Policy Ideas
Rural and Regional Australia 2 Day Workshop

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The 5 questions to be addressed in the Workshop are as follows.

1. **Within your subject area and given your research, experience and insights, what policy ideas would you suggest to governments in Australia?**

2. **What actions should the Federal and state governments initiate?**

3. **Do you see any scope for government leadership, and/or government co-operation with the private sector and with institutions devoted to research, development, innovation and education?**

4. **Would you favour greater government involvement in the economy, either along the lines we had pre-1983, or participation of a different and more innovative nature?**

How do you see the "end of cheap oil", climate change and water shortages impacting on your suggested policy positions?.

Background to Policy Initiatives.

- If commodity prices fall appreciably from the current high values, as determined by the very favourable terms of trade, then the manufacturing sector will be in even more trouble than it is in at the moment. This is so because the resources boom has assisted in holding up the value of the Australian dollar. As a result of this much of the manufacturing sector has been dismantled since it has not been able to compete with cheaper

imports. A recent example is the closure of the tinplate mill at Port Kembla. It must be appreciated that we have the coal (to produce the power), iron ore (to produce the steel), expertise (BHP, Bluescope etc), and yet we are unable to compete with cheap imported electroplated steel, our technology was never updated. We need a policy to enable plant to continuously upgrade.

- Even though the terms of trade are at a peculiar high level and as a result the price of commodity exports are high relative to the cheaper price of imports, and this is very favourable for Australian trade, we still trade in deficit and have done so for the last 50 months. The Current Account Deficit is approximately 6% of GDP and the net Private Foreign Liabilities continue to grow and are now 60% of GDP, the highest ever.

- As a result of the strong demand for commodities, particularly coal and iron ore, the various economies of the States have become dislocated with WA and Qld booming and NSW suffering. Skilled labour is being attracted to mining away from the other activities which in the long term would have added more value to the Australian community than the simple mining of coal bauxite, or iron ore.

- Infrastructure in many areas is very poor. For example, the export of coal, from Newcastle in particular, is constrained by the rail system and the associated contracts and perhaps the coal loader. Large tankers continue to anchor off Newcastle (at what cost?) Imagine how much more coal could we ship if the constraints from the 22 coal mines were removed.

- Commodities are at the poor end of the supply chain. Elaborately Transformed Manufactures (ETM's) are at the high value added end. The return on Investment (ROI), increases the closer we are to the end user of the final products sold. Similarly, less sophisticated economies can mine but can't make and add significant value to raw materials. The massive profits by BHP Billiton will only last as a result of the demand from China and how long it will take for China to use her massive RMB surpluses in USD to buy up competitors in say South America and force prices down.

- Product development is not a characteristic of commodities. Any developments or innovations are related to process only. World sophistication and product development is based on elaborately

transformed manufactured product. Innovation in the mining industry is limited to process innovation primarily to reduce the cost of production for products whose price is set by international agreements eg world price of metals (LME). This is not the case for high value added goods where extra premiums and therefore prices can be obtained for novelty. (Microsoft 90% GM, 35% net profit with massive returns on capital.). It is the first to market product innovations that yield the greatest rewards. Such comparative advantages do not exist in the commodities sector. Hence there is no chance to develop the necessary infrastructure to support much of the clever industrial infrastructure. The notable exception here is the sector servicing the commodity sector, e.g development of trucks and dragline equipment and conveyor equipment etc. Even here, because of our large trading deficit and our inability to create a surplus to control our own assets in areas where we do have a comparative advantage, the companies are sold to overseas buyers. Australian plants are shut down and similar products, often of an inferior quality are imported at higher cost as the control and IP move overseas e.g. Wormald Machinery Group, etc.

- The world demand for coal is not likely to diminish much in the next 10 years especially with peak oil and the long lead time for nuclear solutions and the high cost of solar and wind power. We are the lucky country but despite this we still trade in deficit. Carbon trading and CO2 sequestration are needed urgently. Australia must lead not simply, as claimed, simply participate in the debate. I will be very surprised if nuclear power will be and economic alternative even when the full cost of say CO2 sequestration is included in the cost of dirty fossil fuel fired power stations, especially when the total amount of CO2 produced in the full supply chain for nuclear power is considered (mining, yellow cake production, enriched Uranium production, transport etc).

- There has never been an integrated approach to developing a total supply chain for areas where we have a significant comparative advantage. (eg Aluminium products for the car industry via global supply chains using our bauxite, our Alumina refinery and Aluminium smelters and coal fired power stations. When Hawker de Havilland manufactured wing sections for Boeing in Sydney, the aluminium alloy had to be made in Europe and this material imported so that sections could be made in Sydney using a unique Australian innovation.

Boeing subsequently poached all the Scientists and Engineers and a few years later bought Hawker de Havilland.

- Our manufacturing industries are in serious decline. In addition, the auto industry worldwide is trying to compete with outmoded non global platforms at Ford, GMH and Mitsubishi. When this is combined with the increasing price of oil and the fact that the cars produced here are too large and no longer what the people want, then it is clear we are heading for a crisis. As a result, the auto suppliers must enter the global supply chains as a matter of urgency. It is now a question of their survival and how much support is needed to assist. The $25M so far offered won't go far.
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- As an innovator to numerous overseas owned companies in Australia, I have seen all my major innovations commercialised overseas at Australia's expense. (Precision Valve, Moore Business Systems, Duracell, Pyrotek, Shaw Industries…etc). I have also examined over 500 R&D programs as I sit on the Government's Engineering and Manufacturing advisory committee and whilst the percentage of successful programs is low, the majority of the successful ones are commercialised overseas or sold to overseas interests usually lack of local financial help. (e.g. Hazard) The intellectual property (IP) and the investment by the Australian Taxpayer through the R&D Start and Commercial Ready programs seamlessly passes to an overseas buyer cheaply.

- The CSIRO's performance in manufacturing has been very poor. As Rod Hill presented at the Manufacturing Summit in November 2005, 50% of the total expenditure of the CSIRO's meagre funds are spent in areas where we do not have a comparative advantage and as such much of this effort is wasted. In addition the effort is thinly spread in a very wide range of activities and this again is reflected in the poor performance of the CRC's. The problem with the CRC's appears to be in the way they are setup with academics without business training making poor commercial decisions. The Japanese model needs to be copied.

- As Professor Ken Preiss (Ben Gurion University Israel – Professor of Technology and Global Competitiveness) pointed out at the Manufacturing Summit held in Victoria last year, Australia's industry bodies are largely political agitators.

- At the "Sustaining Prosperity Conference" in Melbourne in April 2005, there was no recognition of the problem facing Australia's coming Balance of Payment Crisis and my comments regarding Nuclear Power and CAD were not published by the editors who all pushed the line that the high net foreign debt would correct itself (at what cost?) What assets will be ultimately controlled by Boards in Australia?, Is this important?)

- Australian assets are already being sold to overseas companies as our manufacturing infrastructure collapses. If the dollar collapses then these assets become cheaper and our debt (in US$) rises and we become a second rate developed nation.

- Why did Australia have to become a lone champion of free trade in Agriculture especially when the USA and the EU continue to subsidise their farmers??

- Sugar for biofuels. Why not? The internal combustion engine can be modified to run on 100% Ethanol. Sochiro Honda's first motorcycle ran on 100% cane sugar syrup in 1946. The new HCCI engines could be built here for the world

- Important Government support is needed in strategic manufacturing industries where we have a significant advantage. Toyota, the most successful automotive company in the world began with substantial Japanese Government support. Look where they are today. A long term strategy is needed now, not ad hoc short term goals.

Policies needed.

We need a policy which includes:

- A long term plan for the development of a sustainable future for Australia is needed that embraces all disciplines not simply so called rational market driven economics which is increasingly ignoring the human element. This needs to be reviewed annually and modified as needed due to changing circumstances. This plan must recognise the value of education at all levels, the need to innovate in all disciplines, the increasing need to cultivate R&D in specific areas where we have a strategic advantage (energy, resources, solar, wind power, crops, etc). The role of the future fund must be defined as well as the great resources available in Superannuation funds.

- Taking a leadership role on global warming solutions, not be a follower. We need a vision not ad-hoc solutions.

- A plan which describes the likely future scenarios if we continue to accumulate private debt and loose control of Australian companies to foreign corporations and loose control of IP.

- Support and incentives for companies to develop integrated networks to supply manufactured product to global producers in areas where we have a comparative advantage. e.g. Aluminium diecast products for the auto and aerospace industry.

- Support for business at all levels of turnover to carry out R&D with a strong commercial objective aimed at using a CSIRO and University based network combined with a network of companies all working together to achieve global success. (not limited to companies with turnovers less than $50M. A better selection criteria is needed.)

- The offer of incentives and training so that companies can understand how to extract the state of the art from patents and then build on that knowledge like John Lysaght did with Zincalume which became Colorbond. This means we must not favour product development over process innovation.

- Offer incentives for companies to modify overseas purchased equipment so that the real needs of the company can be met. Since Australian plants require equipment to be much more flexible and agile than those for say USA or Europe as our production runs are so much shorter and the need to run plants with a greater product range is great.

- Establish a national database of expertise and make it available to all Australian companies.

- Rationalise the activities of he CSIRO so that it matches Australia's needs not the isolated views of some research pressure groups which do not fit the public interest.

- Encourage universities to work hand in hand with industry only in areas of national interest, and so avoid many of the missed opportunities of say the University of Newcastle (Autonomous in 1966), when the administration set up a classical style university in a coal and steelmaking city.

- Exploit developments where there is proven global demand and we have the intellectual capability and expertise. e.g. solar power. (UNSW IP is currently being exploited in China and Japan with a rapidly growing market worth Billions already).

- Exploit the nuclear industry by controlling the whole of the fuel cycle from mine to storage. (Synroc, UO2,). Despite claims to the contrary, nuclear fission does not produce CO2, and the power supplied for the conversion could be supplied by nuclear power anyway. However it is unlikely that such a plan would be economically viable as a stand alone nuclear power scheme even if the costs of converting dirty coal to clean coal are included.

- Accept the fact that GMH, Ford, And Mitsubishi and Toyota will not all be able to produce cars in Australia. However, the auto parts suppliers can produce economically for the world from Australia.

- Accept the fact that if the USA and EU subsidise their farmers then we are not operating on a level playing field and help our farmers in all ways and in particular to produce Bio-fuels with new enzymes that are available to maximise ethanol production from crops like sugar.

- Remove the water thirsty crops like cotton and rice as products grown in Australia unless development in the far north where rain appears to be plentiful, is economically viable.

- Investigate the feasibility of filling lake Eyre (16m below sea level with either seawater as the sea levels rise or maybe fresh water from the north and use as a dam (freshwater).

- Adopt new business models that are agile and flexible. In the short term this will mean sourcing components overseas and assembling at the market with Australian IP control. There are numerous successful models for each industry type. All these take advantage of flexibility , agility, lean production, IP control, and smooth logistical control.

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