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# Canadian Manufacturing—Survival of the Fittest

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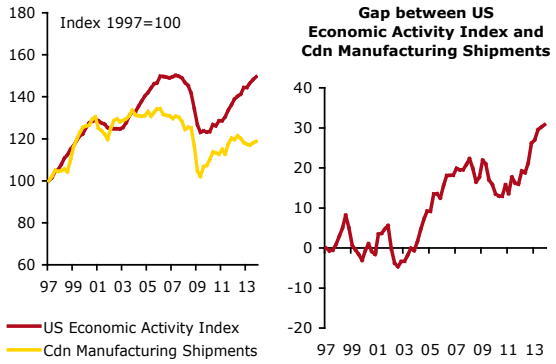
The headline numbers are not pretty. Manufacturing production and shipments fell last year, reversing what was already the most muted recovery on record. An overvalued currency, compounded by the trauma of a deep US recession, has overwhelmed segments of the sector and caused many to question whether there is any future for manufacturing in Canada. But a closer look suggests that a different manufacturing sector is rising from the ashes. Though some failed to survive, many who did are stronger, leaner and more productive. We have identified the industries that, due to their market characteristics and actions taken during the dark days, are poised to outperform in the coming years.

## The (Not So) Short-Term Pain

Six years removed from the recession, and Canadian manufacturing is still 10% below its pre-slump level, registering the weakest recovery on record. With both production and shipments falling in 2013, the recovery has lost momentum. Since reaching bottom in mid-2009, industrial production rose by only 10%—half the advance seen south of the border. This performance gap is a clear reflection of the reduced ability of Canadian manufacturing to capitalize on the tailwind coming from the south (Chart 1, left). The gap between the Bank of Canada's US Economic Activity Index and Canadian manufacturing shipments has never been wider (Chart 1, right).

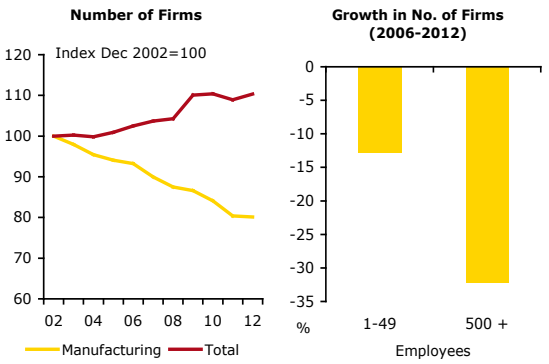
That decoupling is, in large part, due to the dramatic reduction in manufacturing production capacity in Canada. During the past decade, the share of manufacturing in GDP fell from 16% to 12%—by far the fastest pace of decline on record. During the same period, the number of firms in the sector fell by 20% while the number of firms in the rest of the economy rose by 10%

*Chart 1*
**No Lift**




*Source: Statistics Canada, Bank of Canada, CIBC*

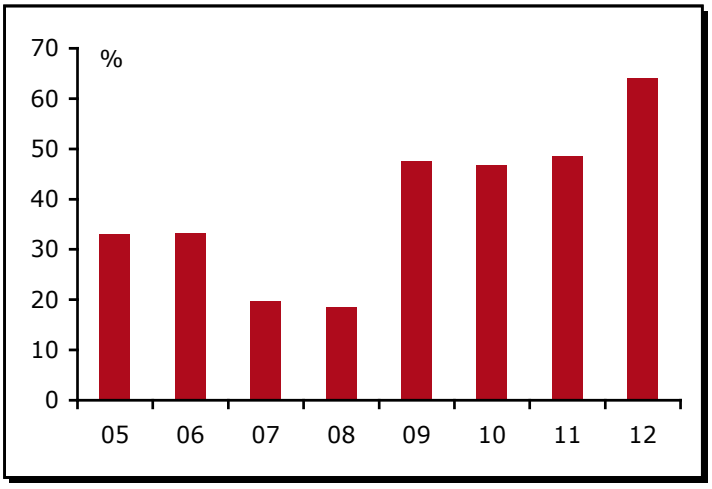
*Chart 2*
**Falling Capacity**




*Source: Statistics Canada, CIBC*

*Chart 3*

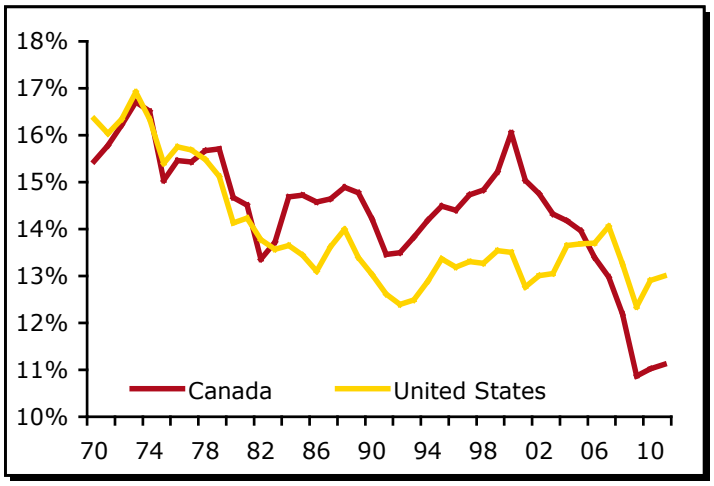
**Share of Manufacturing Exports to Outperforming US States**




*Source: BEA, Industry Canada, CIBC*

*Chart 4*

**Manufacturing's Share of Real GDP**




*Source: United Nations National Accounts, CIBC*

(Chart 2, left). There are fingerprints of an overvalued currency all over that picture, with larger firms (which on average are more sensitive to swings in the value of the dollar due to their high propensity to export) seeing their number falling much faster than smaller firms (Chart 2, right).

Exacerbating the impact of the rising dollar was the unfavourable regional alignment of Canadian exports to the US. During the recession and in the early stages of the recovery, more than 70% of Canadian manufacturing exports went to underperforming US states (Chart 3). Only recently have we seen an improvement on that front, with those numbers reversing themselves as 70% of Canadian manufacturing exports are now going to outperforming US states—a trajectory that no doubt mitigated the pain.

## Perspective

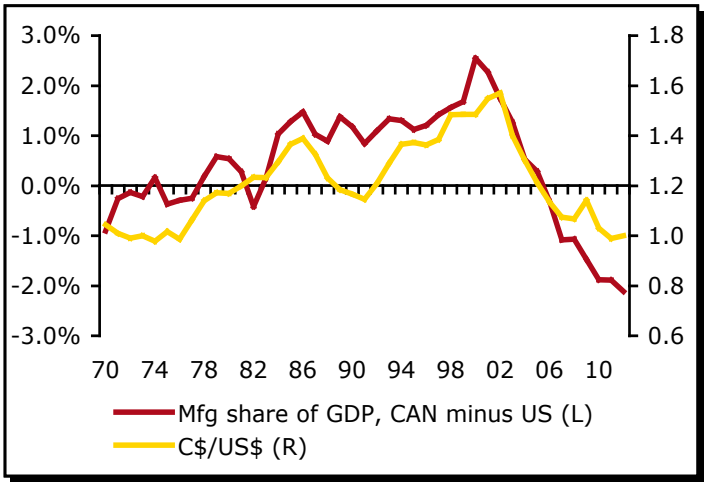
A quick glance at Chart 4 puts the manufacturing saga in perspective. De-industrialization is not a uniquely Canadian story, but a common reality in the developed world. US manufacturing accounted for 16% of the economy in the 1970s, whereas today it accounts for 13%. But a closer look at the chart suggests that most of that adjustment took place in the 1970s and 1980s. In fact, aside from short-lived cyclical swings, the share of manufacturing in the US economy was relatively stable in the past two decades. The more profound change during that period was the dramatic shift from labour-intensive to capital-intensive production.

In contrast, Canada's manufacturing share of GDP rose dramatically in the 1990s. That advance was powered by a tumbling C$ which lost over 20% of its value during that period. The correlation between US-Canada relative manufacturing performance and the value of the loonie is unmistakable (Chart 5).

Only when the C$ started its march back to, and through, parity at the turn of the new millennium, did the adjustment arrive in Canada. Canadian manufacturing saw a nose-dive—capped off by the Great Recession—from the relatively elevated levels it had seen in the previous two decades.

*Chart 5*

**Can You Spot The Correlation?**




*Source: United Nations National Accounts, Statistics Canada, CIBC*

Perhaps the final destination for manufacturing was the same for the two nations, but a weak exchange rate in Canada provided an important tailwind that forestalled, and even counter acted, the effects of de-industrialization.

Despite having given up the cushion it had built, a more stable—or an even weaker—C$ may leave fundamentals to determine the next chapter in Canadian manufacturing. Whether or not Canada will take advantage of a potential upturn from a base that is the result of a three-decade long consolidation phase will depend on its competitive position.

## Competitive Forces

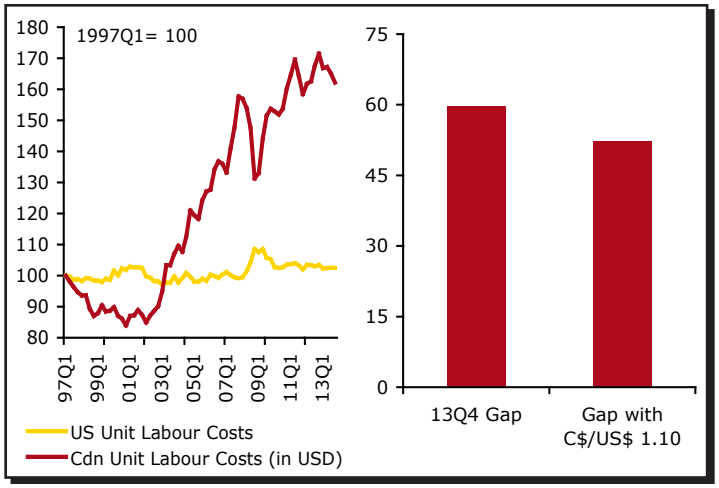
At first glance, compensation costs in Canadian manufacturing appear relatively attractive, with rates averaging below most of its counterparts from the top ranks of the World Economic Forum's Global Competitiveness Report. Though there are sometimes greater differences in particular subsectors (e.g. autos, where the Canadian disadvantage is sometimes reported to be in the US$5-10 range), average hourly compensation in Canadian manufacturing was US$37 in 2012, only US$1 greater than wages paid in the US. Furthermore, Canada's tax regime is less punitive on corporations than all of its G-8 peers. It is tied with Germany for the lowest national rate at 15%, and has the lowest average effective tax rate for firms at just over 24% according to PricewaterhouseCoopers. These rates are especially attractive for firms when compared to the US, which imposes a federal rate of 35% that swells further to 46% on an all-in basis for the average firm.

However, when hourly compensation costs are translated into unit labour costs, the trend in Canada is more alarming. Since 1997, Canada's unit labour costs have increased faster than those in the United States, where they have stayed more or less stable. When priced in US$, that divergence is even more pronounced with Canadian unit labour costs soaring as the C$ has firmed. A recent depreciation in the loonie, though, helps narrow that chasm slightly (Chart 6).

Increasing unit labour costs mean that hourly compensation in Canadian manufacturing has outpaced its productivity gains while trends in the US signal that both compensation and productivity have increased at more or less the same rate. Indeed, productivity in Canada struggled in the 2000s, increasing only 7% during a period where US manufacturing productivity rose by 25%. However, the trauma of the recession brought on by the financial crisis in the US and an over valued domestic currency delivered a major wake-up call for many Canadian manufacturers.

*Chart 6*

**Unit Labour Costs Diverge (L); A Weaker C$ Helps a Bit (R)**

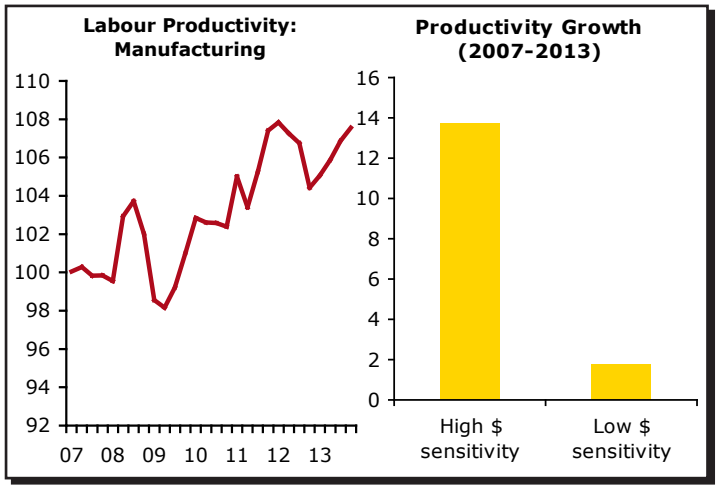



*Source: BLS, Statistics Canada, CIBC*

While still lagging gains in US manufacturing productivity (albeit at a decreasing rate), output per worker in Canadian manufacturing advanced by more than 9% since 2009—double the pace seen in the productivity of the economy as a whole. There is little doubt that a surging loonie served as a major catalyst for this improvement, with industries more sensitive to fluctuations in the C$ seeing

*Chart 7*

**Labour Productivity Improving (L), Mainly in C$ Sensitive Industries (R)**




*Source: Statistics Canada, CIBC*

a much better productivity performance (Chart 7). While a good portion of that advance was achieved by reduced capacity in low productivity facilities—the reality is that the shrunken but improved Canadian manufacturing sector has never been better at using the workers it has left.

### Identifying Opportunities

To uncover the sub-sectors of the manufacturing industry that have best adapted to the discipline imposed onto them from the macro environment, we used some definitive characteristics as filters. After all, prospects for a particular industry will vary notably, based on strategic actions taken since the recession, its sensitivity to changes in the value of the dollar, and its ability to benefit from an improved US economic picture.

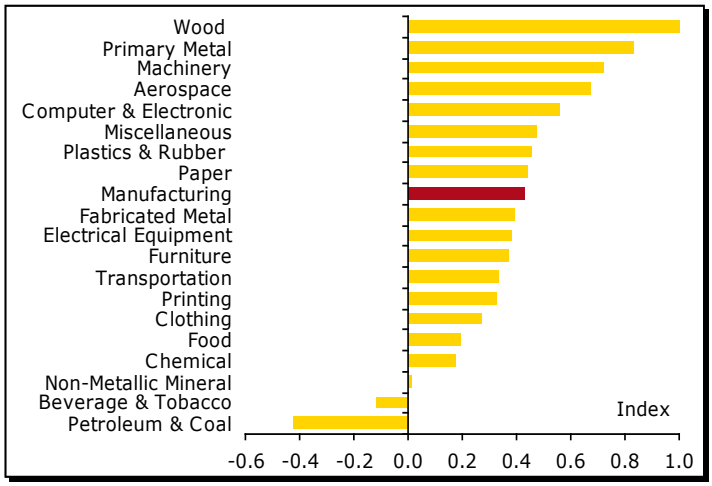
More specifically, we have developed a framework based on the following forward-looking indicators: (a) productivity growth since 2009, as a measure of sector dynamism; (b) industry sensitivity to changes in Canadian net exports (i.e. the coefficient of net export), as a measure of the direct impact of currency swings on a given industry; (c) foreigners' share of the Canadian market (import penetration), as a measure of the potential gains from reduced foreign competition due to a weaker dollar; (d) Canadian market share of US imports (export penetration); (e) capacity constraints, measured by the deviation of the utilization rate from long term average; and finally (f) the labour share of total production costs.

Aggregating these measures, we have produced the ranking illustrated in Chart 8. Sitting atop the ranking, the Wood Products industry has seen strong growth in productivity since the beginning of the recovery, and its net export coefficient is above average. While its import penetration rate is relatively low, the industry is the leader in export penetration to US markets at close to 50%. A clear negative is a relatively high level of capacity utilization—suggesting that we should expect a strong pace of investment if things improve (Table 1).

Leading the way in productivity growth since 2009, Primary Metals is well positioned to take advantage of the decline in the value of the dollar thanks to its favourable net exports position. Also helping here is the fact that over half of the domestic market is supplied by foreign sources, suggesting a weaker currency will—at the margin—benefit domestic suppliers. The industry is also well positioned to take advantage of a stronger US economy, accounting for more than 25% of total US

*Chart 8*

**Industries Ranked By Brightest Prospects**




*Note: Expressed as a share of highest ranked industry*
*Source: Statistics Canada, CIBC*

imports. At only 2% below its long term average, however, growth might be limited by capacity constraints, a fact that also suggests a stronger path of capital spending in the coming years.

Machinery manufacturing has the strongest net export position in all of the manufacturing sub-industry groups, and with the majority of the current market belonging to foreign imports of machinery, it is best positioned to capitalize on a swooning loonie driving up the price of imported competition. Despite having registered less than stellar productivity gains since 2009 at a 6.6% improvement, capacity constraints, here too, may mean more capital investment in the near future.

The Aerospace sub-industry group is another that will benefit from a weaker loonie due to its advantageous net exports and import penetration positions. These factors led to it being ranked higher than its Transportation industry group parent, which has shown more productivity growth than Aerospace (25% vs. 10%). However, the broad Transportation industry group's productivity gains have been driven by plant closures and capacity downsizing which have hampered its net exports position, which falls behind Aerospace's.

A name surprisingly absent from the top of our rankings is the Food manufacturing industry. In recent years that industry has been a winner, primarily in the domestic market sense, but has had a less impressive net export ranking. Furthermore, because it has fared better than most of its peers, it has not had to increase its productivity

as fast as others, marking a slight 2% gain since 2009. Because domestic manufacturing already takes up so much of the Canadian market, it will have to nurture its export markets in search of growth.

Talks regarding large scale repatriation of manufacturing activity to North America are highly pre-mature. But there is no denying that the post-recession leaner and smarter North American manufacturing sector is better positioned to stop the bleeding. US manufacturers can utilize their improved competitive position and brand advantage to continue their advance into the emerging market consumer space. As for Canadian firms, the long and painful adjustment is starting to pay off, with many industries better positioned to take advantage of the weaker dollar to regain positions in US markets and to better integrate into global supply chain opportunities.

*Table 1*

**Individual Indicator Rankings**

| | Overall Rank | (a) Productivity growth (2009-13) | (b)* Net Export | (c)* Import Penetration | (d) Export Penetration | (e) Capacity (current reading as a share of long-term avg) | (f)* Labour Share of Total Production Costs |
|---|---|---|---|---|---|---|---|
| Wood Product | **1** | 3 | 7 | 19 | 1 | 18 | 8 |
| Primary Metal | **2** | 1 | 6 | 10 | 5 | 12 | 17 |
| Machinery | **3** | 13 | 1 | 8 | 15 | 19 | 2 |
| Aerospace | **4** | 8 | 3 | 6 | 8 | 14 | 7 |
| Computer and Electronic | **5** | 15 | 4 | 1 | 18 | 2 | 6 |
| Miscellaneous | **6** | 9 | 9 | 5 | 16 | 7 | 11 |
| Plastics and Rubber | **7** | 5 | 16 | 12 | 9 | 10 | 9 |
| Paper | **8** | 4 | 2 | 14 | 2 | 17 | 13 |
| Manufacturing | **9** | 6 | 11 | 11 | 11 | 13 | 14 |
| Fabricated Metal | **10** | 11 | 12 | 9 | 13 | 8 | 5 |
| Electrical Equipment | **11** | 12 | 13 | 4 | 19 | 3 | 10 |
| Furniture | **12** | 10 | 15 | 13 | 14 | 16 | 3 |
| Transportation | **13** | 2 | 10 | 2 | 7 | 20 | 18 |
| Printing | **14** | 7 | 19 | 20 | 10 | 6 | 1 |
| Clothing | **15** | 18 | 8 | 3 | 20 | 1 | 4 |
| Food | **16** | 14 | 14 | 17 | 6 | 9 | 15 |
| Chemical | **17** | 16 | 5 | 7 | 12 | 15 | 19 |
| Non-Metallic Mineral | **18** | 19 | 17 | 16 | 3 | 4 | 12 |
| Beverage and Tobacco | **19** | 17 | 18 | 15 | 17 | 11 | 16 |
| Petroleum and Coal | **20** | 20 | 20 | 18 | 4 | 5 | 20 |

*Source: Statistics Canada, CIBC*
** Based on 2009-10 Statistics Canada Input Output tabulations*