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STRATEGIST VIEWS

DEEP WAVES: THE QUIET UNDERTOW OF INTANGIBLE ASSETS

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INTRODUCTION

Our definition of assets and their economic value has been changing over time. In the 20th century, machines, factories, and transportation were the assets on a company's balance sheet. Today, value is dominated by intangibles. Brands, technologies, patents, copyrights, synergies, and business models determine the lion's share of company worth. At this point, 90% of the capitalization of the S&P 500 Index is accounted for by intangibles,[1] a huge jump from 36% in 1985. This paper builds on the technological innovation and taxation themes presented in *Deep Water Waves*, a paper[2] published by the Franklin Templeton Investment Institute, to explore the definition of intangible assets and draws conclusions on the implications for investors. Further, the paper dovetails with the Investment Institute's Franklin Templeton Thinks Equity Markets piece, *Growth or value? For active managers it can be both*.[3] All things considered, the evolving treatment of intangible assets may be one of the most impactful trends in the global economy, making them impossible to ignore.

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EXECUTIVE SUMMARY

- The rise of intangible assets has distorted the difference between value and growth investing. When balance sheets are adjusted for intangibles, "expensive" stocks could appear to be "value" names. More intangible investments translate to higher, but uncertain, growth. Seemingly expensive companies with low profitability ratios and high intangible-intensity should not be automatically ruled out by true value strategies because, when a company proves the resilience of its business model, multiples can normalize.
- Thinking beyond the label of value and growth is critical. Passive portfolios with factor bets are now extremely vulnerable to changes of style categorization.
- Accounting standards have not kept pace and lead to inconsistent reporting and misclassification. Money spent on activities that create intangible assets is typically expensed, which leads to undercapitalization of intangibles and distorts traditional valuation metrics. This creates a widening valuation disparity between book value and market value. Solid and standardized environment, social and governance (ESG) frameworks will transform the way intangibles are captured on financial statements.
- Intangible assets include brand and human capital which reflect how companies treat their people, communities, and the environment. Incorporation of wider definitions of "quality" that include ESG factors will be critical in the newly emerging investment landscape.
- Further, current accounting practice may disincentivize management to make socially responsible investments, at a risk to environment, society, and the strategic position of their organizations.
- Many intangible-heavy firms will be affected by the ongoing international tax reform, e.g., around half the US tech names pay less than the proposed 15% minimum global tax.[4]
- With the notable exceptions of South Korea and China, most emerging economies struggle to build strong research and development (R&D) networks. This tendency is unlikely to be reversed and constitutes a barrier to climbing the innovation ladder.
- Collapsing antitrust enforcement can be seen as a prop for expansion of dominant companies. If successful, intangible investments can strengthen quasi-monopolistic markets and concentration.
- The role of intangible assets will be enhanced in the future given progressing technological development, globalization, growing market sizes, the increasing role of labor-intensive services, improving financial development, business friendly regulatory environment, and government support.

What sets intangibles apart?

An intangible asset is an asset that is not physical in nature. Goodwill, brand recognition, organizational innovation, customer relationships and intellectual property—such as patents, trademarks, and copyrights—are all intangible assets. Intangible assets exist in opposition to tangible assets, which include land, vehicles, equipment, and inventory. Since their prevalence is rising, understanding how they work can help us determine how an economy may evolve in future.

Here are unique economic properties[5] that set them apart:

1. **"Sunkenness".** Intangible assets often involve irrecoverable costs. They are harder to sell (relative to tangible assets) and it's difficult to separate them from the entity which generates them. Their main purpose is to build value and improve competitive advantage of the individual firm. This characteristic may cause some financial friction, especially when debt financing is considered due to the limited collateral that intangible assets offer.
2. **Spillovers.** Intangible innovations are prone to the risk of being copied or reverse-engineered by competitors. While patents can mitigate, they are not able to effectively eliminate the risk. This may eventually improve the quality of products and services available to end-clients.
3. **Scalability.** Most intangible assets are likely to be scalable since knowledge is at their center, and full control over heavy assets is not required. Thus, they can be used in various places in the world, even at the same time.
4. **Synergies.** Intangible assets generate synergy effects: they are more valuable together if the right combination is found.
5. **Portability.** Intangible assets are easy to move around geographically, which further reinforces scalability and synergy effects. Nevertheless, we believe that this characteristic is of high significance and should be listed independently. It has an influence on other areas like tax systems, too.

THE INCREASING PROMINENCE OF INTANGIBLE ASSETS

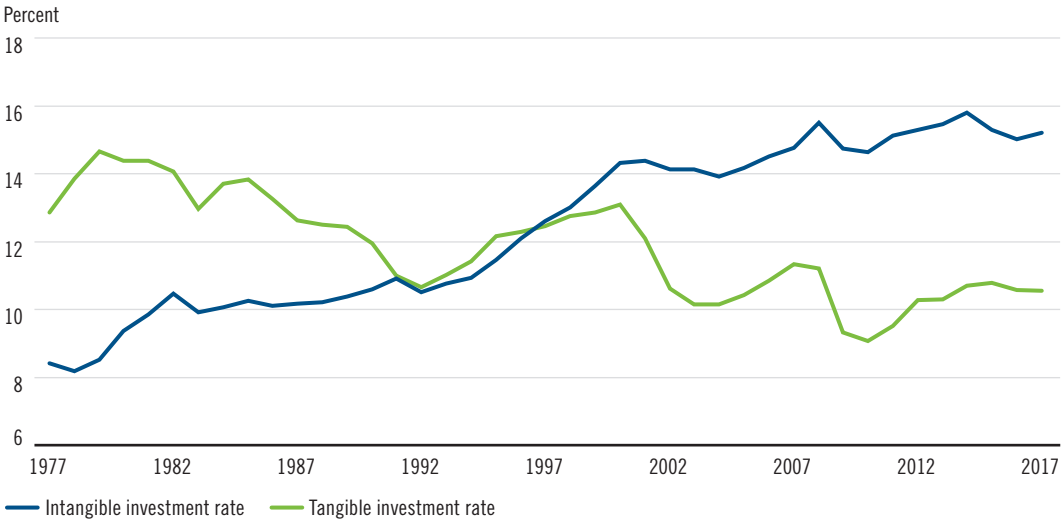
Investments are crucial for economic development since they build up capital that positively influences productivity growth. However, the nature of investments has significantly evolved. As portrayed in Exhibit 1 on the next page, starting in the early 1980s, tangible investments as a proportion of the economy as a whole, was around 15%. This was almost twice the contribution of intangible investments. However, intangible investments surpassed tangible investments in the second half of the 1990s. By 2017 intangible investments had increased from 8% (low in 1978) to 15% of added value, while tangible investments declined from 15% to 11%. This radical transformation of business models can be ascribed to the knowledge-, or information- revolution.[6] Arguably, big corporations focused on intangible assets even earlier, so they are not a purely tech-driven phenomenon. Organizational innovations that enabled some manufacturing firms to gain a significant competitive edge (like Kaizen at Toyota, or Six Sigma at General Electric) are representative of this tendency.[7] These meaningful developments began in the first half of the 20th century.[8]

The Organization for Economic Co-operation and Development (OECD) has included growth of public and private R&D spending in its Sustainable Development Goals. This is important, as member countries pledged to increase research and development expenditures as a proportion of gross domestic product (GDP) as well as number of researchers per million inhabitants.[9] Currently, developed countries dominate in this field, but there are notable exceptions. Exhibit 2 on the next page, shows Korea as a leader in R&D investments in terms of GDP, while China can be considered R&D powerhouse in absolute terms. Nevertheless, most developing countries struggle to build strong R&D networks, which constitutes a barrier to climbing the innovation ladder.

THE NATURE OF CORPORATE INVESTMENTS HAS SIGNIFICANTLY EVOLVED

Exhibit 1: US intangible and tangible investment rates. Non-residential business investment relative to business sector gross value added

1977–2017

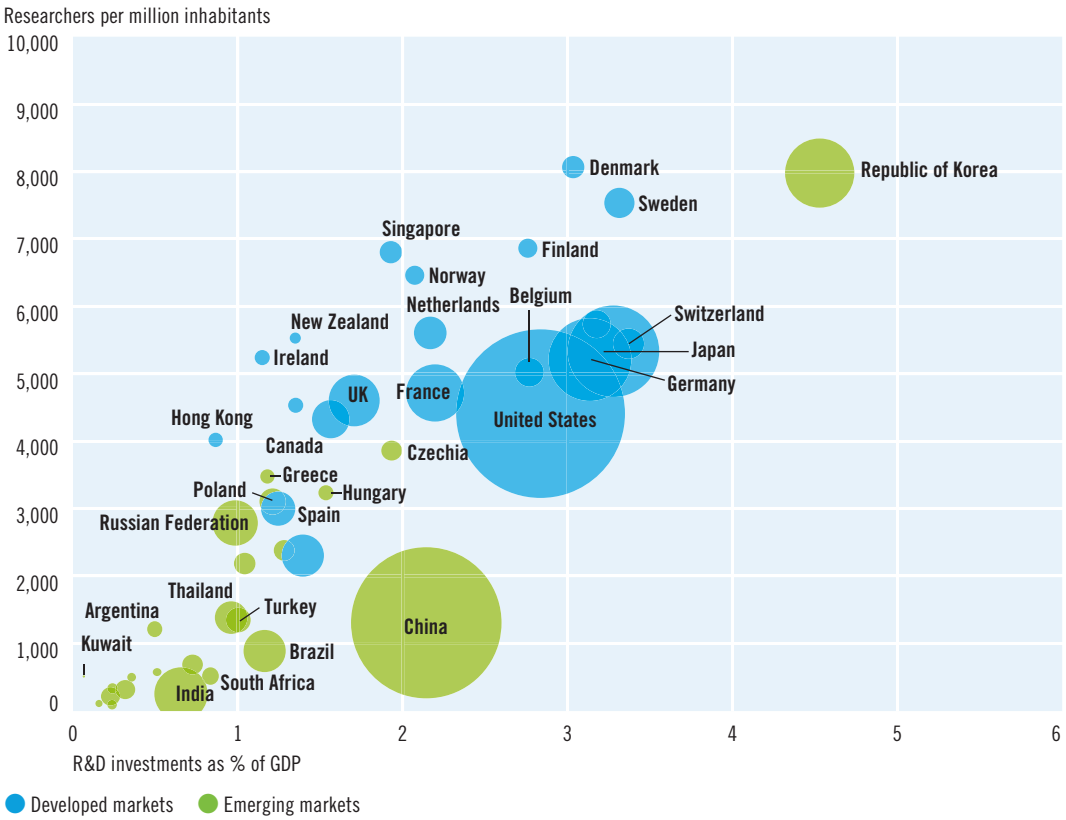


Source: Unpublished update to Corrado, Carol and Hulten, Charles (2010), How Do You Measure a ``Technological Revolution''? using methods and sources developed in Corrado, Carol and Janet X. Hao (2013), Brands as Productive Assets: Concepts, Measurement, and Global Trends; and in Corrado, Carol, Jonathan Haskel, Cecilia Jona-Lasinio, and Massimiliano Iommi (2016), Intangible Investment in the EU and US before and since the Great Recession; and Corrado, Carol, Jonathan Haskel, Massimiliano Iommi, Cecilia Jona-Lasinio, Matilde Mas, and Mary O'Mahony (2017), Advancements in Measuring Intangibles for European Economies. The update was completed for INTAN-Invest© and the SPINTAN project, respectively. Important data provider notices and terms available at www.franklintempletondatasources.com.

DEVELOPED MARKETS DOMINATE IN R&D INVESTMENTS

Exhibit 2: R&D Investments and number of researchers by country

As of August 31, 2021



Source: UNESCO Institute for Statistics. Important data provider notices and terms available at www.franklintempletondatasources.com. The size of bubbles represents total research & development expenditure (Purchasing Power Parity in US dollars).

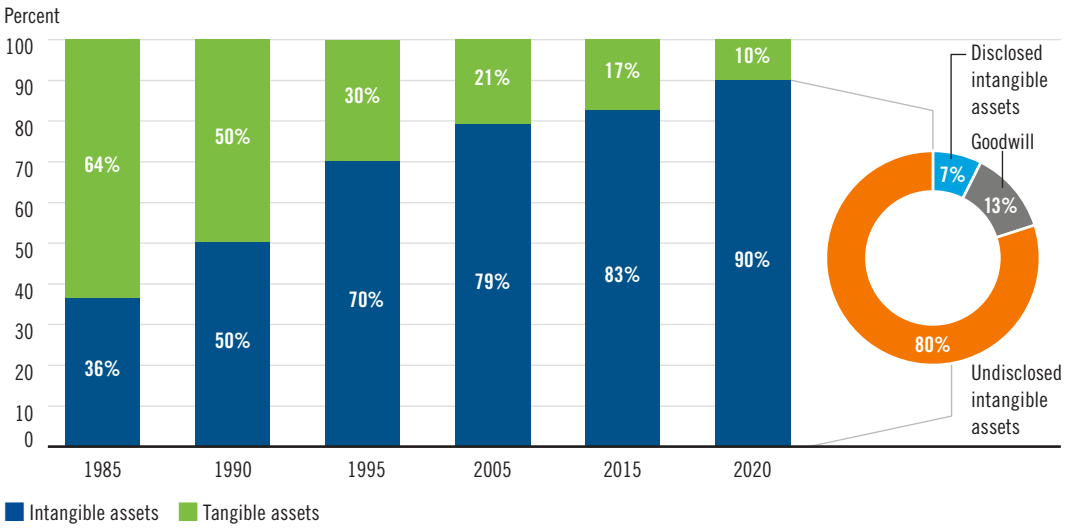
The COVID-19 pandemic has influenced the investment landscape. The OECD estimated that over US$7 billion of funds were either unlocked or redirected for COVID-19 related R&D during the first nine months of 2020. However, significant reductions in non-COVID-19-related research in 2020 were also observed.[10] If the negative consequences of the pandemic continue to unfold, further declines in research budgets (especially publicly financed) are likely.

The growing prominence of intangible assets does not go unnoticed by financial markets. As shown in Exhibit 3, around 90% of S&P 500 market capitalization can be attributed to intangible assets, as compared to 36% in 1985. Moreover, 80% of intangible value remains undisclosed. The same observation can be derived from the analysis of individual companies. Apple is currently the most valuable company globally, worth US$2.9 trillion. Traditional assets constitute just 2% of its market value.[11]

INTANGIBLE ASSETS AS A PERCENTAGE OF THE S&P 500 MARKET VALUE GREW FROM 36% TO 90%

Exhibit 3: Breakdown of S&P 500 market value. Intangible and tangible assets as % of S&P 500 market value

1985–2020



Source: Analysis by Franklin Templeton Investment Institute, FactSet. Important data provider notices and terms available at www.franklintempletondatasources.com. Net tangible assets are used and calculated as total assets minus intangible assets (reported on the balance sheet), less total liabilities. Market value of intangible assets is calculated by subtracting net tangible assets from market capitalization. Disclosed intangible assets are all intangible assets booked to balance sheet, less goodwill. Undisclosed intangible assets represent the part of the intangible assets market value that is not explained by neither goodwill nor disclosed intangibles. The analysis is made on a constituent level and arithmetic sum is used as an aggregation method.

WHAT IS DRIVING THE GROWTH OF INTANGIBLES?

The portion of the economy that is dependent on intangible assets is constantly growing (as shown in Exhibit 1). Here are some of the drivers:

Revolutionary technological change

New information systems, the cloud, and the internet, are all big catalysts for intangible investments.[12] Technological development creates an ecosystem in which new intangible investments can be more productive and disruptive. This is closely related to one of the characteristics of intangible assets: synergy. Many intangibles involve information and communication, so their efficiency and return on investment increase with better technology. However, this is not universal for all intangible assets. There is a subset that is less sensitive to technological development, including brand, employee training, and organizational innovations.[13]

Globalization and growing market sizes

Open economy companies typically specialize where they have a comparative advantage. This involves a lot of investment, from R&D to organizational innovations. Many intangible

assets are scalable, so trade barriers limit their attractiveness. A study by Haskel and Westlake[14] proves that the share of GDP accounted for by intangibles is inversely correlated with the OECD index of restrictiveness of trade in services.

Talent is required to create successful intangibles

That's why intangible-intensity goes hand-in-hand with labor-intensity. As manufacturing benefits from automation, labor-intensive services are typically more expensive, relative to manufactured goods. This is not always associated with increased productivity, though. There are two economic hypotheses explaining the phenomenon: Baumol's cost disease and the Balassa-Samuelson effect. The former concludes that a capital-intensive sector (like manufacturing) tends to have higher productivity than labor-intensive services, but wages remain similar. The latter is the international version of Baumol's thesis. In open economies, we can expect higher aggregated price levels as wages increase in the tradeable goods sector. They are justified by improved productivity and then migrate to the non-tradeable services sector. Given the difference in relative cost, combined with the current structure of the economy, which is tilted toward services, intangible spending should continue to rise over time in relation to tangible spending.

Availability of finance is a prerequisite for the conversion of intangible investments to productivity growth

Given the limited collateral that intangibles offer, access to equity financing is especially important. Private markets seem well-suited to finance speculative but innovative ideas given their higher risk tolerance and less pressure from quarter-to-quarter 'short-termism'.[15] Financial frictions in intangible-intensive sectors have been a barrier to productivity growth in financially less-developed countries. There are several solutions that can improve transmission between intangible investments and productivity growth, e.g., liberalizing banking and financial markets, encouraging the development of equity markets and establishing a business-friendly legal environment.[16]

The changing business climate drives intangible investments

There has been a steady relaxation of regulations related to both products and labor markets since 1980.[17] Deregulation and privatization created a competitive environment, in which companies need to constantly develop and innovate products and processes to survive. This is achieved primarily by investing in intangible assets.[18] When a company gains a competitive edge and strong market position, it typically has more resources to spend on R&D, organizational developments, and human capital.[19] The ease of doing business index published by the World Bank provides an aggregated measure of business regulations for local firms in various countries. Exhibit 4 on the next page, illustrates a positive relationship between regulatory friendliness represented by the index[20] and investments in intangibles.

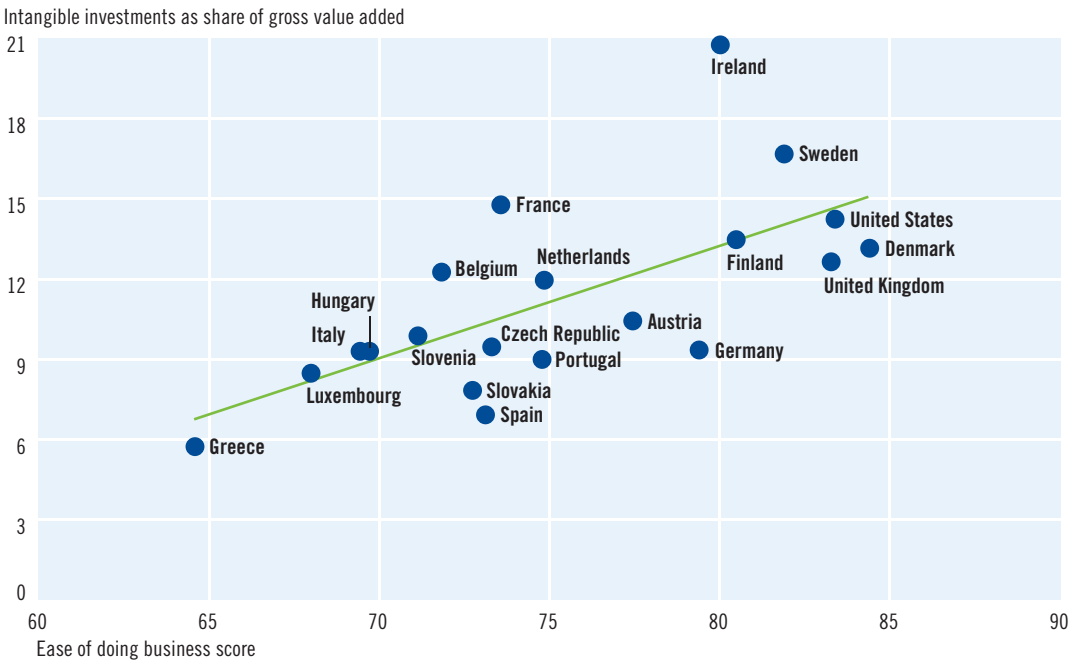
Government spending on R&D can also encourage private investments

Professor Joseph Stiglitz, in his discussion with Stephen Dover, Chief Market Strategist and Head of Franklin Templeton Investment Institute, noted that marginal average returns on investments in R&D in the public sector outpace the returns we are getting from business R&D investments. The development of the COVID-19 mRNA vaccine is a great example. This was driven to a large extent by government-funded research. Then, the private sector followed and brought the product to market. The vaccination program would not have been successful if there had been no balance between the private sector and the public sector.[21] Also, there is a positive correlation between intangible investments and R&D spending by the government.[22]

POSITIVE RELATION BETWEEN SUPPORTIVE REGULATION AND INVESTMENTS IN INTANGIBLES

Exhibit 4: Intangible investments and regulatory environment

Averages, 2000–2017*



Source: Analysis by Franklin Templeton Investment Institute, World Bank, INTAN-Invest© database, Corrado Carol, Jonathan Haskel, Cecilia Jona-Lasinio and Massimiliano Iommi (2016), Intangible investment in the EU and US before and since the Great Recession and its contribution to productivity growth, EIB Working Papers 2016/08, European Investment Bank (EIB). *US data is updated up to 2016.

Digital transformation and new types of intangible assets

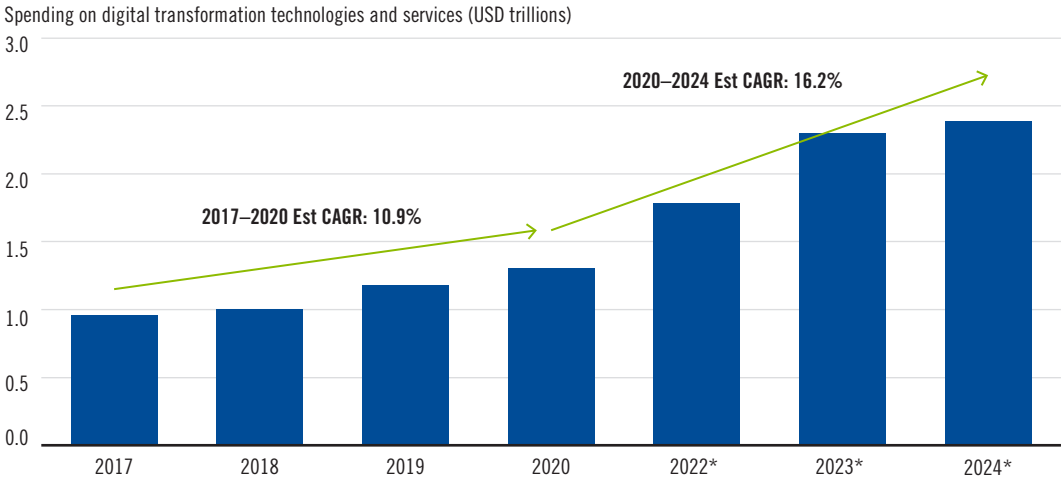
The spectrum of intangible assets keeps broadening. Technological advances and the progressive datafication of daily lives make digital intangible assets increasingly prominent and useful.[23] To put it in perspective, digital transformation spending globally has grown at an average annual rate of 10.9% between 2017 and 2020.[24] Annual growth is expected to increase to 16.2% between 2020 and 2024.[25] This can be compared to 7% expected annual growth of nominal global GDP for the same timeframe.[26]

Examples of digital intangibles that contribute the most to company's value include proprietary data sets, unique data processing algorithms, unique network relationships,

GROWTH OF DIGITAL TRANSFORMATION

Exhibit 5: Digital transformation spending worldwide

2017–2024



Source: Statista. *Estimate. There is no assurance that any forecast, estimate or projection will be realized. Digital transformation refers to the adoption of digital technology to transform business processes and services from non-digital to digital. This encompasses, for example, moving data to the cloud, using technological devices and tools for communication and collaboration, and automating processes. Important data provider notices and terms available at www.franklintempletondatasources.com.

network effects, proprietary ecosystems, and loyalty programs. Individuals' contribution to a platform where they share their online content can be seen as another form of digital intangible asset.[27]

The growing prominence of the broadening set of intangible investments has multiple implications of relevance for investors. The evolving landscape impacts traditional equity analysis, the growth versus value debate, taxes, regulation, and ESG investing.

GROWING RATE OF INTANGIBLE ASSETS AND STAGNANT ACCOUNTING STANDARDS

Lack of the physical substance is one of the inherent characteristics of intangible assets. It makes it hard to properly identify them, and it makes a valuation process even more cumbersome.

There are good reasons why nonmaterial expenditures for internally created intangible assets are not booked to the balance sheet. However, intangibles that are the result of acquisitions, should be amortized and regularly tested for impairment as they involve real economic cost. Corporate accountability demands no less from that. The cost of acquisitions is real, and management needs to be held accountable for their acquisitions as they have chosen to allocate capital to that transaction. Investors have a right to judge and hold management accountable for their stewardship.

Charlie Dreifus, CFA
Portfolio Manager, Managing Director

Royce Investment Partners

Traditional accounting has not kept pace. Money spent on activities that create intangible assets should be expensed. If a company spends US$500 million on research, its book value decreases by US$500 million less the reduction in tax liability. Some other valuation metrics (e.g., earnings) are consequently distorted, too.

There are some differences between the US Generally Accepted Accounting Principles (GAAP) and the International Financial Reporting Standards (IFRS) accounting standards pertaining to the treatment of intangibles. In general, both frameworks undercapitalize the internally generated intangible expenses. However, IFRS is less restrictive and allows for a partial capitalization of development costs if certain criteria are met.

Meanwhile, intangible assets—if acquired—are recognized and capitalized under both systems either through goodwill, or separately from goodwill if the resource meets the definition of an intangible asset. Managers are incentivized to allocate as much intangible value to goodwill as possible. Intangibles with a finite useful life are amortized which drags earnings down. On the other hand, goodwill is subject to impairment testing, while a decision if an impairment is due is at managerial discretion. Executives are often reluctant to impair as it suggests they may have overpaid for an acquisition.

This makes accounting for intangibles inconsistent and leads to misclassifications. For example, a company that seeks to grow organically will appear less asset heavy than a similar enterprise that grows through acquisitions.[28]

Still, there are some reasonable arguments behind the current accounting treatment of internally generated intangibles. First, it is often hard to estimate their true value. Second, conservatism is one of the guiding accounting principles. Accordingly, when the outcome from investment is uncertain, the investment should be expensed on the income statement, rather than be booked to the balance sheet. R&D is a classic example of risky investment which is expensed immediately. This accounting treatment applies to other intangibles, too, which clearly reduces current earnings.[29]

As undisclosed intangibles are becoming a more significant driver of business development, financial statements are missing something important. To explore this further, we recommend reading Mutual Series' chapter in our recent paper, "Growth or Value? For active managers it can be both."[30]

HOW DO CURRENT ACCOUNTING STANDARDS AFFECT TRADITIONAL EQUITY ANALYSIS?

The growing role of intangibles combined with the stagnant accounting standards, most suitable for brick-and-mortar companies, has implications for traditional equity analysis. Traditional valuation metrics for intangible-intensive companies are less relevant. For example, the combined explanatory power of earnings per share and book value per share on contemporaneous share prices has been falling between 1995 and 2019. The decline in the value relevance of the traditional price multiples is more pronounced for intangible- intensive companies, relative to asset-heavy businesses. It is true for both the US and international markets.[31]

An alternative way to present the declining relevance of book value could be Tobin's Q (the market value of a company divided by its assets' replacement cost). At its most basic level, it measures how market capitalization deviates from equity and liabilities book value. The Q ratio has been going up since the end of the Global Financial Crisis and it is at record high level now, 191% above its long-term geometric mean.[32]

Interestingly, even if investors had access to the perfect earnings prediction model, it would not enable them to generate significant excess returns. This is the conclusion arising from a research paper published by Professors Baruch Lev and Feng Gu.[33] The strategy is simple, invest in the companies that exactly meet or beat analysts' consensus earnings estimates. The investment horizon is three months, starting 60 days before quarter-end and ending 30 days after quarter-end (to include the quarter's earnings release). Under these conditions, abnormal returns generated by the strategy have been declining over a 30-year period ending in 2015, from 6% to 2% (a 67% return decrease). Corporate investments in intangible assets are naturally at the center of it. Gains from perfectly predicting consensus meets and beats for intangible-intensive companies are significantly lower relative to companies that invest less in intangibles.[34] We have migrated from accounting's 'golden era' when financial statements were highly informative, to the present when more analytical effort is required to draw the right conclusions.

Moreover, in the US, more than 50% of public companies reported annual losses during the decade prior to COVID-19 (in a favorable economic environment).[35] This can be seen as another argument suggesting that there are some structural issues with the bottom line.

INTANGIBLE-INTENSITY RATING SCALE

The Franklin Templeton Investment Institute created a proprietary intangible-intensity ranking to help investors gauge which sectors and countries may be more exposed to the accounting 'pitfalls' described above. The results are portrayed in the Exhibit 6 and 7. The ranking is based on the estimate of intangible assets that are not seen on the balance sheet since the costs associated with them are generally expensed as they are incurred. This is the most critical group of intangibles as identifiable intangible assets are already included in book value, and the current accounting leaves a high degree of subjectivity in their recognition. The methodological approach is explained in more detail in the Appendix A.

The results of the study reveal a meaningful message for investors. The three sector leaders are health care, information technology, and communication services. For companies representing these sectors, investments in innovation and effective processes are at the core of their business models. From a geographical perspective, developed markets are more intangible intensive, relative to emerging economies.[36] The median final ranking for developed economies is two times higher than the same statistic for developing markets

SOME SECTORS ARE MORE INTANGIBLE INTENSIVE

Exhibit 6: Average intangible intensity ranking by sector

2000–2020

SECTOR	Health care	Information technology	Communication services	Consumer discretionary	Consumer staples
AVERGE RANKING	9.71	9.29	7.43	7.33	6.14
INTENSITY LEVEL	High	High	High	High	High

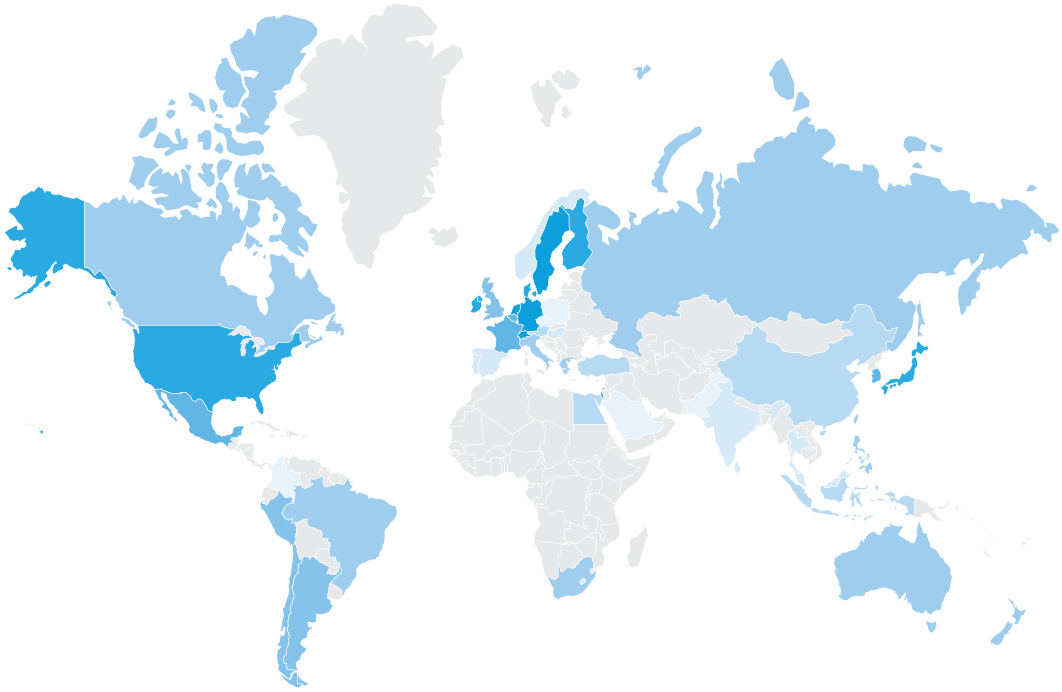
SECTOR	Industrials	Materials	Utilities	Energy	Real estate
AVERGE RANKING	4.86	4.24	2.95	2.00	1.05
INTENSITY LEVEL	Low	Low	Low	Low	Low

Source: Analysis by Franklin Templeton Investment Institute, FactSet. For each sector, the annual intangible-intensity ranking was calculated using the following intangible-intensity formula: (Research and Development Expenses + 30%* Sales, General & Administrative Expenses)/ Total Revenues. Financials Sector is excluded from calculations due to its atypical financial reporting practices. Companies representing each sector are based on the MSCI All Country World Index. Sum was used as an aggregation method. Indexes are unmanaged, and one cannot invest directly in an index. They do not include fees, expenses or sales charges. Important data provider notices and terms available at www.franklintempletondatasources.com.

INTANGIBLE INTENSITY IN DEVELOPED COUNTRIES IS TWICE THE LEVEL IN EMERGING MARKETS

Exhibit 7: Average intangible intensity ranking by country

2000–2020



Source: Analysis by Franklin Templeton Investment Institute, FactSet. For each country, the annual intangible-intensity ranking was calculated using the following intangible-intensity formula: (Research and Development Expenses + 30%* Sales, General & Administrative Expenses)/Total Revenues. Financials Sector is excluded from calculations due to its atypical financial reporting practices. Companies representing each country are based on the MSCI All Country World Index. Sum was used as an aggregation method. Indexes are unmanaged, and one cannot invest directly in an index. They do not include fees, expenses or sales charges. Important data provider notices and terms available at www.franklintempletondatasources.com.

We look beyond statistical cheapness and rote ratio calculations and conduct a more rigorous analysis of business and asset value.

Economic value isn't listed on a company's financial statements. Ratios such as price-to-book (P/B) and price-to-earnings (P/E) do not automatically include economic value. This is why simplistic ratios, such as price-to-book value or price-to-earnings ratios, fall short when it comes to identifying value stocks.

They can leave out economic value, but also two other components which are key in determining a company's actual worth—the economic value of intangible assets and an assessment of its growth prospects.

Grace Hoefig
Director of Research

Franklin Mutual Series

(30 versus 15). The investment decision requires deeper analysis because we believe traditional screening and reliance on standard financial ratios is ineffective. Implementation of more active strategies that consider sources of comparative advantage, growth catalysts, and true economic value of all assets, can serve as a solution.[37]

IMPACTS ON VALUE AND GROWTH EQUITY CLASSIFICATIONS

Current accounting treatment's failure to capture internally generated intangible assets has an impact on many topical themes. A better understanding of accounting nuances can shed light on the growth versus value debate. To put it simply, if intangibles are more fully considered, migrations of stocks between value and growth happen.

To illustrate our point, we adjusted the price-to-earnings multiple of the index representing growth stocks[38] by adding back our proxy of internally generated intangibles: 100% of R&D and 30% of selling, general and administrative (SG&A) expenses (see Research Methodology in Appendix). Interestingly, the adjustment makes the valuation of growth stocks look more in line with the standard valuation of the portfolio of value stocks.[39] While this is just preliminary analysis and further research will be needed, it highlights that incorporation of intangibles may significantly alter the current definitions of value and growth.

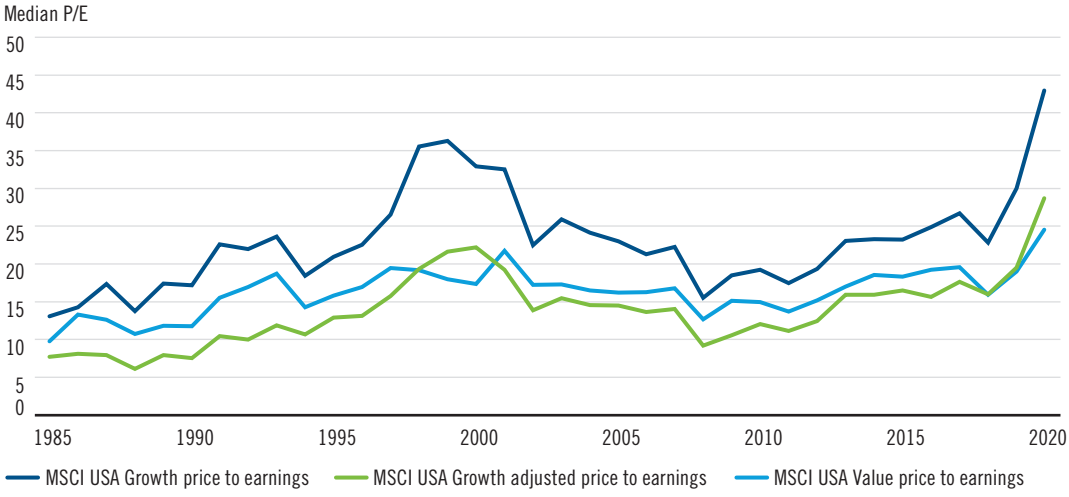
Findings on an individual company level are also thought-provoking. For example, Google, Amazon, and Meta Platforms FB, formerly known as Facebook, would have fallen in the cheaper half of the MSCI USA Index if the index had been constructed using adjusted price-to-earnings ratios.[40]

Also, if intangibles were capitalized and intangible adjusted price-to-book was used, the effectiveness of standard value factors would improve. In the post-2007 period which has been the longest and the deepest drawdown of the relative value performance, the intangible adjustment would have enhanced relative performance by 2.2 percentage points per year. Value strategies would still have underperformed growth. However, the drawdown would have significantly decreased both in duration and in depth.[41]

STANDARD AND INTANGIBLE ADJUSTED PRICE-TO-EARNINGS

Exhibit 8: Median price-to-earnings for selected MSCI indexes

1985–2020



Source: Analysis by Franklin Templeton Investment Institute, FactSet. No amortization is assumed. Indexes are unmanaged, and one cannot invest directly in an index. They do not include fees, expenses or sales charges. Important data provider notices and terms available at www.franklintempletondatasources.com.

Contrary to popular belief, value stocks may embed high growth.[42] This growth is typically risky, though. This is caused by the nature of investments in innovation. Higher intangible intensity can be generally translated to more uncertainty.[43] Companies demonstrating low profitability ratios and high intangible-intensity shouldn't be automatically ruled out by true value strategies. These companies typically trade at high unadjusted multiples. However, when a company proves resilience of its business model,[44] multiples can normalize.

Meta Platform FB is the most intangible-intensive company out of all FAANGM stocks.[45] In 2012, after its initial public offering (IPO), almost 40% of the company's sales was expensed on intangibles, and extremely high growth expectations were reflected in its price-to-earnings multiple that equaled 2662. Return on equity (ROE) was below 1. Today, Meta Platforms FB still invests a lot in innovation. However, ROE has significantly improved as the prior investments have paid off. Very high operating margin[46] is also one of the reasons. The market has adapted to the new landscape and the current price-to-earnings is below 30.[47]

According to an analysis by McKinsey,[48] the fastest growing companies invest 2.6 times more in intangibles than low growers. In some innovation-driven, knowledge-intensive sectors the gap between growth leaders and laggards significantly increases. For example, in financial services and telecommunication, media, and technology, successful businesses appear to spend at least 5 times more on intangibles, relative to their slow-growth peers. Investments in intangibles are necessary, but they are not sufficient per se. Companies need to understand the nature of those investments and deploy them effectively. A mindset shift is necessary, towards the test-and-learn, risk-taking approach. Here are some more specific examples of attributes that distinguishes top growers from low growers: using data as the basis of decision making; developing digital strategy by making effective use of proprietary data; implementing rigorous processes to measure the impact of R&D investments; and building personalized customer experience backed by real-time data analytics.[49] That's why having a good understanding of the full range of intangible investments is vital for effective stock selection.

Professional fund managers seem to be aware of the accounting intricacies and take traditional metrics with a grain of salt. As far as book value is concerned, portfolio composition of mutual funds is strongly skewed towards low book-to-market ratios no matter if they represent growth, or value investing mandates. Strikingly, funds that label themselves as 'value' hold more low-book-to-market stocks than high book-to-market stocks.[50]

Active management strategies have been evolving and pure reliance on traditional accounting measures and their mean reverting properties is less common. Investors who require exposure to this traditional definition of value do it via indexing. Leading style indexes provide useful information about the relative performance of traditionally defined value and growth stocks and investment strategies based on such indexes can be profitable if executed nimbly. However, investors should be aware of the inherent limitations before making any investment decision.

The style indexes are typically based on price-to-book and price-to-earnings ratios.[51] So, they leave out investments in internally generated intangibles. Consequently, growth prospects are ignored, too. It often leads to inaccurate estimates of intrinsic value, which is not in line with the spirit of true value investing. Additionally, our analysis argues that whenever the MSCI USA Value Index outperforms the MSCI USA Index, this is mostly driven by the allocation effect.[52] This finding may give the wrong impression that value investing is all about tactically rotating between sectors. What is more, value and growth sector tilts have been historically fluctuating, leading to a situation where today's makeup of the value index might not meet the same investment goals as in the past. Lastly, some

methodological solutions may sound controversial, e.g., the assumption that the market capitalization of the growth and value style indexes is equal (or almost equal) to 50% of their base index. Hence, one security may be represented in both the value index and the growth index at a partial weight. Also, the classifications are typically ranking-based, which makes the universe in which a particular stock is included very important. Thinking beyond the label is critical, especially for investors who would like to get long-term value exposure.

Our colleagues from the innovation team at Franklin Equity Group develop this theme in great style, in their piece entitled: "Did the fourth industrial revolution kill mean reversion? We think so."[53]

INTANGIBLES ARE A KEY ISSUE IN ONGOING GLOBAL TAX REFORM

2021 has brought some significant developments to international tax policy. The G7 (Group of Seven), a group of the world's richest countries, agreed to make big multinational companies like Amazon, Meta Platforms FB and Google pay more tax in the countries where they are selling their products or services. The plan also backs a global minimum tax rate to limit tax competition between countries. Then, 130 OECD countries have also supported the initiative.

This broad agreement is a milestone for multi-year international collaboration under the OECD inclusive framework on base erosion and profit shifting. The initiative has always been focused to put an end to tax avoidance strategies that exploit gaps and mismatches in tax rules to avoid paying tax.

The international tax reform is expected to increase global corporate income tax revenues by around US$50–80 billion per year.[54] It raises some concerns about economic growth, especially in countries that rely on tax policy for foreign direct investment (FDI) job creation. The overall detrimental effect of the international tax reform is projected to be minor, however. OECD estimates it to be less than 0.1% of global GDP in the long term.[55] The role of tax differentials on FDI inflows is arguable; market potential and public investment also matter. The relationship appears asymmetric—higher taxes discourage new FDI inflows, while lower taxes fail to significantly attract new foreign investments.[56] Hence, the race to the bottom in corporate tax rates does not seem to be a solution.

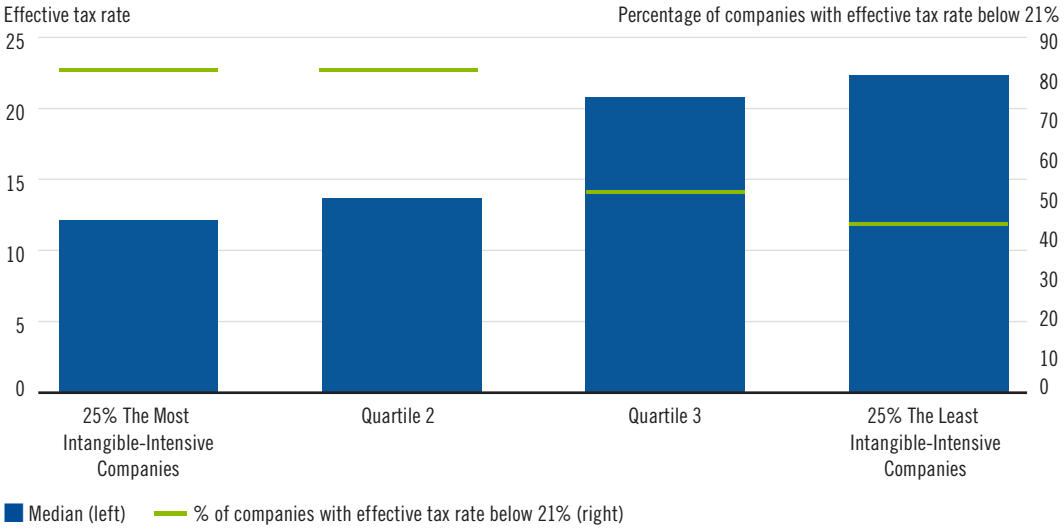
Nevertheless, intangibles-heavy companies, or at least some of them[57] will undoubtedly be affected if the proposed changes come into effect. Intangible-intensity of multinational enterprises is a big part of the ongoing global tax reform. Intangible assets are easy to move around geographically. Hence, big companies can arbitrage differences in tax regimes. Increasingly, income from intangible sources has migrated to low-tax countries, allowing those companies to reduce their effective tax rates. Exhibit 9 illustrates the relationship between intangible-intensity and effective tax rates for US blue chip companies.

It is not only the portability of intangibles that plays an important role in tax reduction. Innovation is a crucial driver of productivity and may also generate social returns. Thus, many governments are interested in fostering business R&D expenses and therefore adopt various supportive measures. Financial support can take the form of either direct government funding, or tax incentives. The latter embraces those tax incentives that grant special treatment to R&D expenditures or to the income derived from innovation. In OECD countries, expenditure-based incentives (e.g., tax credits/allowances) are the most popular policy tool. The overall tax support in OECD economies constitutes 0.1% of GDP on average, while direct government funding equals 0.08%. Exhibit 10 presents financial support for business R&D for selected OECD countries.

INTANGIBLE INTENSIVE COMPANIES TEND TO PAY LOWER TAXES

Exhibit 9: Effective tax rate byintangible intensity, S&P 500

Calendar year 2020

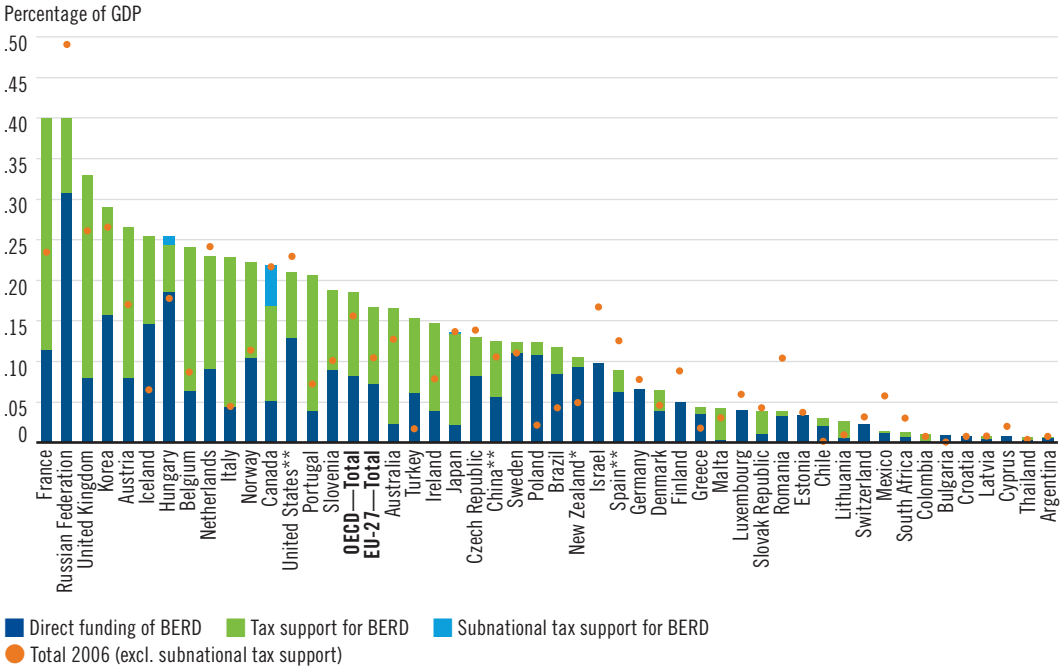


Source: Analysis by Franklin Templeton Investment Institute, FactSet. Intangible intensity is calculated according to the following formula: (100% R&D expenses + 30% SG&A expenses)/Sales. Important data provider notices and terms available at www.franklintempletondatasources.com.

GOVERNMENTS ENCOURAGE INVESTMENT IN INNOVATION

Exhibit 10: Direct government funding and tax support for business R&D

2018



* Data on tax support not available, ** Data on subnational tax support not available

Source: OECD R&D Tax Incentive Database, March 2021. Important data provider notices and terms available at www.franklintempletondatasources.com.

In the US, where most tech giants are headquartered, tax support is lower than the OECD average. However, direct government funding is higher, which makes total policy support relatively favorable. Intangible-intensive US tech giants are often perceived as a target in the context of planned international tax reform. The majority of these firms pay lower taxes than the current 21% statutory tax rate in the US. Moreover, the median effective tax rate for S&P 500 Information Technology Index constituents equals 14.2%, which is below the 15% minimum global tax.[58] There are a good number of tech names that are paying significantly lower tax bills than that.[59]

As far as FAANGM stocks are concerned, Amazon, Apple, Meta Platforms FB, and Netflix reported lower effective tax rates than 15% in 2020. Although, big tech typically attracts the most headlines, there are names in the sector that paid even less than 2% of their income in taxes. The record low effective tax rates in 2020 were reported by hardware and software company Trimble Inc. and chipmaker Nvidia Corp. (1.1% and 1.7%, respectively). A large share of foreign-based earnings and R&D tax credits are two common reasons that are noted by these companies in their filings to explain the depressed tax rates.[60]

It may take a while until the global tax deal is implemented. The solidarity and synchronized action are key elements to avoid a situation in which early adopters are put at a competitive disadvantage. The new framework for international tax reform was agreed by 130 OECD countries, representing more than 90% of global GDP, which is a very solid starting point. Whether or not it becomes transformative, this moment is unprecedented.

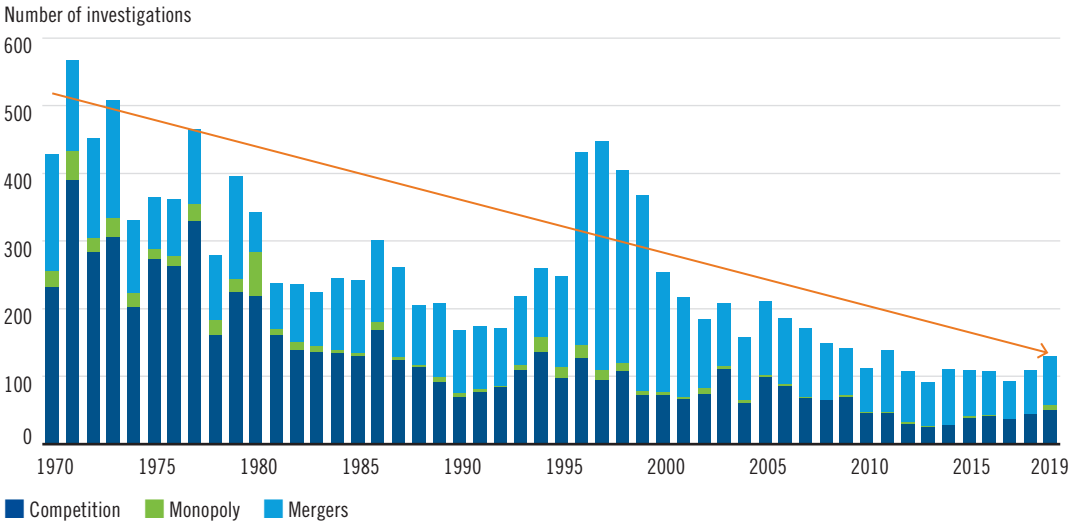
DEREGULATION HAS BEEN A CATALYST FOR INTANGIBLE ASSET CREATION

Regulation cuts across all the themes discussed in this paper. Deregulation and increasingly business friendly legal frameworks have been catalysts for the expansion of intangible assets. Thus, companies are encouraged to invest in innovation and modernization of business processes to generate competitive advantages and gain strong market position. Exhibit 11 demonstrates how antitrust enforcement has been collapsing over the last five decades.

DECLINING ANTITRUST ENFORCEMENT OVER TIME

Exhibit 11: Number of investigations conducted by the US Department of Justice Antitrust Division

1970–2019



Source: US Department of Justice. Important data provider notices and terms available at www.franklintempletondatasources.com.

Although antitrust is sometimes considered as a form of government intervention that should be avoided by a deregulatory administration, this logic is missing one key aspect. Antitrust is a countercyclical force to deregulation. Thus, stronger antitrust should complement weak regulation to protect consumers from enforcement gaps.[61] In an environment where more and more regulations are repealed, less active antitrust authorities can have negative consequences for market performance and consumer welfare.

The growth of intangible investments is not without its impact on the expansion of dominant companies. One inherent economic property of intangible assets is 'sunkenness' of costs. Intangible-related costs are very often irrecoverable because they can hardly be separated from the entity that makes them and their main purpose is to gain a competitive edge and improve a company's market position. If successful, these investments can strengthen quasi-monopolistic markets and concentration.

Many intangible-intensive companies enjoy a strong market position. This can further reinforce investments in innovation since big companies with ready access to capital can fund higher levels of R&D. On the other hand, quasi-monopolistic status, even when paired with top-notch innovative technologies, can raise some meaningful concerns. Those companies typically have a very strong negotiating position, supported by efficient lobbying, in relation to regulatory authorities so that they can avoid any rules that can adversely affect their business (e.g., tax changes). Moreover, strong market position goes in line with pricing power, which not only fosters superior growth and increased profit margins but can eventually lead to some inflationary pressures.

Aggressive deregulation driving intangible investments combined with collapsing antitrust enforcement have created a monopolistic-friendly feedback loop. Many big intangible-intensive companies are consumer centric, and they generate significant social benefits. Nevertheless, we should be cognizant of potential adverse effects that increased concentration may eventually bring.

INTANGIBLE ASSETS ARE OFTEN STRONGLY CONNECTED WITH ESG GOALS

Intangible assets include brand and human capital, which reflect how companies treat their people, communities, and the environment, and how a company achieves its ESG investment goals. The shift towards an era of intellectual property makes the incorporation of relevant ESG factors crucial to the evaluation of a company.

Consumer and institutional investors' preferences are evolving. The asset management industry needs to respond to this demand. Consequently, the prominence of sustainability-oriented investment has been accelerating over the last decade. In 2020, global sustainable investments reached more than US$35 trillion. Exhibit 12 portrays the growth of sustainable assets in five major regions. Growth has been steady everywhere but in Europe, which was the leading region in 2018. However, a decline in Europe stems from a changed measurement methodology.[62] The recent significant increase of ESG-related assets in the US is also worth noting.

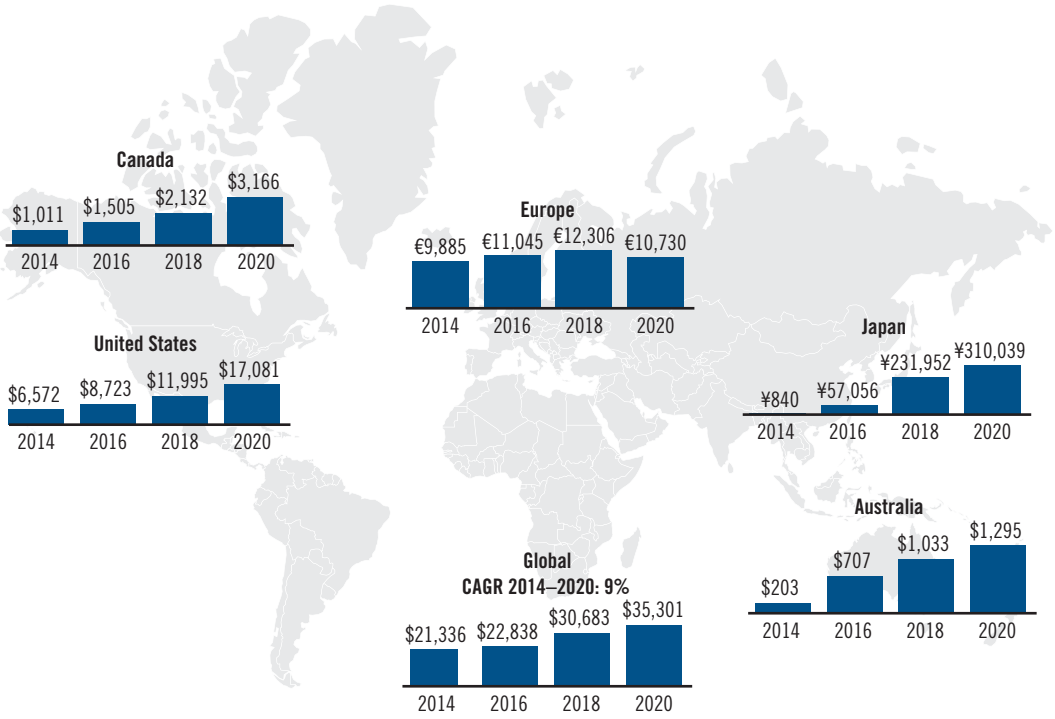
ESG investing is a social imperative, but investors typically also benefit from certain socially responsible investing screens, which is a big consideration for asset allocators. There is a statistically robust relationship between employee satisfaction and long-term risk adjusted returns. According to a study conducted by Professor Alex Edmans,[63] a value-weighted portfolio of the "100 Best Companies to Work for in America" generated a statistically significant four-factor alpha of 3.5% per year from 1984 to 2009. This is consistent with human relations theories claiming that satisfaction may benefit shareholders through increased motivation and retention. Moreover, the results of the study may serve as evidence that the market fails to fully price intangibles.

Given the current accounting standards have not kept pace, intangible value creation is not very well understood. In other words, there is a widening valuation gap that manifests through the difference between accounting book value and market value. There is increasing focus on pre-financial disclosures, as opposed to traditional financial statements, as management teams and stakeholders require more complete information on how companies generate long-term value. In this context, intangible assets, very often strongly connected with ESG goals, are of high significance, but they are typically unseen on a line item in a financial statement.

WITH MORE THAN US$35 TRILLION OF ASSETS, ESG INVESTING IS AN IRRESISTIBLE FORCE

Exhibit 12: Sustainable investing assets by region (in billions)

2014–2020



Source: Global Sustainable Investment Alliance. All country-specific figures are displayed in local currencies. Aggregated global totals have been converted to US dollars as of the dates these asset totals were reported. All 2020 assets are reported as of December 31, 2019, except for Japan which reports as of March 31, 2020. All 2018 assets are reported as of December 31, 2017, except for Japan which reports as of March 31, 2018. Historical 2016 data are reported as of December 31, 2015, except for Japan, which is reported as of March 31, 2016. Historical 2014 data are reported as of December 31, 2013, except for Japan, which is reported as of September 30, 2014.

Predictably, growing intangible-intensity correlates with the widening adoption of ESG, as ESG can fill the value creation gap in financial reporting. Increased focus on the formation of intangible assets through ESG investments can improve the informational usefulness of sustainability reports. Further, the ESG value proposition can eventually transform a financial reporting system so that more intangibles are captured in financial statements.

There are some ongoing attempts to converge ESG disclosures and set standardized guidelines. A great example is the merger of the International Integrated Reporting Council (IIRC) and the Sustainability Accounting Standards Board (SASB) into the Value Reporting Foundation (VRF) that was announced in mid-2021. The VRF is a global organization that aims to help businesses and investors develop a shared understanding of drivers of enterprise value and how value is created, preserved, or eroded over time.[64] Harmonized sustainability disclosure standards play an important role in this context.

It is important that these initiatives have been emerging since the current accounting standards seem to deviate from true drivers of value, as we noted in one of the previous chapters. Sometimes they even unintentionally penalize and demotivate companies from making socially responsible investments. In February 2020, BP announced that it aims to become carbon neutral by 2050.[65] Although BP's transition is driven by commercial and social imperative, current accounting cannot serve as a reliable source for management in their strategic planning, nor for a company's stakeholders that want to understand implications of those decisions. Most of the transition-related investments (besides those for M&A) will be expensed, which substantially reduces earnings and margins. This may disincentivize strategic investments that are required to align an organization with its long-term sustainability needs. Also, it can impact strategic choices and tilt them toward acquisition, regardless of the efficiency of such action in this context.[66]

Given the evolving macroeconomic backdrop and long-term investment drivers, companies will be under pressure to change at almost every level. Those that are good corporate citizens are already better placed for the changing consumer and investor preferences. The adoption of a wider definition of 'quality' that includes ESG factors will be critical in the newly emerging investment landscape.[67] Markets have been adopting socially responsible criteria which have largely benefited investors. However, accounting practices have not kept pace. A more readily implementable and standardized ESG framework is needed to further motivate companies to make responsible strategic decisions and to fill the value creation gap in financial reporting.

CONCLUSION

Thinking on intangible investments is evolving to encompass new drivers of a company's market value. Many investors and economic policymakers are not fully prepared to embrace this change. This may prove to be one of the most impactful trends in the global economy.

Traditional accounting standards have ignored the radical transformation of business models. Hence, the relevance of earnings and book value has been declining, especially for companies which invest heavily in innovation. This is a global phenomenon. However, some sectors and countries may require more analytical curiosity which can be provided by unconstrained active management.

With the notable exceptions of South Korea and China, most emerging economies struggle to build strong R&D networks. This constitutes a significant barrier to climbing the innovation ladder.

We believe investors who incorporate ESG factors will more accurately value companies that are good corporate citizens. Certain socially responsible investing screens may improve risk-adjusted returns of their portfolios. Companies and accounting standard-setting bodies should work closely together to build ESG frameworks that incentivize responsible strategic decisions and narrow the gap between book value and market value.

Adjusting for intangibles may redefine the current understanding of value and growth, by making 'expensive' stocks appear cheaper. Investors seeking true value exposure should think beyond the label. Building factor exposure via indexing fails to capture investments in internally generated intangibles and consequently growth prospects. Similarly, adjustment for intangibles can potentially improve credit risk measurement, which is of great significance for fixed income investors. Those considerations are beyond the scope of this paper. Nevertheless, they are worth noting as avenues for future research.

2021 will be remembered as a tax inflection year. 130 OECD countries, representing more than 90% of global GDP, adopted the new framework for international tax reform.

The regulation aspect is important as collapsing antitrust enforcement could be seen as reinforcing the expansion of dominant companies. Intangible assets can strengthen quasi-monopolistic markets, inviting regulatory attention.

Nowadays, simple screening frameworks based on traditional metrics are no longer effective. The golden days when financial statements were highly informative have ended. Modern investment solutions should focus on sources of comparative advantage, growth catalysts, and true economic value of all assets. Investors require a good understanding of the ESG value proposition, a discerning curiosity in the interpretation of company financial statements and be prepared to have historical certainties challenged.

Appendix

RESEARCH METHODOLOGY: FRANKLIN TEMPLETON INVESTMENT INSTITUTE INTANGIBLE-INTENSITY RANKING

Our research aims to help investors better understand which sectors and countries are more exposed to undisclosed intangible assets. We hope our research stimulates a meaningful discussion on an amended reporting approach that could facilitate intangible asset value creation. This is especially important now when most of the large companies' market value is estimated to be attributed to undisclosed intangible assets.

Our methodological approach is inspired by Dugar and Pozharny 2021.[68] However, there are notable modifications that differentiate our intangible-intensity ranking. We do not equal weight all components of the ranking. More weight is given to innovation capital (R&D), relative to organizational capital (SG&A) which are mainly operating costs. Our ranking does not include identifiable intangibles, such as good will and acquired intangibles, as our goal was to put emphasis on those assets that are currently absent from book value. In addition, there is a high degree of subjectivity in the recognition of intangible assets, especially when we consider allocation of intangible value between goodwill and other intangibles, which leads to many reporting inconsistencies across companies. Finally, we used a standardized universe of stocks—based on the MSCI ACWI—so that the final ranking readings can be presented for sectors and countries that are comprised of investable opportunities in both developed and emerging markets.

Our intangible intensity ranking is based on the estimate of internally generated intangibles that are inadequately recognized by the current accounting standards; therefore, absent from balance sheets because they are typically expensed. We leveraged an existing formula from published research: 100% of R&D expenses, plus 30% of SG&A expenses. The R&D spending represents knowledge and innovation capital, while part of SG&A represents organizational capital.[69, 70, 71] Apart from the established use of the formula, we believe the percent distribution accounts for the fact that the adoption of the digital revolution makes innovation capital more valuable than organizational capital.

The motivation of our research varied from the previous studies in scope. Our aim was to create intangible-intensity ranking for sectors and countries that are comprised of investable large- and mid-cap stocks. The calculation of the internally generated intangible assets was standardized using total revenues according to the following formula:

$$\frac{\sum [100\%\ \text{R\&D expenses} + 30\%\ \text{SG\&A expenses}]}{\sum \text{Total revenues}}$$

For each country (or sector), the arithmetic sum was used as an aggregation method. Companies representing each country (or sector) are based on the constituents of the MSCI All Country World Index. The financials sector is excluded from the calculations due to its atypical financial reporting practices. All data were sourced from FactSet.

We chose to average our annual intangible intensity ranking between 2000-2020 or a 21-year time span. Higher value denotes more reliance on undisclosed intangible assets. The ranking for sectors ranges from 1 to 10, while the ranking for countries ranges from 1 to 44.[72] For example, the hypothetical value of 10 would mean that a given sector was the most intangible intensive, relative to other sectors, in all years over the period 2000–2020.

ABOUT THE FRANKLIN TEMPLETON INVESTMENT INSTITUTE

The mission of the Investment Institute is to deliver research-driven insights, expert views and industry-leading events for clients and investors globally through the diverse expertise of our autonomous investment groups, select academic partners and our unique global footprint.

Endnotes

1. Source: Analysis by Franklin Templeton Investment Institute, Factset. As of 12/31/2020.
2. Source: as of September 2021, Franklin Templeton Investment Institute, Deep water waves.
3. Source: See our paper, "Growth of Value? For active managers it can be both," November 2021. Chief Market Strategist Stephen Dover is joined by five of our equity teams—each by one of our independent investment managers—offering their views that the traditional growth or value distinction for stocks based on index construction could be misleading, including the role intangibles may play in valuation processes.
4. Source: Analysis by Franklin Templeton Investment Institute, Factset. As of 5/31/2021. The analysis is based on the constituents of the S&P 500 Information Technology Index and their effective tax rates for the last calendar year.
5. Source: The first four properties were described by Haskel, Westlake, Capitalism without capital, Princeton University Press, 2018.
6. Source: Source: Feng Gu & Baruch Lev (2017) Time to Change Your Investment Model, Financial Analysts Journal, 73:4, 23-33, DOI: 10.2469/faj.v73.n4.4
7. Source: Haskel, Westlake, Capitalism without capital, Princeton University Press, 2018.
8. Source: Sirk C., The history of Kaizen, April 2020.
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10. Ibid.
11. Source: FactSet. Traditional assets are defined as net tangible assets. Net tangible assets are calculated as total assets minus intangible assets (reported on the balance sheet), less total liabilities. Data as of 12/31/2021.
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15. Increasing popularity of special purpose acquisition companies (SPACs) plays important role in capital raising for private companies.
16. Source: Lilas Demmou, Irina Stefanescu and Axelle Arquié, Productivity growth and finance: the role of intangible assets—a sector level analysis, OECD Working Paper, May 2019
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19. There are also negative consequences of too strong quasi-monopolistic companies. We will consider them in the next sections of the report.
20. The higher ease of doing business index score, the more friendly regulations in each country.
21. Source: Franklin Templeton Investment Institute, Progress towards a better world, Interview J. Stiglitz, July 2021.
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23. Source: Citi Business Advisory Services, Industry Revolution Volume IV—The Convergence of the Crypto and Traditional Economies: How Investment Managers Can Deliver Value in a Decentralized "NewFi" World, June 2021.
24. Source: Haskel, Westlake, Capitalism without capital, Princeton University Press, 2018.
25. Source: Statista. Digital transformation refers to the adoption of digital technology to transform business processes and services from non-digital to digital. This encompasses, for example, moving data to the cloud, using technological devices and tools for communication and collaboration, and automating processes. There is no assurance that any forecast, estimate or projection will be realized.
26. Source: International Monetary Fund, World Economic Outlook Database, April 2021. Calculations based on world gross domestic product in current prices. There is no assurance that any forecast, estimate or projection will be realized.
27. Source: Citi Business Advisory Services, Industry Revolution Volume IV—The Convergence of the Crypto and Traditional Economies: How Investment Managers Can Deliver Value in a Decentralized "NewFi" World, June 2021.
28. Source: Feng Gu & Baruch Lev (2017) Time to Change Your Investment Model, Financial Analysts Journal, 73:4, 23–33, DOI: 10.2469/faj.v73.n4.4.
29. Source: Stephen Penman & Francesco Reggiani (2018) Fundamentals of Value versus Growth Investing and an Explanation for the Value Trap, Financial Analysts Journal, 74:4, 103–119, DOI: 10.2469/faj.v74.n4.6.
30. Source: See our most recent Franklin Templeton Thinks Equity Markets piece, "Growth or Value? For active managers it can be both," November 2021. In their "Modern Values" chapter, Christian Correa and Grace Hoefig, from Mutual Series, provide an interesting perspective on the role of intangible assets in their valuation process. Investing in value is not just about statistical cheapness or accounting value—it requires understanding economic value.
31. Source: Amitabh Dugar & Jacob Pozharny (2021): Equity Investing in the Age of Intangibles, Financial Analysts Journal, DOI: 10.1080/0015198X.2021.1874726.
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34. Ibid. This analysis is based on average excess returns over 2011–2015.
35. Source: Baruch Lev (2021), Don't be fooled by corporate losses, Financial Times.
36. Source: Emerging and developed markets were determined according to the MSCI classification as of August 31, 2021.
37. Mutual Series is an example of an investment manager which employs value process that considers all these important aspects.
38. Source: The MSCI USA Growth Index. Indexes are unmanaged, and one cannot invest directly in an index. They do not include fees, expenses or sales charges. Important data provider notices and terms available at www.franklintempletondatasources.com.
39. Source: The MSCI USA Value Index. Indexes are unmanaged, and one cannot invest directly in an index. They do not include fees, expenses or sales charges. Important data provider notices and terms available at www.franklintempletondatasources.com.
40. Source: FactSet. The threshold to determine cheaper or more expensive half of the index is defined using median P/E of the index members. As of 12/31/2020.

41. Source: Robert D. Arnott, Campbell R. Harvey, Vitali Kalesnik & Juhani T. Linnainmaa (2021) Reports of Value's Death May Be Greatly Exaggerated, Financial Analysts Journal, 77:1, 44–67, DOI: 10.1080/0015198X.2020.1842704. Data through June 2020.
42. This assertion is a result of a standard pricing formula, according to which the current price can be interpreted as forward earnings divided by the difference between required return and expected earnings growth. Consequently, earnings yield (reciprocal of price-to-earnings) is nothing other than the difference between the required return for the risk borne and the expected earnings growth. If we buy growth that is risky, we may expect that the effect of growth would increase the required return.
43. Source: Stephen Penman & Francesco Reggiani (2018) Fundamentals of Value versus Growth Investing and an Explanation for the Value Trap, Financial Analysts Journal, 74:4, 103–119, DOI: 10.2469/faj.v74.n4.6
44. It can happen through consumer base growth, sales growth, stable and strong operating margin, etc.
45. This is based on 2012–2020 average intangible intensity. Intangible intensity is estimated according to the following formula: (100% R&D expenses + 30% SG&A expenses)/Sales.
46. Source: FactSet. 38% in 2020 when advertising business was significantly affected by COVID-19.
47. Source: FactSet. As of 12/31/2020.
48. Source: McKinsey Institute, Getting tangible about intangibles. The analysis uses sector-level data from the INTAN-Invest database and the results of a new survey of more than 860 executives. Fastest growing companies are defined as companies in the top quartile for growth in gross value added in 2018–19. Low growers are companies in the bottom two quartiles. The research takes the broader definition of intangibles outlined by Jonathan Haskel and Stian Westlake (Capitalism without capital, Princeton University Press, 2018) that includes economic competencies such as advertising and brands, marketing research, organizational capital, and training. June 2021.
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50. Source: Characteristics of mutual fund portfolios: where are the value funds?, Martin Lettau, Sydney C. Ludvigson, Paulo Manoel, NBER, December 2018, Revised February 2021.
51. Source: MSCI Value Index leverages both book-to-price and earnings-to-price ratios, as well as dividend yield to classify stocks as value. Russell uses book-to-price to determine value. S&P lists book-to-price, earnings-to-price, and sales-to price as the value factors. Indexes are unmanaged, and one cannot invest directly in an index. They do not include fees, expenses or sales charges. Important data provider notices and terms available at www.franklintempletondatasources.com.
52. Source: Analysis based on 5-year rolling periods starting in January 1985 and ending in February 2021. For each of these periods, 2-factor Brinson attribution was calculated. According to the analysis, in 89% cases when MSCI USA Value outperforms the base index, the allocation effect plays prevailing role. Indexes are unmanaged, and one cannot invest directly in an index. They do not include fees, expenses or sales charges. Important data provider notices and terms available at www.franklintempletondatasources.com.
53. Source: See, "Did the Fourth Industrial Revolution Kill Mean Reversion? We Think So," September 2021. Matt Moberg and his team highlight three reasons we may be experiencing the demise of mean reversion investing and how we may be at the beginning of a period in which growth outperforms value.
54. Source: Tax Challenges Arising from Digitalisation—Economic Impact Assessment, OECD 2020.
55. Ibid.
56. Source: How Does FDI React to Corporate Taxation? Agnès Bénassy-Quéré, Lionel Fontagné and Amina Lahrèche-Révil, 2004.
57. Precise analysis of winners and losers will be possible when the final shape of the deal is known. It may be hard to avoid loopholes. The current OECD framework sets profitability threshold percentage to 10%. For example, Amazon with its business model that depresses profitability ratios (6.3% pre-tax margin in 2020) can be let off the hook.
58. Source: S&P Intelligence, Most tech firms would pay more taxes under proposed global minimum rate, Anna Akins, David DiMolfetta, 2021.
59. Ibid.
60. Ibid
61. Source: Howard Shelanski, Antitrust and deregulation, The Yale Law Journal, May 2018.
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63. Source: Alex Edmans, Does the Stock Market Fully Value Intangibles? Employee Satisfaction and Equity Prices, Journal of Financial Economics 101(3), 621–640, September 2011.
64. Source: Value Reporting Foundation, Welcome remarks from CEO, June 2021.
65. Source: Andrew Watson, T. Robert Zochowski, & Robert McGarvey, Constrained by Accounting: Examining How Current Accounting Practice is Constraining the Net Zero Transition, March 2021.
66. Source: Andrew Watson, T. Robert Zochowski, & Robert McGarvey, Constrained by Accounting: Examining How Current Accounting Practice is Constraining the Net Zero Transition, March 2021.
67. Source: Kim Catechis, Franklin Templeton Investment Institute, Deep Water Waves, August 2021.
68. Source: Amitabh Dugar & Jacob Pozharny (2021): Equity Investing in the Age of Intangibles, Financial Analysts Journal, DOI: 10.1080/0015198X.2021.1874726.
69. Source: Robert D. Arnott, Campbell R. Harvey, Vitali Kalesnik & Juhani T. Linnainmaa (2021) Reports of Value's Death May Be Greatly Exaggerated, Financial Analysts Journal, 77:1, 44-67, DOI: 10.1080/0015198X.2020.1842704.
70. Source: Gu, Feng and Lev, Baruch Itamar and Zhu, Chenqi, All Losses Are Not Alike: Real versus Accounting-Driven Reported Losses. NYU Stern School of Business Forthcoming, May 16, 2021.
71. Source: Peters, Ryan H. and Taylor, Lucian A., Intangible Capital and the Investment-q Relation. Journal of Financial Economics (JFE), Forthcoming, February 21, 2016.
72. In any year when a given country is non-existent in the index or there is no data for it, the country is excluded from the analysis. That's why a total number of countries taken into the calculation may differ in various years.

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