SPECIAL REPORT

TD Economics

February 20, 2014

THE CURIOUS CASE OF CANADA'S AILING MANUFACTURING SECTOR

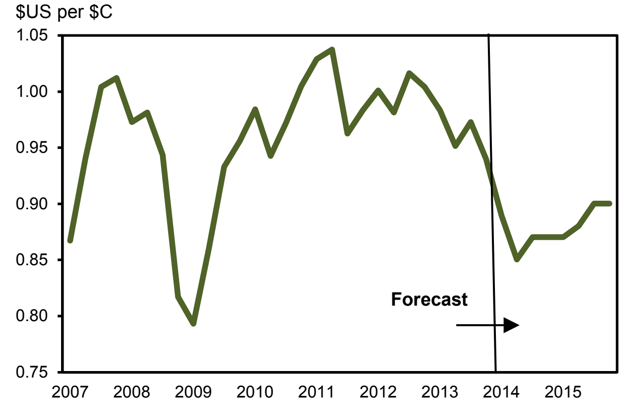
Highlights

- Canada's manufacturing sector has faced challenging times since the economic downturn. After enjoying two years of modest recovery, manufacturing activity took a significant step backward in 2013. Last year's setback partly reflected developments abroad, and notably the unexpectedly weak pace of U.S. and global expansion in the first half of 2013. However, competitiveness and structural challenges have also weighed on sector performance.
- We do see scope for a moderate bounce back in activity over the 2014-15 period. The two-pronged boost associated with firming U.S. demand and a falling Canadian dollar should propel the sector back into expansion mode. Prospects across manufacturing industries vary. The wood, machinery, chemical and primary metals industries appear poised to show the greatest near-term strength. The auto assembly, petroleum and coal and paper industries are expected to underperform.
- Structural challenges are still very prevalent in the manufacturing sector. The input cost disadvantage that has built up in recent years will be partially addressed through a lower Canadian dollar, but not all of the gap will be recouped. Higher transportation, power and border related costs also pose an extra burden on Canadian producers. Capacity constraints will also likely act as a headwind to the manufacturing sector, limiting the extent of a bounce back in in the near-term. What's more, Canada's traditionally stronger trade linkages with the northern U.S. states do not align with regions in America that are expected to show the most strength over the 2014-15 period.

After enjoying two years of modest recovery, Canada's manufacturing sector took a significant step backward in 2013, shedding around $3 billion in real output and 50,000 net jobs. This marked one of the notable disappointments on the Canadian economic landscape and dealt a blow to hopes that the sector was poised to snap out of its longer-term decline. While ongoing concerns surrounding the sector's competitiveness remain, we do see scope for a moderate bounce back in activity over the 2014-15 period. The two-pronged boost associated with firming U.S. demand and a falling Canadian dollar should propel the sector back into expansion mode. And, some of the recent forward-looking indicators – while hardly robust – are consistent with an upturn in factory activity.

Underlying this big picture story, specific manufacturing industries will face varying market conditions over the next few years, with the machinery, primary metals, chemical and wood product industries expected to outperform. On the opposite side of the coin, the petroleum and coal and auto assembly industries are likely to be underperformers over the near-term. Other areas – such as food and plastics and rubber products – appear to be on track for middling growth. This variance reflects relative differences in key characteristics, such as export and import orientation, success in penetrating U.S. markets, recent investment trends and available capacity to grow.

Derek Burleton, VP & Deputy Chief Economist, 416-982-2514
Jonathan Bendiner, Economist, 416-307-5968



Source: Haver Analytics. Forecast by TD Economics as at January 2014.

2013 a disappointing year

Manufacturing is the most notable sector that has been largely absent in the recovery. Last year's contraction in production and employment more than reversed the modest gains recorded in 2012. Rather astoundingly, both measures remain 16% and 18% below their 2006Q1 levels[1], with employment roughly 25% below its all-time peak in the early 2000s.

Last year's further setback partly reflected developments abroad, most notably the unexpectedly weak pace of U.S. and global expansion in the first half of 2013. This sub-par global demand picture put a damper on both manufacturing exports and, through its knock on effects on Canadian income gains, cut into domestic demand for Canadian-made goods. To make matters worse, Canadians were hit with a string of high profile plant closing announcements, which further raised doubts on the sector's longer-term fortunes. Factories across Ontario such as Heinz, Kellogg's, CCL Industries and Novartis AG, all announced factory closures in late 2013, highlighting that competitiveness and structural challenges in the sector are still very prevalent.

Return to growth in 2014…

Despite last year's disappointing news, we believe that growth will return to the sector over the next two years, albeit at a moderate rate around 3% on average. Buried in some of the news regarding plant closings was some firming in manufacturing indicators – especially those of a more forward-looking nature (see Table 1). The improvement in these data was consistent with news showing a healthy rebound in U.S. economic growth in the second half of 2013, as well as the significant decline in the Canadian dollar (see Chart 1), which has fallen by about 10% since late 2012.

Looking ahead, we expect that Canadian manufacturing will benefit from both a further Canadian dollar decline and a firming external demand picture in the coming months. Our forecast calls for the U.S. economic activity to gain further traction as 2014 progresses – notwithstanding an expected weather-related setback in 2014Q1 – with real GDP forecast to come in around 3% in 2014 and 2015. The

Table 1: Selected Metrics for Major Manufacturing Industries

	Real GDP % Growth		Nominal Sales % Growth	New Orders % Growth	U.S. Import Penetration % Share***		Capacity Utilization Rate		Investment % Growth
	2013E	November Y/Y*	Q4/Q4	Q4/Q4	2010	2013	2004-12 Average	2013YTD	2010-13 Average
Total	-1.8	0.5	2.5	2.2	12.1	11.6	79.8	80.0	9.8
Outperformers									
Wood	7.6	6.3	10.6	9.8	47.5	50.9	78.5	88.3	8.5
Machinery	-3.5	3.7	5.4	7.2	10.6	9.6	80.0	81.8	3.4
Primary Metals	-0.6	3.2	-4.6	-4.2	27.9	23.9	86.5	76.9	31.0
Chemical	1.9	3.2	4.8	4.4	12.5	12.6	77.5	78.7	14.1
Moderate Performers									
Fabricated Metal	-2.9	-0.7	-2.6	1.5	10.3	8.8	78.4	79.5	4.1
Plastics & Rubber	-0.5	3.5	3.6	2.2	19.9	16.6	77.6	77.7	14.0
Food	-1.6	2.1	6.7	7.2	26.6	26.8	79.5	74.6	9.5
Underperformers									
Paper	-2.0	-0.1	4.5	4.7	50.7	45.6	87.7	87.8	23.5
Transportation Equipment	-4.9	-0.9	8.0	5.5	23.6	20.7	81.5	87.0	2.1
Petroleum & Coal	-1.6	-2.9	-1.5	--**	14.1	15.1	82.6	79.0	1.1

* Estimated as 3-month average as at November 2013 relative to the same period in 2012.
** Data is supressed.
*** U.S. import share defined as Canadian share of nominal U.S. imports by NAICS, customs basis.
Source: Have Analytics.

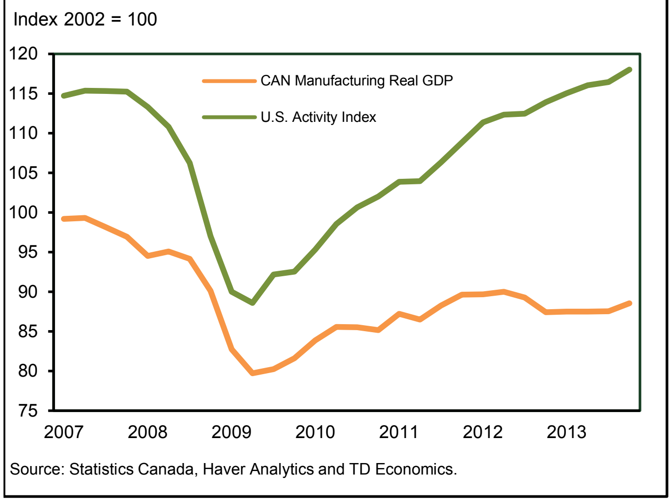


CHART 2: MANUFACTURING OUTPUT HAS NOT KEPT PACE WITH U.S. ACTIVITY

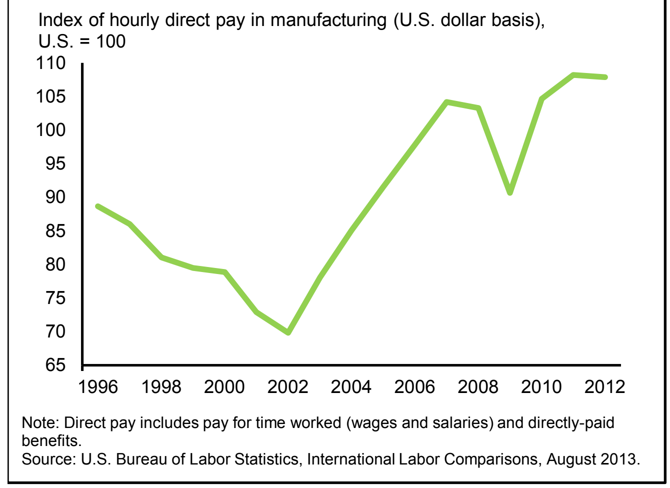


CHART 3: CANADA'S MANUFACTURING SECTOR COMPETITIVENESS

Loonie is likely to fall to a low of 85 U.S. cents at mid-year before stabilizing. Lastly, domestic demand, which accounts for about half of manufacturing sales in Canada, should continue to expand steadily, albeit moderately at a rate around 2% over the next few years.

…but structural challenges to persist

All of that said, there is still good reason to remain cautious with respect to the Canadian manufacturing outlook. Even with the decline in the Canadian dollar, export-oriented manufacturers are unlikely to receive the same boost they did historically. In the 1990s and most of the 2000s, Canadian exports tended to move hand in hand with changes in the U.S. activity index[2]. Recently, however, this relationship has broken down. Consider the last half of 2013, when U.S. growth forged ahead by 3.5% annualized, but real exports were essentially flat (see Chart 2). The Bank of Canada's recent Monetary Policy Report also highlighted this disconnect between foreign demand and export activity. The report recognized that "ongoing competitiveness challenges and potential supply constraints" may hamper export growth in the near-term.

One reason for this recent underperformance could be that Canada does not export much to some of the more rapidly growing U.S. states. In particular, trade links for manufactured goods are far stronger between Canada and the northern U.S. states. Unfortunately, many of these states will continue to underperform relative to the overall U.S. economy. Economic growth is expected to be stronger in the southern U.S. states – such as Texas, the Carolinas and Georgia – on account of faster population gains, as well as the rising tendency for manufacturers to relocate there. A prime example is Novartis AG, who when announcing the closure of its contact lense manufacturing plant in Mississauga, Ontario in December, stated that production will be transferred to a plant in Fort Worth, Texas[3].

The more important headwind stems from lost competitiveness. In 2013, unit labour costs in Canada's manufacturing sector expressed in U.S. dollars are estimated to be 14% above the level recorded in 2009. In comparison, they have decreased by 4% in the United States. It should be noted that unit labour costs do not incorporate higher transportation, power prices or border related costs to move Canadian goods to large U.S. markets – which pose an extra burden on Canadian producers. And, even with the Canadian dollar's depreciation (both recent and forecast), the relative unit labour cost comparison with U.S. will remain a far cry from its advantageous position a decade ago (see Chart 3).

Another factor that is likely to mitigate the positive impact of the falling Canadian dollar on near-term manufacturing prospects is the import composition of Canadian manufactured goods. Put another way, while a lower currency makes pricing of exports more competitive, it drives up the cost of imports for semi-processed goods or machinery. Also, it is worth noting that the high level of the Canadian dollar during the recovery period may have encouraged producers to increase their use of imported inputs – which cannot be unwound instantaneously. We discuss the issue of export and import composition by industry further in the accompanying text box.

Recent data on the ability of Canadian manufacturers to penetrate the U.S. market lines up well with this generally mixed story. On the plus side, the steady slide in Canada's

Measuring the Net Nominal Benefits from a Depreciating Canadian Dollar

The recent weakening of the Canadian dollar will likely prove to be a net positive for nominal factory production as the Canadian dollar value of exports will increase. However, a weaker Loonie will also raise the cost of imports. Industries that are more reliant on imported inputs stand to be more exposed than other industries. Using Statistics Canada Input-Output National Multipliers table, a proxy for import and export reliance can be estimated (see Table below). The import reliance measure represents the initial requirements for an extra dollar's worth of output of a given industry. The export reliance measure represents that proportion of an industry's output that is typically exported – all else equal. Comparing the two multipliers for an industry helps to gauge the net benefit from the rising value of production under a depreciating Canadian dollar – all else equal. For example, the import and export multipliers for the manufacturing sector as a whole are 0.25 and 0.40 respectively. This means that for every dollar of output generated by the manufacturing sector, 40 cents are destined for exports while 25 cents of imports are required. Clearly, on an aggregate basis, the near-term net benefits from a lower Loonie are positive for the sector. However, industries – such as petroleum and coal – that have an above average reliance on imports as inputs into production face disproportionately higher costs.

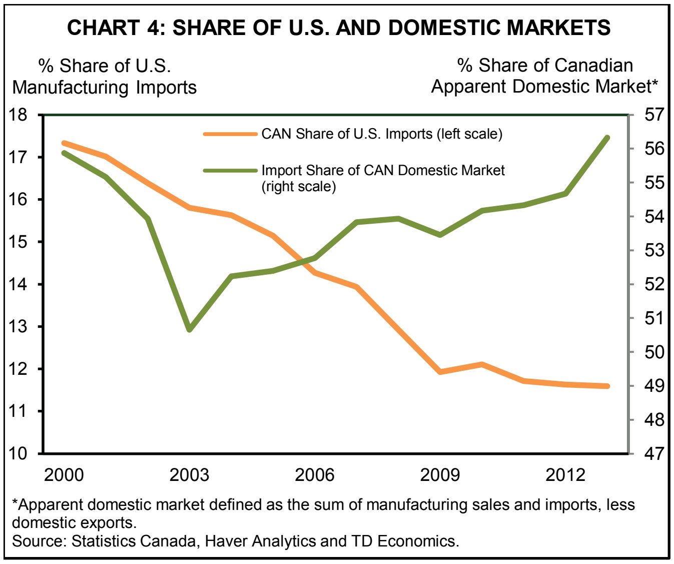
It is important to note that this analysis deals only with direct or first-round industry effects and assumes all else is equal. In that sense, it does not take into account import substitution effects or the impact of a lower Loonie on supplier industries that also import a portion of their inputs and may pass on their increased cost through higher inputs prices.

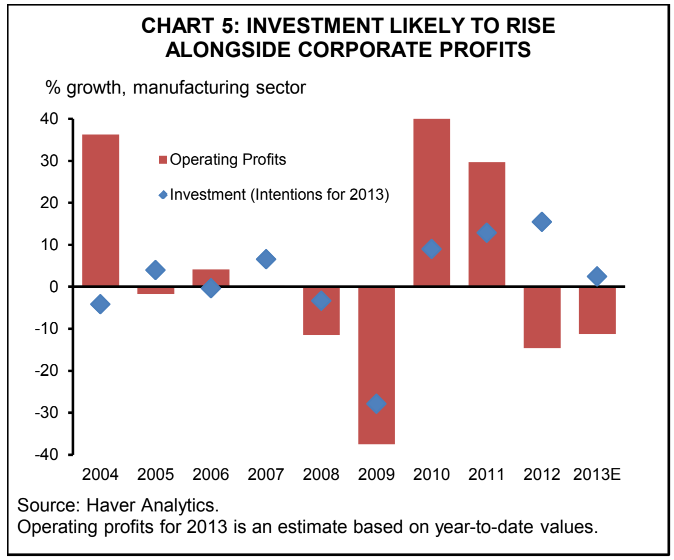
Canadian Export/Import Multipliers (per $1 of output)

	Exports	Imports	Net Exports
Total	0.40	0.25	0.15
Primary Metals	0.56	0.31	0.25
Chemical	0.46	0.23	0.24
Wood	0.32	0.10	0.22
Machinery	0.47	0.26	0.21
Transportation Equipment	0.49	0.30	0.19
Food	0.36	0.18	0.18
Paper	0.35	0.18	0.17
Plastics & Rubber	0.47	0.36	0.11
Fabricated Metals	0.21	0.19	0.02
Petroleum & Coal	0.24	0.36	-0.12

Note: Export and import multipliers are based on the 2009 Input-Output Tables for Canada and are defined as the share of direct requirements from an extra dollar's worth of nominal output of a given industry. The multipliers are based on the assumption of fixed technological coefficients. They do not take into account economies of scale, capacity constraints, technological change, or price and substitution effects.

Source: Statistics Canada, Input-Output National Multipliers 2009.





share of U.S. manufactured imports (a proxy for import penetration) managed to stabilize in 2013, albeit at a relatively low level (see Table 1). And, given the usual time lags between changes in currency and changes in output, we expect to see more benefits from the U.S. economic rebound flow through in the year ahead. While the long-term decline in Canadian manufacturing share of the domestic market persisted in 2013, we believe that some stability in this share will be in the cards in the 2014-15 period (see Chart 4).

A bigger question surrounds whether manufacturing investment in Canada will follow output higher in the months ahead. This is critical as investment will drive longer-term output and employment prospects. Not only has the investment in manufacturing plants been shifting southward to the U.S. and Mexico, but Canadian companies have remained laggards relative to the U.S. in machinery and equipment (M&E) spending, which has contributed to Canada's underperformance in productivity. A combination of weak investment and some destruction of capacity during the recession has left overall capacity utilization within manufacturing at close to its 2004-12 average (see Table 1). This implies that while capacity is not at its upper bounds, there is not a substantial amount of room for output expansion using existing capacity.

Similar to output and exports, we believe that the lower Loonie will help to slow, but not quash, the gravitational pull of investment southwardly. Keep in mind that an important part of the weak investment story in Canadian manufacturing is tied to poor profitability that has lingered through 2013 (see Chart 5). However, as profits and output likely rebound, investment is expected to follow suit which should provide a much needed lift to productivity.

Varying prospects across industries

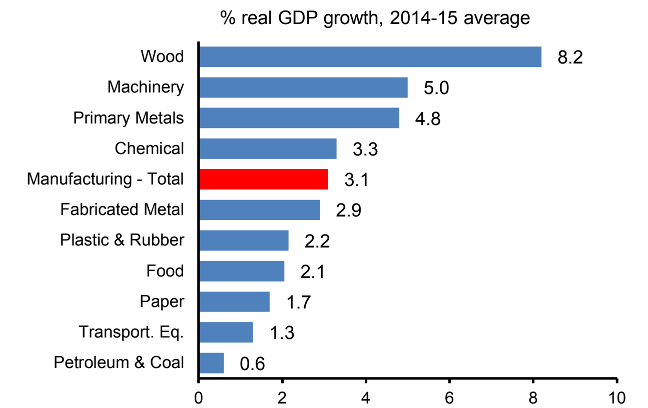
A moderate economic outlook for the manufacturing sector as a whole masks varying growth prospects across industries. This variance reflects relative differences in key characteristics, such as export and import orientation, success in penetrating U.S. markets and recent investment trends and available capacity to grow. Table 1 highlights some of these key metrics across the ten largest manufacturing industries. We group these industries according to their 2014-15 prospects: those expected to (1) outperform (2) perform close to the overall average and (3) perform below-average.

Top performing industries (growth of 3% or higher)

The machinery, primary metals, wood and chemical industries are expected to be the top performing industries over the 2014-15 period (see Chart 6).

Both the machinery and primary metals industries are closely tied to M&E investment in the United States. As such, our forecast for increasing investment in M&E Stateside bodes well from an export demand perspective. The primary metals industry is also linked to the North American auto industry, where sales and production are expected to rise over the 2014-15 period. Both industries also showed positive momentum at the end of 2013 with respect to real output growth, and in the case of machinery, stronger new orders. Although both industries record an above-average reliance on imports, they also demonstrate higher export intensities, suggesting that they will be able to leverage off improving foreign demand. Another plus for the primary metals industry is its relatively higher level of capital spend-

CHART 6: REAL GDP GROWTH BY INDUSTRY



Forecast by TD Economics as at February 2014.

ing and capacity to accommodate more demand. Indeed, capacity utilization remains almost 10 points below it long-term average while investment activity in the industry has been the strongest across the manufacturing sector in recent years[4]. The one major strike against the machinery industry is a relatively high capacity utilization rate relative to the past, as well as a weak rate of recent investment growth. That said, the level of capital spending in the machinery industry remains at historically high levels (see Chart 7).

Wood manufacturers can also expect to see solid growth in the near term, building off their recent momentum. Real GDP in the wood manufacturing industry has advanced an estimated 7.6% in 2013, following a 6.1% increase in 2012. The improving housing market in the U.S. has boosted activity within the industry and the rate of household formation in the U.S. dictates that there is still more room for housing starts to grow. What's more, Canada accounts for a solid 51% of the U.S import market – more than three percentage points higher than 2010. However, capacity utilization in the wood manufacturing industry is at 88% on a year-to-date basis in 2013, 9 points above its 2004-12 average. In theory, continual capacity pressures should prompt investment spending. This would be welcomed, as the industry is expected to have recorded a decline in investment in 2013 and the level of investment remains at historically low levels (see Chart 7).

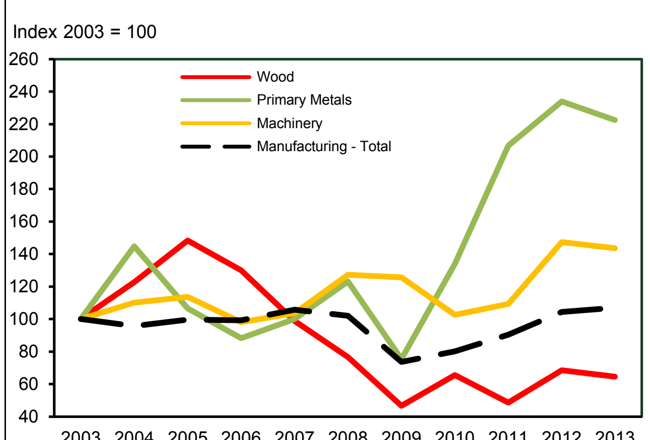
Chemical manufacturers are also expected to record above-average output gains in the near term. Rising GDP and new orders are in line with the increased industrial production in the United States. Solid capital expenditures in recent years also paint a rosy picture for the industry. That said, a declining share in the domestic market limits some of the upside potential. A rising natural gas price profile – albeit from historically low levels – will also raise input costs for producers.

Middle of the road industries (growth of 2-3%)

The food products industry can expect to see moderate gains in 2014 and 2015, after being one of the top performers since the recession. The recent success of the food manufacturing industry is likely tied to the fact that it has been more closely linked to Canada's relatively strong domestic market compared to most of its manufacturing counterparts. Looking ahead, our economic outlook calls for modest job and income gains that should support economic activity within this industry. Capacity utilization is operating well below historical levels and solid investment intentions in 2013 point to productivity gains in the medium term.

The plastics and rubber products and fabricated metal industries also look like they will land in the middle of the pack. Both industries have a higher propensity to import relative to their export sector activity and will face challenges through rising input costs as the Canadian dollar weakens. That said, the plastics and rubber products industry did show positive momentum to finish 2013 with healthy real GDP, sales and new orders readings. Capital spending for the industry has been trending higher since 2010 as well. The fabricated metals industry will be able to leverage off of higher levels of production in the North American auto industry as well as moderate gains in non-residential construction. Furthermore, our expectation for a flatter commodity price picture over the 2014-15 period suggests

CHART 7: INVESTMENT ACTIVITY VARIES BY INDUSTRY BUT HAS REMAINED FLAT OVERALL



Source: Haver Analytics.

input costs for the industry will be contained.

Challenging near-term outlook (growth of under 2%)

The transportation equipment industry will experience a subdued growth environment over the 2014-15 period. The auto industry – which is estimated to have contracted 4.9% in 2013 – will face some near-term structural headwinds. The winding down of the GM plant in Oshawa[5], a misalignment between the types of autos manufactured in Canada and the demand seen in the U.S. as well as increased competition from Mexico have all conspired against output. What's more, these challenges all come at time when auto production and sales in North America have increased. While the depreciation of the Canadian dollar will provide some support and the rate of decline in production is likely to ease, the sector's share of North American output and investment appears set to decline further over the next few years. The auto parts industry also fell back in 2013 (-7.6%), but is expected to record moderate gains on the back of healthy North American production.

The ongoing challenges within the auto assembly industry will also be offset by improving prospects in aerospace. Rising global demand should translate to healthier production. Indeed, the International Air Transport Association's recent financial forecast highlighted that net profits are anticipated to be stronger in 2014 – especially in North America. Steady production can also be expected from Bombardier, with the C-Series airliners expected to be in service by 2015 while commercial aircraft deliveries are still poised to make a healthy advance in 2014.

The petroleum and coal products industry also looks set to struggle over the next few years. Poor refining margins and static demand has prompted East Coast refiners to convert existing refineries into terminals or consider other measures to address competitiveness. Real GDP growth is finishing 2013 on a sour note, down 2.9% as of November (3-month average y/y). The industry also has one of the highest import intensities in the sector[6], meaning that a depreciated Loonie will not provide the same net boost to economic activity compared to other industries.

Paper manufacturers round out the bottom three. A flat real GDP performance to finish 2013 combined with a declining share of both the domestic and U.S. markets weighs on its outlook. Strong investment activity in recent years – intentions were up over 30% in 2013 – bode well for the medium-term outlook.

Bottom Line

For Canada's hard-hit manufacturing sector, a pick-up in exports on the back of rising U.S. demand and a depreciating Loonie, as well as steady growth in the domestic market, should set the stage for a better performance in 2014-15. However, structural challenges remain. Though the input cost disadvantage that has plagued manufacturers in recent years will be partially addressed through a lower Canadian dollar, not all of the gap will be recouped. What's more, Canada's traditional supply-chain linkages with the U.S. do not align with regions that are expected to show the most strength over the 2014-15 period.

Capacity issues also cast a cloud over the outlook. A combination of weak investment in machinery and equipment and some destruction of capacity during the recession has left overall capacity utilization for the sector somewhat stretched. We believe that in light of the current low profit environment, firms are taking a wait and see approach to demand before investing in capital to accommodate growing orders. As such, rising production should translate into a rebound in profits, with capital spending likely to follow suit. This should also provide a much needed boost to productivity.

All said, we do see scope for a moderate bounce back in manufacturing sector output over the 2014-15 period at a rate around 3% on average. Of course, not all industries can be painted with the same brush. The wood, machinery, chemical and primary metals industries appear poised to show the greatest near-term strength but will be counterbalanced by muted performance across most other industries with the auto assembly, petroleum and coal and paper industries expected to struggle in the near-term.

End Notes

1. The most recent peak for real manufacturing GDP is 2006Q1.
2. This index (introduced by the Bank of Canada) is a weighted average of seven U.S. variables that represent the most plausible candidate to proxy U.S. activity relevant for the seven broad categories of Canadian exports. For example, the construction of the index assumes that machinery and equipment exports from Canada will be aligned with U.S. investment of machinery and equipment.
3. Nguyen, Linda "Novartis to shut down Mississauga plant in new year, cut 300 jobs" Canadian Press, December 13, 2013.
4. It should be acknowledged that the recent readings for capacity utilization for primary metals may be slightly underestimated. A recent lockout in the US Steel Lake Erie mill which spanned the April – September 2013 period suggests that steel output could see a bump in the coming quarters. Also, the closing of the US Steel plant in Hamilton implies that potential output will shrink in the steel industry which would put upward pressure on existing capital.
5. Although it was recently announced that GM's second auto plant in Oshawa would be extended to 2016, our estimates suggest that the volumes of production from the plant will not be at levels that would support a rising auto production profile over the 2014-15 period.
6. Import intensities are based on the 2009 Input-Output National Multipliers. The steady decline in the volume of crude oil imports since 2009 suggests that the estimate for the petroleum and coal industry may be slightly overstated.