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A REALITY CHECK ON AI

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While computers have only been around since the 1950s, our fascination with artificial intelligence goes all the way back to early recorded human history. As a species, we can't help but want to project human qualities onto non-human things.

The first known robot was built in ancient Greece, an automatic maid that would pour wine when a cup was placed in its free hand, all powered by a clever system of tubes and gears interred in its body. At the 1939 New York World's Fair, Westinghouse Electric Corporation unveiled a mechanical man named Elektro that wowed audiences with its ability to walk, talk, and even distinguish between colors. And today, the most valuable technology companies in the world – Microsoft, Apple, Alphabet, and Amazon – have poured billions into digital assistants that respond to sophisticated voice commands and even anticipate our needs, as real assistants would.

It's hardly a surprise then that the release of ChatGPT – a chat interface that generates human-like responses with surprising accuracy – could spark so much excitement. Modern AI has created what the late investing legend Charlie Munger called a Lalapalooza effect – in this instance, the effect of combining our craving for robot intelligence with the animal spirits that drive markets up and down. AI-related stocks have soared and were the belle of the ball in 2023. CEOs have been quick to announce investments in AI, even while being unclear as to what ends. Economists, too, have been caught up in the mania with predictions that AI will drive huge leaps in labor productivity and economic output.

To be sure, we're excited for what AI can bring. New forms of automation could help overcome the worldwide problem of aging demographics and a shrinking workforce. In medicine, predictive models that simulate drug trials – traditionally a cumbersome and expensive process – could shorten the development timeline for cures to diseases like cancer and Alzheimer's. The possibilities feel endless, and one would be hard–pressed to think of an industry that won't eventually be touched by AI in some way.

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But the market's zeal has also brought the overuse of terms like "neural networks" and "singularity." It's as if to imply that AI has an all-knowing, all-powerful nature to it – a portrayal that feels misleading. In examining the current state of the technology while also considering the history of innovation cycles, we sense that the speed and magnitude of AI's impact could fall short of expectations. We also think that it's too early to declare who the winners and losers of AI will be. To make the case, we'll explore some economic realities that we believe have largely gone overlooked.

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Businesses have been using AI for decades, just under a different name. At the center of buzz terms like machine learning and natural language processing is a familiar discipline: statistics. We've long applied statistics to business problems to draw relationships between inputs (like advertising expenses) and outputs (like sales growth) to make better decisions. These models have evolved to power modern tools like traffic navigation software, credit card fraud detection,

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and voice-to-text typing, but even the most sophisticated algorithms require some degree of human validation to be useful. Take the example of image recognition software. By their nature, computers only see ones and zeroes and thus need human judgment to define the arrangement of pixels that qualifies an image to be a house, bird, or waterfall. In the same vein, AI projects require well-defined goals in order to deliver value to companies. Said another way, technology remains a supplement to and not a replacement for effective leadership. Yet many starry-eyed business leaders would have us believe that AI is capable of delivering immediately actionable insights if only one were willing to make the investment. It suggests to us a misplaced faith in AI, resulting in vague goals that risk dead-ending projects.

History tells us that technology takes longer to integrate than you would think.

Who could argue against innovation? It's brought us sanitation systems, leading-edge medicine, and the modern electrical grid. But when it comes to the implementation of new technology, inertia can be extremely difficult to overcome. Consider that it took decades for the telephone to reach just 50 percent household penetration because of challenges presented by cultural adoption and network investments, or that 3D printing has not – and may never – reach the heights that many predicted it would despite its costs falling dramatically.

While it's not difficult to imagine awesome use cases for AI, history tells us to expect obstacles to adoption. They could take the form of workers who are resistant to change, or businesses simply being unprepared to integrate AI as it requires large, robust data sets to draw meaningful conclusions – data that can take many years to collect and organize. We'd also expect regulators to make implementation more difficult, especially as AI raises questions around ethics and intellectual property rights.

Technology doesn't always pave a straight path to better productivity.

Consider for a moment how many indispensable tools are available to us now that didn't exist 30 years ago. The modern internet is an obvious one in how it's removed so much friction from everyday life. The internet has put answers to just about any question at our fingertips, created online marketplaces that connect buyers and sellers from all over the world, and given us back the time that we used to spend flipping through an Encyclopedia Britannica or charting a road trip using a Thomas Guide. You might be astonished to know then that productivity growth has been stuck around multi-decade lows.

One factor likely driving lackluster productivity growth is that there are unintended consequences to technology. For example, the invention of email promised to facilitate better communication and faster decision-making. But studies argue that email has weakened our ability to focus on a singular task for extended periods. In the same way, AI may bring uneven results. It could unleash a surge in fraud and identity theft, requiring expensive prevention efforts. It's also not difficult to imagine a world in which a fire hose of AI-generated entertainment options distracts us from better uses of our time.

It's far easier to spot a trend than to identify winners of a trend.

From automobiles to personal computers to web search, history is rife with examples of early movers that eventually fell behind the pack. At the center of AI mania has been GPUs, or graphics processing units, which are essential to AI models. But their standing within the industry is hardly secure. Though GPUs have an unbeatable architecture in these early days of AI model "training," these models will eventually need to be deployed at scale. It's in this later stage that more conventional CPUs (computer processing units)

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are purportedly more cost-effective than GPUs. Consider that in the 1990s, Sun Microsystems – a long-forgotten name – had the best server hardware that money could buy as its shares reached sky-high valuations. Eventually, work was distributed across x86 workstations that were less powerful but far cheaper, opening the door for competition in the open network era. This is all to say that while we think AI will continue to shift the business landscape, history tells us that it's too early to crown any champions.

AI is in a class of its own: awe-inspiring, but alarming in its potential; embraced by the most

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admired companies in the world, yet still very fuzzy as to what it can actually do. While we fully expect AI to bring changes to the workplace and what we consume, when the dust settles, history may show that it turned out to be another important installment in mankind's march toward progress – an achievement worth celebrating even if it isn't yet the stuff of science fiction.

A NEW HIGH IN GIFT ANNUITY RATES

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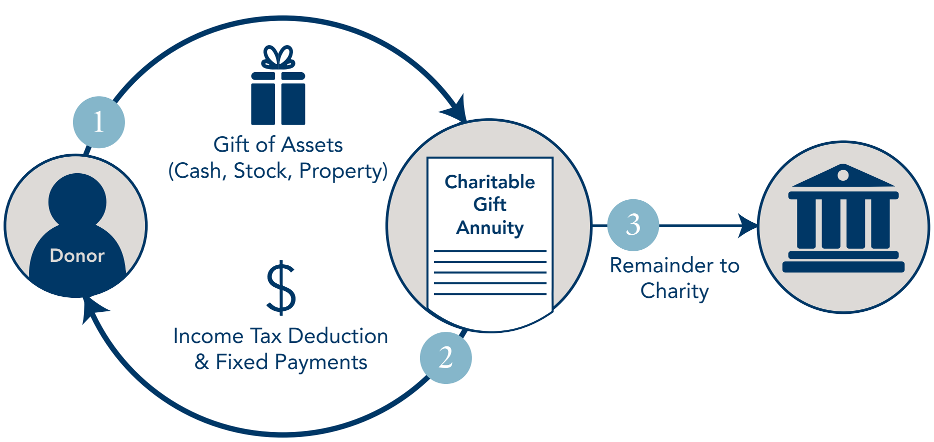
With payout rates higher than they have been in more than a decade, and possible interest rate cuts on the horizon, now is an opportune time to consider establishing a charitable gift annuity.

As we've said in previous articles, charitable gift annuities can be a great option for donors seeking an income stream. The mechanics are simple – give to a charity and receive a onetime federal income tax deduction and fixed lifetime payments. A charitable gift annuity is a contract under which a 501(c)(3) qualified public charity, in return for an irrevocable transfer of cash or other property, commits to make lifetime payments to the annuitant(s). There can be up to two annuitants, and payments can be made to them jointly or successively. The charity determines the payout amount at the time of the gift. Most charities use the payout rates recommended by the American Council on Gift Annuities (ACGA).

The key variables behind ACGA-recommended annuity payout rates are investment return assumptions and actuarial factors, resulting in payout rates increasing with annuitant age. The ACGA's suggested maximum charitable gift annuity rates are designed to provide a target gift for the charity at the conclusion of the contract equal to 50% of the funds contributed for the annuity, fulfilling the donor's charitable intent.

MECHANICS OF A CHARITABLE GIFT ANNUITY



The American Council on Gift Annuities has raised its recommended payout rates three times in the last 18 months – in July 2022, January 2023, and January 2024. The single life suggested maximum gift annuity rate for a 79-year-old now stands at 7.8%.

"With the Federal Reserve looking to start cutting interest rates, now could be a timely opportunity to lock in higher charitable gift annuity payout rates."

These rate increases reflect updates to the ACGA's gross investment return assumption, which most recently increased to 5.75% from 5.25%. This is in line with the Federal Reserve aggressively raising the federal funds rate (the interest rate that banks charge each other to borrow or lend excess reserves overnight, and which impacts short-term interest rates throughout the economy) from 0.25% in March 2022 to 5.50% in July 2023.

With the Federal Reserve looking to start cutting interest rates, now could be a timely

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opportunity to lock in higher charitable gift annuity payout rates. The 10-year U.S. Treasury yield most recently showed a decline and may be a harbinger of the Fed's upcoming interest rate activity.

Beyond the benefits of relatively higher charitable gift annuity rates, you can make a once-in-a-lifetime qualified charitable distribution of up to $53,000 (increased from $50,000 prior to January 2024) from your individual retirement account (IRA) to fund a gift annuity. The benefits are twofold. This tax-free withdrawal can go towards meeting the required minimum distribution for the donor's IRA and fund an income stream.

Your investment counselor would be happy to help you design a giving strategy that coordinates your philanthropic and financial goals.

ANNUAL ANNUITY PAYMENT BY GIFT DATE

Gift Annuity Amount	7/1/2020 to 6/30/2022	7/1/2022 to 12/31/2022	1/1/2023 to 12/31/2023	After 1/1/2024
$15,000	$930	$1,020	$1,110	$1,170
$25,000	$1,550	$1,700	$1,850	$1,950
$50,000	$3,100	$3,400	$3,700	$3,900
$100,000	$6,200	$6,800	$7,400	$7,800
$125,000	$7,750	$8,500	$9,250	$9,750
$150,000	$9,300	$10,200	$11,100	$11,700
$200,000	$12,400	$13,600	$14,800	$15,600

Note: ACGA recommend annual annuity payments for a single life 79-year-old.

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MESSAGE FROM THE CEO

Peter J. Boyle, CFA
Chief Executive Officer

After 25 years at Clifford Swan, Cindy Koivu retired on January 31, 2024. Cindy joined Clifford Swan in 1998 and served as an Equity Trader and Compliance Assistant. We wish Cindy a wonderful retirement with her husband Joey.

We've happily welcomed Megan Pantiskas and Sonia Sandoval to the firm. With her graphic design background, Megan provides additional depth to our marketing and communications team. Sonia joins our outstanding operations team as a Trading and Operations Specialist. Sonia has worked closely with Cindy over the past three months to ensure a seamless transition of the firm's trading procedures following Cindy's well-earned retirement.

We are very pleased to announce that Dan Mintz has been named Director of Equity Research. Dan joined the firm in 2017 as an Equity Analyst and has become an integral part of our research efforts.

Please join us in thanking Cindy for her dedicated service, welcoming Megan and Sonia, and congratulating Dan on his new role.