# SPECIAL REPORT

## TD Economics

June 6, 2013

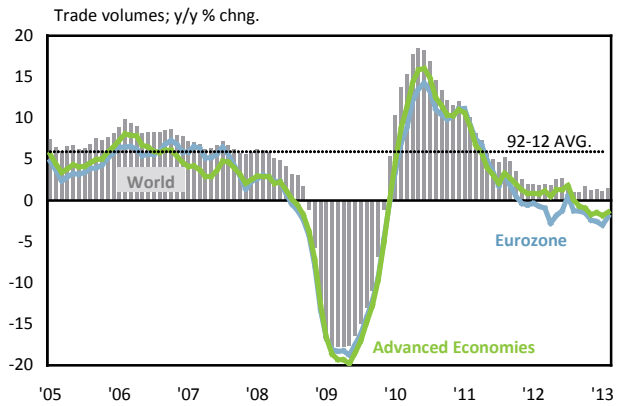
# AMERICAN EXPORTS IN A MULTI-SPEED WORLD: FULL-STEAM AHEAD THROUGH CHOPPY WATERS

### Highlights

- Global trade slowed last year, as weak European demand cascaded through integrated supply chains affecting all regions. Near-term headwinds will persist, but growth should strengthen next year.
- While recovering trade will benefit all countries, the United States appears especially well positioned to capitalize on the acceleration in global economic activity.
- U.S. exports will outperform on account of very competitive unit labor costs, spillovers from the shale revolution, strength of the high-tech sector, and a greater focus on emerging markets.
- Combined with an ebbing offshoring trend, these elements should nudge net-exports to more effectively contribute to U.S. growth, helping narrow the existing trade deficit.

The path to recovery for the world economy has proven long and arduous since it emerged from the Great Recession. Last year was no exception, as the global economy experienced another setback, manifested in a sharp deceleration of trade. The slowdown has carried through into this year but should begin to abate as we head towards 2014. The United States stands to benefit from an improved global backdrop and looks to outshine many of its peers due to the increasing competitiveness of its exports. Constrained unit labor costs, spillovers from the shale revolution, high-technology sector strength, and a rotation of exports towards faster growing markets will all play a part in the outperformance. Combined with an ebbing of import-offshoring activity, these factors should nudge net-exports to positively contribute to economic growth, and will lead to reduced global imbalances through a narrowing in the U.S. trade deficit.

**CHART 1: EUROZONE DRAG ON GLOBAL TRADE**




Notes: World trade based on sum of 23 industrialized and 60 EM countries covering approximately 97% of global trade. Last data point as of Mach 2013.
*Sources:* Netherlands Bureau for Economic Policy Analysis, TD Economics

### Eurozone contagion slows world trade

The one striking theme gleaned from recent trade figures is the sharp slowdown in activity that took hold last year. Goods export volumes growth slowed to roughly half their 2011 pace, while imports decelerated to a meager 2.4% from 6.2% in the previous year. The softness was apparent for much of the year, but became especially pronounced in the second half of 2012. While demand for U.S. exports slowed across all regions of the world, it was those bound for Europe that have slumped the most. The recent recession in Europe has been shallow, but

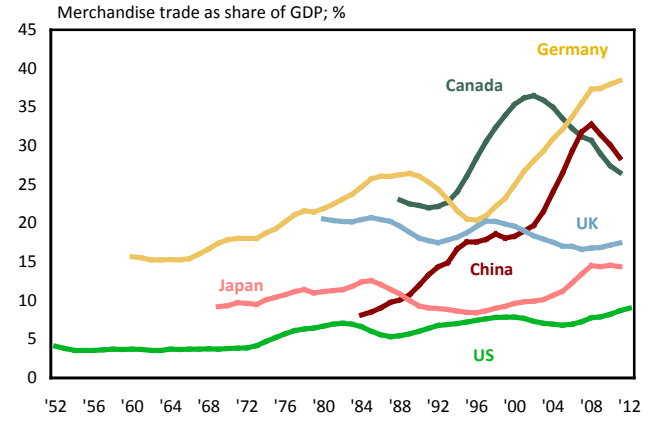
Michael Dolega, Economist

has nonetheless severely impacted European demand for imports due to their high sensitivity to economic growth. Import volumes fell sharply across the eurozone at the end of 2011 and have stagnated since. This has hit exports amongst its main trading partners (UK, US, and China), leading them, in turn, to rein in their own imports of intermediate products. This cascading effect through the increasingly integrated global supply chain culminated in the summer of 2012. Since then, the pace of growth has stabilized at around one-quarter of its long-term average (see Chart 1). After running aground in late-2011, Europe's economy remains stuck, and continues to hinder the movement of merchandise worldwide.

### Domestic growth not immune

A slowdown in global trade is more detrimental for those nations that are highly exposed to trade such as Germany or China, and less so for a large, diversified, and domestically-oriented economy such as the United States. The United States trades largely within itself. The share of international merchandise exports, while on the rise, represents only one-tenth of the economy (see Chart 2). This is less than half the level in China or Canada and a mere quarter of Germany's export share. However, even at this relatively low level of international exposure, the global slowdown has taken its toll on the U.S. economy. After a negligible contribution in the third-quarter of 2012, a drop in goods exports managed to subtract 0.5 percentage points off fourth-quarter growth; a performance more typical of a recession. The contribution of goods exports remained non-existent into the first quarter of 2013.

**CHART 2: U.S. TRADES MOSTLY WITHIN ITSELF**




Notes: Presented as a 5-year moving average.
*Sources:* Census Bureau, Bureau of Economic Analysis, respective national statistical agencies, TD Economics

**CHART 3: U.S. MANUFACTURING MORE GLOBAL**


Notes:
*Sources:* Bureau of Economic Analysis, Census Bureau, TD Economics

Things would be a lot worse if not for the diverse mix of exports, with less-cyclical sectors, such as agriculture as well as food and health-care related manufacturing, cushioning the declines. But, most manufacturing is highly-cyclical, and absorbed the brunt the slowdown. This was made all the more severe due to the heightened global orientation of U.S. manufacturing, which has doubled since the late-80s (see Chart 3). The sector, which was an economic leader during the first two years of the recovery, saw its industrial production flat-line for several months last year, following strong gains in early-2012. Weaker activity hindered job creation, causing dual monthly payroll declines in the summer of 2012.

The slowdown in trade was most discernible in Europe, but was evident in every region of the globe last year. Following a brief uptick around the turn of the year, the weakness has carried through to the first quarter of 2013 as many advanced economies – with the exception of Canada and the United States – remain in or near a recession. The international weakness will likely persist in the near-term, but we believe that prospects for a recovery into 2014 are beginning to fall into place.

### Export prospects look favorable

The improvement in global trade will benefit all exporters. But, it is the U.S. outlook which we see as particularly bright, given several developments nudging the country into a very favorable trade position. Firstly, U.S. producers are becoming increasingly competitive. Improvements in labor productivity are outpacing wage inflation, leading to constrained unit labor costs (ULC). This influence has been

further augmented by a longer-term weakening of the U.S. dollar over the last decade. This is already being manifested in an ebbing offshoring trend, with some firms choosing to onshore, or move production stateside. Secondly, the shale revolution has made energy substantially cheaper, benefitting all manufacturers, but with particular upside for several hydrocarbon-intensive industries such as chemicals and petroleum. Thirdly, the United States exports a diverse assortment of goods, but its comparative advantage is most apparent in high value-added manufacturing, which benefits from access to research & development institutions, a pool of highly-skilled labor, and a deep venture capital market. Lastly, U.S. exports have accelerated their gradual geographical shift towards developing countries, presenting substantial trade opportunities.

In light of these factors, trade should more positively contribute to U.S. economic growth going forward, helping to offset some of the headwinds stemming from fiscal retrenchment. But, this is unlikely to take place until global economic growth begins to accelerate in earnest – something we don't expect will happen until next year.

### Costs competitive as productivity outpaces wages

The United States is one of the most productive of all economies. Short of a handful of small countries, such as Norway, Luxembourg, and Ireland, it ranked ahead of its Organisation for Economic Co-operation and Development (OECD) peers in 2011, according to the total-economy productivity measure.[1] In fact, it was a substantial 35% more productive than the OECD average, and nearly 20% more productive than the eurozone as a whole. More importantly, tradable sector productivity – and manufacturing, in particular – looks even more favorably vis-à-vis other G7 economies. This metric is both more accurate than the total-economy measure, and more relevant for exports, with manufactured goods comprising 87% of merchandise exports. In the United States, manufacturing labor productivity growth averaged a very robust 3.4% per annum over the previous fifteen years, outpacing its biggest developed trading partners (see Chart 4). Some of this was due to offshoring of low value-added manufacturing operations, but strong equipment & software investment, and the more 'organic' multifactor productivity growth still accounted for most of the growth. Labor productivity was also aided by a flexible labor market, with the manufacturing metric suffering only a relatively-shallow and short-lived cyclical decline during the Great Recession. Moreover, U.S. productivity bounced

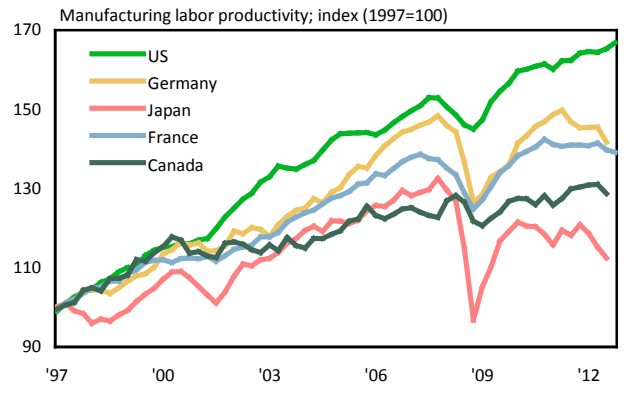
**Box 1: Currency Wars**

Exchange rates have become a hot topic in the wake of the Great Recession as the more fundamentally-determined currency values have been thrown about by quantitative easing (QE), safe-haven flows, and in some instances, active currency management and capital controls. Developing nations have been especially outspoken about the perceived QE-related depreciation of advanced nation currencies.

But, with the exception of the British pound, impact on other QE-linked currencies has been offset by safe-haven flows during the recently abundant 'risk-off' periods. In fact, even in an environment of quantitative easing and tensions regarding the debt-ceiling, the U.S. dollar remains above its pre-recession level. Ditto for the Japanese yen, which surged in the wake of the Great Recession and remained elevated against a broad-basket right until the 'Abenomics' inspired plunge earlier this year. Safe-haven countries that did not implement the more 'typical' growth-promoting QE, like Switzerland, were forced to intervene in currency markets to remain competitive. In order to establish a ceiling on the value of the franc vis-à-vis the euro, the Swiss National Bank went on a shopping spree for euro-denominated assets – primarily German and French debt – expanding their balance sheet in QE-esque fashion.

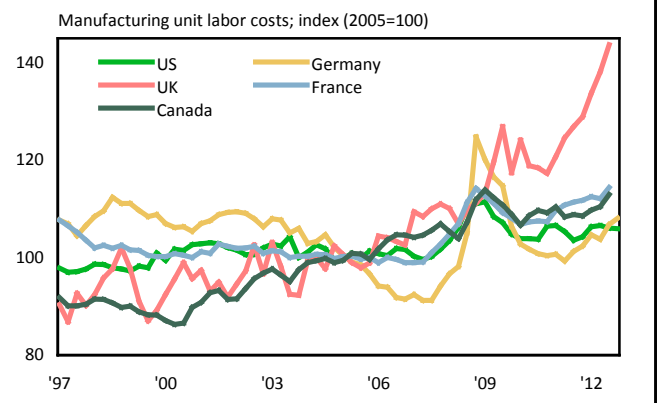
As domestic demand in many advanced economies remains lackluster, it is no wonder that governments increasingly look to export their way out to full-employment. But, we don't expect a Brazilian-feared competitive-devaluation or 'currency war' to unfold. Furthermore, given that gains from trade are not a zero-sum game, we believe that continued trade-liberalization and freely floating currencies provide *the optimal route* to improved economic outcomes.

**CHART 4: U.S. PRODUCTIVITY LEADS**




*Sources:* Bureau of Labor Statistics, Deutsche Bundesbank, Japan Productivity Center for Socio-Economic Development, Institut Nat de la Statistique et des Etudes Economiques, Statistics Canada, Haver, TD Economics

**CHART 5: U.S. COSTS REMAIN COMPETITIVE**




*Sources:* Bureau of Labor Statistics, Statistisches Bundesamt, Statistical Office of the European Communities, Institut Nat de la Statistique et des Etudes Economiques, Statistics Canada, Haver Analytics, TD Economics

back quickly from its 2009 trough, and is currently 15% above its pre-recession peak. By comparison, most peers remain below, or around, pre-recession levels.

The robust gains in productivity pre- and post-recession have allowed for wage increases, while keeping in-check unit labor costs. U.S. manufacturing wages rose by an average of 3.1% between 1997 and 2011, but unit labor costs in the industry remain near the level they were a decade ago (see Chart 5) – still 3% below their 1987-2012 average. Moreover, improvement in U.S. competitiveness looks all the more pronounced vis-à-vis other countries, due to the decade-long depreciation of the U.S. dollar. Broad trade-weighted real value of the dollar has fallen 25% since its 2001 level (see Chart 6) and remains near its post-Bretton Woods low, recorded in July 2011 amid debt-ceiling negotiations. Denominated in a common currency, U.S. manufacturing sector wage-inflation between 1997 and 2011 was one of the lowest among industrialized countries, while hourly manufacturing compensation remains second lowest in the G10.[2]

Increased competitiveness of U.S. businesses will be evident amongst all tradable goods producers, but will be most beneficial for exporters in industries which are moderately labor-intensive. Very labor-intensive operations in the United States – unless they produce niche products – are unlikely to effectively compete with lower-cost suppliers abroad, even after accounting for the improvement in competitiveness. Labor compensation remains a major cost in industries such as apparel, textiles, and toys. Given the availability of plentiful labor at low wages across much of developing world, U.S. producers will simply not be able to compete in the current environment. But, in the case of moderately labor-intensive medium-technology industries, such as machinery, fabricated metals, plastics & rubber, and electrical equipment manufacturing, American operations are becoming increasingly competitive. This is paving the way for U.S. exporters to regain some of the global market share lost in these sectors over the previous decade.

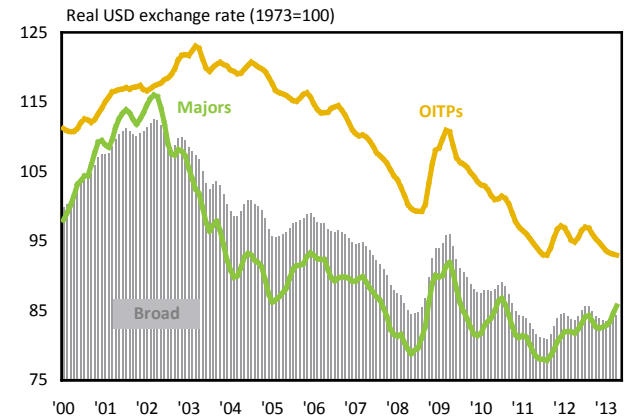
### Shale revolution

Manufacturing industries in the United States have also benefitted – albeit indirectly – from the development and implementation of hydraulic-fracturing or 'fracking' technology. This technique allowed for extraction of hydrocarbons previously thought uneconomical, breathing new life into the U.S. energy sector. Extraction of natural gas and oil from shale deposits rose sharply in recent years, leading to a shale revolution, which has, and will continue to, meaningfully impact U.S. trade.

The recent rise in supply of crude and natural gas has significantly outpaced growth in domestic demand. Typically, this excess would be absorbed by world markets. However, legislation put in place in the wake of the 1973/74 Arab oil embargo effectively bans exports of unrefined energy products – notwithstanding the $10bn worth of crude oil & gas exported annually to Canada and Mexico in recent years. As a result, a portion of that additional domestic production has ended up in inventory stockpiles, pressuring down North American prices at Henry Hub, LA (natural gas) and Cushing, OK (crude oil) delivery locations to levels substantially below international benchmarks.

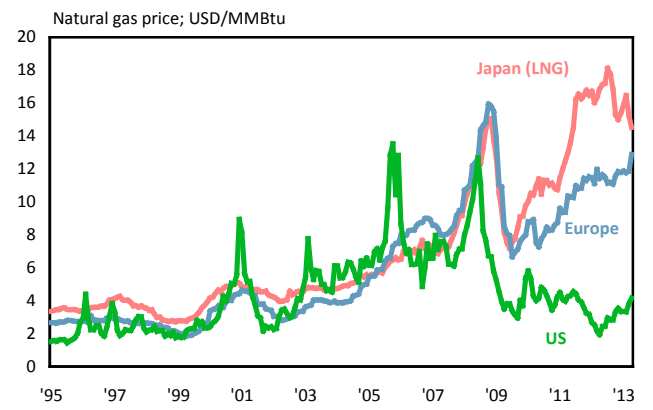
Relatively inexpensive energy has made all manufactur-

**CHART 6: DOLLAR WEAKENING**




Notes: Majors are euro, Canadian dollar, Japanese yen, UK pound, Swiss franc, Australian dollar, Swedish krona. OITPs are Other Important Trade Partners.
*Sources:* Federal Reserve Board, TD Economics

**CHART 7: NATURAL GAS PRICE LOWER AS PER SHALE REVOLUTION**




Notes: Last data point as of April 2013.
*Sources:* World Bank, TD Economics

ing more competitive, but especially so for several hydrocarbon-intensive industries. Both organic and inorganic chemical manufacturing, as well production of plastics & resin has become very lucrative in the current price environment. Fertilizer production has also benefitted given the high natural gas input content. This should aid agriculture indirectly, with a direct benefit of lower production costs also present. Processing agricultural products in the food & beverage industry has also become cheaper, with the industry highly reliant on natural gas for operation. These two industries accounted for $150bn, or nearly 10% last year's merchandise exports. Agricultural exports were themselves about $80bn last year – largely made up of soybeans, corn, wheat, and cotton – with a whopping one-quarter destined for China. Both of these industries are highly supportive in an economic downturn, due to their lower cyclicality. But, they should also prove supportive in the future as world population grows.

Other hydrocarbon-intensive manufacturing industries which gained a competitive edge from the shale revolution include plastics & rubber, primary metals, fabricated metals, and paper manufacturing.[3] Primary metal exports will get a lift if the newly planned steel mills – which utilize natural gas instead of coal to purify iron ore – become operational. Paper manufacturers have also benefitted, with mills facing substantially lower variable operating costs. While some of the positive momentum could be temporarily sidelined due to the current global growth climate, the medium-term prospects for medium-tech industries have not looked this favorable in years.

Since exports of processed petroleum products are not embargoed, some of the additional U.S. crude production did end up in refineries. As a result, shipments of refined products have more than doubled since 2007 – more than tripling in nominal terms – rendering more value-added per dollar of exports to the U.S. economy than simply exporting unrefined crude.[4]

Value-added can also be extracted from liquefying and exporting natural gas. Exports of liquefied natural gas (LNG) require corresponding terminals, which take substantial capital investment to build or convert.[5] Twenty-one applications have been submitted to the Department of Energy for approval, for a combined export capacity of 28.3 billion cubic feet per day. This constitutes about 40% of last year's production, and could make the United States a leading LNG exporter in the future. So far, only two such permits have been granted (one as recent as last month), but prospects remain for more permits in the future.

Of course, significant exports of LNG will likely lead to a narrowing of the spread between domestic and international natural gas prices. Prices in North America are approximately one-third of European ones and a quarter of Asian benchmarks (see Chart 7). The extent of this narrowing will depend on a plethora of economic, political, and technological factors. We believe that a gradual introduction of licenses, in an environment of supportive global economic growth and rising domestic production, should not severely undermine the competitive advantage that U.S. manufacturers currently. However, given the medium-term horizon of such projections, substantial risks remain.

### Future is high-tech

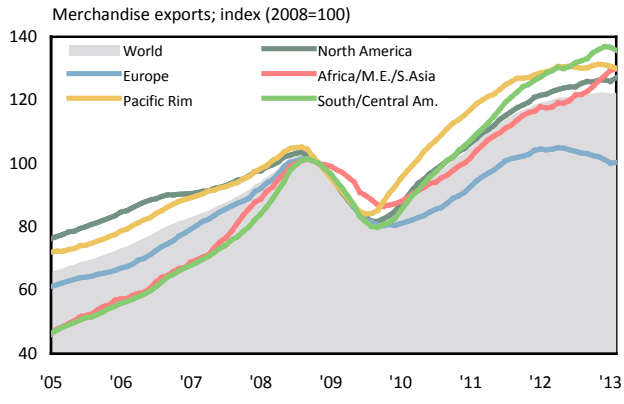
While the United States should gradually compete more effectively in the hydrocarbon-intensive and medium-tech manufacturing space, it is high-technology sectors that will lead future U.S. export growth. These industries tend to be large and persistent purchasers of research & development (R&D) and produce high value-added products.[6] And, although they have also benefitted from constrained unit labor costs and a weaker dollar, most of their competitive advantage stems from increasing capital-intensity, tight integration with top-notch R&D operations, access to highly-skilled labor, and a deep venture-capital market.

Growth in these industries, whether for domestic consumption or exports, tends to manifest itself to a greater degree in the economy due to the significant spillovers to research & development and other service providers. Ex-

penditures on R&D across these industries range between 15% and 40% of their GDP, or substantially more than the 2% for the economy as a whole. Some of the R&D is purchased from third-party providers, while the rest is done on own-account. For high-tech manufacturing in particular, about 80% of all R&D is done in-house – a testament to the tight linkages between production and design. All these factors already allow U.S. high-tech producers to compete globally. Moreover, leveraging their technology-purchases through scale – greatly aided by access to a global market – allows firms to compete more effectively by recouping their significant R&D outlays.

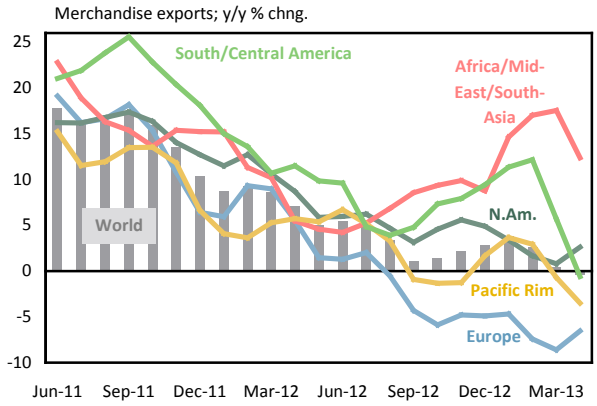
But, a future competitive edge is not assured. The United States is by far the largest R&D purchaser in the world, but per capita expenditures trail several European and Asian countries. Moreover, competition in high-tech is heating up as developing countries are increasingly present in the space. U.S. Gross Domestic Expenditure on Research & Development (GERD) has been increasing by about 4% per annum in recent years, while China's GERD has doubled between 2006 and 2010 in purchasing power parity (PPP) terms. Moreover, China has been accused of actively spying on U.S. military and private sector entities, in an effort to modernize its technology. Protecting intellectual property from such tactics, promoting R&D initiatives, and continuing to invest in education will all be necessary to keep the United States at the technology frontier, as a maker, not just user, of high-technology. These actions, combined with an entrepreneurial spirit, access to venture capital, and commitment to quality, will allow domestic high-tech manufacturers to compete globally, boosting their high value-added exports and significantly benefitting the national economy.

**CHART 8: EXPORT RECOVERY UNEVEN**




Notes: Presented as a 12-month moving average. Last data point as of April 2013.
*Sources:* Census Bureau, TD Economics

**CHART 9: WORLD DEMAND DIVERGES**




Notes: Presented as 3-month moving average. Last data point as of April 2013.
*Sources:* Census Bureau, TD Economics

### Geographic shift

Through the course of the last recession U.S. exports to the world plunged by over one-fifth. The declines were remarkably consistent across trade regions with the exception of the small but oil-rich Africa, Middle East, and South Asia area, where weakness in demand was less pronounced (see Chart 8). U.S. exports have since bounced back. Their value is now 11% above pre-recession peaks, while volumes are 4% higher. However, the recovery has been uneven across regions. Exports to Europe, in particular, have struggled (see Chart 9) as the region endured a sub-par recovery that turned into a protracted yet shallow recession in late-2011.

By virtue of the diverging growth patterns and several new trade agreements, U.S. exports have begun to gradually shift towards faster growing markets. South & Central America has, in particular, become substantially more important as an export destination. While the western-hemisphere Free Trade Area of the Americas (FTAA) negotiations have stalled, the United States signed several bilateral free trade agreements with the region in the mid-2000s (Chile, Dominican Republic-Central America Free Trade Agreement), and more recently with Colombia (2011). It has also signed trade-promotion agreements with Peru (2007) and Panama (2011). In fact, exactly half of the twenty free-trade agreements that the U.S. currently has in force are with South & Central American countries. The South & Central American export share has risen from 8% pre-recession to 12% as of December 2012, reinforcing the longer-term trend of growing importance (see Chart 10). And while growth

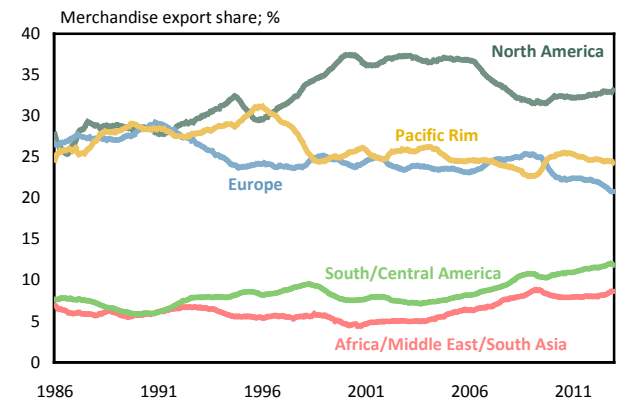
in Brazil and Argentina has decelerated recently, export growth to other large regional markets – Chile, Venezuela and Colombia – has continued to grow at double-digit rates through 2012. Industries that stand to especially benefit from South & Central American growth are petroleum refining, chemicals, aerospace, and machinery.

The share of exports to the two North American Free Trade Agreement (NAFTA) partners has also grown recently, with one-third of exports currently headed to Canada and Mexico. But, the share remains lower than at its mid-2000s peak, with both Canadian and Mexican economies highly dependent on the strength of domestic U.S. growth, which has been uninspiring. Trade within NAFTA should continue to grow however, in part due to the highly integrated automotive sector, expected to continue to ramp up production in line with growing demand in North America. This should be further boosted by an increased push towards North American energy self-sufficiency, consisting of a proposal for the Canada-US Keystone XL pipeline and Mexican government plans to liberalize the country's energy sector. Moreover, the ebbing tide of offshoring, will promote increased on- and near-shoring activity, which should support North American trade over the longer-run. This is especially true in the case of Mexico, set to become a hub for some of the manufacturing currently done in China, with wages in both countries already converged.

Over the medium-term, ebbing offshoring activity should manifest itself in a deceleration of U.S. imports from China. But, U.S. exports to the Pacific Rim should continue to be supported by the region's gradual rotation from export- towards domestic-oriented growth, helping moderate existing global imbalances. Trade with Asia-Pacific will get an additional boost from the expansion of the Panama Canal and corresponding U.S. port improvements, providing additional export opportunities for East and Gulf Coast producers. Further impetus may come from a successful negotiation of the Trans-Pacific Partnership (TPP) Agreement, between the United States, its NAFTA partners, two South American countries, and several Pacific Rim nations. The scale of the TPP has also risen, with Japan recently expressing an intention to join, in the hopes to reinvigorate its economy.

The Africa, Middle East, and South Asia region offers tremendous potential for trade over the longer-run. Combined African exports totaled just over $30bn last year; barely above the value of goods destined for Switzerland. Exports to India were even more meager, at $22bn. Africa's

**CHART 10: EXPORTS MORE AMERICAS ORIENTED**




Notes: Presented as a 12-month moving average. Last data point as of April 2013.
*Sources:* Census Bureau, TD Economics

fast growing population rose beyond 1 billion in recent years, while India's is 25% larger still. Annual U.S. exports to Africa and India relative to their populations equate to just $30 and $18 per person, respectively. These are negligible compared to trade with advanced, and even other developing, countries. Annual exports to the UK averaged about $1,000 per person, while those to Brazil or South Africa approach $200 per person.

Exports destined for Europe continue to be pressured by the unfavorable demand outlook. But, the drive towards austerity has recently moderated, providing hope that contractions among some of the hardest-hit economies may be halted. This should help U.S. exports to Europe, recently supported only by select pockets of strength in Eastern Europe and Russia. Growth in Russian-bound exports advanced more than 10% in 2012, while shipments to Poland, Czech Republic, and Hungary increased in high single-digits last year. These relatively-underdeveloped economies should continue to outpace their more mature counterparts in Western Europe, helping support overall trade with the region.

Moreover, some additional thrust for increased U.S.-E.U. trade may come from the ongoing Trans-Atlantic Trade and Investment Partnership negotiations. Tariffs are already low on most merchandise, but gains could still be realized from increased trade in agriculture and services, as well as from easing of regulation and increased standardization. Political barriers remain but, if successful, an agreement could breathe new life into the very important relationship between the world's two largest and wealthiest economies.

### Bottom line

The current global economic backdrop is weak, but it is unlikely to remain so indefinitely. Growth should begin to sturdy this year and accelerate further in 2014, supported by less drag from Europe, as well as more robust Emerging Market growth. Benefits from improving trade will be universally felt. The United States stands to benefit all the more, due to its increasingly competitive industry, aided by low unit labor costs, favorable exchange rate, and access to inexpensive energy. Exports will also benefit from increased agricultural and energy shipments, but it is the competitive advantage in high-technology that will lead growth. Lastly, a shift in exports towards faster-growing economies, together with an agenda of trade liberalization will boost exports. Taken together with a slowdown in offshoring activity and declining energy imports, these factors will lead to a gradual narrowing of the trade deficit and a more substantial net-export contribution. While the United States remains a largely closed economy, with net-exports unlikely to be the key driver of growth, positive contribution of trade will be important in supporting future growth, especially in the face of ongoing fiscal retrenchment.

## Endnotes

1. "Labour productivity levels in the total economy," OECD. Last updated on December 11, 2012.
2. "International Comparisons of Hourly Compensation Costs in Manufacturing," Bureau of Labor Statistics, 2011.
3. "Shale Gas, Competitiveness and New U.S. Investment: A Case Study of Eight Manufacturing Industries," American Chemistry Council, May 2012.
4. Issues pertaining to pipeline capacity still remain with substantial amounts of crude oil effectively stuck between where it is drilled and where it can be refined.
5. Conversion of previously built import terminals to export terminals.
6. For the purpose of this paper we define high value-added manufacturing industries as including the four computer & electronic sub-industries: computer & peripheral, communication equipment, semi-conductors, electronic instruments; as well as aerospace and pharmaceuticals. Others, such as medical devices, and automotive & other transportation manufacturers, while not strictly-speaking high-tech, tend to nonetheless be in the higher value-added segment. In the case of pharmaceutical manufacturing, the author would like to stress the economic, as well as, ethical benefits of utilizing *non-animal* research methods.