Penny Wise and Pound Foolish

The Economic and Fiscal Costs of Offshoring Public Procurement

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This report was prepared for the Australian Manufacturing Workers Union.

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Summary

The state government of New South Wales recently awarded a contract for the purchase of 512 new intercity passenger rail cars to a consortium that will manufacture the equipment in South Korea. The contract is worth $2.3 billion, including an unspecified sum to cover maintenance of the double-decker cars over an initial 15-year period. The government chose to import the cars from Korea instead of purchasing made-in-Australia products, claiming (without evidence) that domestic sourcing would cost 25 percent more. One unsuccessful bidder for the project proposed to assemble the cars in a new factory in NSW's high-unemployment Illawarra region, creating at least 600 direct jobs (and many more in supply-chain and consumer industries). Other potential domestic sourcing solutions for the contract might also have been possible, utilizing existing railway equipment manufacturing facilities in NSW, and elsewhere in Australia, which could conceivably do the work.

However, the NSW government placed no priority on domestic content in the bidding process, and claims that by simply choosing the lowest-cost bidder, the interest of taxpayers has been best protected. This paper reviews and challenges the assumption that simple low cost should be the only criteria guiding major procurement decisions. Major government purchases have important indirect effects on many economic, social, and fiscal variables: including GDP, employment, incomes, exports, and even government revenues. A comprehensive cost-benefit analysis must take those broader impacts into consideration; governments should make decisions that maximize the overall social net benefit of procurement, not simply minimize the up-front purchase cost to government.

The paper reviews the current economic footprint of the railway equipment manufacturing industry in Australia, documenting the high-value jobs that exist directly in the sector (around 5000), in a wide variety of firms which supply the sector (around 7000), and in consumer goods and service sectors which also ultimately depend on the industry's existence. It conducts an illustrative simulation – utilizing the limited information which has been publicly disclosed about the contract – to show that the allocation of this work to offshore producers will do significant damage to Australian GDP, employment, trade balances, and fiscal well-being. In fact, under plausible

Major government purchases have important indirect effects on many economic, social, and fiscal variables.

assumptions the government sector itself could be worse off as a result of offshoring the work, even if it was 25 percent more expensive to produce the cars in Australia; the loss of tax revenues at both the Commonwealth and the state level resulting from the foregone economic activity that would have been stimulated by domestic sourcing, could very well exceed the so-called "cost penalty" of conducting the work within Australia. Moreover, opportunities to reduce that supposed cost penalty in the first place (including better coordination and scheduling of multiple passenger rail contracts being issued by various governments around Australia) would maximize the opportunity to generate future jobs and income from the coming stream of public transit investments.

Guided by a myopic focus on choosing the cheapest option possible, the NSW government's decision to buy 512 passenger rail cars from Korea will cause significant damage to its own bottom line – let alone to the economic and social well-being of the state. The report also reviews the impact of this contract on Australia's already-lopsided trade relationship with Korea, and explains how the new free trade agreement with that country could even allow the import of Korean workers to perform maintenance work on the passenger cars for many years after their purchase. The report recommends that the contract be placed on hold, pending the completion of a comprehensive and transparent full cost-benefit accounting of the effects of offshore versus domestic procurement of the cars; should that analysis confirm that the indirect economic and fiscal costs of offshoring are significant, then the bidding process should be reopened, with instructions given to all competing firms to include in their bids strategies for maximizing domestic content.

Introduction

The state government of New South Wales recently awarded a contract for the purchase of 512 new intercity passenger rail cars to a consortium that will manufacture the equipment in South Korea. The consortium is nominally "headed" by an Australian engineering firm, UGL Rail, but the bulk of the work will be carried out by the Korean manufacturing conglomerate Hyundai Rotem, with powertrain, traction, and related components provided by Japan's Mitsubushi Electric. The contract is worth a reported $2.3 billion, including an unspecified sum to cover maintenance of the double-decker cars over an initial 15-year period.[1]

Australia possesses an important railway rolling stock manufacturing industry, which directly employs 5,000 workers, indirectly supports thousands of other jobs (in maintenance, supply, and related activities), and generates $3.7 billion in annual sales. One of the competing bidders for this project – a consortium led by the Swiss railway firm Stadler – had pledged to manufacture the cars in a new facility in Wollongong, NSW, creating over 600 direct jobs for the state's depressed Illawarra region. And other bidders on the project also could have integrated domestic manufacturing activity into their bids – if the state government had indicated this would be a priority in bid selection. The obvious question then arises: why didn't the NSW government target Australian-made equipment for this major public purchase?

The simple response of state Transport Minister Andrew Constance was that the imported cars were cheaper. He claimed that alternative bids would be 25 percent more expensive (without providing details[2]). "This is the best outcome for taxpayers," the Minister concluded – equating the public interest with minimizing the immediate direct cost of procurement.[3]

However, the Minister's self-proclaimed fiscal prudence is anything but. By awarding a major public contract solely on the basis of lowest bid price, with no attention to the broader economic and fiscal impacts of the choice, his government has committed an

[1] Costs to construct a new maintenance facility in Kangy Angy on the NSW Central Coast are not included in the $2.3 billion contract price.

[2] In e-mail correspondence, a Transport for NSW spokesperson claimed that overseas manufacturing is 25% more expensive than Australian production based only on "international benchmarking;" no details were released, and it is not clear from this vague statement that the Stadler bid, in specific, was 25% more expensive than the one that was accepted.

[3] Matt O'Sullivan, "Locals lose out as $2.3 billion NSW intercity train fleet to be built n South Korea," Sydney Morning Herald, August 19 2016, http://www.smh.com.au/nsw/contract-for-new-trains-for-nsw-intercity-fleet-to-be-built-in-south-korea-20160818-gqv9rj.html.

elementary but costly error in cost-benefit accounting. His approach unduly narrows the frame of analysis, and fails to consider the full impacts of government procurement decisions on broader economic and social conditions, and indeed on the fiscal position of the government itself. When considering any course of action, a truly prudent actor should maximize the full-cycle net benefits of its decision, including both direct and indirect effects – rather than just trying to minimize immediate cash outflows. The NSW government has failed to do this; it is ignoring significant economic and fiscal externalities resulting from its actions. This short-sightedness could quite conceivably damage its own fiscal position; it will certainly undermine the economic prospects of the state which it governs.

Worse yet, the NSW decision was made at a critical juncture for the entire railway equipment manufacturing industry in Australia. Industry estimates suggest that over $30 billion in new contracts for passenger rail equipment will be forthcoming from Australian governments over the next three decades.[4] Whether this enormous volume of work is sourced from Australian manufacturers, or from offshore suppliers, will have significant impacts on aggregate employment, national incomes, and Australia's international trade balance. Industry experts agree that better coordination and harmonization of passenger rail purchases (which at present are typically determined in isolation by the various state governments) would facilitate substantial efficiencies and cost-savings in domestic rolling stock manufacturing, enhancing the Australian industry's ability to win upcoming contracts (and magnifying the resulting economic benefits if they do). By moving unilaterally to award this important contract to a foreign manufacturer, neglecting the growing call for national coordination in passenger rail purchases, the NSW government is undermining the prospects for the entire national industry. If other state governments follow suit and act similarly, NSW's unilateralism could contribute to the extinction of railway manufacturing in Australia.

The NSW decision was made at a critical juncture for the entire railway equipment manufacturing industry.

This report considers the broader economic and fiscal consequences of public procurement decisions in this sector. It shows that awarding contracts on the basis of low bid price alone risks major damage to economic well-being, to national industrial

[4] Deloitte Access Economics, "Opportunities for Greater Passenger Rolling Stock Efficiency," September 2013, 66 pp. Since this report was published, additional project announcements have increased the total value of forthcoming contracts. This estimate does not include construction costs for the railways and assorted fixed infrastructure.

capability, and potentially to the government's own fiscal balances. It catalogues some of the externalities which the NSW government has ignored in its recent decision, and considers their order of magnitude. It shows that under reasonable economic assumptions, the fiscal costs to the government sector of offshoring this work could well exceed the supposed 25 percent saving margin invoked (without supporting documentation) by the Minister; in this case, government itself will be worse off fiscally as a result of choosing the "cheaper," but imported, supply option. The report also describes the international dimensions of the NSW decision, in light of a trade relationship with Korea that is already increasingly unbalanced.

Finally, the report makes several policy suggestions that would allow governments in Australia (at all levels) to maximize the potential economic benefits associated with coming major purchases of passenger rail equipment. As a start, the NSW government should place a hold on the passenger rail purchase from the UGL-Hyundai consortium, and undertake a comprehensive and transparent full-cost evaluation of all options for the passenger rail procurement, including full consideration of its indirect economic and fiscal impacts.

Full-Cost Accounting for Public Decisions

Governments are influential economic actors, whose decisions have macroeconomic ramifications. For this reason (among others), it is folly to compare government financial decisions to those that of an individual household: no single household's spending decisions can influence the course of the entire economy, but government's do.[5] Moreover, it is equally misguided to assume (as implied by Mr. Constance) that government's overarching goal in the first place should simply be to minimize its expenses. (In that case, government's optimal course of action would be to shut down entirely.) Rather, governments are vested with responsibility to maximize the public interest, and in many circumstances that requires spending more, not less. Government does no favour for taxpayers if, in the course of single-mindedly reducing current expenditures, it undermines the overall well-being (economic and otherwise) of those same taxpayers. Nor does is strengthen its own fiscal condition by taking actions which damage or mismanage broader economic aggregates, which in turn are major determinants of the fiscal well-being of government.

A comprehensive cost-benefit analysis of major government decisions must take into account the complete set of outcomes resulting from those decisions, including feedback effects on employment, incomes, international trade, and other government budget items (including revenues, other program costs, and debt service charges). By incorporating all of these effects, policy-makers can attempt to measure the full social costs and benefits of a decision – considering the implications of its actions for the well-being of society, not just one narrowly defined budget category – and hence choose a course of action which maximizes that well-being.

Differences between social cost-benefit accounting and the narrower cost-benefit calculations of private actors arise because of various kinds of "externalities." This occurs whenever the consequences of a particular agent's actions or decisions are not borne or internalized by that agent alone, but are also experienced externally by other "innocent" actors in the economy. Externalities can be positive or negative. Examples

[5] Austerity-minded politicians regularly liken their actions to those of mom-and-pop households, who know "they can't spend more than they take in." Yet even the starting assumption of this "common sense" approach to fiscal policy is empirically wrong: private households do not balance their own budgets, but rather have increased their debt to levels far higher than those of government. Gross household debt in Australia at end-2015 equaled 129 percent of GDP (author's calculations from ABS Catalogue 5232.0).

include pollution (in which a polluting firm imposes an uncompensated cost on those who suffer the effects of pollution); technological spillovers (through which successful innovation by one firm can spur technological progress through a whole industry or region); and macroeconomic spillovers (whereby incremental expenditures spur a chain reaction of spending and respending, as other economic agents adjust their own actions as a result).

Table 1: Integrated Analysis of the Effects of a Procurement Decision	
Purchase Price	The procurer's direct fiscal situation is affected by the cost of the purchase.
Debt Service Charges	If the purchase is debt-financed, then extra costs will be magnified by interest charges on accumulated debt, to an extent that depends on prevailing interest rates.
Quality of Product or Service	Differing suppliers may be associated with differences in quality or reliability of the product or service being procured.
Direct Employment and Production	Domestic or local sourcing may generate additional employment and economic activity in the jurisdiction.
Supply Chains	Companies which supply the successful contractor with goods and services will also receive new business from the procurement.
Consumer Spending	Changes in employment and incomes resulting from changes in direct or supply chain activity will be magnified by a subsequent impact in consumer expenditure by affected households.
Government Revenues	Government revenues depend on the general state of economic activity in the jurisdiction, which may itself be affected by the procurement decision.
Environmental Quality	Choice of procurement may affect local, regional, or global environmental consequences of the activity in question.
Trade Performance	National economies may be economically or financially constrained by international trade balances, which may be affected by procurement decisions.
Technology / Capability	Domestic or local procurement work may spur additional skills acquisition, innovation, and technological capabilities, which in turn may facilitate greater or improved production opportunities.
Social Cohesion	Sustained unemployment and low incomes may generate additional economic, social, and fiscal costs resulting from greater social expenditures, criminality, health problems, and other effects.

It is a core principle of economic efficiency that economic decisions should reflect all of the costs and benefits of a potential action, not just the internal or private ones. In the case of private-sector actors, generally held to be motivated primarily by self-interest, this is a difficult task. Regulations or taxes must be put in place to require private

agents to internalize the full costs and benefits of their actions, and thus attain a closer match between private and social cost-benefit accounting.

For government, however, the exercise should be more straightforward – since we assume that government is acting to maximize the public's welfare, not just its own narrow financial balance (as a private corporation would). In this case no regulations or taxes are required to correct any gap between private and social net benefit calculations. Instead, we simply need to instruct our governments to make decisions that maximize the fully-costed public interest.

We assume that government is acting to maximize the public's welfare, not just its own narrow financial balance.

By assuming that the public interest is identical to minimizing expenditure on a given budget item, the NSW government is effectively ignoring all of the potential external consequences of its passenger rail purchasing. Table 1 provides a partial list of just some of the overall implications – some positive, more of them negative – arising from the government's decision to purchase Korean-made railway cars. Some of these costs and benefits are difficult to measure; but that hardly means they do not exist. And the NSW government, by simply choosing the lowest cost bid, is implicitly assuming they are all zero.

A Profile of Australian Railway Rolling Stock Manufacturing

Australia possesses a significant railway equipment manufacturing sector, which has made a unique and long-standing contribution to the country's industrial fabric. Several indicators of the current state of the industry are summarized in Table 2. In the 2013-14 financial year (most recent complete data available), the industry generated total sales on domestic production of about $3.7 billion. After deducting the cost of purchased inputs, the industry generated gross value-added of just over $900 million.[6] The industry ordered about $2 billion worth of parts, inputs, supplies, and services from other industries in Australia (more than twice as much as the value added within the sector itself). The sector also purchased slightly under $800 million in inputs and supplies from foreign suppliers; those imported inputs directly make up around 20 percent of the industry's gross output measured by sales.[7]

Table 2: Australian Railway Rolling Stock Manufacturing Key Parameters *(2013-14)*

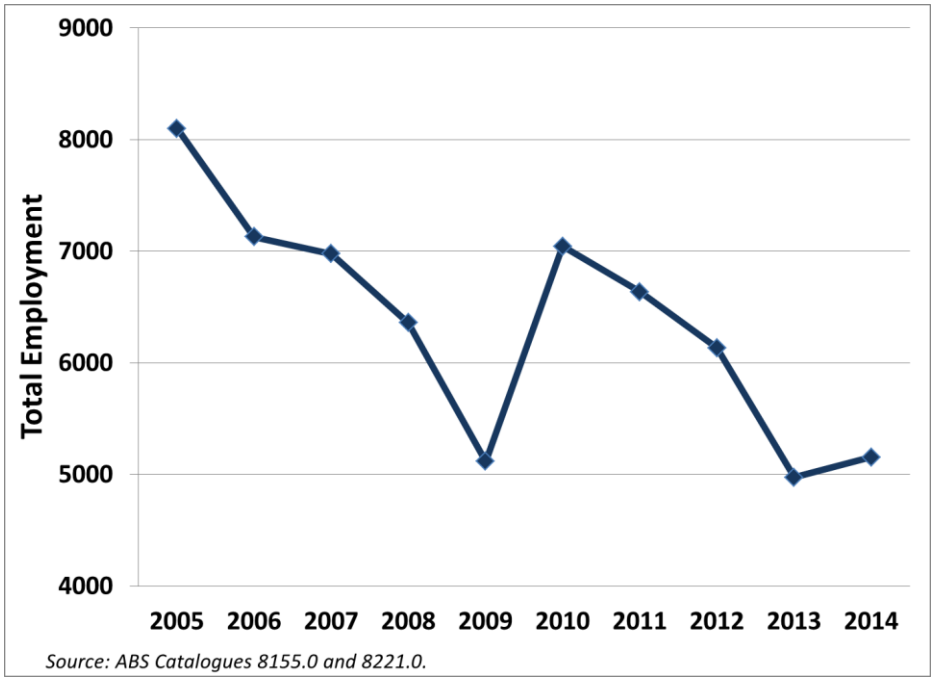
Total Sales	$3.686 billion
Value-Added	$0.908 billion[1]
Ratio of Value-Added to Sales	24.7 percent
Purchases of Australian-Made Inputs	$1.993 billion
Purchases of Imported Inputs	$784 million
Direct Employment[2]	4,974
Labour Compensation Paid	$396 milllion
Average Compensation per Employee	$79,600
Purchases of Imported Railway Rolling Stock	$1.501 billion
Imports as Proportion Domestic Production	40.7 percent

Source: Author's compilation from Australian Bureau of Statistics Catalogue 5209.0.55.001, Tables 2 and 5.
1. Includes indirect taxes less subsidies. 2. ABS Catalogue 8155.0.

[6] Value-added, also known as industry GDP, represents the sum of labour incomes, profit and operating margins, and indirect taxes received by government (less subsidies).

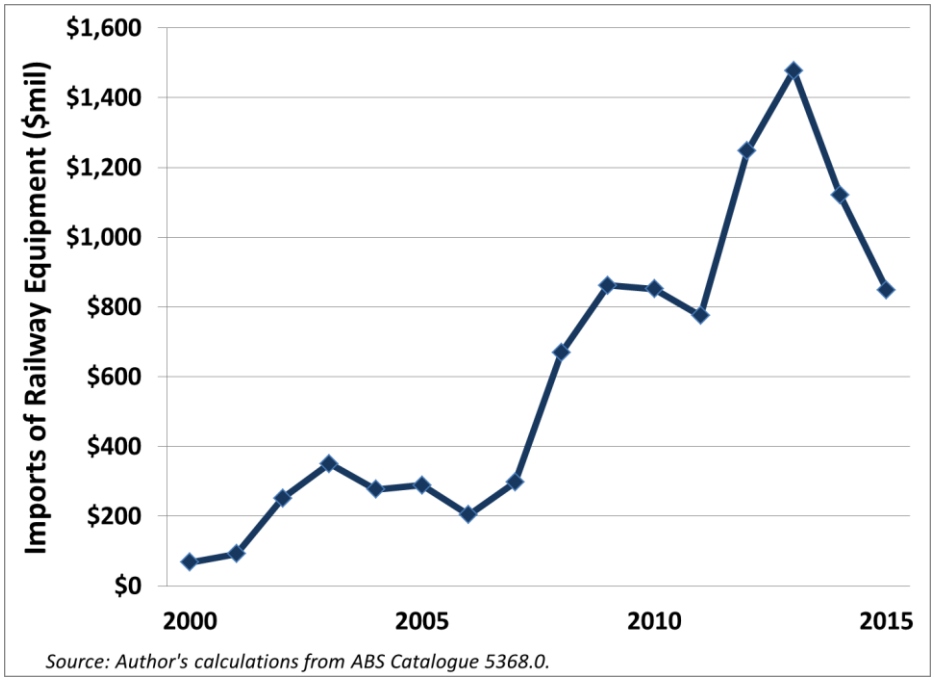
[7] There is additional indirect imported content represented in the Australian-made inputs, which typically contain varying levels of imported content in their own right.

Figure 1 Employment, Railway Rolling Stock Manufacturing, 2005-2014



The industry directly employs about 5000 Australians. They are relatively good jobs: average compensation in the sector (including wages, salaries, and benefits) was just under $80,000 per employee, higher than average for the national labour market. These superior incomes reflect the relatively high productivity in the sector (over $180,000 of value-added per worker), and specialized skills required. Unfortunately employment has declined by 3000 jobs since the mid-2000s (as illustrated in Figure 1). One reason for this decline has been a dramatic and sustained rise in imports of finished railway equipment. Figure 2 illustrates this trend: until the mid-2000s, most of Australia's purchases of railway equipment were manufactured here, and imports were modest. Several developments at that time – including the implementation of several free trade agreements, the dramatic appreciation of the Australian currency (during the mining boom), the liberalization of public procurement decisions, and the broader decline of Australian manufacturing – all contributed to a rapid increase in import penetration. Railway rolling stock imports peaked in 2013-14 at around $1.5 billion: over 5 times higher than their levels a decade earlier. In that year, the total value of imports was equal to roughly 40 percent of the value of domestic production. Both domestic production and imports tend to fluctuate considerably from year to year, because of the irregular nature of major purchases by governments and railways. Exports of railway equipment from Australia are very small, averaging less than $100 million per year over the past decade.

Figure 2 Imports of Railway Equipment, 2005-2015



The industry's significant purchases of Australian-made parts, inputs, supplies, and services can be described in greater detail with the help of the input-output database compiled by the Australian Bureau of Statistics. This breakdown is reported in Table 3. Of the $2 billion in total purchases of Australian-made inputs, over 60 percent (or almost two-thirds) consists of various services; the remainder (over one-third) consists of purchases of various materials, parts, and machinery. The five largest suppliers to railway rolling stock manufacturing, in order, are: fabricated metal products industries; professional, scientific, and computer services; wholesale and retail services; finance, insurance, and leasing; and primary metals. The importance of professional, scientific, and computer services (the second largest supply sector) attests to the innovation-intensity of the industry, which is constantly incorporating new product and process technologies into its activity.

Table 3 also estimates the number of jobs in each of those various input sectors that depends on those sales to the railway equipment sector, on the basis of average employment intensity of each supply industry. In total, about 7000 jobs across those first-order or "Tier 1" suppliers depends on their respective sales to railway equipment manufacturing. This does not include the subsequent higher-order supply jobs which, in turn, depend on goods and services sold to those Tier 1 supply sectors (the "suppliers to the suppliers"). So we can already see that the employment benefits arising from rolling stock production in Australia extend well beyond the boundaries of the sector itself: in fact, there are more jobs outside of the sector that depend on this work, than direct jobs in the sector itself.

Table 3: Railway Rolling Stock Manufacturing Key Australian Inputs Purchased *(2013-14)*		
Supply Industry	**Purchases ($m)**	**Derived Employment[1]**
Primary Metals	144	114
Fabricated Metal Products	398	1,708
Transportation Equipment[2]	103	n.a.
Electrical & Electronic Equipment	55	127
Other Equipment	111	102
Wood, Paper & Glass Products	51	166
Petroleum, Coal, Chemical & Rubber Products	84	112
Other Goods	29	82
Construction	17	51
Energy & Utilities	46	72
Wholesale & Retail Trade Services	208	1,350
Transportation Services	85	294
Communication & Telecom Services	98	206
Finance, Insurance & Leasing	151	130
Professional, Scientific & Computer Services	263	1,175
Other Services	148	1,307
Total Australian-Made Inputs	**1,993**	**6,997**
Imported Inputs	784	
Value Added in Rolling Stock Sector[3]	908	4,974
Total Australian Production	**3,686**	

Source: Author's calculations from Australian Bureau of Statistics Catalogues 5209.0.55.001, Table 5, and 8155.0, Table "Manufacturing Industries."

1. *Includes direct Tier 1 input suppliers only (not counting employment associated with indirect inputs or "suppliers to suppliers").*
2. *Mostly consisting of purchases from other railroad rolling stock manufacturers, hence derived employment is not calculated.*
3. *Includes indirect taxes less subsidies.*

Economic Feedbacks of Public Procurement

The preceding discussion has identified some of the major economic and social externalities which the NSW government should consider in making major economic decisions. And it has quantified one particular spillover effect of the industry: the stimulus provided to a wide range of goods- and service-producing firms, constituting a supply chain to the sector that extends far and wide through the national economy. Let us now consider the potential magnitude of some of the other economic feedbacks associated with rolling stock manufacturing.

We can consider two broad categories of linkages between the railway equipment industry and the rest of Australia's economy. We have already described what could be called "upstream" linkages: the business generated up through the sector's supply chain by the required purchases of all sorts of inputs. For each direct job in the railway rolling stock sector, there are (on average) an additional 1.4 jobs in first-order suppliers dependent on the business generated by rolling stock manufacturing. There are even more jobs located further "upstream," in the companies and industries which supply the suppliers.

Individuals employed in rolling stock manufacturing spend their own incomes on the complete range of consumer goods and services.

As indicated in Table 4, there is a second broad category of economic spillover from the railway equipment sector that should be considered in any holistic analysis of the costs and benefits of a procurement decision. Individuals employed in rolling stock manufacturing, as well as those working in the firms and industries which supply rolling stock manufacturing, spend their own incomes on the complete range of consumer goods and services. That income corresponds to additional demand, output, and employment in those industries: everything from home builders, to restaurants, to retail outlets, to personal services.[8]

[8] We could even include public services (such as education and health care) within those supported "downstream" activities, since they are financed by the taxes paid by employed workers; the simulation below, however, includes only the downstream impacts of private consumer spending.

Table 4: Upstream and Downstream Linkages Railway Rolling Stock Manufacturing	
A. Direct Employment *(initial job)*	**4,974** *(1.0)*
B. Employment in First-Tier Suppliers *(ratio to A)*	**6,997** *(1.4)*
Downstream Expenditure Ratios:	
Personal consumption (*c*, %GDP)	57.8%
Import penetration (*m*, %GDP)	21.4%
Personal spending on domestic content (c_A, %GDP) = *c* * (1 – *m*)	45.4%
C. Employment in First-Round Consumer Spending = (A + B) * c_A *(ratio to A)*	**5,439** *(1.1)*
D. Total Employment (A + B + C) *(ratio to A)*	**17,410** *(3.5)*
Source: Author's calculations as described in text from ABS Catalogues 5209.0.55.001, Table 5; 8155.0, Table "Manufacturing Industries"; and 5206.0.	

An estimate of the downstream activity supported by railway equipment manufacturers and their suppliers can be generated as follows: on average, private consumer spending in Australia accounts for just under 60 percent of national GDP. On the assumption that incremental income is allocated to consumption in the same proportion, new output and income will translate into new consumer spending according to that ratio. Some consumer spending, however, is ultimately directed to imports (such as spending on imported consumer products); on average, spending on imports equals slightly over 20 percent of each dollar in GDP.[9] Applying that ratio to incremental assumed consumer spending, generates a propensity to spend out of new income on Australian-made goods and services of 0.45.[10] In other words, for each dollar in new value added generated in the railway rolling stock industry and its immediate suppliers, about 45 cents of it, on average, is likely to be allocated toward expenditure on Australian-produced consumer goods and services. Applying this ratio to the employment that has been generated in railway equipment manufacturing (the initial job) and its first-order suppliers (another 1.4 jobs), generates an estimate of

[9] On the basis of a visit to a typical department store, it may seem as if "most" consumer goods are imported. However, total consumer spending includes many large expenses (including housing, some goods, and almost all consumer services) that are necessarily produced in Australia.

[10] The precise mathematics of this calculation are described in Table 4.

more than 5000 additional supported jobs in consumer industries: a little bit more than the initial employment in railway rolling stock production that started the entire chain reaction.[11]

In total, then, this analysis suggests that there are a total of 17,400 jobs in Australia associated with the activities of the railway equipment manufacturing industry. That is 3.5 times as many as the level of direct employment within the sector itself. These strong indirect effects – both "upstream" through the industry's supply chain, and "downstream" through the consumer industries which reply on a population of employed workers as their initial market – attest to the importance of conducting a comprehensive analysis of the economic effects of any major procurement decision. The relationships highlighted in Table 4 likely understate the ultimate spillover impacts of a given level of rolling stock manufacturing: we have considered only the first-round linkages within both the supply chain, and consumer industries. Incorporating higher-order effects (including new business created for firms which supply the suppliers, and new business within consumer industries generated by the expenditure of those initially employed in incremental downstream activity), those ratios would be even larger.

The foregoing analysis does not imply that those 17,400 jobs exist solely because of the activity of the railway rolling stock sector, and it is important to be cautious in how the linkages are understood. It is possible that in the absence of railway equipment manufacturing, those other workers (both upstream and downstream) would eventually find alternative sources of employment. In that case, the spillover effects from rolling stock production are not permanent, lasting only as long as it takes workers to find alternative vocations. Some economists assert that in the long-run the level of employment and output in the national economy is limited only by the number and productivity of workers (that is, the economy is "supply-constrained"), rather than being limited by the availability of jobs. Hence laid-off workers from railroad equipment manufacturing will always find alternative, productive employment. In reality, however, output and employment do tend to be constrained, even in the long-run, by the level of aggregate spending power in the economy, and by a resulting scarcity of employment opportunities. In economic parlance, this interpretation implies that the economy is "demand-constrained," a condition which can prevail even in the long-run.

[11] This estimate of the downstream employment effect is very conservative, in that it assumes an average employment stimulus in consumer industries equivalent to its share of total expenditure; in reality, consumer industries (especially services) tend to be more labour-intensive than manufacturing and business supply industries, and hence a given proportion of incremental expenditure would likely translate into even more job-creation.

Australia's present economic juncture would certainly seem more consistent with the latter approach, than the former. High and chronic levels of unemployment and underemployment; record-low wage increases; dramatic declines in business capital spending; and record deficits in international trade and payments all suggest that output and employment are indeed held back by an ongoing absence of purchasing power – not by a shortage of workers. In this relatively depressed context (and there is no indication that conditions are changing for the better), it is certainly reasonable to conclude that jobs lost in one sector will not automatically or quickly be replaced by new opportunities in another. In that case, the incremental loss of national purchasing power associated with the offshoring of a major public procurement project could indeed result in long-lasting impacts, both direct and indirect, on overall employment and income.

Simulating the Economic and Fiscal Effects of NSW's Offshoring Decision

The foregoing has described the approximate magnitude of the upstream and downstream linkages associated with railway equipment manufacturing in Australia, and argued that in conditions of chronic weakness in spending power and employment conditions (such as prevail at present) it is likely that growth or contraction in those linkages would translate into corresponding changes in employment and income that are more than just transitory adjustments. Ongoing strengthening or weakening of employment, income, and expenditure conditions can be reasonably expected to result from decisions which add to or subtract from the demand for Australian-made products and services.

In this context, we can extend our analysis above of the sector's economic linkages, to perform a simple simulation of the potential economic and fiscal consequences of the redirection of $2.3 billion in new work toward offshore (rather than Australian) suppliers. The exercise is constrained by a lack of detailed disclosure from NSW state officials regarding the components and provisions of the contract it signed with the UGL-Hyundai-Mitsubishi consortium. On the basis of discussions with industry experts, and application of broad metrics and ratios characteristic of the overall rolling stock industry in Australia (as profiled above), we make the following assumptions as input to the simulation:

- We assume that $1.3 billion of the total cost of the contract is for up-front purchase of the equipment, with the remaining $1 billion allocated to the 15-year maintenance contract.

- We hypothetically assume that the manufacturing component of the project would be 25 percent more expensive (measured by the initial direct cost to the procurer) if performed in Australia.[12] This imposes a $325 million cost penalty, boosting the total assumed bid price to $2.625 billion.[13]

[12] The NSW Transportation Minister Mr. Constance provided no public documentation of his claim that the Korean supplier would be 25 percent less expensive, and he did not specify which of the alternative bids (the one providing for Australian manufacturing, led by Switzerland's Stadler, or one of the other bidders) would be 25 percent more than the winning bid. A Transport for NSW spokesperson indicated

- We assume that 650 direct jobs would be created as a result of procuring the equipment from an Australian manufacturer; this represents close to 600 direct factory jobs (as described in media reports), and several dozen associated technical and management positions.

- We assume that those direct employees earn the same average compensation as is paid in the railway equipment sector as a whole, generating over $50 million per year in new direct labour incomes.

- Upstream and downstream linkages will support additional job-creation in supply chain and consumer industries, with total supported employment exceeding 2000 positions (in line with the ratios described in Table 4).

- New value added is assumed to be generated for the Australian industry according to the same ratio of GDP to gross shipments as prevails in the industry today (reported in Table 2). This results in an assumed increase in cumulative value-added arising directly in the industry of $400 million (spread over the entire time period required for completion of the work[14]).

- Indirect value-added is then assumed to be produced in upstream suppliers, and in downstream consumer industries, in the same proportion as the ratios described in Table 4 above. This generates a cumulative total of $1.4 billion in new Australian GDP, divided between rolling stock manufacturing, the supply chain, and consumer industries.

Any significant change in overall economic activity has an immediate impact on government fiscal balances, as a result of the normal collection of the full portfolio of

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by e-mail that the 25 percent cost saving estimate was derived from "international benchmarking." In this regard, our assumption for purposes of this simulation of a 25 percent cost penalty for manufacturing the cars in Australia should not be interpreted as concurrence with Mr. Constance's undocumented claim. We are merely showing that even if such a cost penalty existed, the net fiscal effects of offshoring on the government's own fiscal balance could potentially be negative. Moreover, there are many potential avenues for reducing this cost penalty even if it did exist: for example, by facilitating greater national coordination and planning of procurement (discussed below), negotiating with stakeholders and suppliers to attain more favourable terms for Australian manufacture, and others.

[13] It is interesting to note that even with this assumed but undocumented cost penalty, the total cost of the bid would still come in below the $2.8 billion that was originally estimated by the government for the purchase; see Matt O'Sullivan, "Locals lose out as $2.3 billion NSW intercity train fleet to be built n South Korea," Sydney Morning Herald, August 19 2016, http://www.smh.com.au/nsw/contract-for-new-trains-for-nsw-intercity-fleet-to-be-built-in-south-korea-20160818-gqv9rj.html.

[14] We do not know for how many years the work in Australia would be spread out, and it does not affect the results of this simulation – which are conducted using the cumulative differential in GDP, not changes in the annual flow of GDP.

Table 5: Macroeconomic and Fiscal Benefits of Australian Project Sourcing	
Total Contract Cost	$2.3 billion
Estimated Share for Maintenance	$1.0 billion
Estimated Share for Manufacturing *+25% Cost Penalty*	$1.3 billion *+$325 million*
Estimated Value Added: Direct (1.0) Suppliers (1.4) Downstream (1.1) **TOTAL**	 $400 million $560 million $440 million **$1.4 billion**
Direct Employment	650
Direct Labour Compensation	$52 million/yr.
Estimated Total Employment	2,275
Government Revenue Return: Commonwealth State Own-Source **TOTAL** *State Transfers from Commonwealth*[1] *State Total*	 $330 million $125 million **$455 million** *$85 million* *$210 million*
Source: Author's calculations as explained in text. *1. Current transfers only, not including capital project support.*	

taxes, fees, and premiums through existing government programs. All these forms of government revenue together take in almost one-third of GDP. This includes 23.7 percent received by the Commonwealth, and 9 percent collected directly by state governments.[15] Keep in mind that Commonwealth current transfers to the states then shift about 6 cents of every dollar in GDP from Commonwealth coffers to the states' (helping to fund purchases like the NSW rail cars).[16] It is conservative to assume that

[15] Author's calculations from ABS Catalogue 5206.0.

[16] The Commonwealth also supports major state capital projects with additional transfers and subsidies which are not included in these current transfers. The Commonwealth government has several programs to subsidize public transit investments by the states, including a new $5 billion infrastructure subsidy fund announced in its 2016 budget; see Stephen Dziedzic and Francis Keany, "$5b infrastructure fund to be used to fund public transport projects," ABC News, May 2 2016, http://www.abc.net.au/news/2016-05-02/$5b-plan-in-budget-to-fund-public-transport-projects/7374772.

an incremental expansion of GDP would supplement government revenues by a similar proportion.[17]

The government sector ends up with a stronger fiscal balance as a result of domestic sourcing.

On this basis, the ultimate expansion in domestic GDP resulting, directly and indirectly, from the allocation of a major procurement project to a domestic supplier, would increase the cumulative end revenue of the government sector of the economy by some $455 million – equal to just under one-third of the resulting boost to GDP. This new revenue is divided between the two levels of government, with the Commonwealth initially receiving the larger portion ($330 million), but the states ending up with close to half ($210 million) net of transfers from the Commonwealth.[18] The total increase in government revenues ($455 million) exceeds the initial 25 percent cost penalty that was assumed (again, without documentation) to apply to Australian manufacturing. In other words, the government sector ends up with a stronger fiscal balance as a result of domestic sourcing, despite the hypothetical cost penalty which was included in the simulation. When we consider the strong spillover effects generated by a major stimulus to domestic manufacturing, along with the fact that government takes in almost one-third of the resulting incremental GDP, this result should not be surprising.

[17] In fact, most government revenues are pro-cyclical, in the sense that the average revenue take as a share of GDP increases when the economy strengthens.

[18] Not all Commonwealth-to-state transfer programs automatically adjust with GDP levels, but it is reasonable to assume that eventually state governments will ensure that their ultimate share of new GDP will be at least maintained if not increased.

A Need for National Coordination

One important insight of the forgoing analysis is to note that the net increase in government-sector revenue associated with domestic sourcing is shared between the two levels of government – but the decision over procurement sourcing is only made by one of them (the state). This creates another externality: the decision by the state government to offshore the work imposes a major fiscal penalty on the Commonwealth government, which supports the procurement in the first place (with both current fiscal transfers and targeted capital subsidies). This artificial separation of cost from benefit makes it more likely that inefficient decisions will be made by government – especially one motivated by single-minded focus on minimizing current expenditures, regardless of the damage to national economic well-being. In essence, NSW is "free-riding" on the Commonwealth: accepting transfers and subsidies to help pay for a major procurement, but then making procurement decisions which impose significant fiscal externalities on someone else's shoulders. A process of joint decision-making by the two levels of government, would help to ensure that procurement decisions optimized the full net benefits of infrastructure investments. Alternatively, the Commonwealth government could impose domestic content provisions on procurement purchases made with Commonwealth support; this would further guide state decision-making to ensure that the positive spillovers of domestic sourcing (some of which are received by jurisdictions other than the state making the direct decision) are maximized.[19]

The NSW government might still argue that it is "better off" as a result of offshoring the railway equipment work, in the narrow fiscal sense that the resulting reduction in state revenues is still smaller than the hypothetical cost penalty which must be incurred to support Australian manufacturing. This is a short-sighted and unconvincing chain of logic. The state government of NSW will ultimately be affected by any significant deterioration or underperformance in national economic and labour market performance, both directly and through numerous indirect channels (not least being the impact of economic weakness on the fiscal health of the Commonwealth). The NSW government should feel obliged, morally as well as fiscally, to make decisions that best enhance the economic well-being of the country as well as the state. Shirking responsibility to make decisions that optimize net social benefits on grounds that

[19] Exactly this sort of domestic content provision was formerly applied to Australian transit procurement until the mid-2000s, and is still widely utilized in other jurisdictions – such as the U.S. (with its "Buy America" regulations) and the Canadian provinces of Ontario and Quebec.

someone else in Australia will bear the cost of a sub-optimal decision, is hardly a prudent or responsible approach to fiscal management.

There are other reasons why it is imperative that decisions like this one be coordinated across the various levels of government. Not only do some of the benefits of domestic sourcing spill over to other jurisdictions, as described above. In addition, the collective impact of sourcing decisions by multiple governments would have an important cumulative effect on the efficiency and competitiveness of the entire Australian railway equipment manufacturing sector. Industry experts have long identified that a fundamental challenge in domestic railway equipment manufacturing results from the fragmented, irregular nature of the decision-making process regarding major infrastructure projects. Research in 2013 by Deloitte Access Economics[20] suggests that at least $30 billion worth of purchases of railway rolling stock by publicly-funded bodies will be forthcoming in Australia over the next three decades; that total has likely been boosted by subsequent project announcements since the research was completed. Better coordination of procurement, in order to attain a stable flow of work (instead of the irregular patterns of work typical of past procurement practice), would facilitate cost improvements of 20 percent or higher, according to this research. In this case, a national procurement strategy in and of itself could virtually eliminate the cost penalty assumed by the NSW government to be associated with Australian manufacturing.

The NSW government, however, will make matters worse by proceeding with a unilateral offshoring decision at the very moment when the industry needs more coordination, not less. The loss of potential economies of scale, and efficiencies in scheduling, as a result of this major offshore sourcing constitutes another external burden imposed on the national industry by the NSW decision. Australian railway equipment manufacturing has already lost about 40 percent of its employment in the last decade, in part because of the growing penetration of imported equipment during that time. Given the challenges and uncertainty that have faced all manufacturers in Australia in recent years, and the potential vulnerability of entire clusters of industry to loss of critical mass,[21] the decision by the NSW government to shift more work to offshore suppliers, without adequate consideration of the fully integrated costs and benefits of its actions, is all the more lamentable.

[20] Deloitte Access Economics, "Opportunities for Greater Passenger Rolling Stock Efficiency," September 2013, 66 pp.

[21] The near-simultaneous decision by all three motor vehicle assemblers to close their remaining Australian operations is a powerful warning of the existence of strong cluster effects in manufacturing.

A Very One-Sided Vision of "Trade"

It is not coincidental that the passenger rail cars purchased by NSW are being imported from South Korea. In the wake of a new free trade agreement that was negotiated by the Commonwealth government, and implemented in December 2014, Australia has been purchasing a flood of new imports from Korea. The trade deal is exacerbating an ongoing qualitative imbalance in the bilateral trade relationship between these two countries – and the offshoring of this important public contract for passenger cars will only make matters worse.

Figure 3 Changes in Korea-Australia Bilateral Trade Flows, 2010-2015

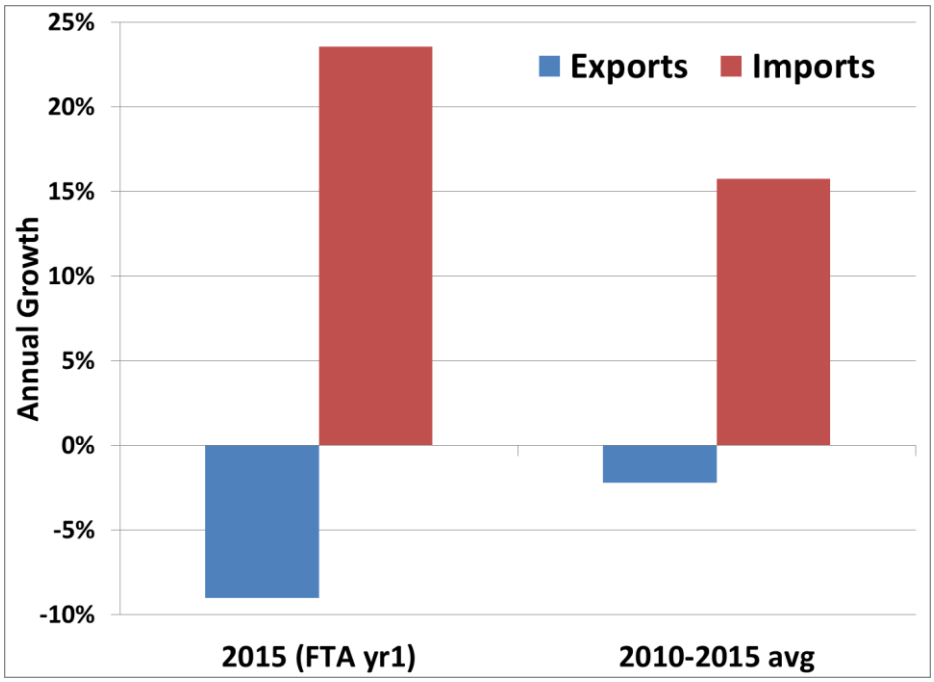


Figure 3 illustrates the contrasting directions of change of Australia's exports (both goods and services) to Korea, and its imports from Korea, during the first full calendar year of the FTA's operation (2015). It also illustrates the average annual change in both directions of trade over the previous five years. Australia's imports from Korea grew dramatically during the first year of the FTA, up by 24 percent. In contrast, Australia's exports declined during the first year of free trade, by a worrisome 9 percent. These first-year results have exacerbated a longer-standing trend. On average over the past five years, Australian exports to Korea declined at an annual average rate of 2 percent, while imports grew steadily at an annual average rate of 16

percent. Australia still enjoys a modest bilateral surplus in overall trade with Korea, but that surplus has mostly evaporated given the rapid growth of imports combined with the decline in exports; if those trends continue, Australia will soon incur a bilateral trade deficit.

The seemingly counter-intuitive decline in exports to Korea following the implementation of a free trade agreement with that country, mirrors similar experiences of Korea's other FTA partners. The U.S., Canada, and the EU all also experienced falling merchandise exports to Korea in the aftermath of a free trade deal. This confirms that the elimination of tariffs in those deals did not effectively improve access to the Korean market (especially for higher-value manufactured goods), which continues to be curtailed in practice by a combination of non-tariff barriers, strong domestic links between firms (organized into tight networks, or "chaebols"), and inertia and nationalism in domestic consumption patterns. Korean exporters, in contrast, have proven very effective in leveraging liberalization by its FTA partners into significant export gains to those countries.

Table 6: Leading Products in Australia-Korea Trade *(2015)*

Top Five Australian Exports to Korea	Top Five Australian Imports from Korea
1. Coal	1. Refined Petroleum Products
2. Iron Ore	2. Passenger Motor Vehicles
3. Beef	3. Civil Engineering Equipment
4. Aluminium	4. Heating and Cooling Equipment
5. Sugar	5. Pumps (excl. water) and Parts

Source: Author's compilation from Australia Department of Foreign Affairs and Trade, Trade statistical pivot tables, http://dfat.gov.au/about-us/publications/Documents/country-and-commodity-pivot-table-cy2015.xlsx. Products defined at SITC 3-digit level.

There is also a qualitative dimension to Australia's trade imbalance with Korea, reflected in the composition of trade going in the two directions. Most of Australia's exports to Korea – nearly 90 percent in 2015 – consist of primary resource or agricultural products. And the importance of those primary exports has grown over the past decade, coincident with the serious decline in Australian manufacturing. Most of Australia's imports from Korea, on the other hand, consist of sophisticated, technology-intensive manufactured products. The contrast between the embodied sophistication of the two directions of trade is starkly visible in Table 6, which lists the top five products (at the 3-digit level of SITC designation) contained in Australia's exports to and imports from Korea. Australia sells coal, iron ore, beef, aluminium, and

sugar to Korea. In return, we purchase an array of technology-intensive manufactures. Effectively, Australia exports its resources to Korea (and other manufacturing powerhouses), where they are converted into value-added products, which are then sold back to Australia – with an appropriate sales margin added on. This is an inherently disadvantageous relationship for Australia, all the more so given the decline in Australia's terms of trade (whereby falling commodity prices means it requires increasing volumes of resource exports to pay for imports of high-tech manufactures). With a significant public-sector purchase of high-value railway equipment, Australia has a chance to incrementally reverse that negative trade pattern. Instead, the Baird government intends to make it even worse.

Hyundai is already a huge net exporter to Australia.

The Hyundai Rotem company, a component of the Hyundai Motor Group industrial conglomerate, will do the largest share of the manufacturing work on the NSW passenger rail project. Hyundai is already a huge net exporter to Australia, selling a range of high-value products here including passenger vehicles, automotive components, steel, tools, and other industrial products. Australian consumers purchased over 135,000 motor vehicles from Hyundai's divisions in 2015 (including Hyundai and Kia), representing over 12 percent of the national market for light vehicles that year.[22] Hyundai's vehicle sales in Australia have grown by over 50 percent since 2010, reflecting an aggressive export expansion by the company and the continuing erosion of sales here of made-in-Australia vehicles (a trend which contributed to the announced upcoming closure of passenger vehicle manufacturing here). All of the Hyundai group's vehicles were imported to Australia; the company does no vehicle manufacturing here. Vehicle sales in Australia represent a revenue flow to that company alone of close to $3.5 billion per year.[23] Hyundai's executives must be counting their lucky stars, knowing that an already lucrative, one-way trade relationship with Australia is about to become even more lucrative – and thanks to a decision by an Australian government, yet.

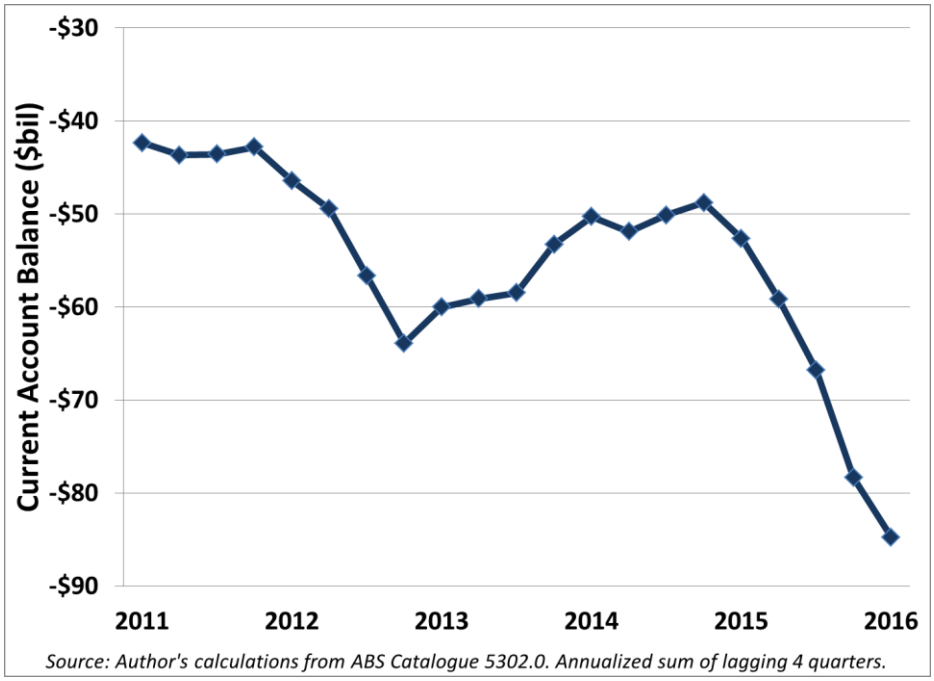
The rapid deterioration in Australia's trade performance with Korea takes place in the context of an alarming descent into overall international payments imbalance. Figure 4 indicates the recent trend in Australia's current account balance: the sum of all of Australia's current international trade and income flows. In the most recent four quarters, that balance reached a cumulative deficit of $85 billion. That is the largest

[22] Author's calculations from Ward's Automotive data, http://wardsauto.com/datasheet/australia-vehicle-sales-company-2011-2015.

[23] Based on an average unit selling price of $25,000.

one-year current account deficit in Australia's history (representing over 5 percent of national GDP). This deficit is much larger than the government deficits which regularly attract headlines in the media – and arguably poses much greater risks to Australia's economic stability. Australia's enormous trade deficit on manufactured products is the dominant source of the overall payments deficit; even massive net exports of primary products (such as minerals and agricultural goods) cannot offset the $150 billion net outflow on foreign-made manufactures.

Figure 4 Current Account Balance, 2011-2016



Current account deficits must be financed through the accumulation of foreign debt, which now totals over $1 trillion for Australia, much of it denominated in foreign currencies. The growing payments imbalance also represents a net loss of demand for Australian-made goods and services, and helps to explain the poor performance of Australia's national labour market. In this context, it should be a matter of national economic priority to support Australian exports, and to promote Australian-made products both abroad and at home. In this regard, the NSW state government's decision imposes a significant incremental cost on Australia's national economy: increasing that already-historic payments deficit by another couple of billion dollars.

Finally, the Australia-Korea free trade agreement raises one final worrisome issue related to the NSW passenger rail procurement. That FTA contains pioneering provisions which liberalize entry to Australia for Korean workers employed by foreign firms doing work in Australia. Korean companies can transfer specialized Korean employees to their Australian operations without numerical restriction for periods up

to two years for each worker (and up to four years for senior managers); transfers of Korean contractors and service suppliers are allowed for up to one year each. There is no labour market test required to ensure that the work involved could not be provided by Australian workers. Once a Korean employee reaches the time limit for their work in Australia, the employer can simply replace them with another Korean employee – and the time clock would start over again.[24] This provision would allow the Hyundai consortium the opportunity, with minimal government oversight, to bring Korean workers in a wide range of skill classes to Australia to perform work related to the contract. This would likely include work associated with the 15-year maintenance agreement, which could constitute close to half of the total $2.3 billion contract. Not only is the direct manufacturing work being allocated to Korea, therefore, but so too may a significant portion of the follow-up maintenance and service work.

The labour aspects of Australia's trade with Korea must also consider the deteriorating state of labour rights in Korea. International human rights and freedom of association experts have expressed growing concern in recent years about the systematic denial of labour rights and union freedoms by the South Korean government – including the banning of unions and the imprisonment of labour activists. This ongoing oppression of free union activity has been noted and opposed by groups such as Amnesty International, the International Trade Union Confederation, and the International Labour Office.[25] The allocation of major public contracts, financed by Australian taxpayers, to a jurisdiction in which fundamental human and labour rights are increasingly in question, represents a moral failure on the part of the NSW government. The erosion of labour rights may also be reflected in a distortion of the competitive prices which Korean suppliers are able to bid for tendered work – since labour compensation will be restrained by ongoing limits on trade union activity. This hardly constitutes a natural or fair "comparative advantage" on which Korea should be able to win Australian procurement contracts. Any future public procurement from Korea should be conditional on confirmation from independent and international authorities that these ongoing labour rights abuses have been corrected.

[24] See "Annex 10-A: Specific Commitments on the Movement of Natural Persons" of the Korea-Australia Free Trade Agreement, http://dfat.gov.au/trade/agreements/kafta/official-documents/Pages/chapter-10-movement-of-natural-persons.aspx#annex-10a. The text describes a specialist very broadly as anyone "with advanced trade, technical or professional skills and experience."

[25] See, for example, Amnesty International, South Korea Annual Report 2015/16, https://www.amnesty.org/en/countries/asia-and-the-pacific/south-korea/report-korea-republic-of/; International Trade Union Confederation, "Korea: Imprisonment of KCTU President a Travesty of Justice," July 4, 2016, http://www.ituc-csi.org/korea-imprisonment-of-kctu; and International Labour Office, "In Search of Decent Work: Migrant Workers' Rights," http://www.ilo.org/wcmsp5/groups/public/---ed_dialogue/---actrav/documents/publication/wcms_115035.pdf.

Conclusion

The NSW government has allocated a high-value and strategically important public procurement contract for passenger rail cars to a foreign manufacturer. This decision will impose major economic and fiscal costs on many Australian stakeholders: the domestic railway equipment manufacturing industry, its complex and far-reaching supply chain, consumer goods and services providers, the hard-hit communities which desperately need new work, and the fiscal well-being of governments at all levels.

The Australian public, given the opportunity to have input into the decision, would likely support efforts to leverage domestic manufacturing activity from the public procurement contracts which they, as taxpayers, ultimately pay for. A vivid example of this underlying public support for "made-in-Australia" was provided during the recent procurement of next-generation submarines. Public opinion polls commissioned by the Australia Institute, the Lowe Institute, and other agencies indicated overwhelming public support for Australian manufacture of the submarines.[26] This strong support forced the hand of a Commonwealth government that until then had downplayed the importance of domestic content as a criteria for selection; a made-in-Australia build program was eventually selected. The logic for building publicly-financed passenger rail cars in Australia, would seem to be just as compelling as that for building publicly-financed submarines here: both types of equipment serve the public interest and are paid for by taxpayers, whose own well-being depends on domestic employment and income opportunities.

The NSW state government failed to conduct an appropriately inclusive cost-benefit analysis of the decision, taking into account all the direct and indirect consequences of domestic versus offshore procurement. Its claim that Australian producers would be 25 percent more expensive is supported only with references to vague "benchmarking" processes, and hardly constitutes hard evidence that Australian suppliers are uncompetitive. With concerted efforts to enhance the competitiveness of an Australian build, including by coordinating and planning future procurement contracts from other locations in Australia; taking into account the decline in

[26] Both the Australia Institute and Lowe Institute polls indicated 70 percent support for domestic manufacture of the submarines; see Jim Stanford, "Manufacturing (Still) Matters," Center for Future Work, May 2016, pp. 12-14, https://d3n8a8pro7vhmx.cloudfront.net/theausinstitute/pages/536/attachments/original/1464819264/Manufacturing_Still_Matters___Centre_for_Future_Work.pdf?1464819264; and "Majority of Australians favour a local build for next-generation submarines," April 26 2016, http://www.lowyinstitute.org/publications/2016-lowy-institute-polling-majority-favour-local-build-australias-next-gen-submarines.

Australia's exchange rate; and negotiation with stakeholders to attain their best possible offers for supplies and labour, that gap (whatever its size to begin with) could surely be reduced. But with no indication of any interest by the state government in domestic content, and its determination to choose solely on the basis of lowest bid, it is clear that the potential to supply this (and other) passenger rail contracts from within Australia has not even been fully explored.

The simulation described in this report is necessarily illustrative only, because the precise data required to perform a more fulsome cost-benefit analysis of the procurement decision is not publicly available. Nevertheless, it confirms that offshoring of the work will impose significant costs on multiple stakeholders in Australia – including potentially costing the government sector itself more than it would seem to save by choosing the "cheaper" foreign option in the first place. We therefore recommend that the NSW government place a hold on the contract in question, and undertake a comprehensive, public, and transparent economic and financial analysis of the costs and benefits of sourcing this important work domestically versus offshore. In the event that this analysis confirms, as we have indicated is possible, that the full-cycle benefits of domestic sourcing exceed any up-front incremental costs associated with buying domestic, then bids could be re-opened. All potential suppliers (including the UGL-Hyundai-Mitsubishi consortium itself) could then be invited to resubmit proposals, with an emphasis on mobilizing the maximum possible domestic content in the work.

At the same time, the Commonwealth and state governments in Australia should hasten to develop a broader framework for future rolling stock procurement, in order to capture maximum efficiencies from scale and coordination of the enormous flow of public transit procurement that will be forthcoming in coming years. The Commonwealth government can further assist state governments to make appropriately inclusive procurement decisions by establishing reasonable domestic content guidelines for public transit purchases that are supported with Commonwealth current and capital subsidies. With leadership and coordination, rather than passively issuing multi-billion-dollar contracts solely on the basis of whatever bidder seemed to offer the lowest price, Australia can convert the coming important investments in passenger rail transportation into a dynamic engine of economic growth.