BostonPartners

White Paper | December 2021

Domestic Capital Investment: Making up for Lost Decades

Unprecedented global fiscal and monetary stimulus led the world's quick emergence from the pandemic-induced recession, catalyzing strong consumer spending and nominal GDP growth. Early evidence suggests that the next wave of growth will come from increased capital expenditures activity focused on domestic facilities, equipment and services. These re-shoring initiatives and capacity expansions will aim to not only take advantage of increasing domestic productivity and cost advantages, but also to balance out what has become an uneven global supply chain network.

> "Domestic capital expenditures create a catalyst for the small-cap value universe multi-year tailwinds."

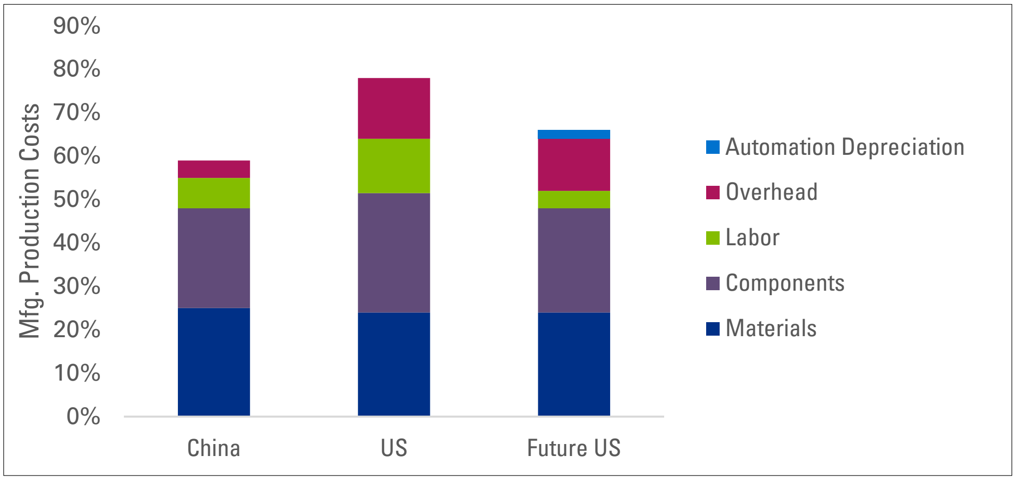
Our research suggests corporate executives point to five themes supporting more domestic capital investments: first, improved domestic productivity and new global tax policies; second, supply chain and inventory management initiatives coupled with national security concerns; third, the steepening global cost curves in previously "low cost" regions alongside new global environmental, social and governance (ESG) priorities that may reduce efficiencies of existing asset bases; fourth, longstanding concerns about intellectual property theft; and, finally, government incentives as policymakers begin to re-invest in infrastructure projects.

From an investment perspective, the capital flowing into these areas represents a compelling opportunity and creates a tailwind for the domestic industrial and manufacturing sectors. Indeed, these themes are part of a longer-term trend in which a maturing global supply chain has brought supply/demand discipline back into numerous cyclical sectors – a topic WPG Partners covered in an earlier white paper, Cyclicals: A Longer Term View. As the U.S. industrial economy ramps up to meet these new demands, the small-cap value universe of equities in particular, should be positioned to benefit from this ongoing shift in sentiment.

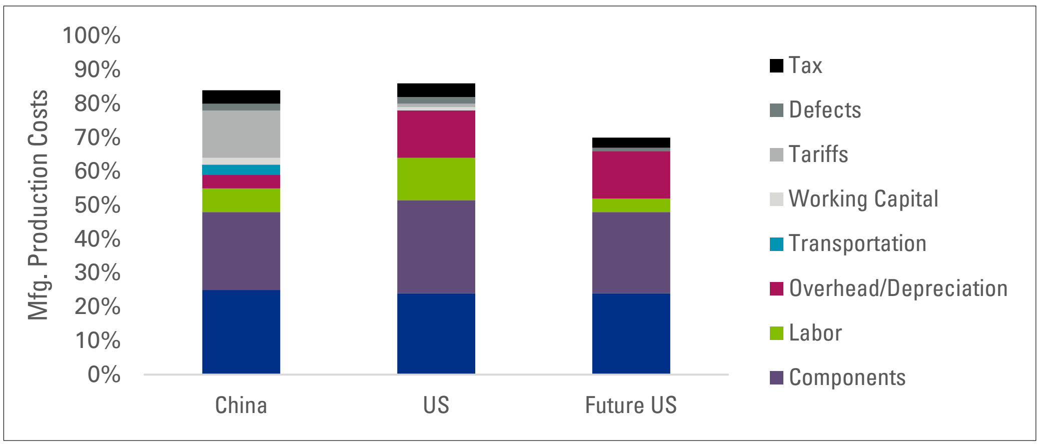
Improving Domestic Productivity Should Outweigh Offshoring Cost Savings

While it's been quite some time since casual observers associated the industrials sector with innovation and growth, Industry 4.0 or the Fourth Industrial Revolution, is now beginning to provide a competitive advantage to domestic operators. Factory automation technology and innovations in software and digital capabilities provide a clear structural tailwind for U.S. manufacturing. In fact, U.S. productivity has closed enough of the gap compared to "low-cost" geographies that the total cost of ownership is tilting in favor of onshoring, after tariffs and other costs are taken into account. According to UBS, the margin opportunity for U.S. manufacturers is within 200 basis points of the 16% average manufacturing margin opportunity available to operators in China (figure 1). As labor costs continue to shrink, thanks to automation, and as quality continues to improve, we estimate that the margin opportunity could expand to 30% for U.S. operators in the future. There are other indirect benefits as "re-shoring" trends take hold, such as reduced ESG risks and potential supply chain complications, as well as improved responsiveness and brand equity.

Figure 1:
Production Costs Don't Tell the Whole Story



Total Cost of Ownership Analysis Suggests Higher On-shoring Margins

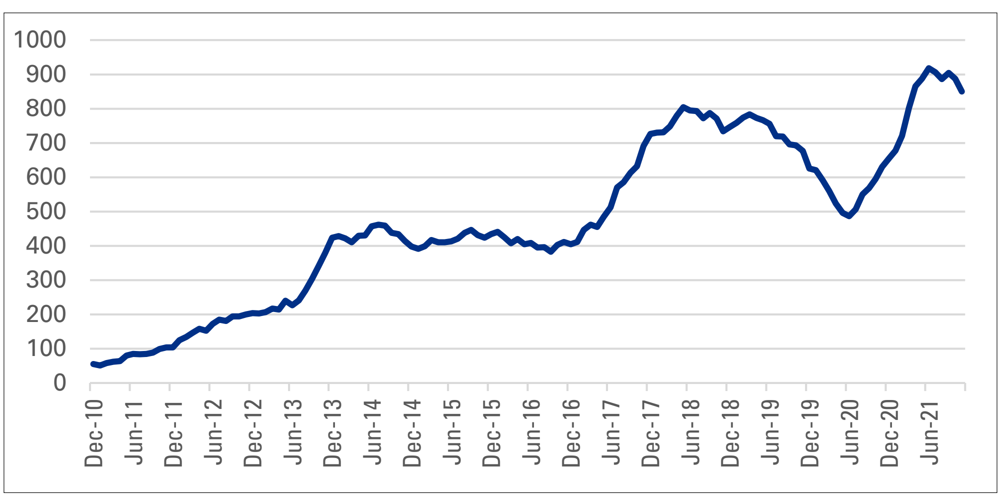


U.S. Future are estimates by UBS. Source: UBS, U.S. Census Bureau, China Natl Bureau Statistics. Data as of October 31, 2021. Estimates reflect subjective judgements and assumptions. There can be no assurance that developments will transpire as forecasted and that the estimates are accurate.

"Realignment of cost structure and improving productivity is driving domestic capex decisions."

As a result of this dynamic, the number of re-shoring announcements has trended up considerably since 2017, and reached an all-time high as recently as October 2021.

Figure 2:
U.S. Companies Announcing Production Capex + Onshoring



Source: Cornerstone Macro. Data as of October 31, 2021

Beyond automation initiatives at the corporate level, The Group of 20 nations finalized details in October 2020 to enact a global minimum corporate tax rate set at 15% of profits that is expected to take effect in 2023. The agreement, designed to make it more difficult for multinational companies to avoid taxation by moving jurisdictions, has the backing of 136 of 140 OECD countries, representing over 90% of the global economy. Whereas previously, companies would often make capital allocation decisions based on tilting operations to "lower-tax" geographies, this global agreement will potentially encourage domestic companies to re-shore activities to the United States or, at a minimum, prevent further off-shoring investment.

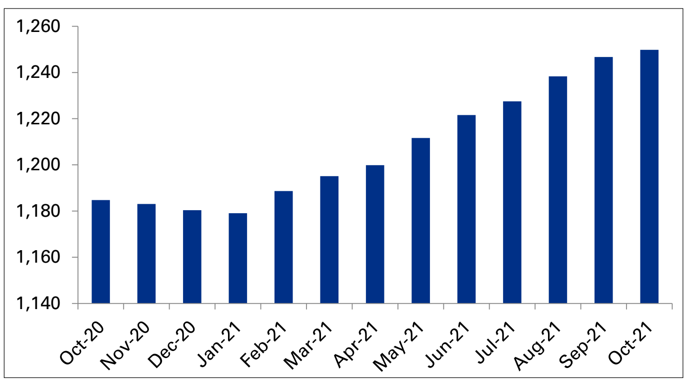
Addressing Supply Chain/Inventory Management and National Security Concerns

Another trend, evident to even the general public as various store shelves sat empty over much of 2020 and 2021, are the weaknesses in the global supply chain. A rapid acceleration in demand coupled with supply chain inefficiencies caused by the COVID pandemic created a governor on global growth at the end of 2021. Some of the supply chain inefficiencies are transitory in nature, but others are structural.

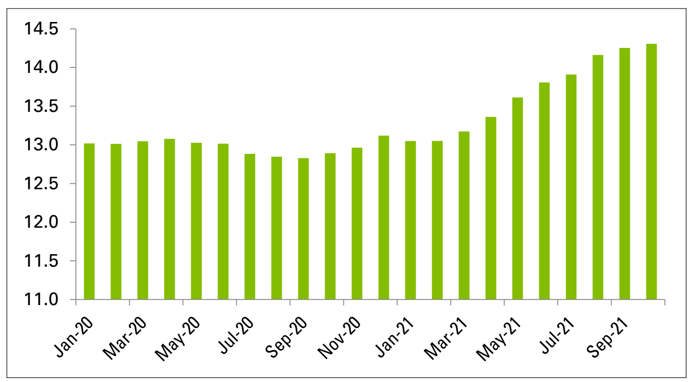
While supply chain costs will eventually revert to the mean, it will likely settle at an elevated level compared to pre-COVID periods. To be sure, costs are fundamentally higher to manage the supply chain, and the premiums can stem back to rising labor costs (which have rarely reverted back), shifting trade lanes, and higher inventory investments. Manufacturing unfilled orders, as well as "wait times" at ports had already been rising before the COVID pandemic (Figures 3 and 4). Companies should continue to realize the benefits of re-shoring and should enjoy a pronounced competitive advantage amid the mounting complexity within supply chains and geopolitical undercurrents.

Figure 3

U.S. Manufacturing Unfilled Orders ($Bil)



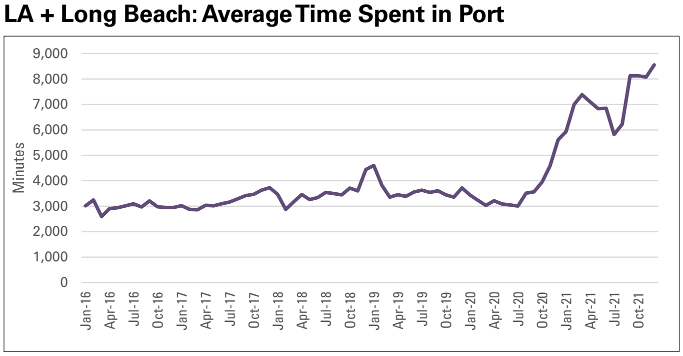
U.S. Electronic Component Unfilled Orders ($Bil)



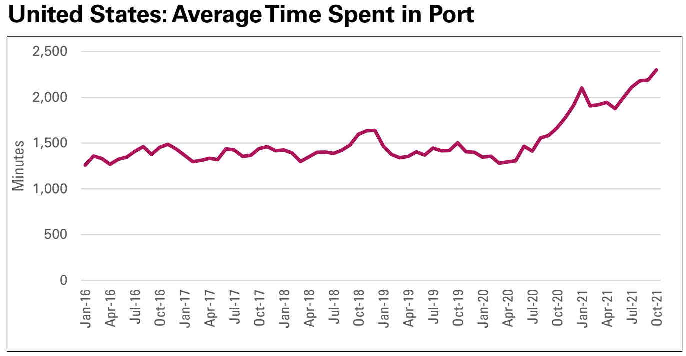
Source: U.S. Census Bureau. Data as of October 31, 2021

Figure 4:

LA + Long Beach: Average Time Spent in Port



United States: Average Time Spent in Port

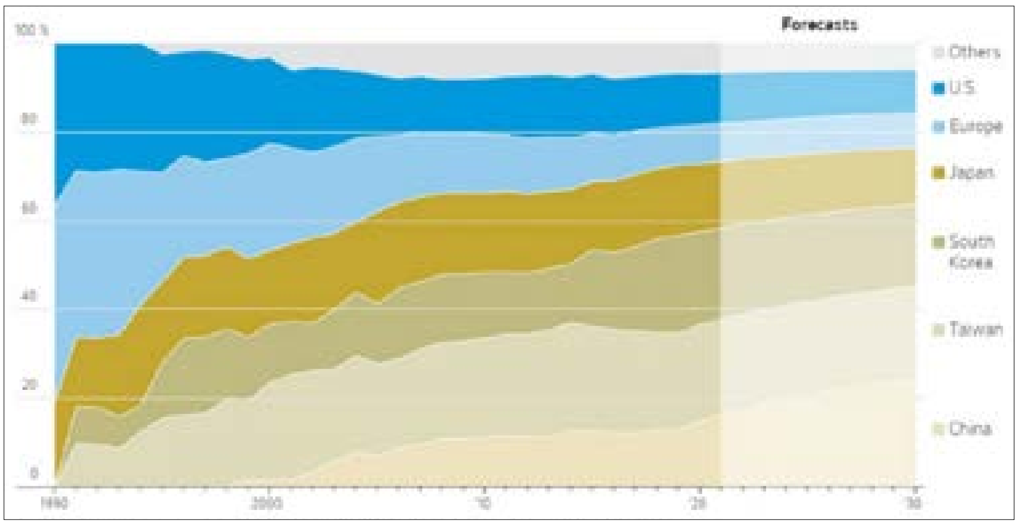


Source: IHS Markit. Data as of October 31, 2021

Increasingly, policy makers also view the domestic manufacturing industry as being critical to national security. And geopolitical tensions, in this regard, are incentivizing re-shoring efforts. The U.S.-China trade war that started under the Trump administration has not abated. Governments around the world are examining where they might be exposed to critical pieces of the supply chain.

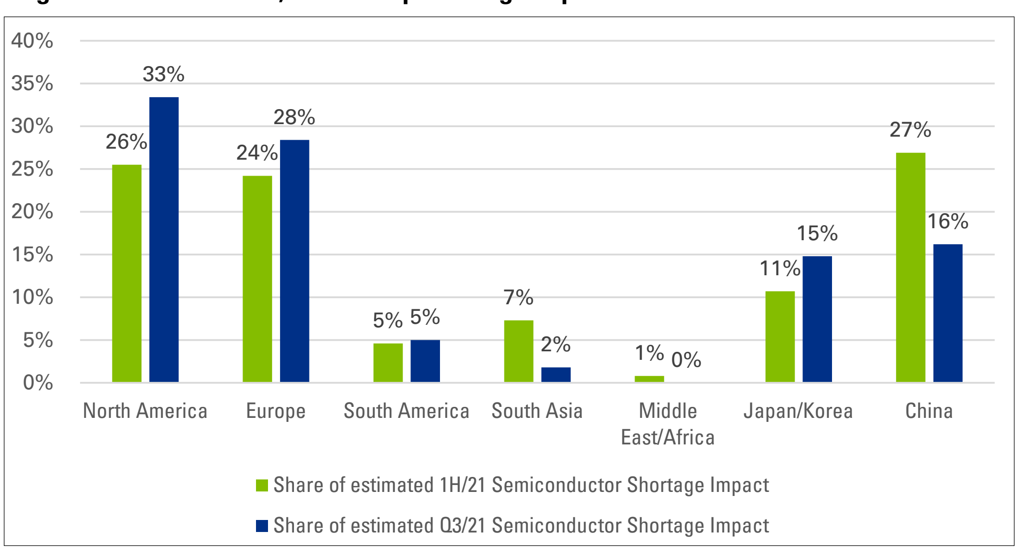
For instance, the U.S. share of semiconductor manufacturing capacity continues to shrink over time, while capacity in China and South Korea is growing (Figure 5). The risks associated with a limited domestic capacity base have been made clear during the global semiconductor shortage. North American automobile manufacturers have experienced the largest relative shortfall of semiconductors compared to all other global regions (Figure 6).

Figure 5:
Global Manufacturing Capacity by Regions – Shifting to Asia



Data as of December 2020.
Source: VLSI Research projection, SEMI, BCG. Note: 2020 is an extimate, and 2021-2030 are VLSI forecasts. Estimates reflect subjective judgments and assumptions. There can be no assurance that developments will transpire as forecasted and that the estimates are accurate.

Figure 6:
Regional Share of 1H/21, Q3/21 Chip Shortage Impact



Source: RBC Capital Markets estimates, IHSM. Data as of September 30, 2021

> "North America auto makers have been disproportionately impacted by the semiconductor supply chain constraints."

The shortages have been noticed by United States legislators, who have drafted a bill to create domestic semiconductor chip subsidies and also created a tax credit, The Advanced Manufacturing Investment Credit, included in the proposed Build Back Better bill. This tax credit is a modified, temporary version of the Facilitating American-Built Semiconductors (FABS) Act. The credit included in the reconciliation bill retains important features of the FABS Act credit, including an election to receive the tax credit as a direct payment for investments in semiconductor manufacturing facilities and equipment, as well as facilities and equipment to produce semiconductor manufacturing tools.

Furthermore, since 2020, many semiconductor companies have announced new investments in U.S.-based fabrication facilities, including: TSMC announcing a new $12 billion U.S. semiconductor fabrication facility, Intel announcing a $20 billion investment to build two new chip plants, Samsung announcing $17 billion dedicated to building several U.S. manufacturing facilities, Texas Instruments investing to upgrade two existing fabs, and many others.

Leveraging ESG

More than ever, governments and companies around the globe are rapidly growing their focus on environmental, social and governance matters and policies. Stakeholders are recognizing and responding to this monumental shift, not only from a brand equity perspective, but also for future cost alignment. In Europe, policymakers are advancing new global ESG legislation called "Fit-for-55-Package," which aims to reduce emissions by 55% by 2030 (compared to 1990 global emissions levels). Europe has long led the transition to embrace environmental, social and governance friendly policies. In 1990, for instance, Germany introduced feed-in tariff subsidies for renewable energy, and nine other European countries followed suit in the ensuing years. Also in 1990, Finland was the first to introduce a carbon tax. Eighteen other countries since have implemented carbon taxes or Emission Trading Systems ("ETS") that range from €1 per ton of CO_2 in Poland to as high as €116 per ton in Sweden. Note, year-to-date, the average cost per ton of CO_2 stood at approximately €45, as of December 2021.

More than ever, governments around the globe are rapidly growing their focus on environmental, social and governance matters.

Globally, two key pieces of legislation could be impactful. One would be the strengthening of the EU Emission Trading Systems; the other would be a Carbon Border Adjustment Mechanism ("CABM"), otherwise known as a carbon-border tax. A CABM policy would implement border tariffs on goods that arrive from geographies with worse emissions relative to domestic EU emission levels. A CABM would likely create a domino effect, with other Western and Emerging Market jurisdictions quickly following suit to avoid a large shift in trade flows of cheaper goods.

Companies are recognizing and responding to ESG matters, not only from a brand equity perspective, but also for future cost alignment.

Take aluminum: Over 80% of smelters in China use coal in their production process, versus many Western countries that use natural gas or renewable power (source: U.S. Energy Information Administration "EIA"). Current estimates suggest that a carbon tax per ton of CO_2 under the ETS might average approximately €75. Using that as a baseline for the CABM suggests a major shift in the aluminum cost curve, which would make Western countries significantly more competitive on cost, and potentially lead to further onshoring of production.

For reference, production of one ton of aluminum utilizing natural gas emits between five and seven tons of CO_2. Coal, by contrast, would emit 12 to 18 tons of CO_2, while renewable energy or hydro power would emit between one and two tons. The potential impact on the cost curve would be significant (Figures 7 and 8).

These dynamics, of course, are not unique to aluminum, but would apply to a wide range of goods and services.

Figure 7:
Aluminum Cost Curve (Current)

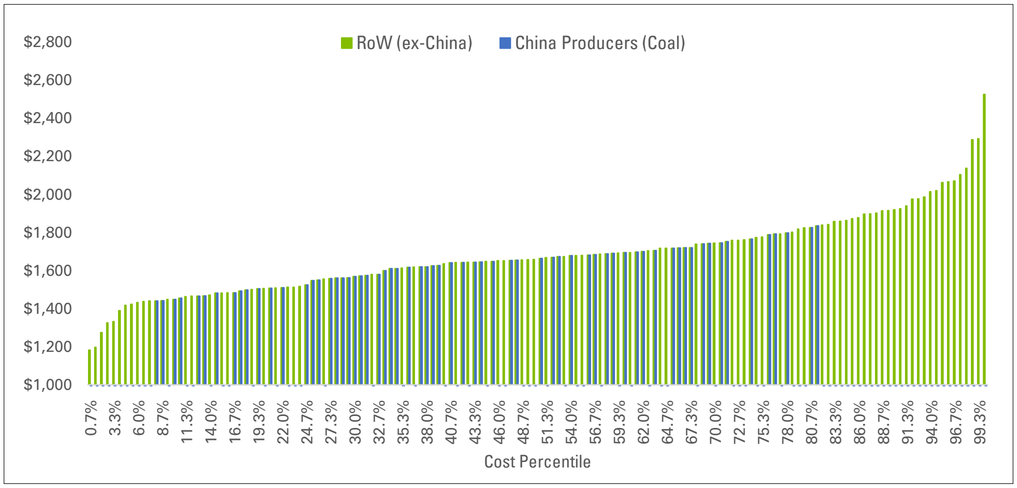
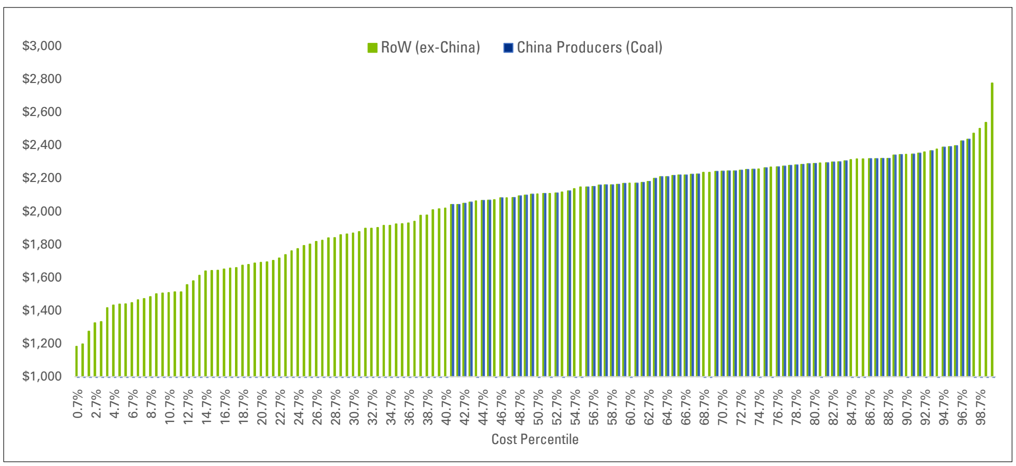


Figure 8:
Aluminum Cost Curve with Carbon Tax



Estimates reflect subjective judgments and assumptions. There can be no assurance that developments will transpire as forecasted and that the estimates are accurate. Sources: Wood Mackenzie, U.S. International Trade Commission, WPG Estimates. RoW = Rest of World.
Data as of June 30, 2021

ESG legislation will structurally change cost curves over the next 5-10 years.

Preventing Intellectual Property Theft

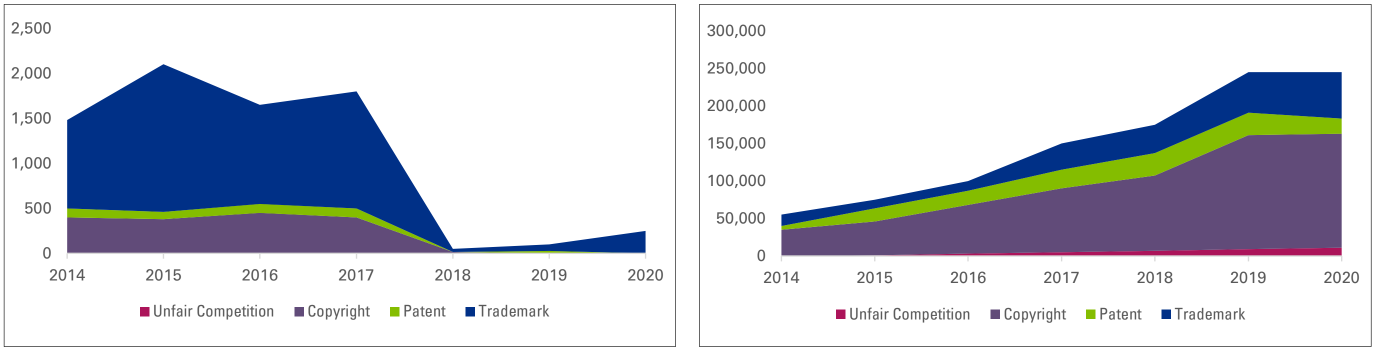
Protection of intellectual property has been top of mind for some time. The IP Commission report from the federal government estimated that the annual losses to American companies exceeds $300 billion annually, while a survey of CFOs from March 2019 documented that 30% had experienced IP theft over the previous decade (source: CNBC).

A strategic plan laid out by local Chinese politicians in 2015 entitled the Made in China 2025 set off a public battle with U.S. authorities on IP protection. In 2018, the Office of the U.S. Trade Representative announced results of an investigation concluding China's predatory IP theft practices were unreasonable. Today, according to a report from the Department of Justice, China is involved in over 80% of all cases related to economic espionage and 60% of all cases related to the theft of trade secrets. Furthermore, Chinese companies have used a new tactic known as anti-suit injunctions in local courts to make it prohibitively expensive to bring cases of IP theft against Chinese companies. As a result, the number of cases filed in China by U.S. entities has declined dramatically despite increases in total case counts (Figure 9).

Figure 9:

American Entities Party to IP Court Cases in China

Total IP Cases in China



NOTE: The decline might also reflect that Chinese courts aren't publishing decisions involving American firms.
Source: IPHose vis Rouse. Data as of January 2020

Government Investment Through Infrastructure

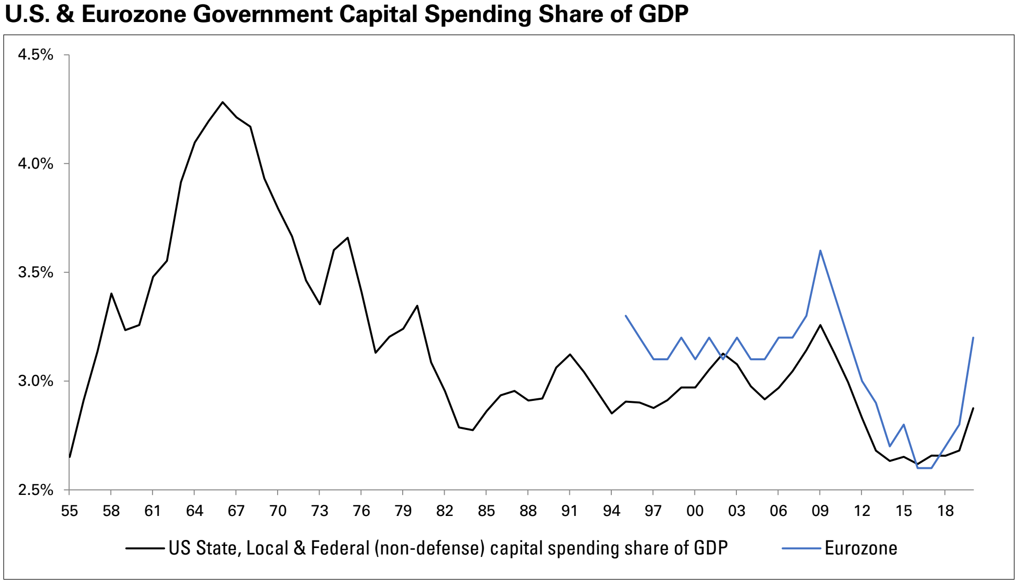
Further strengthening the case for domestic investments, the United States government passed a $1.2 trillion infrastructure bill in November 2021, of which $555 billion is incremental new spending, which nearly doubles the federal government's annual spend. The bill includes new funding for roads and bridges ($110B), railroads ($66B) and ports ($17B), electric power grid ($65B), broadband ($65B), water infrastructure ($55B), as well funding for cybersecurity projects, environmental initiatives, and brownfield cleanups among areas. These investments in critical infrastructure should further facilitate reshoring activity.

The stepped-up investment in infrastructure, beyond creating opportunities for private enterprise, creates synergies in the form of an economic tailwind. Studies show, for instance, that the range-of-growth multiplier effect across different policy packages typically favors infrastructure spending above other forms of government spending, leading to longer-term, more sustainable nominal GDP growth.

> "The stepped-up investment in infrastructure, beyond creating opportunities for private enterprise, creates synergies in the form of an economic tailwind."

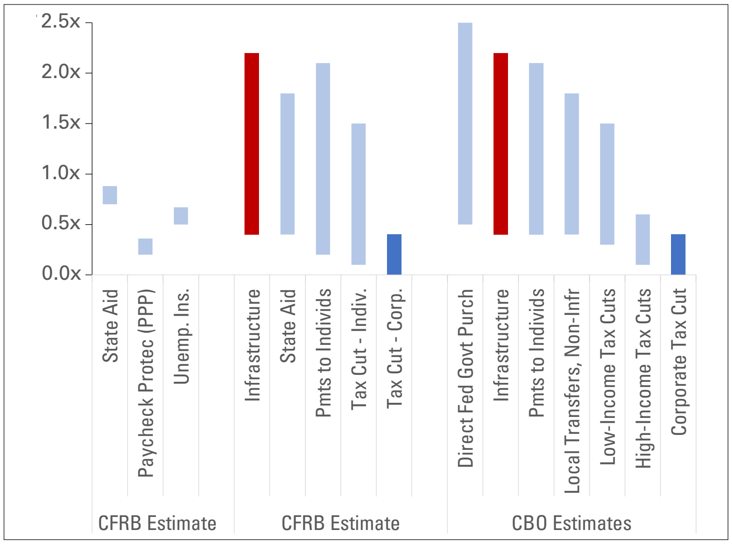
Figure 10:

U.S. & Eurozone Government Capital Spending Share of GDP



Source: BEA, Eurostate, J.P. Morgan. Data as of September 30, 2021

Figure 11:
Range of Estimates for Multipliers in Different Policy Packages



Source: Committee for Responsible Federal Budget. Data as of October 2020.

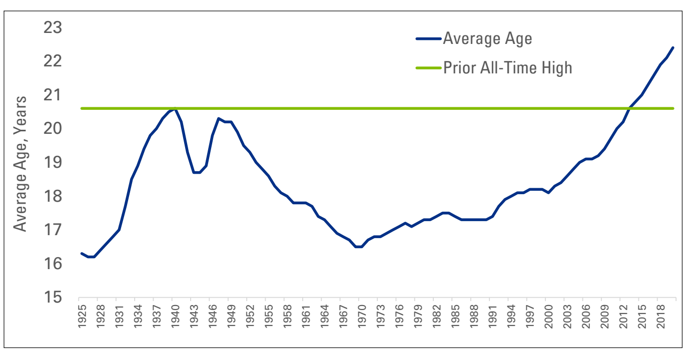
After a decade of under-investment, re-shoring initiatives could spur a golden age for U.S. domestic manufacturing, U.S. domestic capex spend, and U.S. nominal GDP growth.

Conclusion

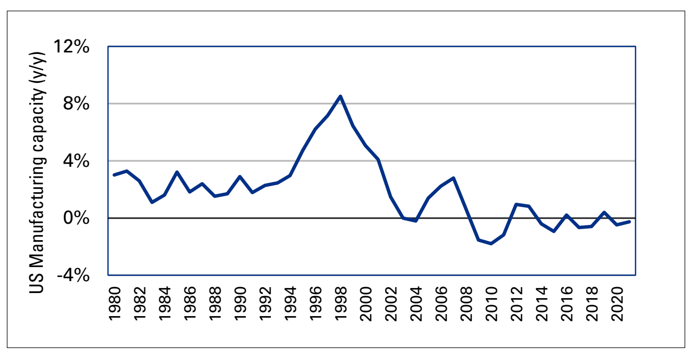
U.S. assets have been starved of fresh capital investments with the average age reaching over 22 years according to the Commerce Department. After a decade-plus of continued investments offshore, multi-national companies are incentivized to reinvest in the U.S. These re-shoring initiatives could spur a golden age for U.S. domestic manufacturing, U.S. domestic capex spend, and U.S. nominal GDP growth.

Figure 12:

Average Age: U.S. Fixed Asset Infrastructure



U.S. Manufacturing Capacity has Declined Since 2007



Source: Bank of America. Data as of: September 30, 2021

Ultimately, we believe that small cap value names provide the best exposure to "real asset" companies that stand to benefit from the increased capital investment into domestic industries. As of November 30, 2021 the Russell 2000® Value Index had a combined 29% overweight in traditional Cyclical sectors including Financials, Industrials, Materials and Energy compared to the S&P500 Index. We believe these sectors are likely to be prime beneficiaries of the coming capital investment cycle.

About Boston Partners

Boston Partners is a premier provider of value equity investment strategies that are firmly rooted in fundamental research and are based on a disciplined and repeatable investment philosophy and process. Boston Partners is focused on investing in companies with attractive value characteristics, strong business fundamentals, and positive business momentum and shorting companies whose stocks exhibit value risk, earnings risk, and balance sheet risk. While rooted in fundamental research, the process is heavily aided by quantitative tools to narrow the investment universe and ensure portfolios are consistently tilted towards attractive value, quality, and momentum characteristics on the long side and the inverse on the short side. The firm was founded in 1995. Boston Partners is an indirect, wholly owned subsidiary of ORIX Corporation of Japan. The WPG Partners Team was formerly part of Weiss, Peck & Greer, which managed assets since 1970 and was acquired in 1998 by Robeco. In 2007 it was merged into Robeco's U.S. operations, and in 2014 it became part of Boston Partners' strategies.

About the Authors

Eric A. Gandhi, CFA
Portfolio Manager

Mr. Gandhi is a Portfolio Manager for the WPG Partners Small and Micro Cap Value team. He joined WPG Partners in July 2012 as a research analyst with a concentration in technology, media, telecom and consumer. Prior to joining the firm, he was a member of the Applied Value Investing program at Columbia Business School. Prior to Columbia, Mr. Gandhi was an Associate in the investment banking division at Needham & Company. He graduated with a B.S. degree from the University of Maryland and received an M.B.A. from Columbia Business School. Mr. Gandhi holds the Chartered Financial Analyst® designation. Mr. Gandhi has fourteen years of investment experience.

Robert Hellauer
Research Analyst

Mr. Hellauer is a Research Analyst for the WPG Partners Small and Micro Cap Value team. He joined WPG Partners in February 2020. Prior to joining the firm, he spent two and half years as a senior equity analyst at Casey Capital. He began his career at Bain Capital Credit, where he spent four years working across private debt, private equity and special situations, first in Chicago and later in the Melbourne, Australia office. Mr. Hellauer subsequently worked as a consulting investor for CPMG, before enrolling in a graduate program at Peking University in Beijing. After PKU, he attended Columbia Business School focusing his time on social enterprise, impact investing, and public equity investing. Mr. Hellauer graduated with a B.B.A from University of Notre Dame, with a double major in Finance and Economics, and received an M.B.A from Columbia Business School. Mr. Hellauer has nine years of investing experience.

Definitions

Basis Point: One hundredth of one percent, used chiefly in expressing differences of interest rates.

Nominal Gross Domestic Product (GDP): Nominal GDP measures a country's gross domestic product using current prices, without adjusting for inflation.

Russell 2000® Value Index: All Russell® Indices are registered trademarks of the Frank Russell Company. The Russell® Value Indices typically measure the performance of universes of stocks displaying low price-to-book ratios and low forecasted growth values. The Russell 2000® Index measures the performance of the 2,000 smallest companies in the Russell 3000® Index. The Russell 2000® Value Index contains stocks included in the Russell 2000® Index displaying low price-to-book ratios and low forecasted growth values.

S&P 500 Index: The S&P 500 Index is a registered trademark of the McGraw-Hill Companies, Inc. and is an unmanaged Index of the common stocks of 500 widely held U.S. companies.

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Value stocks can perform differently from the market as a whole. They can remain undervalued by the market for long periods of time.

Investments in micro, small and mid-capitalization companies present a greater risk of loss than investments in large companies due to greater volatility and less liquidity.

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WPG Partners | 60 East 42nd Street, Suite 1550 NY NY 10165 tel: 212-908-9500

www.boston-partners.com