

30 November 2012

Inquiry Committee
Parliamentary Inquiry into Manufacturing
Wellington

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NEW ZEALAND MANUFACTURERS AND EXPORTERS ASSOCIATION

SUBMISSION

ON THE

PARLIAMENTARY INQUIRY INTO MANUFACTURING

New Zealand Manufacturers and Exporters Association
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Parliamentary Inquiry into Manufacturing

Thank you for the opportunity to comment on the above Inquiry.

1.0 About the NZMEA

- 1.01 The New Zealand Manufacturers and Exporters Association (NZMEA) represents the interests of manufacturers and exporters throughout New Zealand.
- 1.02 The Association is New Zealand's only focused and independent voice for manufacturers and exporters. Members have over \$2.7 billion in sales per year, with an export value of around \$1.3 billion. The Association can trace its beginning back to the early history of New Zealand.
- 1.03 The Association also includes in its membership affiliate organisations such as the Wood Processors Association, the Engineering Printing & Manufacturing Union Inc, the Heavy Engineering Research Association (HERA), the Galvanising Association of New Zealand and Plastics New Zealand.
- 1.04 The NZMEA is an independent association of manufacturers and exporters. We do not seek or receive funding from local or central government; we have affiliate organisations, we do not affiliate to any other organisation.
- 1.05 This submission discusses the circumstances in the manufacturing sector and seeks to show the importance of manufacturing to the wellbeing of every New Zealander.
- 1.06 We are in constant dialogue with our members and prospective members nationwide. It is no exaggeration to say things are now worse than they have ever been. What we hear now, along with the complaint that the exchange rate is too high, is the additional comment that until policy seeks to do something about it only "must do" investments will happen.

2.0 Principle Recommendations and Principle Observations

- 2.01 Job losses follow falling investment and relocation plans are developing across the broad spectrum of activities from software to materials processing. For exporters profitability is hostage to fortune:
 - Selling into New Zealand or Australia consumption with some input costs in US dollar margins are holding up.
 - Selling to Australia for re-export in US dollar volumes are falling.
 - Selling into US markets is tough; the margins are small and volumes are falling as the global financial crisis plays on.

Note: A survey by ExportNZ, who have a policy blind spot on the exchange rate problem, had 110 from 169 responses (65%) commenting that the exchange rate and its manifestations were the single biggest barrier to export growth.

- http://www.exportnz.org.nz/_data/assets/pdf_file/0006/50559/2012-Exporter-Survey-Findings.pdf
- 2.01 A strong manufacturing capability (concept through to consumption) is a vital part of any successful, modern, resilient economy.

- 2.02 New Zealand manufacturing is in long term decline. (See *Figures 1, 2, 3.*)
- 2.03 We advocate for a cultural and policy commitment to the development of manufacturing in New Zealand.
- 2.04 Manufacturing can only grow if the sector can attract investment; this is contingent on a competitive exchange rate. Without more certainty around the exchange rate higher levels of investment are unlikely at best, in fact divestment and relocation will to be the dominant feature of the sector.
- 2.05 There are claims that production (the dirty bits) can be located elsewhere and the design, engineering, sales and marketing (the shiny bits) can stay in New Zealand – few operating in the elaborately transformed sector buy this nonsense. Competitive advantage is generally generated in the interfaces between process steps – concept – design – engineering – production – sales – marketing – distribution – final use – separating those links (particularly on New Zealand scale business) is suboptimal. See:
- http://www.nzmea.org.nz/documents/421-globalising_value_chains_or_wh.pdf
- 2.06 High tech and high margins are no protection. For exporters there is no shelter from an overvalued currency. An overvalued currency stresses business models based in New Zealand; forcing other models into being. Those models do less and less in New Zealand with all familiar negative consequences to our economy.
- 2.07 Government has targeted growth in the export sector, as a percentage of GDP. Such growth cannot happen without more investment in the manufacturing sector, the primary sector has natural limits to growth.
- 2.08 A policy framework (somewhere between the settings of Switzerland and Singapore) that seeks to manage the exchange rate will promote investment in manufacturing and exports. A number of support policies around those activities generally only associated with manufacturing would also be beneficial, such as research and development, process and machine tool depreciation, skills, management and leadership training, and the ability to expatriate patent activities.
- 2.09 Explicit local preference in government procurement is allowed under the General Agreement on Tariffs and Trade (GATT) rules to push back against balance of payments deficits that have been a structural feature of our national accounts.

3.0 Background

- 3.01 Simple models of our economy fail; there is no coherent grand narrative of what is happening, nevertheless we proceed as if such models and stories are really the way things are. The economy is a complex adaptive system that responds to our collective assumptions and behaviours in unpredictable and unintended ways and, at best, policy can only encourage some outcomes while discouraging others. [See *Figure 4.*]
- 3.02 Culture matters. Consider the intervention of the Swiss National Bank regarding the value of the Swiss Franc and the Euro since August 2011. This would not have been possible without the decision to protect jobs in the Swiss export sector by everyone in Switzerland paying more for imports from the Eurozone. This is a political decision, so much for the independence of central banks.

- 3.03 More broadly what we believe in matters, and what we care about matters; policy will tend to address those issues we feel to be important. For example, we seem to care more about the film industry than we do about manufacturing industry as demonstrated in our behaviour. If our beliefs are not aligned to our goals - say an increase of exports to gross national product from 30% to 40% - regardless of how hard, or for how long we try, the complex adaptive system that is our economy will deliver the wrong things.
- 3.04 Few would argue that the New Zealand economy has been simplifying for some time, exports in simple and elaborate manufacturers have fallen, in real terms, since 2003; this is a direct consequence of our chosen policy settings.
- 3.05 Over the years successive governments have tried, via various policy initiatives, to encourage and support economic growth, to expand innovation and build more diversity in our economy, yet the simplification of our economy demonstrates the absence of innovation. Our chosen economic settings are stripping the capacity for innovation from our economy. If things are to change then policy initiatives have to address why similar initiatives have failed in the past. [See Figure 5.]
- 3.06 We have what we have. We must combine our people and resources to make the highest value we can. These combinations do not happen by chance, do not usually happen for free, and generally take decades to fully develop.
- 3.07 There is a general agreement that to deliver the future we want and lower the risk associated with the dominance of the primary sector, the New Zealand economy needs to be more diverse. To do that we will need to make more of the resources we have - an economy losing complexity, that is, an economy increasingly dependent on commodities, is going in the wrong direction.
- 3.08 Making more of what we have is the only route to diversification, furthermore, it is becoming more generally accepted in the Anglo Saxon world that manufacturing really does matter in a modern economy, and the belief that a transition to services and finance was a natural outcome of economic development is under question. It is worth noting that the manufacturing matters view has always been a part of Scandinavian and European cultures.
- 3.09 Manufacturing matters. Manufacturing is the process between concept and consumption and should not to be confused with the process of production, the terms are not interchangeable.**
- 3.10 That is why when production moves offshore it is generally the precursor of all other activity being lost. The image of dark satanic mills, of highly repetitive production lines should be replaced with images of adding value, seeing new process and ideas applied to old ways of doing things, innovation that develops people, innovation that develops economies that encourages investment in new products, process and patents, and is capable to paying above average wages to skilled people. See:
- <http://www.economist.com/debate/overview/207>
 - http://www.nzmea.org.nz/documents/1123-taiwanese_industrial_policy_up.pdf
- 3.11 Taiwan's success flowed from the implementation of several, mutually supportive, long term systemic interventions in the economy. Central government did not decide what Taiwan would do specifically but it created the conditions that generally supported added value manufacturing activity - making and selling stuff that is hard to make and let firms and investors sort out the messy details.

- 3.12 Making stuff is important because of the intrinsic value it brings to the economy by capturing imagination in stuff (monetising intellectual property if you like) and from driving supply chain complexity. Manufacturing requires producer services and provides significant spillover benefits to the economy in which it operates. It is variously reported that one core manufacturing job adds between two and five jobs in the rest of the economy.
- 3.13 Any future growth story for the New Zealand economy must include a growing manufacturing sector in both volume and complexity. No other activity can provide sustainable highly paid jobs and, given a level playing field, provide the economic returns that will encourage and provide future investment.
- 3.14 Any business that cannot afford to pay its staff at a level where they can afford to live in the economy at large is not sustainable; any economy that has median incomes at levels that cannot provide for the reasonable expectations of most citizens is equally unsustainable. Transfer mechanisms such as “Working for Families” are in fact wage subsidies for businesses that can only pay poor wages and cannot be sustained indefinitely.
- 3.15 Perhaps the most shocking thing we have heard are variants on the comments “I would not like to have to live on what I can afford to pay my best tradesman”. Margin pressure is creating many such invisible issues. These will become visible in sometime through job losses, closures and exits.
- 3.16 A service economy that is not required to supply complex producer services will polarise incomes – asset holders and highly skilled people at one end and lots of personal service providers at the other. An overvalued exchange rate, borrowed not earned, results in low median wages; this outcome is driven by policy that ignores the impact of exchange rate on the economy.
- 3.17 It is not an overstatement to say: **a healthy manufacturing sector is necessary for any advanced economy with ambitions to promote economic and social wellbeing.**
- 3.18 The term ‘business’ is used in a one-size-fits-all way for all commercial activity, speaking to the assumption that all business types are the same and all business types carry the same value or attractiveness to the wider economy. If in fact all businesses are the same then economic policies would be simple and straightforward. Alternatively, if businesses are different, in terms of value and attractiveness to the economy, and the impact of policy is different across business activities then a great deal of care needs to be applied to policy development in order to avoid damage and should seek to encourage desirable activities. [See Figure 6.]
- 3.19 Clearly not all businesses are the same, and not all businesses face the same competitive pressures, as demonstrated by the divergence in inflation rates in the domestic and traded economies. [See Figure 7.]
- 3.20 As business types and competitive environments differ, a one-size-fits-all approach in policy will favour some and hurt others. If it turns out that the pain is heaped on the most vital activities, from a growth perspective, it should not be a surprise that economic activity and growth suffer. Equally, we should expect to see, and it is there for any who care to look, dwindling capability development, falling investment and ultimately a failure to launch new activities of the desirable kind across the economy.

- 3.21 We often hear the service, primary, and industrial sectors discussed as independent silos of activity - the implication is that they are independent and isolated and changes in one are of little or no concern to the others. We would suggest the opposite is true, and the activities are not independent but interdependent, the decline of one sector will in fact impinge on the development and performance of the others.
- 3.22 Any effective growth policy has to address these questions. Are sectors are the same? Are they equally desirable? What are the dependent relationships between sectors? Without a clear view on these questions any policy framework is likely to be inadequate.
- 3.23 Scratch the surface in the broader economy and we hear sentiments such as “Why bother with manufacturing we have all these good service sector jobs”, “Manufacturing is so 19th Century”, “Farming is the future for New Zealand” and the like. This mind-set has created a meme that manufacturing has to be somehow pumped up with extra words: “manufacturing+”, “high value manufacturing”, “niche manufacturing”; as though manufacturing is in itself less than desirable.
- 3.24 The deep seated belief that all things are equal, or worse, that some things don't matter, threatens the development of innovation capacity and resilience of our economy.**

4.0 Policy

- 4.01 For many years the stance of governments here in New Zealand has been to stand back with the intention to treat all equally. Government, it is claimed, does not have the skills to intervene in business and should focus on ‘neutral’ policy settings in the economy and let business sort out business. However, in doing so Government does make choices, whether through action or inaction, and those choices do resonate with the economy - a choice to focus monetary policy on inflation conventionally has also been a choice to ignore the exchange rate. Such a choice militates against the export sector and supports the domestic consumer, particularly when tax policy supports businesses (farms and property) that have, in general, low profitability, low revenue to high debt (three or four times revenue) characteristics.
- 4.02 Policy choices are never neutral. It is better that policy is based on a thoughtful systemic approach to the economy than any so called ‘hands off’ approach. Refer the above example from Taiwan, there are many others.
- 4.03 When the world entered the global financial crisis problems with the economic orthodoxy of the past twenty years became obvious: inflation targeting, particularly for small economies came into question, financial trading and asset speculation, and the banking sector generally came into the spotlight.
- 4.04 Unsurprisingly to some, those countries who had stuck to the knitting of productivity and product sales across global markets, their income statement if you like, fared much better than those with an asset speculation focus. Working the balance sheet was shown to be much less effective than working the income statement. Sales growth from investment in markets and products drive value not speculation around the assets associated with the activity.
- 4.05 This shock has been profound, even the likes of the USA and the UK are re-discovering the value of manufacturing and setting out to manipulate their exchange rates to support their traded sector. Looking to the Scandinavian and European examples, they never lost the focus to invest in value add and trade in manufactured or processed goods as a central plank of their economic development strategy; it is clear we must now change our mind-set.

- 4.06 The global financial crisis has, for many, laid to rest the idea that an economy can survive without manufacturing; that the future must be based on more than services and a resource sectors. How New Zealand responds to this change in thinking is critical for New Zealand's future economic and social wellbeing.
- 4.07 **Without an effective manufacturing base societies tend to divide between rich and poor, those who have access to structured, well-paying jobs and those whose jobs that lack structure have low pay and are less certain and secure.**
- 5.0 **New Zealand - A Small Economy**
- 5.01 It is clear that a small economy lacks the scale to spontaneously generate an optimal or close to optimal response to a changing world. Left to its own devices a small economy will tend to decline without measured systemic intervention. Without such intervention the smaller the economy the more pervasive will be the market failure of that economy as a whole.
- 5.02 Even local success is a problem since access to new knowledge and lead customers; major drivers of innovation, are substantially easier in large economies. All things being equal it is likely that firms, over time, will relocate from a small economy to a larger one.
- 5.03 The natural bias to chase scale and relocate can be modified by ownership structure, local resources, proximity of lead users, or other matters that support and encourage a continued presence in a particular place even when it is a part of a small economy.
- 5.04 Shocks come in many forms and what plays out in the detail is difficult to predict, however, it is clear the greater the diversity in the economy the greater the resilience. The lower natural diversity in a small economy necessitates and justifies greater systemic intervention by government to encourage and expand capability, capacity and diversity in that economy.
- 5.05 Furthermore, expanding capacity and capability requires employers to participate in upgrading their staff and employees, in turn, to focus on making employers more effective. It is in all our interests that manufacturing firms are successful, as they are able to pay high wages and have the capacity to invest in the future given some certainty.
- 5.06 We assert that policy must be informed with the conviction - **a healthy manufacturing sector is necessary for any advanced economy with ambitions to promote economic and social wellbeing**. This was the conclusion in an international debate on this matter presented by The Economist; the proposal was supported by over 75% of those who participated. This is all the more critical for a small economy.
- <http://www.economist.com/debate/overview/207>
- 5.07 At the macro level New Zealand spends relatively little on research and development. It is reported that globally manufacturing spends two or three times what service businesses spend on management development, research and development (R&D), organisational structures, design, brand equity and staff development. (See Figure 8.)
- 5.08 A small, thin elaborate sector, with an absence of scale consumer, pharmaceuticals, military and motor industries contributes to the low R&D spend, but that means much more should be done to support and encourage higher levels of development activity in the traded activities we do have.

5.09 In addition, manufacturing jobs create more jobs in the supply chain. One report suggest manufacturing drives three additional jobs in the supply chain, whereas the primary sector drives and additional 0.4 jobs and resources add an additional 1.2 jobs. Without manufacturing the New Zealand economy loses considerable development pressure and job content across the entire community. (See *Figure 9 and 10.*)

- http://www.epi.org/page/-/old/workingpapers/epi_wp_268.pdf

6.0 Policy Design

6.01 Whatever policy framework is developed it needs to be coordinated across the policy spectrum with the intent to substantially increase investment in the manufacturing sector, for export or import substitution.

6.02 Monetary policy targets inflation via interest rates. Events since the onset of the global financial crisis have shown that most economies are ready to give up on inflation targeting in the face of other pressures. The Reserve Bank Act currently has the ability to use quantitative tools (weighted capital reserve ratios and core funding ratio and the like) beyond the price (interest rates). These broader tools allow for the exchange rate to be part of the Policy Target Agreement.

6.03 Such tools and other actions (we have already mentioned the Swiss and Singaporean examples) will remain unused as long as the “all business is all the same”, “activities all have the same value” and the “single target single lever” mind-set remains.

6.04 Supporting the traded economy:

- **Managed (for stability and level) exchange rate.**
- **The use of complimentary prudential monetary tools.**
- **Better coordination of economic policy.**
- **Banking sector reform to reduce foreign debt.**
- **Increased savings flowing from higher earnings.**

6.05 We are used to hearing complaints around the exchange rate, a little time ago these have changed to criticism of the policy framework, often characterised as “We will not invest until the policy framework changes”. Jobs follow investment, investment requires a return; returns are risky when currency fluctuates and small when the currency is overvalued, no investment - no jobs.

6.06 A stable currency around a level capable of balancing the current account is probably the most critical issue facing the New Zealand economy.

6.07 Distortions in the New Zealand tax system are clear. The capital gains tax harbour drives behaviour that emphasises asset values, encourages speculation and distorts investment decisions in the rest of the economy. Options were well researched in the Tax Working Group, and when read in the context of supporting manufacturing activity in New Zealand changes become all the more urgent.

6.08 Because manufacturers can operate globally it is necessary to balance incentives to do the work here rather than elsewhere. For example, if Australia offers a 125% tax credit for research and development that is a disadvantage for activity in New Zealand, that competitive difference needs to be equalised. Similarly if other jurisdictions offer an advantageous depreciation regime that also places New Zealand manufacturers at a competitive disadvantage, that requires some form of accommodation.

- **Remove the capital exemption from the tax system.**
- **Reinstate the R&D tax credit.**
- **Reinstate the accelerated depreciation on productive equipment.**
- **Personal deductions on early stage equity investments.**
- **Expense patent costs.**

6.09 That said the issues referred to in 6.08 pales in comparison to the exchange rate issue – the three things that matter to exporters are the exchange rate, the exchange rate and of course, the exchange rate.

6.10 Government spend \$6.6b and local government spend \$568m on capital investment. Saying that, any solution purchased should be “proven” otherwise it could effectively eliminate local providers and remove an important innovation driver in our economy. Equally, failing to buy on lifetime cost principles favours offshore suppliers. The influence of government procurement policies on innovation in the New Zealand economy is underestimated. If government looked for local innovation and the lowest lifetime cost on the first round and then went to tender subsequently, local suppliers would see a more balanced competition and greater opportunity.

- <http://www.treasury.govt.nz/budget/2012/data/b12-expenditure-data.xls>
- <http://www.oag.govt.nz/2012/local-govt/part3.htm#expenditure>

6.11 A regulatory requirement to innovate in government procurement would be another driving force of innovation in the New Zealand economy.

6.12 The General Agreement on Tariffs and Trade (GATT) makes provision for balance of payment safeguards and makes explicit local preference possible – they should be applied to SOE, local and central government spending,

6.13 The Crown Research Institutes (CRIs) have a clear role to play in the land, sea and air domains. It is less clear what the Industrial CRI can do. Manufacturing is much more diverse and unpredictable and any scale sees firms outstrip the capability of the Industrial CRI. At the smaller end of the scale firms cannot afford or already outstrip the Crown Institutes capability. For manufacturing there is no natural aggregation or coherence that comes fully packed and ready to go as it does with the other CRIs.

6.14 There are examples of increasingly successful commercialisation models, for example, the Seed Co-investment Fund (SCIF) initiative as demonstrated by powerHouse in Christchurch and others around New Zealand. Here small amounts of government money are co-invested in early stage ideas from universities, polytechnics or others. Such programmes should be expanded.

- **Require explicit innovation in government and local government procurement.**
- **Reduce the size of the “Industrial CRI activity” to a National Physical Laboratory standards focus.**
- **Increase funding to SCIF programme.**
- **Change the Prime Minister’s Science Advisor to Manufacturing Advisor.**

7.0 Capability Development

7.01 The competitive capability of firms vary, some time ago a self-assessed survey of the capability of firms indicated the bi-modal distribution shown. Most firms saw themselves as average with a smaller number rating themselves as very capable. This is what we see in practice, and furthermore there are always the star companies. (See *Figure 11.*)

- 7.02 The danger in overall policy design is to see all firms as essentially equal in capability to respond to changes and in ability to carry the burdens imposed by government. The viability threshold can move as circumstances press down on the firm and more or fewer suffer. The key danger here is that the stars are used as typical exemplars and as such are used by policy makers to justify what they do. Because a star firm succeeds things must be alright. What matters most is the impact on those firms with typical capability.
- 7.03 All firms need to increase competitive capability, Industry Training Organisation activity targeted at firm performance lean, competitive manufacturing; high performance workplaces and the like have been shown to be effective but receive inadequate support.

Figure 1 (refer 2.02)

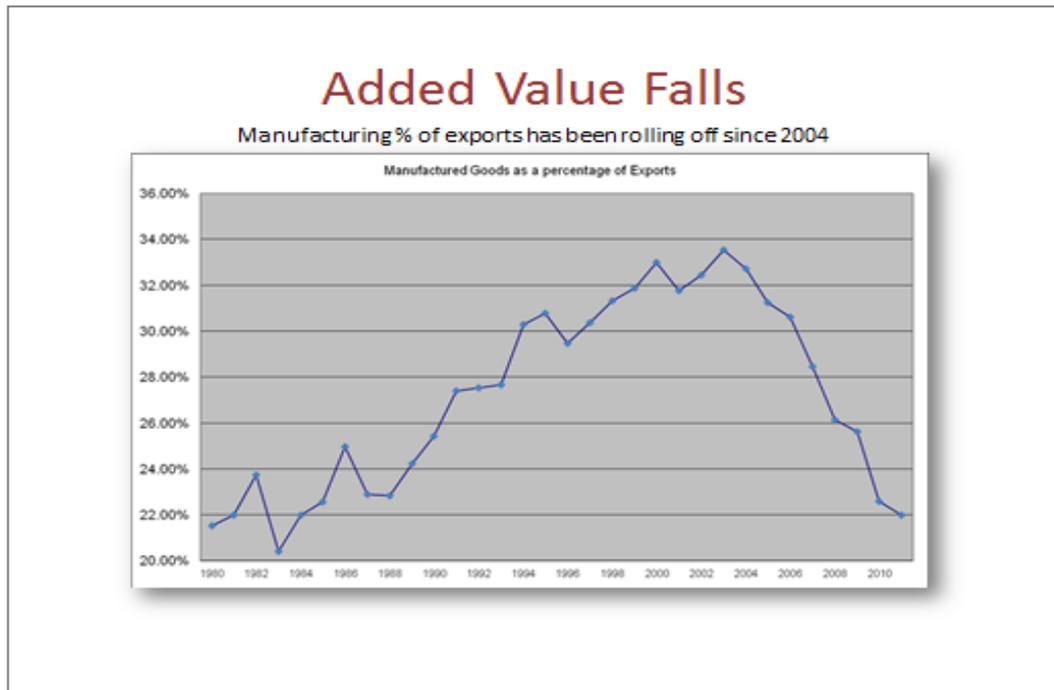


Figure 2 (refer 2.02)

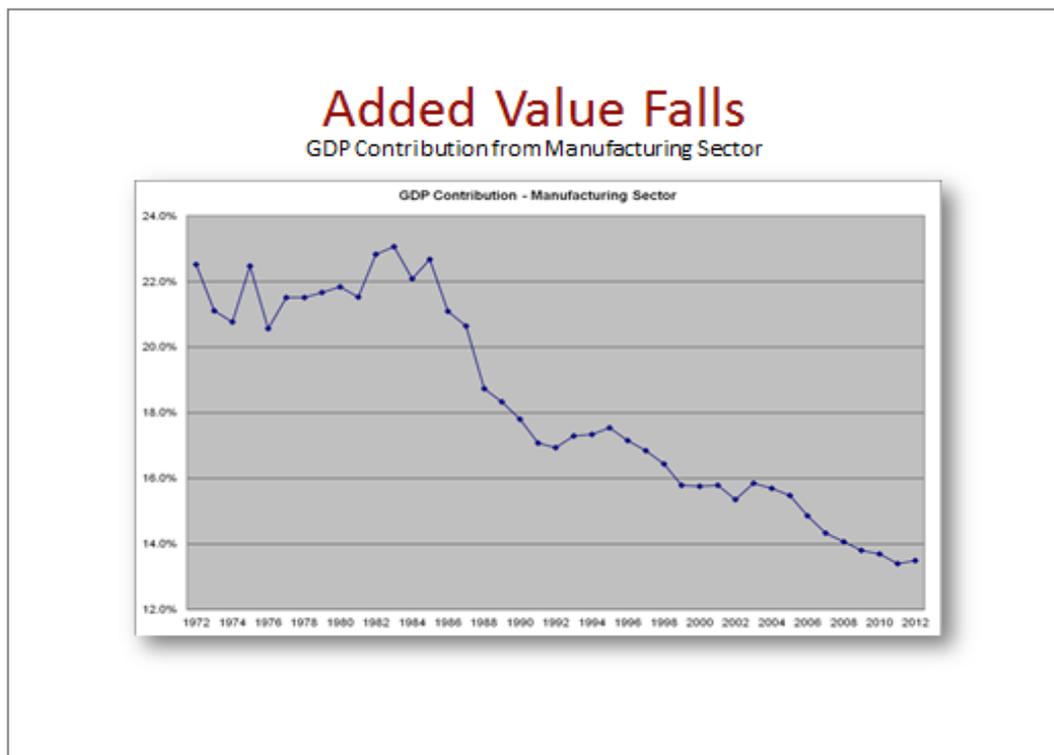


Figure 3 (refer 2.02)

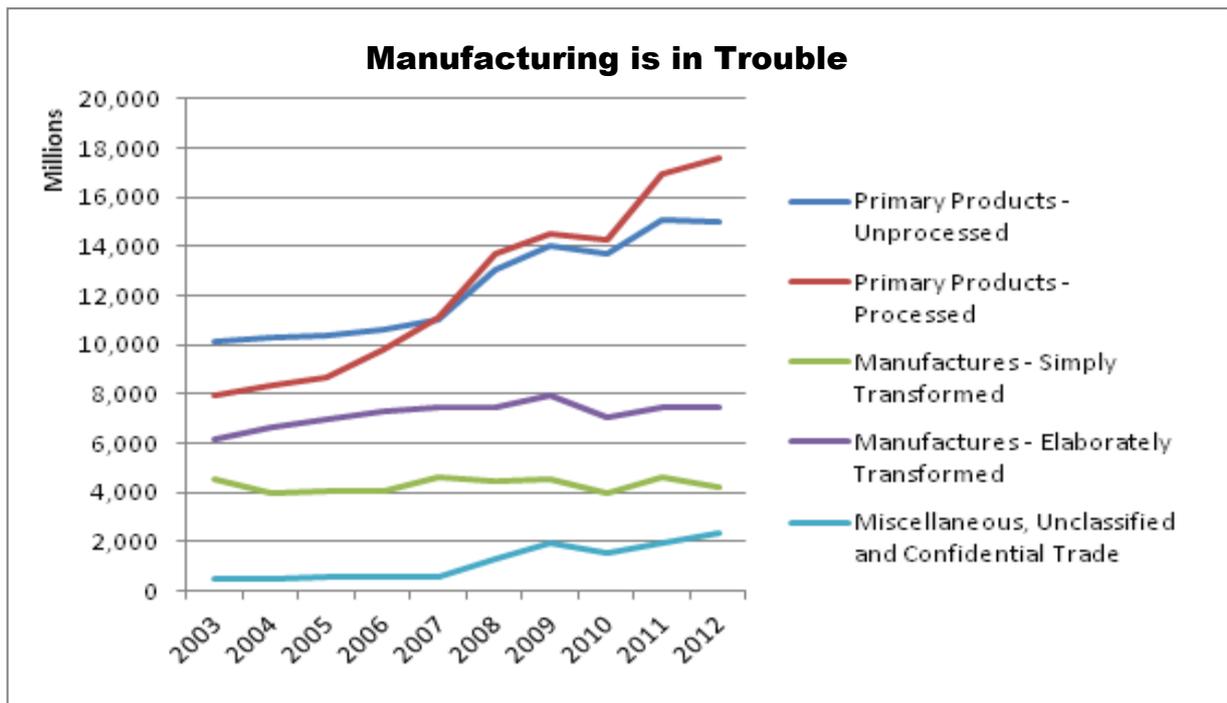


Figure 4 (refer 3.01)

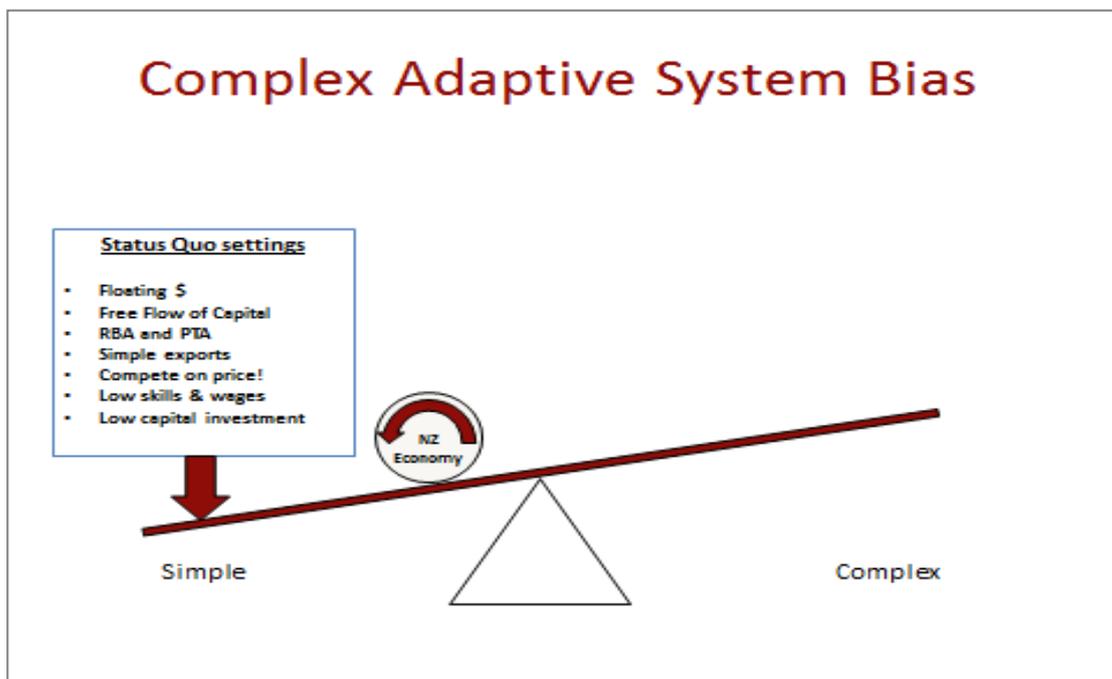
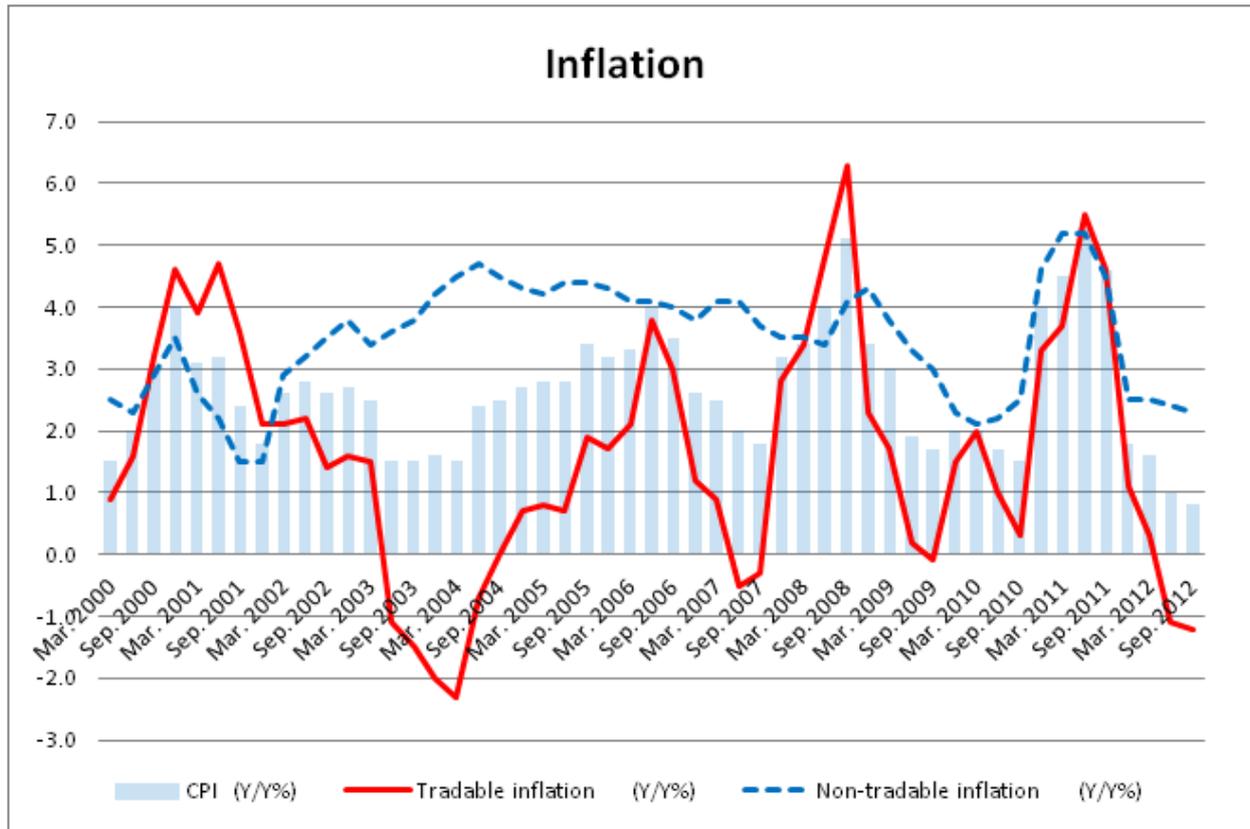


Figure 7 (refer 3.19)



Data Sourced from RBNZ.

Figure 8 (refer 5.07)

Gross expenditure on R&D as a proportion of GDP				
Compared with selected OECD countries and the OECD total				
2004–10 ⁽¹⁾ reference years				
Country	2004 ⁽²⁾	2006	2008	2010 ⁽³⁾
	Percent			
Australia	1.73	2.00	2.21	..
Denmark	2.49	2.48	2.87	3.02
Finland	3.45	3.48	3.72	3.87
Ireland	1.23	1.25	1.45	1.77
Norway	1.59	1.52	1.64	1.80
Sweden	3.62	3.68	3.70	3.62
OECD total	2.17	2.24	2.34	..
New Zealand	1.17	1.14	1.19	1.31

1. From Organisation for Economic Co-operation and Development (OECD) *Main Science and Technology Indicators (MSTI)*: 2010/2. Purchasing power parity (PPP) values.

2. From Organisation for Economic Co-operation and Development (OECD) *Main Science and Technology Indicators (MSTI)*: 2010/1.

3. Data for Denmark, Ireland, Norway, and Sweden is for 2009.

Symbol:
.. not available

Source: Statistics New Zealand

Figure 9 (refer 5.09)

Shape of the New Zealand Economy

<i>Employment size groups for geographic units-(ANZSIC 06)</i>			
	<i>Business/Employ</i>	<i>Employee Count</i>	
<i>Year</i>	<i>ANZSIC06</i>		
<i>2011</i>	<i>Total Industry</i>	<i>1909900</i>	
	<i>A Agriculture, Forestry and Fishing</i>	<i>111100</i>	<i>5.82%</i>
	<i>B Mining</i>	<i>6150</i>	<i>0.32%</i>
	<i>C Manufacturing</i>	<i>214010</i>	<i>11.21%</i>
	<i>D Electricity, Gas, Water and Waste Services</i>	<i>13570</i>	<i>0.71%</i>
	<i>E Construction</i>	<i>113820</i>	<i>5.96%</i>
	<i>F Wholesale Trade</i>	<i>102980</i>	<i>5.39%</i>
	<i>G Retail Trade</i>	<i>193820</i>	<i>10.15%</i>
	<i>H Accommodation and Food Services</i>	<i>131780</i>	<i>6.90%</i>
	<i>I Transport, Postal and Warehousing</i>	<i>80910</i>	<i>4.24%</i>
	<i>J Information Media and Telecommunications</i>	<i>39250</i>	<i>2.06%</i>
	<i>K Financial and Insurance Services</i>	<i>53430</i>	<i>2.80%</i>
	<i>L Rental, Hiring and Real Estate Services</i>	<i>27120</i>	<i>1.42%</i>
	<i>M Professional, Scientific and Technical Services</i>	<i>142440</i>	<i>7.46%</i>
	<i>N Administrative and Support Services</i>	<i>92430</i>	<i>4.84%</i>
	<i>O Public Administration and Safety</i>	<i>107980</i>	<i>5.65%</i>
	<i>P Education and Training</i>	<i>170440</i>	<i>8.92%</i>
	<i>Q Health Care and Social Assistance</i>	<i>206520</i>	<i>10.81%</i>
	<i>R Arts and Recreation Services</i>	<i>37730</i>	<i>1.98%</i>
	<i>S Other Services</i>	<i>64410</i>	<i>3.37%</i>

Data sourced from Statistics New Zealand

Figure 10 (refer 5.09)

Exports		Jun 11	Sep 11	Dec 11	Mar 12	Jun 12	Last 4 quarters
		\$(million)					
1	Total Primary Products	9,488	7,035	8,357	8,334	8,859	32,584
11	Total Primary Products - Unprocessed	5,004	3,457	3,233	3,755	4,550	14,995
111	Primary Products - Unprocessed - Food and Live Animals	3,291	2,015	1,753	2,350	2,972	9,090
112	Primary Products - Unprocessed - Fuels	569	551	546	436	452	1,986
113	Primary Products - Unprocessed - Minerals	141	105	109	92	164	470
119	Primary Products - Unprocessed - Other	1,003	786	825	877	962	3,449
12	Total Processed Primary Products	4,484	3,577	5,124	4,579	4,308	17,589
121	Primary Products - Processed - Food	4,043	3,092	4,673	4,165	3,852	15,782
122	Primary Products - Processed - Fuels	72	106	75	98	79	357
123	Primary Products - Processed - Minerals	1	1	1	0	1	2
129	Primary Products - Processed - Other	369	379	376	316	377	1,447
2	Total Manufactures	3,193	2,877	3,107	2,667	3,042	11,693
21	Total Manufactures - Simply Transformed	1,145	974	1,137	1,032	1,075	4,217
211	Manufactures - Simply Transformed - Mineral Manufactures	10	8	10	9	11	37
212	Manufactures - Simply Transformed - Metal Manufactures	-5-	383	401	351	310	1,444
213	Manufactures - Simply Transformed - Chemical Manufactures	338	233	408	368	441	1,451
214	Manufactures - Simply Transformed - Plastic Manufactures	14	14	15	12	14	55
219	Manufactures - Simply Transformed - Other	344	336	303	292	299	1,230
22	Total Manufactures - Elaborately Transformed	2,047	1,904	1,970	1,635	1,967	7,475
221	Manufactures - Elaborately Transformed - Metal Manufactures	46	55	55	44	52	205
222	Manufactures - Elaborately Transformed - Chemical Manufactures	164	137	175	146	146	604
223	Manufactures - Elaborately Transformed - Plastic Manufactures	122	108	110	91	102	410
224	Manufactures - Elaborately Transformed - Mechanical and Electrical Machinery & Equipment	1,374	1,231	1,236	1,030	1,320	4,816
225	Manufactures - Elaborately Transformed - Textiles, Clothing and Footwear	146	156	147	139	136	578
229	Manufactures - Elaborately Transformed - Other	195	216	248	186	212	862
3	Total Miscellaneous, Unclassified and Confidential Trade	577	668	614	551	573	2,405
Total		13,257	10,581	12,077	11,551	12,473	46,682

Data sourced from Statistics New Zealand

Figure 11 (refer 7.01)

