by Congress (Dobbin, 1994), but none had passed both chambers. The difficulty was that the House and the Senate each had different priorities, due largely to the influence of railway lobbying in the Senate and shipper lobbying in the House.

At the same time, the Federal Government was developing an administrative capacity in regulation within the General Land Office (GLO), established to resolve competing land claims from the various land grant schemes associated with the railways. Although it had no Congressional mandate to do so, the GLO developed a highly

¹⁰ See <http://www.nationalgrange.org/>

sophisticated arbitration system for disputes, using its own previous decisions as precedent and the Attorney General for advice in difficult cases. The system was often preferred by the railways to the Courts and gave business some confidence that the Federal Government would be able to regulate competently.

The railways, too, were changing their views towards regulation. In particular, by the mid 1870s, the railways had finally found a solution to the ruinous competition on rates between cities; they had formed “pools” or cartels (see Kolko, 1965, Hudson, 1890 and MacAvoy, 1965 for details). However, like any collusive agreement, they found the pool prices hard to maintain, and continued with secret discounts for favoured customers. They hoped that regulation might give legal force to the pools, and they began to lobby in the Senate to this end. Gilligan, Marshall & Weingast (1989) provide an account of the different interest groups and their impacts on the formation of Federal rail regulation.

Thus, during the latter half of the 1880s, the relevant stars were aligned for the formation of Federal regulatory oversight of US railways. In February 1887, Congress finally passed the *Act to Regulate Commerce*, and created the Interstate Commerce Commission (ICC). The ICC consisted of five commissioners. It could hear complaints, determine damages, inquire into railway management and require the railways to produce annual data.¹¹ It could not impose sanctions if a railway ignored its directives, but instead had to take its case to court. This involvement of the Courts was quite deliberate, according to Gilligan et al (1989). The shippers realised that they would not be able to hold together as a coalition after the legislation had passed as well as the railways could. Thus, they were concerned that the railways might come to dominate a regulatory commission with wide discretionary powers. For this reason, they favoured the Courts as arbiters, with easily determined tests. The *Act to Regulate Commerce* contained clauses:

- Addressing the reasonableness of rates.
- Outlawing personal discrimination.
- Prohibiting preference or prejudice.
- Prohibiting higher rates for short haul over long haul under similar circumstances.
- Prohibiting pooling (a major political loss for the railways).
- Requiring all rates to be public and published.

Over the next two decades, the Supreme Court challenged many of the weaker clauses in the Act,¹² finding against the ICC in 15 of the 16 cases brought before it. The ICC lost many of its powers, including its *raison detre*; the ability to prescribe rates. However, just as had occurred with State regulation previously, this highlighted to policymakers better ways to structure legislation, and most of these powers were returned (and additional powers added) in the decade before the First World War.¹³

¹¹ An aspect sorely lacking in modern Australian regulation, of all industries.

¹² This is a strength, not a weakness, of the US system, for it ensures rigorous testing of new laws. The State regulatory laws were subject to the same tests, and most of the “Granger Laws” failed. However, they developed important principles which were used in later generations of regulation.

¹³ Through the *Elkins Act 1903*, the *Hepburn Act 1906*, the *Mann-Elkins Act 1910* and the *Valuation Act 1913*.

State vs Federal Regulators in the US

The arrival of Federal regulation did not mean the departure of the State regulatory agencies. Indeed, in the first decade of the 20th Century, when the powers of the ICC were expanded, some 39 States either strengthened their regulatory agencies, or created new ones, beginning with New York and Wisconsin in 1905. These State agencies were often methodologically ahead of the ICC. For example, the “scientific” method of valuing all assets used in common carriage undertaken by the ICC as part of the *Valuation Act 1913* had its origins in the State regulators in Wisconsin, Minnesota and Michigan (Virtue, 1909). State regulators also maintained control over intrastate rail issues, including rates. However, from the perspective of this paper, the interesting issue is how State and Federal regulators interacted in order to find a balance between over-centralisation and over-fragmentation of governance.

Just as was the case in developing robust regulation, a key catalyst in finding the balance between State and Federal regulatory control was the courts. Immediately there were two regulators, the railways endeavoured to play them off against each other, by suggesting that different rates on similar track governed at different levels of government represented discrimination. These disputes made their way to the Supreme Court, and three cases in particular assisted in finding a balance point.¹⁴ The first of these was the Minnesota Rates Case of 1913, whereby the State regulator had passed rulings on intrastate rates which indirectly affected interstate rates as well. The Supreme Court ruled that this was acceptable, as the effects were indirect, and the interstate rates had in any case not been set by the ICC. The second was the Shreveport Case of 1914. Here the disputants were the State regulators, with Louisiana complaining that the rates set by the Texas Railway Commission for lines inside Texas (from Houston and Dallas to jobbing centres in the East) favoured shippers in Texas over those in Louisiana, who faced the higher interstate rates set by the ICC and were hence less able to compete for overseas freight coming through the region. In this instance, the Supreme Court found that the ICC did have the right to correct discrepancies in rates set by it and a State regulator, but did not say how this might be achieved. The issue was not finally solved until 1922. The third case was over passenger fares in Wisconsin in 1922, where the State regulator refused to follow the ICC upwards in allowable rates. In this instance, the Court ruled that the ICC did have the power to require intrastate rates to be changed, but it specifically stated that this was not a general power. Moreover, it stated that cases of discrepancy should only be brought before it when they were substantial, and enjoined the State and Federal regulators to work more closely together.

Of the three cases, Childs (2001) singles out the Shreveport case, not for what it said, but what it forced the State regulators to do. Within two years of the Shreveport case, there were 100 similar cases, which could obviously not be resolved by the Supreme Court fine-tuning where the boundaries between Federal and State authority lay. The key to the solution was to move away from the issue of who should regulate what. At a meeting of its regulators forum in 1916,¹⁵ the head of the Association BH Meyer

¹⁴ Childs (2001) and Pegrum (1973) each provide a detailed account of these three cases.

¹⁵ The National Association of Railroad Commissioners (from 1917, the National Association of Railway and Utilities Commissioners). This body was created in 1889, at the urging of the first chair of the ICC, Judge Thomas Cooley, who was a constitutional lawyer, and realised the difficulties of drawing lines of demarcation between State and Federal oversight of the railways, and envisioned ameliorating these difficulties by getting railway regulators to work together.

suggested that the best approach would be to side-step the Constitutional issue altogether, as it was too hard to resolve. Instead, he suggested, the ICC and the State regulators should work together to ensure that rates were reasonable and discrepancies fewer and hence reducing the potential for cases to come to court. This process was formalised in March 1922 and later became a model for other regulated industries facing the same issue. Childs (2001) refers to it as “pragmatic federalism”, and argues that it improved the development of US regulatory policy.

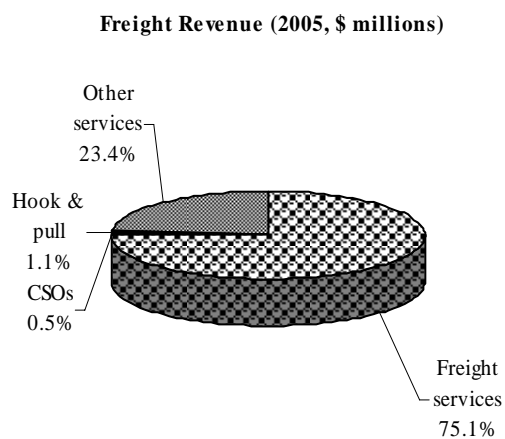
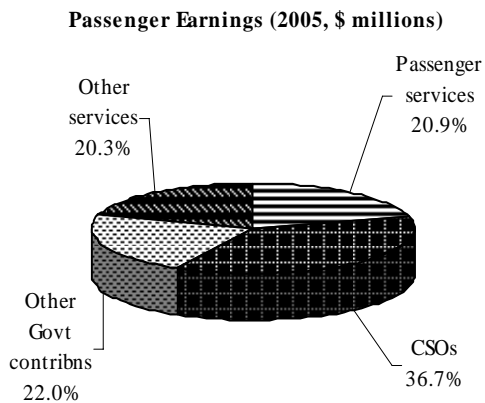
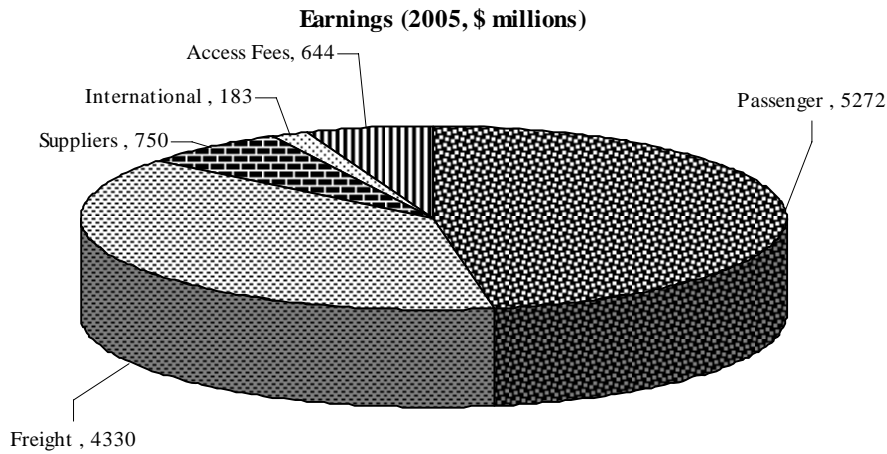
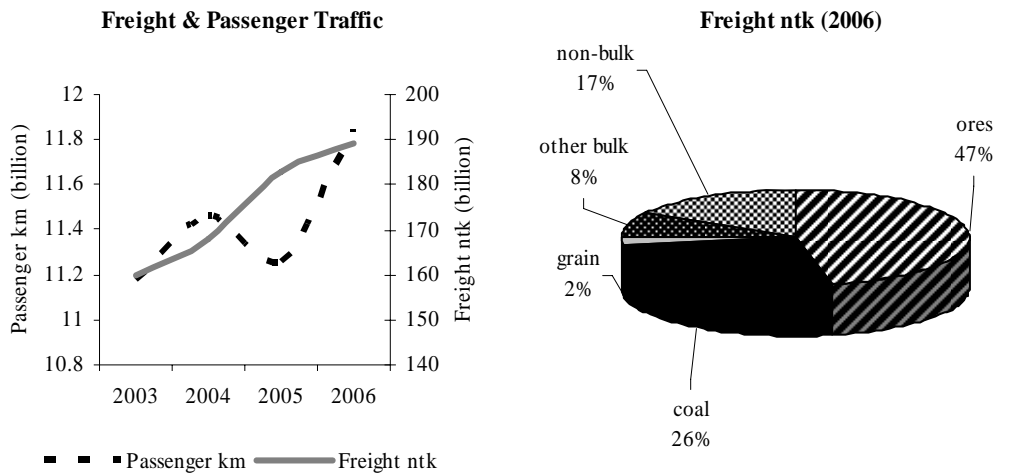
The lesson for Australia today is clear; constructive co-operation in an evolutionary approach is preferable to the impossibility of devising a generalisable balance point. This evolutionary approach requires a focus on the institutional structures surrounding railways. In the US in the early 20th Century, one had the Federal and State regulatory agencies on the one hand, each vying for a role (particularly the State regulators, who were dogmatically endeavouring to avoid being eclipsed). On the other hand, one had railway operators seeking to exploit any differences between the two to their advantage. In between, one had the courts, which sought to force the regulatory agencies to minimise their differences in a way useful to business. Although the results were not perfect (see Childs, 2001), the institutional structures and behaviour of the actors resulted in an evolutionary approach towards an acceptable balance point for each of the railways concerned.

Although much of the institutional structure used by the US exists in Australia today, what seems lacking is a better perspective on the scope of the problem being addressed. Australia today is different from the US in the 19th Century because it has a much smaller interstate rail haulage task. To obtain a better perspective on the scale of the problem, it is useful to examine the haulage task of Australia’s railways.

The Haulage Task of Australia’s Railways

Australia’s rail haulage task is quite different from that of the US a century ago. In particular, only a quarter of the current Australian haulage task is interstate freight (see Figure Two). Thus, the governance structure required in Australia is likely to be different to that which developed in the US, with a more prevalent State role. To explore this further, it is useful to study the composition of rail haulage in Australia, and examine what each of the major haulage tasks requires from the perspective of third party access to track and its governance at a State or Federal level. Figure One provides an overview of the major haulage tasks.

Figure One: Major Freight Tasks in Australia



Comparing freight and passenger traffic on the basis of quantity is difficult,¹⁶ and thus Figure One includes both quantity and revenue data. On the basis of quantity carried,

¹⁶ A very crude measure is to consider an average person weighing between 60 and 70 kg, and convert passenger kilometres to net tonne kilometres (ntk), the measure used for freight. By this measure, passenger traffic accounts for less than one percent of freight traffic.

passenger freight is less important than freight. On the basis of revenue, the two are roughly equal. However, their sources of revenue are quite different; only one fifth of passenger revenues are collected from passengers themselves and more than half is collected from government. By contrast, freight rail customers pay almost the entire cost of their services directly. Within freight rail haulage, coal and ores clearly dominate, with intermodal freight a distant third. Grain accounts for only a very small proportion of the overall freight task, but uses a large amount of rail infrastructure.

In Australia, economic regulation of railways pertains to access to track infrastructure, rather than the price of haulage services, as in the US case study above. Obviously, in some cases, a piece of track infrastructure will have multiple uses. However, it is useful to examine the characteristics of each rail freight task as they pertain to third party access first, and then to return to points of potential conflict.

Commuter Rail

Each commuter rail task occurs entirely within the boundaries of a city and each city is heterogeneous; the needs of Sydney are quite different from the need of Perth, for example. A system of regulatory governance seeking consistency between these disparate cities would be very difficult to create and there would be few economies of scale from having a single regulator governing all capital cities because different regulation would be required for each. Moreover, the commuter rail system in each city is integral to other forms of public transport, and part of the overall land-use planning framework of that city. Federal control of one part of the land-use planning system in a complex city and State control of the remainder seems difficult to coordinate. There thus seems to be little that is gained from having Federal governance of commuter rail infrastructure, or even forcing each State to adopt the same set of regulatory protocols; each city is quite different and should be able to operate as such.

Indeed, it is questionable as to whether third party access is useful for commuter rail. The service barely covers its operating costs, and hence it is unclear what sort of monopoly abuses the public is being protected from by third party access. Moreover, the main goals of a commuter rail system are unrelated to profits at all; they are rather concerned with reducing congestion and pollution, and ensuring the efficient movement of large numbers of people around a city. In order to do this, the rail system needs to exploit its network economies, which could be difficult within a third party access regime and competition for passengers between railway operators. For this reason, attempts to introduce competition in commuter rail have tended to focus on competitive tenders for concessions, rather than competition on the railway itself.

Bulk Minerals and Grain

Bulk minerals and grain, although very different as freight tasks, share common characteristics from the perspective of State or Federal governance of infrastructure. In each case, the logistics chains of which rail forms a part sit almost entirely within the borders of a single state. Moreover, in each case, the other elements of each logistics chain (roads, ports and so on) also sit within the borders of the State concerned. The logistics chains are planned at the State level, as is underlying industrial development policy. This is especially the case with grain, which is tied up in the economics and politics of regional development policies. National or Consistent State governance of one link in these logistics chains would reduce

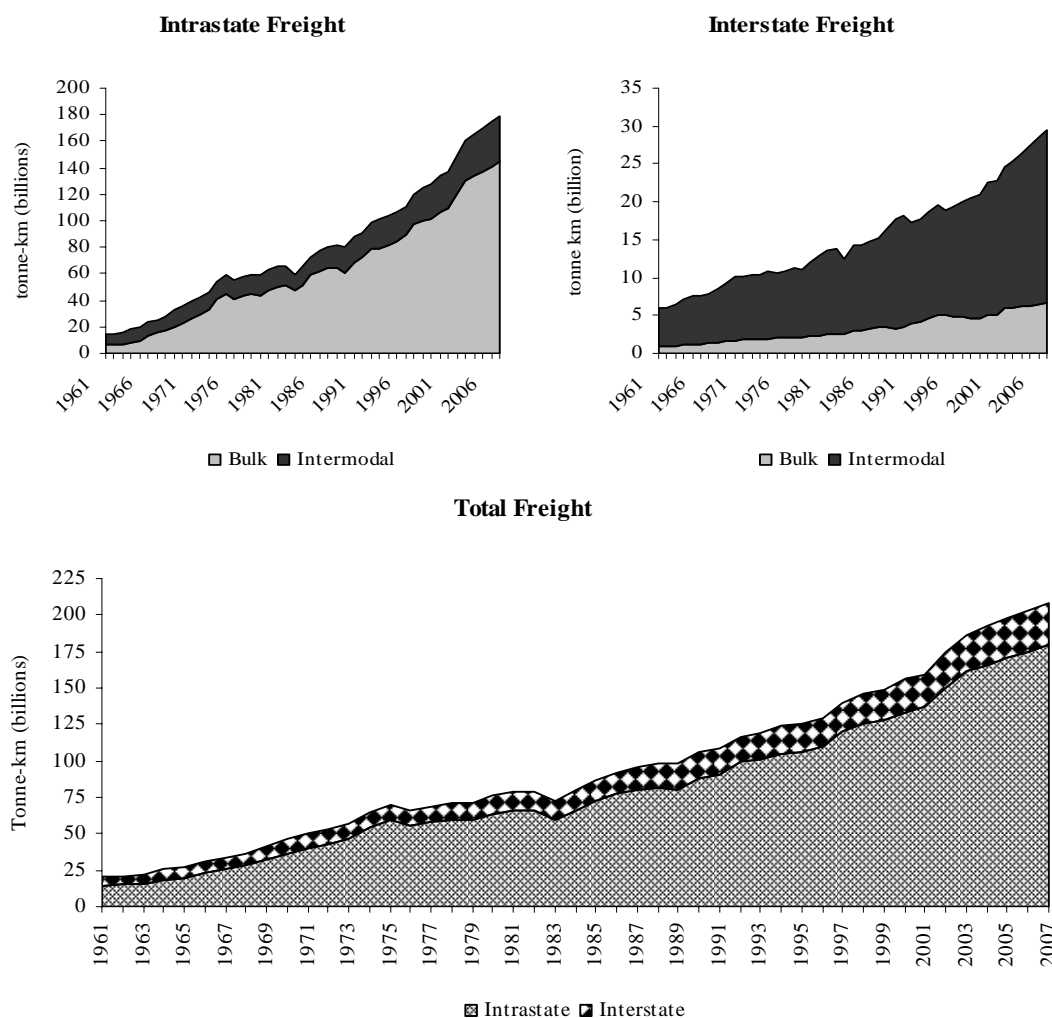
markedly the flexibility with which each State could effect its development policies.¹⁷ There thus seems a strong argument for retaining governance in State hands.

Again, the argument for third party access on lines servicing minerals and (more particularly) grain is weak. This is discussed in more detail in Wills-Johnson (2007) and in the Exports and Infrastructure Taskforce (2005), which advocates that regulation be applied to export logistics chains ‘sparingly’.¹⁸

Intermodal Freight

Intermodal freight is quite different from other freight tasks. In general, it is only economical to use rail (compared with trucks) over long distances. Thus, intermodal rail freight is predominantly interstate in nature. Figure Two shows the proportion of interstate and intrastate intermodal freight in Australia.

Figure Two: Interstate and Intrastate Bulk and Intermodal Traffic in Australia



As a proportion of total freight, interstate freight is relatively small; overall, some three-quarters of freight is intrastate and just one-quarter is interstate. However, when

¹⁷ Giving governance of part of a rail route used by grain and minerals traffic to a Federal agency whilst keeping the remainder in State hands (as CoAG suggests) is, as discussed above, even worse.

¹⁸ The Productivity Commission (2006) also argues that regulation be scaled back, but advocates its continuation on coal chains due to concerns about rail’s monopoly position.

the one analyses bulk and intermodal freight separately, the two are almost polar opposites; around 80 percent of bulk freight is intrastate and around 80 percent of intermodal freight is interstate.

Not only is intermodal freight predominantly interstate, but it also often feeds into markets where the logistics chain can earn monopoly rents (see Wills-Johnson, 2007, for a more detailed discussion). Since rail can earn monopoly rents, third party access is potentially justified.¹⁹ Where intermodal freight is predominantly interstate, it seems most likely that Federal control would be optimal (absent of any issues with existing track leases); a process towards which CoAG appears to be moving. However, where the intermodal freight is intrastate, because these lines are also used by grain and minerals traffic which accesses them from branch lines currently subject to State control, Federal regulation would result in two layers of regulation where previously there was one (and perhaps optimally there is none). Thus, there seems to be little to recommend Federal control of major intrastate routes, such as the South-West Main in Western Australia; this part of the *Competition and Infrastructure Reform Agreement* seems flawed.

The solution of Federally regulated intermodal traffic has largely been instituted already. One entity, the ARTC manages almost all of the track in Australia upon which interstate, intermodal freight is carried, and it is regulated at the Federal level by the ACCC.²⁰ However, four important exceptions remain:

- Brisbane to the NSW border (operated by Queensland rail and regulated by the Queensland Competition Authority).
- Perth to Kalgoorlie (operated by Westnet Rail and regulated by the WA Economic Regulation Authority).
- Parts of the interstate network within the Sydney Metropolitan Commuter Network (owned by Railcorp and regulated by the Independent Pricing and Regulatory Tribunal).
- The Tarcoola to Darwin Railway (operated by Freightlink and regulated by the SA Essential Services Commission).

The first two of these lines are already part of a CoAG process, discussed previously, which may lead to their inclusion in a national regime, depending upon the outcome of commercial negotiation. The track within Sydney should arguably not come under Federal control, or be subject to an access regime designed to be consistent with freight railways elsewhere (like that of the ARTC). Although freight might be inconvenienced by the operations of a system designed to service commuters first, the cost to freight of such an arrangement is likely to be much smaller than the potential costs which might arise if the access regime interrupts with the smooth operations of a complex commuter rail system such as that which operates in Sydney. The issue is in any case likely to be alleviated somewhat by the construction of the South Sydney

¹⁹ An appropriate assessment would be the amount of rents potentially available to rail on a given route, compared to the cost of regulating that route.

²⁰ Much of this network is governed under the ARTC's 2002 Access Undertaking. In 2004, the ARTC entered into an agreement with the NSW State Government to lease a large portion of its intrastate track, and it submitted an access undertaking for this track in June 2007. The undertaking was withdrawn in October 2007, but the ARTC stated it intended to resubmit in future (although not stated in its reasons, this seems likely to be due to the activities of CoAG discussed previously). Further details available at <http://www.accc.gov.au/content/index.phtml/itemId/789738/fromItemId/756997>.

Freight Corridor, which is specifically designed to avoid conflicts between freight and commuter passenger rail. Finally, the terms of the Tarcoola to Darwin Railway access undertaking were developed when the railway was built, to satisfy the requirements of the private financial partners of this public-private partnership. The undertaking is different from access arrangements elsewhere in Australia, most especially due to the use of the Efficient Component Pricing Rule (see Albon, 2007 for a recent critique), but these differences would remain regardless of whether the regulator was a State or Federal agency, because of the private-public partnership arrangements.

Points of Conflict

The above characterisation is not the entire story as a piece of railway infrastructure is often used by more than one haulage task, which gives rise to a potential conflict if one task is best governed Federally and the other at the State level. The key issue is how much track is actually shared by tasks which are best governed by different levels of government. A detailed review is beyond the scope of this paper (but is worth doing nonetheless), but most of the conflict would appear to arise around major ports, which are used both by interstate intermodal freight and bulk freight. In other cases, particularly if third party access is removed where it is not particularly useful, the scope for conflict seems rather limited.

If the scope for conflict is limited, the CoAG approach of seeking consistency across the whole railway system seems overwrought. It also appears to be moving towards too much consistency, as evinced by the attempts to bring vertically integrated and vertically separated railways under a single type of access undertaking.

More important than the drive to consistency is the way in which it is being handled. Whilst industry is being consulted, the driving force is within government. The end result will doubtless be some diversity in regulation, either in the access regimes developed, or in the regulatory structures used, or both. However, the degree and nature of diversity will reflect political and administrative tractability amongst the CoAG parties working on consistent rail access regulation. These differences are not guaranteed to be the points of differences which are optimal from the perspective of the efficient operation of the railways. For this to occur requires far more involvement from industry; not just through being consulted, but through actively challenging government policymakers and through seeking to play off State and Federal agencies against each other in the courts, as occurred in the US. The end result is likely to be co-operation, as occurs today between regulators. However, the dynamic of that co-operation would be different, due to its being driven by industry challenges of government. Such challenges are irksome to policymakers and time-consuming for the policy-making process. However, they contribute to robust regulation. A new dynamic based on industry challenge could begin with the CoAG proposal to bring interstate links under national regulation through a process of commercial negotiation, and through the assessment of intrastate links as to their suitability for national regulation.

Fostering this environment of challenge requires a different approach from policymakers. Rather than a technocratic focus on where lines of demarcation should be drawn and precisely what should go into the holy text of a unified access undertaking which can be applied to all track in Australia, the focus should instead be

institutional. In particular, examining how the courts, the Federal and State regulatory agencies and industry can be brought together in a useful conflict which results in the evolution of robust regulatory practice. This institutional focus has, to date, been lacking, as has the willingness (the Pilbara notwithstanding) of the railway industry to more robustly challenge policymakers to prove the worth of their policy prescriptions.

Conclusions

This paper has examined the economic governance of railways, which in Australia pertains to the provision of third party access, from an historical and a function perspective. The historical perspective is useful because it shows that there is no single 'right' answer, but rather that the solution lies in creating an appropriate institutional framework within which the tensions between centralisation and fragmentation can be usefully played out. This is likely an irksome conclusion for Australian policymakers, attuned to the delivery of 'right answers' through devout belief in neoclassical economics. However, it is the sort of conclusion that Sen (1995) and other scholars of social choice theory might support.

The functional perspective is useful because it highlights the scale of the problem which is of issue. One is not talking about the whole system, but rather a few points of conflict, mostly around major ports. Thus, solutions should not be overwrought in their complexity when the scale of the problem is relatively small.

The solution in fact involves using the institutional framework which exists at present (the diversity of economic regulators, the railway operators and the courts) to institute an evolutionary process towards greater consistency with a different dynamic to that which exists within the current CoAG framework. In particular, greater involvement by industry is required in challenging the government, rather than being consulted by it. This allows governance frameworks to develop in a more robust fashion, and ensures that the patterns of heterogeneity which remain at the end of the process reflect what the industry requires, and not political tractability. The process is perhaps longer, and definitely messier than the sedate process of management within government. However, like sausages, the formation of good governance is not intended to be a process that is pleasant to watch.

Bibliography

- Albon, R 2007, 'The use and abuse of the efficient component pricing rule', *Network: A publication of the utility regulators forum*, vol. 25, pp. 2-7.
- Australasian Railway Association (ARA) 2007, *Australian rail industry report 2006*, prepared for the ARA by the Appelbaum Consulting Group, May 2007. Retrieved December 6th, 2007 from <http://www.ara.net.au/publications.htm>.
- Australasian Railway Association (ARA) 2007, *Australian rail industry report 2005*, prepared for the ARA by the Appelbaum Consulting Group, June 2006. Retrieved December 6th, 2007 from <http://www.ara.net.au/publications.htm>.
- Australian Competition and Consumer Commission (ACCC) 1995 *Access regimes: A guide to Part IIIA of the Trade Practices Act*, AGPS, Canberra.
- Boiteaux, M 1971, 'On the management of public monopolies subject to budgetary constraints', *Journal of Economic Theory* vol. 3 no.3, pp. 219-240.²¹
- Bureau of Transport and Communication Economics (BTCE) 1995, *Analysis of the rail deficit*, BTCE Information Paper 40, AGPS, Canberra.
- Bureau of Transport and Regional economics (BTRE) 2006, *Optimising harmonisation in the Australian railway industry*, Report 114, BTRE, Canberra.
- Childs, WR 2001, 'State regulators and pragmatic federalism in the United States, 1889-1945', *Business History Review*, vol.75, pp. 701-38.
- Clark, VS 1908, 'Australian economic problems. I: The railways', *Quarterly Journal of Economics*, vol. 22 no.3 pp.399-451.
- Council of Australian Governments (CoAG) 2006 *Competition and infrastructure reform agreement*, 10th February 2006. Retrieved December 6th, 2007 from <http://www.coag.gov.au/meetings/100206/index.htm>.
- Dobbin, F 1994, *Forging industrial policy: The US, Britain and France in the railway age*, Cambridge University Press, New York.
- Dunbar, WH 1895, 'State regulation of prices and rates', *Quarterly Journal of Economics*, vol. 9 no. 3, pp 305-32.
- Exports and Infrastructure Taskforce, 2005, *Australia's export infrastructure*, Report to the Prime Minister, May 2005.
- Gilligan, TW, Marshall, WJ & Weingast, BR 1989, 'Regulation and the theory of legislative choice: The Interstate Commerce Act of 1887', *Journal of Law and Economics*, vol. 32 no. 1 pp135-61.
- Harding, W 1848, 'Facts bearing on the progress of the railway system', *Journal of the Statistical Society of London*, vol. 11 no. 4, pp. 322-43.
- Hudson, H 1890, 'The Southern Railway and Steamship Association', *Quarterly Journal of Economics*, vol. 5 no. 1, pp. 70-94.
- Industry Commission (IC) 1991, *Rail transport*, Industry Commission Report no 13, AGPS, Canberra.
- Kolko, G 1965 *Railroads and regulation: 1877-1916*, Princeton University Press, New Jersey.
- MacAvoy, PW 1965, *The economic effects of regulation: The trunk line cartels and the ICC before 1900*, MIT Press, Cambridge Massachusetts.

²¹ This is an English translation from an original French paper "Sur la gestion des Monopoles Publics astreints a l'equilibre budgetaire", which appeared in *Econometrica*, 24(1) 22-40. The translation is by William J Baumol and David F Bradford of Princeton University

- Maskell, CA 1982, *Changing perceptions of the Australian Interstate Commission*, Occasional Paper 26, Australian National University Centre for Research on Federal Fiscal Relations.
- Morrow, DW 1959, *American economic history*, 7th Edition, Harper Brothers Publishers, New York.
- Pegrum, DF 1973, *Transportation: Economics and public policy*, 3rd Edition, Richard D Irwin Ltd, Homewood Illinois.
- Productivity Commission (PC) 2006 *Road and rail infrastructure pricing*, Inquiry Report 41, December 2006, AGPS, Canberra
- Ramsey, FP 1927, 'A contribution to the theory of taxation', *Economic Journal*, vol. 37 no. 145, pp. 47-61.
- Ross GCW 1943, 'The constitutional law of federalism in the United States and Australia', *Virginia Law Review*, vol. 29 no. 7, pp. 881-947.
- Sen, A 1995 'Rationality and social choice', *American Economic Review*, vol. 85 no. 1 pp1-24.
- Stevenson, G 1987, *Rail transport and Australian federalism*, Research Monograph 48, Australian National University Centre for Research on Federal Fiscal Relations.
- Virtue, GO 1909, 'The Minnesota railway valuation', *Quarterly Journal of Economics*, vol. 23 no. 3 pp. 542-7.
- Wills-Johnson, N 2007 'Regulating railways in logistics chains', *Agenda*, vol. 14 no.1, pp.51-68.