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### **Fostering the Green Economy – Any Lessons from the Protectionist Past?**

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#### **Abstract**

As economies exit the mayhem caused by the Covid-19 pandemic, they are turning their attention to climate change. Following a path to *Greening* the economy has become the aspiration among a broad spectrum of civil society and policymakers. Climate change is moving economies into states of considerable disequilibrium. The subsequent paths of adjustment from the shocks associated with climate change are not easily discerned. Policymakers are, however, attempting to put in place initiatives that will foster *Greening* of the economy as well as securing their country's technological leadership and the benefits arising from the coming transformation. The policies to foster the latter are often protectionist. Despite the lure of protection, historical experience suggests that it will not achieve its goals over the long run and may provide the incentive to create future contenders for technological leadership.

Keywords: disequilibrium, greening, industrial policy, paths of adjustment, protection, transformative

#### **Introduction**

A green economy is defined as low carbon, resource efficient and socially inclusive. In a green economy, growth in employment and income are driven by *public and private investment* into such economic activities, infrastructure and assets that allow reduced carbon emissions and pollution,

enhanced energy and resource efficiency, and prevention of the loss of biodiversity and ecosystem services.

These green investments need to be enabled and supported through targeted public expenditure, policy reforms and changes in taxation and regulation [emphasis added].

United Nations Environment Program, 2023

As Ontario emerges from the COVID-19 pandemic, we would be remiss to forget about the other systemic threat: climate change,” said Rocco Rossi, President, and CEO of the OCC. “Its impacts are already being felt across Ontario as extreme weather events disrupt livelihoods, infrastructure, access to natural resources, and community well-being. While confronting climate change is a historic challenge, it also elicits opportunities for innovation, job creation, economic development, and local leadership.

Ontario Chamber of Commerce, 2021

Joe Biden’s Build Back Better plan ensures that – coming out of this profound public health and economic crisis, and facing the persistent climate crisis – we are never caught flat-footed again. He will launch a national effort aimed at creating the jobs we need to build a modern, sustainable infrastructure now and deliver an equitable clean energy future.

Biden-Harris Democrats, 2022

Collaboration and large innovation efforts by the state devoted to solving grand challenges face the apparent risk of being designed around the wrong technology or effort. If this is the case, investments will be distorted and destructive. Active, interventionist innovation policies have often resulted in these forms of problems.

Sandström, 2021, p. 100

The statesman who should attempt to direct private people in what manner they ought to employ their capitals would not only load himself with a most unnecessary attention, but assume an authority which could safely be trusted, not only to no single person, but to no council or senate whatever, and which would nowhere be so dangerous as in the hands of a man who had folly and presumption enough to fancy himself fit to exercise it.

Adam Smith, 1776, Book IV, Chapter 2

**E**conomies experiencing considerable disequilibrium are often faced with disconcerting uncertainty regarding their future paths of adjustment as time moves forward (Wilman et al., 1987; Kerr and Anderson, 1991; Kerr, 2022). Policy makers

must deal not only with mitigating adjustments that impose unacceptable costs on society but also with ensuring that benefits from opportunities that may arise are not forgone. It is often not clear if policy interventions made as economies are following paths of adjustment will successfully deal with unacceptable costs and whether intervention is required to ensure potential benefits are garnered for the domestic economy rather than for competitors. Implicit in the approach of policy makers is that there can be market failures arising during periods of disequilibrium and subsequent adjustments. Allowing markets to deal with the disequilibrium may mean that a degenerate path is followed (Wilman et al., 1987).

Despite concerns with the economic disruptions that will arise as a result of climate change having been of concern for policy makers since at least the signing of the Kyoto Protocol in 1997 (Gaisford et al., 2004), the apparent increased frequency of major weather events over the last few years has finally spurred governments of some major economies into taking action to promote a *Greening* of their economies. If this *Greening* initiative turns out to be sustained, it could kick off a new global disequilibrium at a time when the global economy is still dealing with the economic impacts of the global Covid-19 pandemic (Hobbs, 2020; Hobbs, 2021) and the integration of the Chinese economy into the international economy following its accession to the World Trade Organization (WTO) in 2001 (Kerr, 2022).

As economies emerge from the disruptions caused by the Covid-19 pandemic, climate change appears to be the next urgent challenge – and opportunity. The *Greening* of the economy will require a major shift away from the current dependence on fossil fuels toward ways of powering and heating/cooling societies that do not emit as much green house gasses. The degree to which this transformation takes place and the speed with which it will be accomplished will depend on massive investments from the private sector and governments as well as consumers – in heating/cooling their homes, insulating their homes and in the vehicles they use for transportation. Governments were surprised at the rate of uptake of electric vehicles – both hybrid and fully electric. The purchase of electric vehicles represents major outlays for consumers where price seems less a consideration than making a contribution to reducing the effects on climate change. The price of electric vehicles currently puts them out of the reach of many and the infrastructure needed to support them is still in its infancy but if prices fall and the required infrastructure becomes available, it seems likely that the transition will continue. Of course, the stock of automobiles and other vehicles (such as trucks, busses, trains and aircraft) turns over much more quickly than housing stock or commercial buildings but, over time, the fossil fuel-based stock is likely to be replaced. The *Greening*

of the economy is a *transformative* technological change whose accomplishment will reach deep into the economy in ways that will often be unanticipated (Kerr, 2014).

One has only to reflect on the deep reach of other transformative technological changes. The harnessing of gasoline and diesel engines for motive power is one example. Prior to the technological advance, beyond steam railways and street cars powered by electricity, local transport was dominated by draught and recreational horses and human powered vehicles such as bicycles. Walking was ubiquitous. The first *horseless carriages* competed with the equine powered versions for space on the roads with early regulators, for example, stipulating that the noisy internal combustion vehicles be preceded by a flagman to warn potentially skittish horses of their approach (Kerr, 2014). As with the electric vehicles of today, the public embraced the new technology with astonishing speed although mass consumption had to await the cost reducing assembly lines pioneered by Henry Ford. The horse was all but vanquished from the roads in developed countries over approximately 20 years. The breadth of the transformation was not anticipated – e.g. freeways, vast automobile production plants, networks of car dealerships, drive-in churches, motels, drive-in restaurants, car hops, demolition derbies, stock car races, gas station chains, large scale petroleum refining, gravel pits, steam rollers, asphalt, school zones, speeding tickets, highway patrols, tow trucks, junk yards, 18 wheelers, garage mechanics, rubber plantations, radial tires, multi-storied car parks, school buses, formula one racing, body shops, billboards, drive-in theatres, pickup trucks, motor cycles helmets – the list is almost endless. The transformation also created losers – livery stables, harness makers, wagon makers, buggy makers, farriers, blacksmiths, feed stores, saddle makers – again the list is extensive. The decline in the number of animals used for transport along with the replacement of draught animals on farm with tractors meant that large areas of farmland previously dedicated to the production of animal feed were freed up for growing food. Some enterprises were able to make the transition to the new economy – buggy makes became autobody designers, livery stables became garages and red flag carriers became traffic cops – but one suspects these successes were few and far between. The *Greening* of the economy has a similar potential for change.

Historically, the US was the front runner in the transformation that followed the harnessing of the gasoline and diesel engines for vehicle transport. The decline in the cost of transportation it represented allowed the US to connect its vast resources and economy such that it became the world's industrial leader. The opportunities created spurred innovation across the economy meaning the US was the technological leader globally – and this lead was sustained. Other countries copied the US economic transformation with British, German, French and Japanese carmakers making

substitutes for American vehicles and setting off similar changes to the economy – motor ways in the UK, autobahns in Germany; petrol station networks; racing cars; suburban shopping malls; vast manufacturing plants such as Toyota’s in Japan and Kia’s in South Korea – but always with a lag.

If the *Greening* of the economy is similarly transformative, then it is understandable why governments – and their citizens – want their economy to be in the forefront of the change. Being first likely means jobs that pay well – and will provide opportunities for those who are in occupations tied directly and indirectly to fossil fuels that will be transitioned out of. Others will not want all the opportunities to be garnered by the US and will seek to create conditions that allow the benefits that flow from *Greening* to them. The fate of countries that largely missed the transformation brought by the automobile industry – or computers, or applying science to agriculture, or communications – is obvious.

### **What not to do about *Greening* the economy**

Governments are on the horns of a dilemma. *Greening* of the economy is going to push economies into major disequilibria – with unknown paths of adjustment. Even without government intervention, the *Greening* of the economy is likely to go ahead as proven by the private sector choosing to invest in the development and production of electric cars in response to their perception that consumers, concerned with the environment, and climate change in particular, would be interested in buying electric vehicles. In the development and promotion of electronic vehicles, governments were very much laggards. What governments want is to secure a place for their constituents as a leader in this transformative change.

Subsidies and trade barriers are seen as ways to secure that place as a leader – with all the benefits that will flow from being a leader. The subsidies and trade barriers, however, are very blunt instruments and applied unilaterally do not take into account the reaction of other economies. In the 1930s, when governments were much less interventionist in economies – i.e. industrial strategies fostered by subsidies and regulations were not common (Viju and Kerr, 2012) – faced with a depression and rising unemployment – governments used the one tool they had at their disposal to try and save jobs. The tool was tariffs (and other trade barriers).

The Smoot-Hawley Tariff Act of 1930 was put in place in the US to deal with the crisis affecting the US economy in the wake of the collapse of the stock market in 1929. It was an attempt to restrict imports in a vain attempt to save jobs in the US by encouraging import substitution. Those passing the Act did not anticipate the retaliation of trading partners who, *tit-for-tat*, increased trade barriers on US exports. This

worsened unemployment in the US as jobs in export industries were negatively impacted. The original intent of the tariffs was thwarted because the steep decline in employment and incomes did not provide the growing markets that would have provided incentives for investments in import substitution activities. According to Pomfret (1991, p 164):

Because it was so extreme, the 1930 US tariff carried the seeds of its own destruction. Very quickly America's trading partners retaliated by raising their own trade barriers, or taking specific measures against US exports (for example through public procurement decisions). It was soon recognized that the Smoot-Hawley tariff exacerbated rather than eased the economic depression.

While the tariff war did not cause the great depression, it made it deeper and longer than it should have been (Kerr, 2010). Although US policy makers soon realized their error and began to walk back their tariffs through bilateral negotiations, protectionists are tenacious. The Second World War disrupted the process of reducing trade barriers and at the end of the war most of the depression era trade barriers remained in place. The change in perspective arising from the experience relating to international trade during the *Great Depression* was set out by Assistant US Secretary of State William L. Clayton in his introduction to the document put forth by the US outlining *Proposals for Expansion of World Trade and Employment* in 1945 (US Department of State, 1945). Clayton states (US Department of State, 1945, p iv):

All countries are faced by serious commercial problems and are taking action on them every day. Unless they act together, they will act at cross purposes and may do serious damage to each other. But if they do act together, there is every possibility that the peoples of the world may enjoy, in our lifetime, a higher degree of prosperity and welfare than they ever have before. Powers of production are now the greatest that the world has known. To bring them into play requires agreement on the principles of exchange and distribution which will permit trade, production, employment and consumption all to expand together.

The proposals in this document set in motion the negotiations to reach agreement on the International Trade Organization (ITO) – which was agreed but was never put in place because it was believed that protectionist in the US Senate would not ratify it – and the General Agreement on Tariffs and Trade (GATT)(Kerr, 2010). It took another forty years to substantially reduce most of the industrial tariffs existing at the time of the GATT's inception through successive rounds of negotiations. Little progress has yet to be made on reducing tariffs on agricultural goods – which were the initial spur for the Smoot-Hawley tariffs (Kerr, 2000; Hobbs and Kerr, 2000).

With the revolution in economic thinking that arose in response to the *Great Depression*, which proposed a much more interventionist role for government in economic affairs, new economic tools became available to policy makers. Subsidies in the name of industrial policy became accepted interventionist tools. They were not generally accepted as a policy instrument until near the latter years of the *Great Depression* – although *bounties* were discussed by Adam Smith in the 1700s.

The unilateral use of subsidies to foster the *Green Economy* will almost certainly lead to the *beggar-thy-neighbour* subsidy competition with similar negative impacts as the tariff wars of the 1930s. On January 24, 2023, *The Economist* laid out the likely scenario:

America has unleashed vast subsidies, amounting to \$465bn, for green energy, electric cars and semiconductors, These are laced with requirements that production should be local. Bureaucrats tasked with scrutinizing inward investments to prevent undue foreign influence over the economy now themselves hold sway over sectors making up 60% of the stock market, And officials are banning the flow of ever more exports – notably of high-end chips and chipmaking equipment to China (p. 9).

If the European Union follows through on threats to mimic America’s protectionist industrial policies, “Japan, Korea, China, every country will engage in this very difficult race to ignore global trading rules.” The international system of trade and investment, painstakingly negotiated over decades, will be upended (p. 17).

This thinking is misguided. If zero-sum policies were seen as a success, abandoning them would only become harder. In reality, even if they do remake American industry, their overall effect is more likely to cause harm by corroding global security, holding back growth and raising the cost of the green transition (p. 9).

In the context of *Greening* the economy, subsidies combined with trade barriers carries considerable risks. The objective, say with the Biden administration tax incentive for consumers that wish to purchase electric vehicles, is to speed up the uptake of those vehicles – clearly a *Greening* of the economy objective. The further provision that the consumers’ tax break will only apply to electric vehicles manufactured in the North America, however, relates to providing an incentive for automobile manufacturers to innovate – and, of course, potentially politically rewarding increases in manufacturing jobs. This is similar to much discredited *infant industry* (Kerr and Perdakis, 2014) and *import* substitution arguments (Gerber, 2007).<sup>1</sup> The lesson from previous protectionist experiments is that *infant industries never grow up*. According to Pomfret (1991, p. 136) “... infant industry tariffs tend to persist because ... consumers may exert insufficient political pressure for their removal.” In short, the

trade restricting measures embedded in the US Inflation Reduction Act are likely to foster a green automobile sector that is not internationally competitive. If that is true, then there will be limited international markets for both green automobiles and the technology embedded in them.

Allowing US consumers to receive the tax credits on the purchase of any electronic automobile whether domestically produced or imported would increase the pace of *Greening* the economy without the risk of creating an uncompetitive industry. It would also forestall retaliatory subsidies (and potentially trade restrictions) by trade partners. If correctly designed, these subsidies may well provide incentives for green innovations. The US appears to believe that it has a lock on being a technological leader. This may no longer be the case. It may well be that European or Japanese or Chinese firms may be able to develop new green technologies that are superior to those developed by US firms. This same arrogance seems to permeate other aspects of the current US industrial policy such as those seeking to deny Chinese firms the ability to use advanced technology. *The Economist* (January 24, 2023, p. 17) reported that Jake Sullivan, the US National Security Advisor in a speech in September 2023 laid out the essence of the US strategy:

Merely retaining a technological lead over China and other rivals was no longer enough ... Instead ... America had to pursue “as large a lead as possible” in chipmaking, quantum computing, artificial intelligence, biotechnology and clean energy. To this end, America needed not only to welcome clever people and foster innovation, but also to impede technological advance in countries like China and Russia.

Mr Sullivan described two main ways to ensure American supremacy: using subsidies and other forms of industrial policy to shift supply chains away from geopolitical rivals, and stricter investment screening and export controls to keep advanced technology out of unfriendly hands.

In this vein (*The Economist*, January 24, 2023, p. 19):

In October America’s Department of Commerce announced export controls on advanced chips used to power supercomputers and artificial-intelligence algorithms. The new rules in effect ban the sale of the most powerful chips, and the software and manufacturing equipment needed to produce them, to Chinese firms. Similar restrictions in other high-tech fields are expected this year.

Until these restrictions, Chinese firms were content to import these important components of their products – thus allowing the US to keep its technological lead. Once firms in China can no longer acquire what they need through international purchases, they will have to find alternatives. Certainly, in the short run the US restrictions will reduce the productivity of Chinese firms that rely on US-made



components, but they will be forced to develop their own capacity to provide substitutes. The government is likely to provide subsidies. With the right incentives they will both produce domestic substitutes and build the research capacity to make new breakthroughs. The US already fears losing their technological advantage in the goods that the firms that use US advanced technology produce. Those firms will also make technological advances. The leap to making and improving substitutes is not that far. Instead of impeding China's technical and economic progress, it may provide the means for China to move into a technological lead in important sectors. One only has to look at space programs, the aircraft industry and biotechnology to see what China can already do on leading edge technology (Xiao and Kerr, 2022). It is simple arrogance to think that the Chinese (or other advanced economies such as Japan, the EU, Canada and the UK) cannot catch up or supersede the US now that the incentives have been provided.

Similar scenarios could easily play out in the race to green the economy. The current policies are largely untargeted. Given the deep reach of transformative technologies, as with the transformations wrought by the automobile, the advances to be made are not yet discernable. Incentivizing rivals may lead them to succeed in additional areas of transformation. It is likely better to keep markets open and to not cut oneself off from potential competitors. That is the lesson from previous protectionist experiences.

## Conclusions

Climate change suggests policies that will encourage the *Greening* of the economy. Climate change and the policies put in place to deal with it – either to mitigate the effects or adapt to them – are likely to be transformative. That means that economies will be *shocked* into disequilibrium. After the shock the paths of adjustment the economy will follow are unlikely to be easily discerned – meaning policy makers are *flying blind*. Yet policy makers are *picking winners* through their subsidies and trade barriers. As is well known, the government record on picking winners is poor (Davies and Kerr, 1997). There can be no assurance that policy interventions will put the economy on a path of adjustment that will lead to a green future while at the same time improving prosperity. *Greening* goals are an appropriate response to climate change. Lumbering them with industrial policy goals that aim to garner as much of the benefit accruing from *Greening*, as in previous protectionist experiments, is likely to have unforeseen consequences. The US has kicked off the current major effort at *Greening* the economy but instead of leaving the door open for cooperation with others with similar goals, it has instead, packaged *Greening* together with protectionist policies. As in the past, protectionist policies have not achieved their goals over the long run. Policy makers should not forget

the contrast between the economic outcomes arising from protectionism in the 1930s and the period of declining protectionist measures in the wake of the Second World War.

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## Endnotes

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<sup>1</sup> Note, the objective of this policy is to provide an environment where automobile manufacturers will innovate to provide green technology as well as to innovate to reduce costs unlike infant industry objectives which wanted to foster firm's lowering costs through innovating, *learning-by-doing* and possibly benefitting from economies of scale.