



COMPANIES, INC.
Discovering Tomorrow's Blue Chips Today™



SPECIAL REPORT

**Global Overview: The Milken Institute
Global Conference 2018**

Navigating a World in Transition

By: Jim Altenbach, CFA

small-cap
research
media
IR

Navigating a World in Transition

by Jim Altenbach, CFA

In May of this year, over 4,500 attendees and 700 thought-provoking panelists from around the world gathered in Los Angeles, California, for the 21th annual Milken Institute Global Conference. Speakers included Nobel Prize winners, top industry leaders, scientists and heads of state, including U.S. Treasury Secretary Steve Mnuchin, U.S. Commerce Secretary Wilbur Ross, Steve Ballmer, Tony Blair, and other luminaries. Almost 200 panel sessions offered a global overview of pressing questions facing investors and decision-makers. There were numerous panels on technologies that are fundamentally changing society, business, and investing. We present topics of interest to those with an eye toward growth, progress, and innovation.



A Conversation with Steven Mnuchin, Secretary, U.S. Department of the Treasury

Global Conference kicked off with an onstage conversation between U.S. Treasury Secretary Steven Mnuchin and Fox Business News anchor Maria Bartiromo.

Asked about the economy, Mnuchin stressed “the President’s economic agenda is the most important agenda, focused on creating sustained 3% or higher GDP growth,” of which the tax plan was a major component.

“We have the lowest small business rates since the 1930s and changing from a worldwide system to a territorial system. A lot of money now being invested in the US,” adding later the administration seeks to make the middle income tax cuts permanent. For a discussion of the then pending tax policy, see author’s May 2017 Real Clear Markets Global Conference piece.¹

Regarding spending increases Mnuchin explained “across the board,” as people could automatically expense capital investment. “We’re beginning to see wages increase.”

Mnuchin added: “We’re at historically low levels of unemployment,” but stressed the Administration hopes “the participation rate goes up. A lot of people have left the workforce. They’re no longer looking for jobs,” and as such aren’t being counted.

Mnuchin noted: “having proper job training programs [for specific jobs] are important as the economy changes.” This effort can re-invigorate workers displaced by global trade or technology, to “come back into the workforce.” For perspective on the participation rate, see author’s Global Conference 2017 RedChip Special Report.²

Trade Jitters? Maybe the Stock Market Jitters, but not the Economy **A Conversation With Wilbur L. Ross, Jr., Secretary, U.S. Dept. of Commerce**

On Tuesday, U.S. Commerce Secretary Wilbur Ross spoke on stage with Andy Serwer, Editor in Chief of Yahoo Finance, about trade policy.

Trade worries is one big thing holding back financial markets in an otherwise robust economy, with investors worried that tit-for-tat tariffs will blow up into an outright trade war. Ross is upbeat about President Trump’s trade agenda. But he’s not promising a free lunch. “If you don’t show you’re willing to absorb a little bit of pain, how on earth are you going to get things changed?”

This author points out the prescient Dave Ranson, Director of Research HCWE wrote on April 24th, 2018: “It’s doubtful that the economy will be seriously affected by current salvos of tariffs and counter-tariffs. Even if US and Chinese leaders are NOT posturing and counter-posturing, it’s easy to underestimate the complexities and resilience of international trade.” Only an across the board tax can have drastic impact, something not in consideration.³

What do the markets tell us?

On October 22, 2018, Ranson wrote “U.S. growth has accelerated from less than two percent three years ago to more than four percent currently. Yet inflation and volatility have stayed down... This state of affairs is sustainable.” Since the 22nd, the spreads widened a bit on a percentage basis, but not materially.

The administration's goal of sustained 3% real GDP growth objective is very doable. Spreads and gold are favorable, so as of 12/2/18 portent this trend is still in persistent. Second quarter 2018 real GDP grew 4.2%, and 3.5% third quarter 2018 ("advance estimate" BEA).

Trade and Tariffs:

Ross discussed the steel and aluminum tariffs on Canada, Mexico, and the EU. He said this was done for national security (232s). However, some critics say the motive is likely politically driven to please the President's steel producing regions.

NAFTA, TPP, Multilateral Trade Pacts, and Trade Negotiations:

Serwer noted the President's desire to have bilateral negotiations (verses conversations with multiple countries.) Ross replied, "As a legal and practical matter, the EU is the trade negotiator for all of the 20 odd countries within the European Union. There's no ability to have separate discussions," with each country.

Regarding getting back into TransPacific Partnership (TPP), Ross observed "when the President dropped out of the TPP," it was already dead, noting neither Clinton (if President), nor the Congress had the "political appetite."

Ross noted: "the President has an underlying thesis: When you're the one with the big trade deficit, and you're negotiating with the guy with the big trade surplus, he has more to lose than you do."

Ross discussed NAFTA, noting: "...like any conventional trade negotiation, they started out with the easier topics to deal with, in the hope of building some momentum, getting people invested in the process." For a comprehensive overview of the Trump trade policy, see this author's June 12, 2018 Real Clear Markets piece.⁴

[Update: On 10/1/18, President Trump lauded a new trade accord with Canada and Mexico. Called the U.S.-Mexico-Canada Agreement (USMCA) [USMCA was signed on 11/30/18], it will still need Congressional approval, expected in early 2019.]

For many business groups, the USMCA left one major issue unresolved: whether Canada and Mexico would be exempted from the White House's steel and aluminum tariffs.

China:

With China, the U.S. is having bilateral talks free of constraint of other countries.

Chinese tariffs only represent three tenths of 1% of GDP, which Ross characterizes as "hardly life threatening." Would escalation present huge risks? Ross says "it's a question of choosing your risks." [Not likely; See Ranson's argument above.]

Serwer asked Ross about the theory that we have a trade deficit with China because the Chinese consumers save more, Ross responded: "... the reason the Chinese population saves so much is, they have very little...social safety network out there. They need to save more than Americans do. We have a lot of saving that's been substituted for by various government programs."

Prompted to address Chinese businesses who ask, "Why doesn't the United States just go through the normal mechanisms of the WTO?" Ross replied: "The WTO is an obsolete set of rules...that have been created to benefit exporting countries to the detriment of importing countries. There is a need for an impartial arbiter of trade rules."

[Update: On 12/2/18 at the G20 Summit, the U.S. and China agreed on a 90 day truce to work out their differences. Amazingly, a few days later, both sides give conflicting accounts as to what was agreed.]

Panel: Navigating an Uncertain World with Tony Blair and David Petraeus

Milken Institute Chairman, Michael Milken opened: "Bipartisan foundations of international order emerged after World War II...The second half of the 20th Century witnessed the longest stretch without great power war in centuries. This was the most dramatic expansion of human prosperity in history and the spread of democracy around the world. To borrow a phrase, 'This is the world that America made.'"

Milken then asked: "General Petraeus, what is the world we're seeing in the 21st century and how does it relate to this very important paper you wrote comparing the first half of the 20th century and the last half of the 20th century?"

General (Ret) David H. Petraeus, Chairman, KKR Global Institute, and Former Director of the CIA responded: "the rules-based international order that I wrote about, which came about in the wake of a 50 year period that had two World Wars and the Great Depression, is now under more stress and strain than at any time since the end of the Cold War. There's a more complex array of challenges, and indeed threats out there that face us, our allies, and partners around the world. And most significantly, we are once again in an era of great power rivalries. Most of that latter development is a result of the rise, the dramatic and extraordinary and unprecedented, growth of China." There are "now two powers that are indeed the strategic rivals of each other." They are interestingly top trading partners, as well.

Petraeus noted that Graham Allison, professor at Harvard, wrote about this in a book titled "Destined for War: Can America and China Escape Thucydides's Trap?"

Petraeus observed "It's the Thucydides' Trap because this is a chronicler of the Peloponnesian War. Thucydides writes that you had Sparta here, you had Athens as a rising power, US and China, and inevitably they went to war. Graham Allison studies 16 other cases in more recent centuries, 12 times rising power and established power go to war. The challenge now is to manage this new strategic rivalry." There's also big resurgence of Russia with Putin, as well as the rise of India.

Milken turned to China's "One Belt One Road." This is an initiative to travel, not just on a road, but in the sea, et cetera, and unite so many nations in a common trading. It is similar to the old Silk Road that used to exist. The Belt Road is attempting to link 65 countries, 4.4 billion people, and 30% of the world's GDP.

Tony Blair, Former Prime Minister, Great Britain and Northern Ireland, responded the “One Belt One Road, Initiative is hugely important. It's a major infrastructure play right across Asia, Central Asia, and other parts of the world.” He agreed with Petraeus stating: China is a “huge population country and will become a major political, economic, and military power as a result.”

He concluded his answer: “the question is how do we deal with it and how do we deal with it in a way which encourages those forces within China to go towards partnership and cooperation rather than confrontation and competition. We've got to understand today that the West is not just being contested economically, because of the rise of China, but I think in a broader sense, our political model, in a way, is being contested.”

Petraeus interjected: “there is not just great power rivalry; it's a rivalry of systems.” In 1989, Francis Fukuyama authored a famous article, titled "The End of History." Petraeus summarized Fukuyama's thesis: “with the end of the Cold War, the wall comes down, etc.; what happened is that history, which Fukuyama defined as...this Hegelian dialectic, this competition of ideas between the Soviet system - the Eastern Communist system - and that of the West led by the U.S. That competition, that debate is ended. That history is over. Well, history is back. There is a new dialectic on going. It's a new competition of ideas between the system that is represented by a much more authoritarian government, which allows a capitalist economy to flourish within certain bounds, against the system of the U.S. and the West,” with the liberties and freedoms that we all cherish.

Petraeus concluded: “the fact is, this other system is doing really quite extraordinarily well.”

WATCH VIDEO

Panel: A Conversation with Steve Ballmer

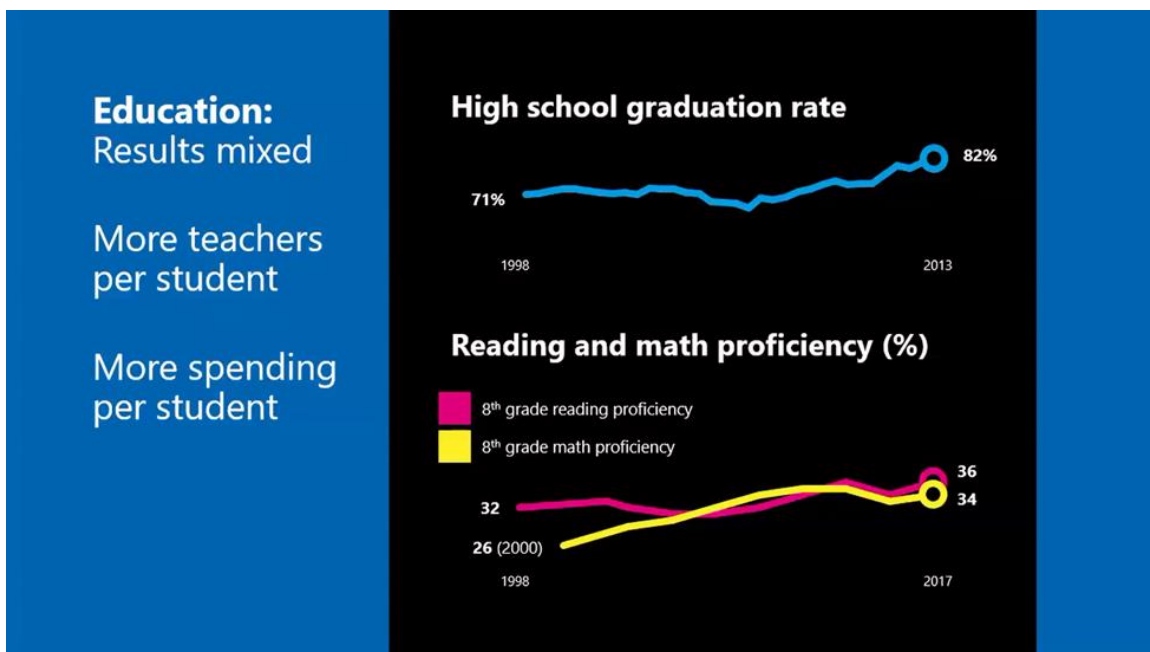
Since his retirement in 2014 as CEO of Microsoft, Steve Ballmer and his wife Connie have become philanthropists, launching economic mobility and anti-poverty programs across the U.S. Ballmer talked about education with Milken Institute Chairman Michael Milken.

Ballmer created a USA Facts, to teach people where our budget dollars go. His

StriveTogether program focuses “on giving kids in disadvantaged circumstances a better opportunity to move up economically.”

Ballmer has been drilling into the numbers and looked at details such as teacher quality, stability in the homes of children, the availability of food, safety in the neighborhoods, housing conditions, and more.

Milken interjected that the high school graduation rate in the U.S. has gone up from 71 percent in 1998 to 82 percent in 2013, but reading and math proficiency has remained fairly flat (See figure 1).



(Figure 1) Courtesy: Milken Institute

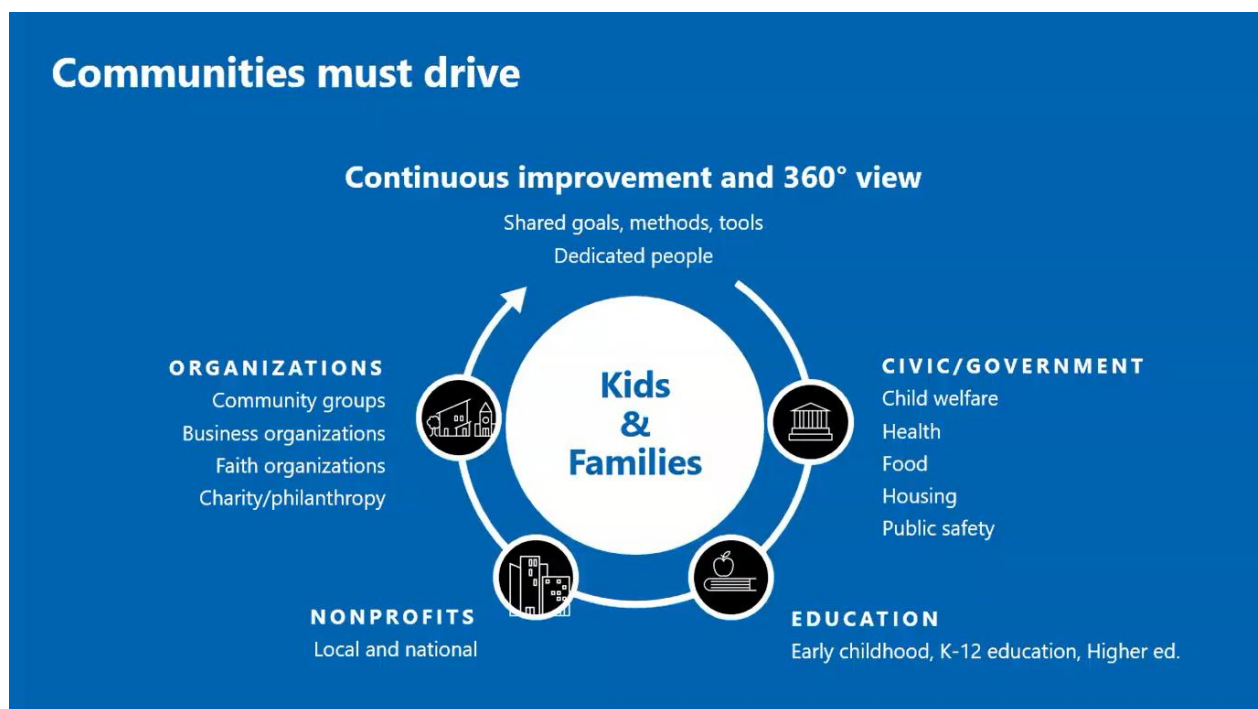
“We lowered standards to get there,” Milken said. Ballmer said he hoped to make an impact in early childhood education.

On education results: Ballmer says “one’s ability to get an education is not all about the teachers. It’s often times about the level of function and stability in a kid’s life. Is there enough food? Is the child late for school because they have to watch their younger brother or sister? Is it safe to walk to school? Did they stay in a car or in a house last

night?” He continued: “Government provides the funding, but it requires the community to come together ... to take on that issue, to set some goals, to measure collectively.”

“Otherwise, we’ll keep putting more money into education as we,” did in the past. “You look at education results [since year 1980]... They used to say it’s class size. We used to have a student teacher ratio of 19 to 1, now it’s 16 to 1. It’s not student teacher ratio. We’re spending more per student inflation adjusted. It was 8,000 in 1980. It’s above 11,000 today. It can’t be spending.”

Ballmer explained he looked at the kids who grow up most disadvantaged and asked ‘what do they need besides education.’



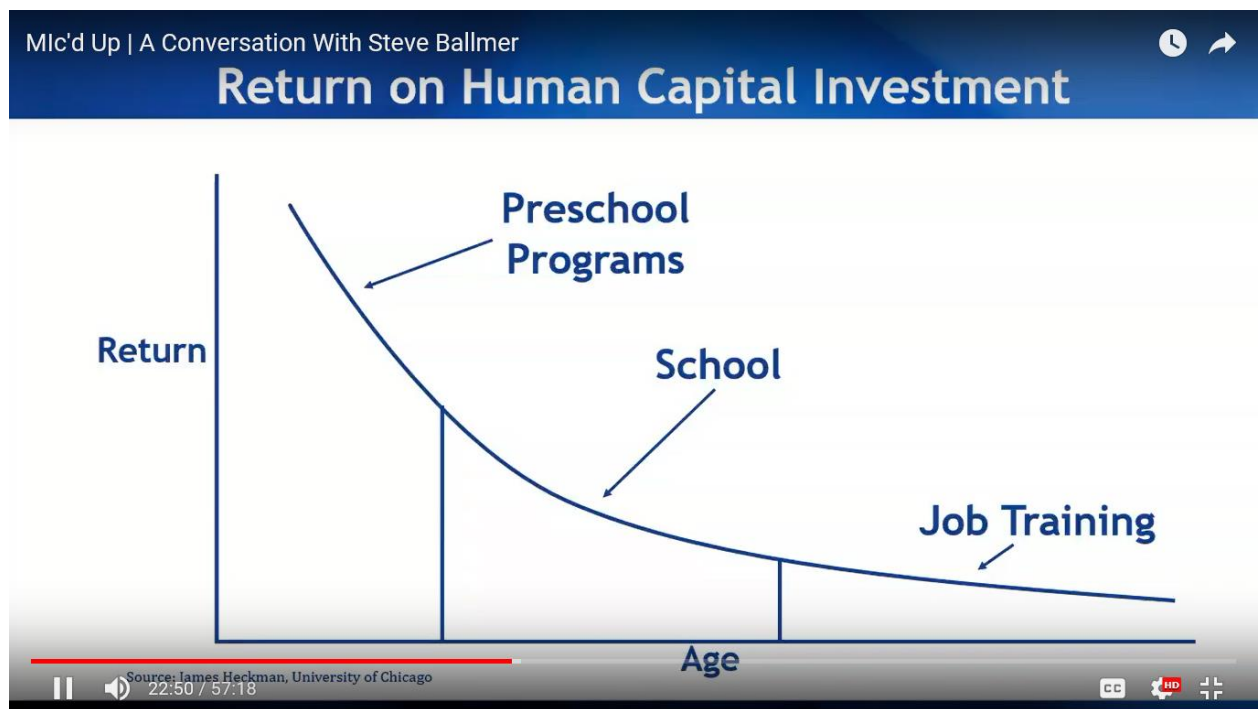
(Figure 2) Courtesy: Milken Institute

Ballmer then described a “community-based partnership. On the right, government has to be involved in child welfare, health, food, housing, public safety (*see figure 2 above*).”

Regarding school systems: "Early childhood, K-12, higher education. Early childhood education is fundamentally important because if you lose a kid by kindergarten, you might lose the kid completely in terms of proficiency," he says.

Also, he explained: "The not-for-profits have a key role whether it's after school programs [in] communities and schools, which helps orchestrate additional resources coming into the school," as do "faith organizations, business community, and philanthropy."

How do you get people to work together in partnership? One of his objectives is to convene such a partnership where people agree on some goals and really get after it. Milken showed a chart from the University of Chicago.



(Figure 3) Courtesy: Milken Institute

“If you’re going to invest one dollar in education, you get the highest return when a child is young,” Milken said, showing *figure 3 (above)*, while sharing a quote: “By age 5, it is possible to predict with depressing accuracy who will complete high school and who will won’t.” James Heckman – Nobel Prize Economics

Milken said: “40 years ago, I visited schools in China. They spend 10 times as much on early childhood education per student as they did on college. In the United States, we are spending 10 times as much on college as we were on early childhood education (see figure 4).”

Mic'd Up | A Conversation With Steve Ballmer

Spending on Early-Childhood and Post-Secondary Education

	Early Childhood Education	Post-Secondary Education
U.S.	\$3,900	\$14,200
China	\$6,000 - \$10,000	\$1,200 - \$1,500

Source: Knowledge Universe Education

23:28 / 57:18

(Figure 4) Courtesy: Milken Institute

Milken explained: “when we look at that rate of return [see Heckman graph –figure 3] you see it is so difficult to catch up. So on one dollar at 5 [years old], takes 3 dollars at

WATCH VIDEO

15, which takes 5 dollars at 22, and takes 10 dollars at 30 to achieve the same result.” He continued: We often ask what it took to get that child successful? But we seldom ask “what did it take to get that child to school verses another environment,” agreeing with Ballmer’s earlier analysis: “1) What is going on in the home, what happened before they hit school, 2) the importance of early investment continuing.”

Ballmer observed: “Let’s say we wanted to take every three and four year old, i.e. two grades before kindergarten, and enable for everybody, to have universal access to two grades pre-K.” That can be done for 70 to 90 billion per year, up to 140 billion with assistance for mothers. He noted: “we spend 5.7 Trillion, but only 700 billion on K-12 education,” and stressed “we just need more money in pre-K and earlier.”

Panel: View From the Top: Navigating a World in Transition

In the fierce, digitally-stoked competition of today's corporate climate, leaders who thrive must be visionaries—able to foresee how their companies, our societies, and the world can best seize the opportunities.

Asked about the shift in its workforce, David Solomon, President (and now CEO), Goldman Sachs, offered a statistic to illustrate the dynamics of change: About 15 to 20 years ago, Goldman had about 500 people making markets in stocks every day; now it is three—with technology doing the rest. Another sign of change: Almost a quarter, or 9,000, of its employees are engineers. However, these shifts come with risks. Solomon noted that machine-based trading affects market structures: “Before liquidity was driven by capital; now speed creates liquidity. And there are risks around that, especially around periods of stress.”

Regarding privacy and regulation, John Thompson, chairman of Microsoft, stressed that “privacy was the most significant issue for the economy.” He advocated creating a digital Geneva Convention to contend with the need for cooperation across countries on this front.

EBay CEO Devin Wenig made the case for companies staying ahead of calls for regulation. “It’s not good for society or shareholders if [companies are dragged] kicking and screaming into regulation. It’s important there is a public/private partnership that brings transparency to how data is used.”

Wenig cited the retail sector as a cautionary tale of those who do not take technological change seriously. It's crucial for companies to experiment with artificial intelligence and machine learning, regardless of their industry, he said.

WATCH VIDEO

Panel: Promoting Prosperity in a World in Transition

Jim Yong Kim, President, World Bank Group said that social unrest will spread without a focus on meeting basic human needs and taking a businesslike approach to philanthropy. The critique comes as a powerful new player, China, forges a major role in international development and as the World Bank prepares a ranking of nations to reflect investments in people.

One in 10 people around the world live in extreme poverty, which the World Bank defines as earning less than \$1.90 a day. Nearly 6 million children under the age of 5 die every year, many from preventable diseases like pneumonia, diarrhea or malaria.

"Many people will find themselves undereducated and without the skills to be able to compete in the economy of the future," he said, "and so many countries are going to go down the path of fragility, conflict, violence, and then of course, extremism and migration."

WATCH VIDEO

Other Panels/Speakers:

Regulation in Finance & Dodd-Frank:

During a panel discussion of financial services policymakers, CFTC Chairman J. Christopher Giancarlo pushed back strongly on the notion that the current roster of financial regulators is embarking on de-regulation. Giancarlo said he and the CFTC are instead trying to "balance" regulations after a period of time when there was regulatory overreach that harmed the overall economy.

Avoiding a trade war: Scott Minerd, Chairman of Guggenheim Investments, explained the reason the U.S. has a structural trade deficit is because the world uses the dollar as a reserve currency, "which enhances our quality of life, elevates the stock market, and reduces interest rates. If we get to no trade imbalance, we are saying we don't want to be a reserve currency for the world." And that, he warned, would have major implications: "We will ultimately become a second-rate power and cede our military superiority."⁵

China was a hot topic this year: On a China panel, Wei Sun Christianson, co-CEO of Morgan Stanley Asia-Pacific, played down the back and forth on trade, saying it was likely political posturing. "It's not a trade war. Both sides are interdependent," she said. She expects leaders on

both sides to find a way to negotiate. If 25% tariffs go through, Christianson says, the impact on economic growth would be just 0.1% for both countries—easily absorbable. “The real issue is if the escalation of trade tensions destroys confidence and heightens fears investors have and sends the market down,” she says.

Global Risk, Energy, Africa, MENA, and Technology:

Panel: Global Risk: Disruption Without End?

While some signs suggest that markets are finally adjusting to chaotic politics and rising global tensions, the worse may still be to come.

China was a big worry, and the battle may be more than trade. It may be over ideology. The emerging Chinese model of authoritarian capitalism could challenge the West on at least three commercial fronts: intellectual property rights, contract law and capital controls. On intellectual property rights, the Trump administration is demanding Chinese reforms, so as to protect American tech firms, but there’s no sign of give. Carlos Gutierrez, former Secretary of Commerce Secretary under George W. Bush, observed “China’s ambition to be a global tech leader by the end of the next decade is greater than any desire to be part of a U.S.-shaped trading order. We’re not going to make China look like the U.S.” A test case is emerging in China’s massive Belt and Road Initiative, which aims to cover 68 countries and 60% of the world’s projected GDP.

How will member countries — and participating companies and investors — resolve disputes over contracts or property rights? If China succeeds in making the BRI the biggest commercial initiative in history, it may have to come up with its own system of commercial law that works for China and for the world (See Blair and Petraeus above).

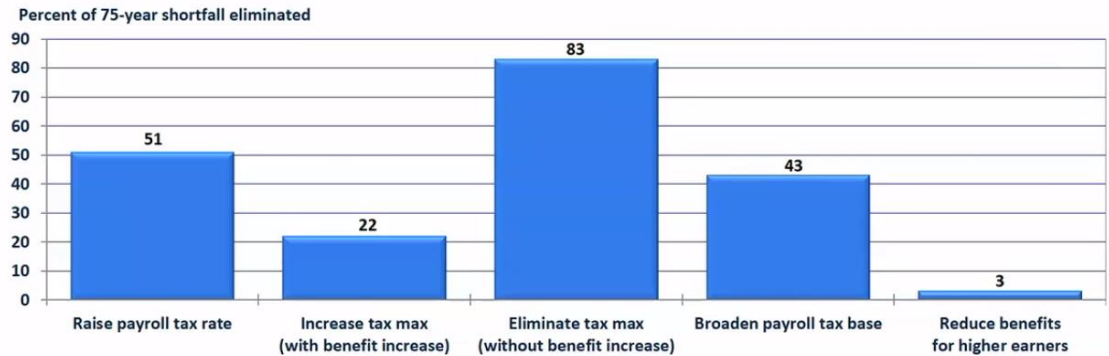
WATCH VIDEO

Panel: Entitlements: A Collision Course With Fiscal Reality

Another major threat is the Federal Debt: On another panel, Maya MacGuineas, President of the Committee for a Responsible Federal Budget and Head of the Campaign to Fix the Debt observed: “The federal budget’s so-called “entitlements” are projected to grow from \$2.5 trillion in 2017 to \$4.2 trillion in 2027, taking the fiscal imbalance with it. A decade out, Washington’s debt could reach \$27 trillion.” She stressed “a new Congress will have to consider harsh options such as raising the retirement age for government benefits,” adding she’s not sure there will ever be enough bipartisan cooperation to make any change lasting. Social Security is a major challenge (See figure 5 below).



Options to Reduce Social Security Shortfall



Note: The 75-year shortfall equals 1 percent of GDP. Bars are not additive due to interaction effects.

The options (from left to right) are (1) to increase the payroll tax rate by 1 percentage point until it reaches 14.4 percent combined; (2) to increase the taxable maximum to cover 90 percent of aggregate earnings; (3) to "scrap the cap" and provide no additional benefits; (4) to cover employer-sponsored health insurance and cafeteria plans; and (5) to gradually reduce the 15 percent PIA factor.

#MIGlobal

Source: Social Security Administration.



MILKEN INSTITUTE

(Figure 5: Courtesy: Milken Institute)

WATCH VIDEO

Panel: Energy Markets: The Year Ahead for Oil, Gas and Renewables

The recent surge in world gas prices speaks to a strong global economy and a lack of new energy supplies. The U.S. is the only country increasing its output in a big way, and it's not nearly enough to replace the 15 million barrels of daily production that's expected to be retired in the next five years. The supply constraints will worsen if Venezuelan turmoil continues and the U.S. pushes for sanctions on Iran. As for demand, BP projects that by 2040, the number of kilometers driven globally will double.

"It's hard to see peak demand in the next 30 years," explained Joshua Harris, cofounder of Apollo Asset Management. As for the prospects of electric vehicles, the most bullish projections see the global e-fleet growing from 2 million today to 1 billion in 2040. However, the world might still need as many gas-burning vehicles as there are now. Add trucks, air fleets, and maritime ships, and the world's carbon consumption will be hard to curtail. Renewables aren't growing fast enough to replace fossil fuels, even with the projected decline of coal, which in the developing world is being replaced by natural gas. Conclusion: Lower carbon, but not no carbon.

WATCH VIDEO

Panel: Cryptocurrencies: Irrational Exuberance or Brave New World?

After peaking near \$20,000 at the end of December 2017, Bitcoin's price collapsed by more than 50 percent at the start of 2018. Other cryptocurrencies have experienced similar volatility. Are these the signs of a bubble ready to burst, or are we witnessing a paradigm shift in how companies raise capital?

"The entire industry is becoming increasingly centralized. The top three miners control 55% of the mining. The oligopoly of the miner is becoming bigger due to technological [and financial] reasons.] All this talk of decentralization is just bullshit," said Nouriel Roubini, Professor of Economics, New York University. He adds, "once you get to 51%, ...the system collapses."

Alex Mashinsky, CEO, Celsius Network, and a developer of the Voice over Internet Protocol (VOIP) standard, responded it is indeed decentralized like VOIP explaining it is Money over Internet Protocol (MOIP).

Roubini retorted: "decentralized exchanges and centralized miners." And regarding Bitcoin and Ethereum changing the world, Roubini, argues digital coins aren't currencies because they aren't a store of value, adding they are "worthless" for payments because Bitcoin and Ethereum's blockchain technology can't handle nearly the same volume of transactions as Visa Inc.

WATCH VIDEO

Panel: Blockchain: It's Not Just About the Money

Beyond the hype of cryptocurrencies and finance, blockchain is a transformative technology that records, updates, and shares data in a way that is transparent and verifiable without requiring a central counterparty to "run the system."

Asked about the potential of blockchain, Patrick Moynihan, Chairman of Blockchain Industries, Inc. explained: There's a lot of money chasing everything, but "to understand blockchain and cryptocurrency,...underneath there's a deep powerful social movement. And, in terms of the consensus algorithm, whether it's proof of work, or proof of stake, or proof of time and space, I like to say that the proof of value occurs in the actual token cycle itself."

Moynihan expands: "the market participants are actually adding value to that network and growing it by adding that value back in. That's a completely new paradigm in terms of capital formation and where the value accrues in the new model."

Moynihan concluded "as people get more engaged with these different systems, these systems can grow and effectively just grow themselves to be bigger and bigger based on that value of the participants offer into that network." This author points out this is similar to Gilder's Law.

Other panelists shared their ways to use Blockchain for everything from vote counting, to taxes, donations, and even energy grids.

WATCH VIDEO

The Final Frontier: Space as a Business Opportunity

After years of cooperation between NASA and the commercial space industry, so-called "space angels" and "astropreneurs" are taking big steps forward in next-gen projects—from shoebox-sized satellites that will monitor the world's supply chains to a fleet of dumpsters for collecting space trash. What are the opportunities and obstacles to this commercial, scientific, and cultural frontier?

The session moderator, Jane Wells, CNBC's special correspondent, opened: "Wall Street estimates that the space business right now is worth \$350 billion. Merrill Lynch predicts that within 30 years it will be worth nearly \$3 trillion."

International Space Station

Wells asked: What are some of the benefits derived from the International Space Station?

Jennifer Lopez, Commercial Innovation Technology Lead, CASIS, at the Center for Advancement of Science and Space which supports research on the space station for things that could be commercialized responded:

"Space agencies from Canada, Japan, Russia, US and 11 countries in Europe all came together to build the International Space Station (**see figure 6 and 7** below) to demonstrate the convergence of science, technology, human innovation, and research breakthroughs that are just not possible here on Earth. We have learned that radiation, bone loss and muscle wasting are the most significant challenges of living in space -- The crew is exercising at least 2 hours per day -- they can lose up to 30% of bone strength, it's equivalent to a 70-year-old osteoporotic woman here on Earth." She added they [NASA] are working with a number of pharma biotech companies looking at antimyostatin antibodies, novel osteoporosis therapeutics, and trying to see how we can drive some of these areas that will impact long-duration spaceflight and us here on Earth.



(Figure 6: Courtesy: Milken Institute)



(Figure 7: Courtesy: Milken Institute)

WATCH VIDEO

Mars vs the Moon

Wells asked: What do you think about when we're going to get to Mars? Elon Musk says he's going to have cargo missions to Mars perhaps as early as 2022.

Phil McAlister, the Director of Commercial Spaceflight development for NASA responded: "We're focused on a plan and architecture to get humans to Mars in the mid 2030's, -- and are refocusing our plans to go back to the lunar surface of the Moon with people. "

Steve Isakowitz, CEO of the Aerospace Corporation commented : "You really want to start with robots to Mars as we're doing right now -- NASA's launching a mission to Mars called Insight [successfully launched on 5/5/18] where they're going to learn about the seismic activity on Mars."

Will Marshall, CEO and cofounder of Planet Labs (formerly with NASA) interjected: "It's going to be a settlement phase on the Moon first. It only takes a day and a half to get there rather than eight months for Mars, and it's a hundred times easier. --Most people thought the Moon was dry but it turns out there's lots of water on the poles of the moon in the form of ice."

"The SpaceX Falcon Heavy rocket and a new rocket from Blue Origin will enable us to get humans to the Moon and back," he says.

Investment Opportunities

Wells asked, **where** is the money being made and where can you invest?

Chad Anderson, CEO, Space Angels, which invests in space manufacturing and lunar transportation, responded: "There's so much opportunity right now in space. We invest across the spectrum in space -- We've invested in the leading provider of commercial space station services called Nano Racks. They are making money today. They have a spring loaded canon that kicks satellites out of the Space Station.

There is a small entrepreneurial team spun out of Carnegie Mellon, called Astrobotic, that have developed a small lander and they're launching on a ULA rocket in a year and a half -- they've done a \$2.5 million round so far --they're working with NASA and they're getting grants and funding.

Anderson pointed out: "There are two common misconceptions in space. That normally space companies take a lot of money to fund to get up and going, and that there's no real exit. If you look at the data, space companies need about the same as general tech companies." He added: "80% of the companies in our portfolio are generating revenue and have proven technology.

The average exit in space is **nine times higher** than the average in non-space. Since 2009 there were \$26 billion invested in 160 exits.”

Steve Isakowitz expanded on Chad Anderson’s comments: “These kinds of satellites are not a billion dollars -- In the year 2000 we launched a satellite that I actually have in my pocket. Yes, it's a satellite in the pocket. This was a picosat -- kids at universities can go to Silicon Valley, raise a million dollars, build the satellite, launch it and they're in business. Now everyone's talking about getting in with these CubeSat’s and these very small satellites. A company called One Web wants to put up a thousand of these small satellites.”

Jane Wells to Will Marshall: Planet Labs has the greatest number of satellites up there--- You're finding a great market in Earth mapping -- I know you just learned before you walked in here that Humboldt County Supervisors would like to use your Earth observation satellites to monitor the cannabis industry; a potential hot new market for you. How many satellites?

Will Marshall responded: “We have just over 200 satellites in orbit, a fleet of about 190 medium resolution satellites and 13 high resolution satellites. We sell our data to big mapping companies and governments and help with disaster relief.”

Space Traffic Issue

Lastly, Wells asked: How do we address the Space traffic issue?

Isakowitz explained: “There have been 40,000 objects put into space. 20,000 of them are still there; only 2,000 of them are active. Last year there were 100 times where satellites had to move away for fear that they would slam into each other. And it has happened. A few years ago two satellites, a Russian and a US satellite did in fact slam into each other.”

Marshall expanded on Isakowitz comments: “ We [NASA] came up with a scheme using ground-based lasers, not to blow up the pieces in space, but just to nudge them so you can predict the positions of all these thousands of pieces and if they're going to collide.”

WATCH VIDEO

Panel: Things That Will Blow Your Mind

What has become a popular tradition for Global Conference, a panel of visionaries and entrepreneurs will let you in on their breakthrough technologies.

Hyunjun Park, co-founder of Catalog, explained the company encodes digital information inside synthetic DNA. Park explained the problem Catalog is tackling: The world produces a mind-

boggling amount of data, and current storage technology requires an unsustainable amount of land, energy, and risk. Catalog seeks to record it to nature's original thumb drive: DNA, the minuscule molecules that contain the whole of our genetic code. "This is kind of similar to hard drives in that the linear sequence of the magnetic polarization, the orientation of them stores the bit values," says Park.

Vivienne Ming, co-founder of Socos Labs, stated her company applies AI to enhance human performance, education, data analysis, and augmented human intelligence. She explained human intelligence augmentation: "Imagine you had a little app on your phone where you could say, 'Right now I really want to be attentive and decrease the emotion, and I want to be focused and analytic here. But later I'm, going to see The Avengers. I want to up the emotion, and push down the rationality'."

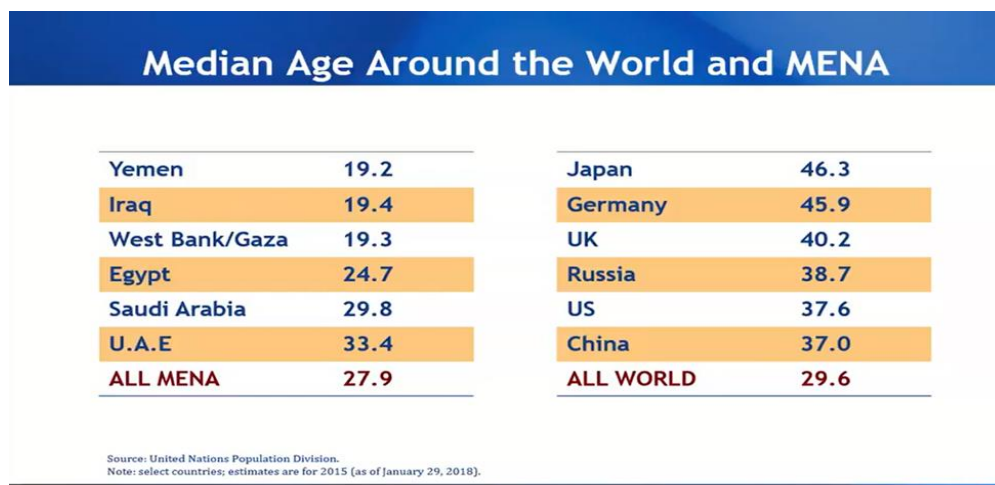
WATCH VIDEO

Panel: "The World in Transition | Africa and the Middle East: The Cradle of Civilization Once Again?"

Emerging and frontier markets, such as Africa and the Middle East, have become a collective bellwether of global growth and social change.

In the last keynote panel of Global Conference 2018, Milken Institute chairman Michael Milken opened by explaining: "Africa and the Middle East are in enormous transition; Saudi Arabia having 70% of its population below the age of 30 (see Figure 8). Natural resources cannot be counted on while the need for education and jobs is on the high."

Figure 8: Median age in MENA region and other countries



Source: United Nations Population Division

Milken added, "if we do not create opportunities in Africa and the Middle East now, they will not be there when the population in these regions grow bigger, which by the end of the century, quite possibly will be the largest population growth on our planet. This large population in these two

regions will be looking to move elsewhere and this movement will disrupt many cultures and cause many issues.”

Growth rates in the Middle East and Africa have been and will be substantially higher than in the developed nations. Africa went from a 2% mobile phone penetration in 2000 to 84% in 2015. Often forgotten is the sheer size of land mass. Africa alone is larger than the US, China, India, and Europe, all combined geographically (see Figure 9).

Figure 9: Geographic comparison

Geographic Comparison			
	Square miles millions		Square miles millions
➤ Africa	11.7	➤ United States	3.8
➤ Middle East	2.8	➤ China	3.7
➤ TOTAL	14.5	➤ European Union	1.7
		➤ India	1.3
		➤ TOTAL	10.5

Source: Milken Institute

Challenges and objectives, growth and infrastructure

Panel moderator Staci Warden, executive director of the Center for Financial Markets at Milken Institute noted that there is a US\$170 billion annual deficit in infrastructure. Trillions of dollars look for a rate of return that's slightly better than the ten year US Treasury. There is increase of assets under management of African sovereign wealth funds, pension funds and such.

Warden asked: “to what extent, can domestic capital be used to finance that engine of growth, to finance an infrastructure deficit and to attract FDI. How does the International Finance Corporation (IFC) think about the opportunity and how do you execute on it?”

Stephanie von Friedeburg, COO of the IFC observed: “Jim Kim, the President of The World Bank Group, at this conference explained our strategy: World Bank wants to move up stream and de-risk projects, and create these big pipelines, and then mobilize money in the private sector.” This is done through the AMC and the MCP platform for infrastructure.

IFC has one of the few triple A rated balance sheets left in the world. Africa needs institutional infrastructure. Things Friedeburg ponders include: “Do we have clearing houses, do we have broker dealers, do we have the right infrastructure to make that work?”

She explained in order to extend the yield curve, there had to be a way out of the local currency adding, we “created a synthetic swap off the IDA balance sheet. We demonstrated that you can issue long term bonds in a market like Africa.”

Africa and the Middle East: Challenges and transition away from natural resources

Mohammed Alardhi, the executive chairman of Investcorp, explained what would need to happen for his firm to invest in Africa. Aside from Middle East investors being already exposed, he identified the “rule of law” as well as “scale” as important factors. Scale means he wants to see investment themes that he can invest in several times. He agreed Africa needs to build social capital, rule of law, creditor rights, human capital, and people to run those businesses.

Moderator Warden noted there were 150 private equity deals in the last 10 years in Africa and only 5% came from the Middle East, and there is a natural synergy to do more.

Asked about Vision 2030, Alardhi commented it was the melt down in oil and commodities prices that forced the countries of the rich Middle East to re-evaluate their model, and to diversify their economies. Alardhi said big change is happening in the Middle East, particularly in the Gulf countries. They “are moving from oil and gas dependent economy to a diversified economy, to privatization, to enabling tech and young people.” He cautioned patience is needed thus “people should come there for the long term.”

Milken observed: “40% of the people in Africa now live in urban environments and that's going to go over 50%. If you step back and think that at the start of the 1900's, that the only country in the world where more than 50% of the people lived in urban areas was the UK (See figure 10).” Jobs, infrastructure, and talent are needed.

WATCH VIDEO

2000: Countries More Than 50% Urban

A world map illustrating the percentage of the population living in urban areas in the year 2000. The map uses two colors to represent different urbanization levels: orange for countries where more than 50% of the population is urban, and blue for countries where less than 50% of the population is urban. The legend in the bottom left corner shows an orange square next to '> 50%' and a blue square next to '< 50%'. Orange-colored countries include Canada, the United States, Mexico, most of South America (including Brazil, Argentina, Chile, and Peru), Australia, and most of Europe and Asia (including Russia, China, India, and Japan). Blue-colored countries include Iceland, Greenland, Norway, Sweden, Finland, Denmark, Germany, France, the United Kingdom, Ireland, Poland, Czech Republic, Slovakia, Austria, Switzerland, Italy, Greece, Turkey, and most of Africa and South America (including Colombia, Venezuela, Ecuador, Peru, Bolivia, Paraguay, Uruguay, and Argentina).

Legend:

- > 50%
- < 50%

Von Friedeburg observed: “Africa needs to think about regionalization. Africa missed the Agrarian Revolution as well as the Industrial Revolution.” She emphasized: In Africa, both air and cargo passengers represent 2% to 3% of the world market with 6% contributed by rail. So if we want to create jobs in Africa, tourism, agri-business, we really have to take a hard look at what we're doing in transport.”

Adam Ereli, former U.S. Ambassador to Bahrain explained on a MENA panel another type of risk – Political-Economic risk due to high expectations: “Samuel Huntington [Harvard Political Science professor] described ‘crisis of rising expectations. If you're aware of what's going on around the world, and you have expectations, and they're not met, the consequences can be very harsh. The youth are connected and know what is going on.’”

WATCH VIDEO

Citations:

- 1) For a discussion of the then pending tax proposal, see: Jim Altenbach, "The Trump Tax Plan: Cutting the Gordian Knot of Tax Policy Debate?," RealClearMarkets, https://www.realclearmarkets.com/articles/2017/05/15/the_trump_tax_plan_cutting_the_gordian_knot_of_tax_policy_debate_102687.html (May 15, 2017)
 - 2) Jim Altenbach, "Globalization in the Crosshairs?," RedChip Special Report, RedChip Companies, <https://www.redchip.com/articles/920/globalization-in-the-crosshairs> "Panel: Labor Participation and Underemployment" (Fall 2017, p.5)
 - 3) David Ranson, "Synopsis: Briefing Points on the Global Market Outlook as of April 2018," HCWE & Co., April 24th, 2018
 - 4) For a discussion of the Trump trade policy, see: Jim Altenbach, "Trump Trade Policy: Navigating a Changing Paradigm in Global Trade," RealClearMarkets, https://www.realclearmarkets.com/articles/2018/06/12/trump_trade_policy_navigating_a_changing_paradigm_in_global_trade_103300.html (June 12, 2018)
 - 5) Altenbach, "Globalization in the Crosshairs?," Panel: Beyond the Dollar, op. cit., p. 22.
- Also see:
- 6) David Ranson, "Brexit: policy errors, political terror, economic opportunities," Economy Watch, HCWE & Co., July 15, 2016, p.2-3.
 - 7) Wayne Jett, "The Fruits of Graft: Great Depressions Then and Now," Launfal Press (2011), p.93
 - 8) Gwynn Guilford, "Everything we thought we knew about free trade is wrong," QUARTZ, <https://qz.com/840973/everything-we-thought-we-knew-about-free-trade-is-wrong/> (2016)
 - 9) Nathan Lewis, "China Is Laying The Foundation For The Next World Gold Standard System," Forbes.com, <https://www.forbes.com/sites/nathanlewis/2016/05/05/china-is-laying-the-foundation-for-the-next-world-gold-standard-system/#2b44bd72689e> (May 5th, 2016)
 - 10) W.J. Mason, "What We Get Wrong When We Talk Trade," Jacobin, <https://www.jacobinmag.com/2017/01/trump-mexico-trade-tariff-import-pena-nieto> (2017)

About the Author

James Altenbach, CFA is an investment advisory professional in the Los Angeles area. He has been principal of Florentez Investment Management. Since the firm's inception, he served as an advisor to the President on strategic matters including research and proprietary analysis and product development on ETFs. He writes published articles and reports on the global economy, financial markets, and investing. He possesses over 26 years of research, financial advisory, institutional relationship, and management experience, and has authored numerous published reports and articles. Previously, he was an equity research analyst with RedChip Companies. He did his undergraduate work in business administration (Finance) at California State University, Los Angeles, with distinction, and holds the designation of Chartered Financial Analyst (CFA). He can be reached at j.altenbach@outlook.com



About RedChip

RedChip Companies, an Inc. 5000 company, is an international small -cap research, investor relations, and media company headquartered in Orlando, Florida; with affiliate offices in San Francisco, Seoul, Hong Kong and Singapore. RedChip delivers concrete, measurable results for its clients through its extensive global network of small -cap institutional and retail investors. RedChip has developed the most comprehensive platform of products and services for small -cap companies, including: RedChip Research(TM), Traditional Investor Relations, Digital Investor Relations, Institutional and Retail Conferences, "The RedChip Money Report"(TM) television show, Shareholder Intelligence, Social Media and Blogging Services, and Webcasts. RedChip is not a FINRA member or registered broker/dealer. The information contained herein is not intended to be used as the basis for investment decisions and should not be construed as advice intended to meet the particular investment needs of any investor. The information contained herein is not a representation or warranty and is not an offer or solicitation of an offer to buy or sell any security. To the fullest extent of the law, RedChip Companies, Inc., our specialists, advisors, and partners will not be liable to any person or entity for the quality, accuracy, completeness, reliability or timeliness of the information provided, or for any direct, indirect, consequential, incidental, special or punitive damages that may arise out of the use of information provided to any person or entity (including but not limited to lost profits, loss of opportunities, trading losses and damages that may result from any inaccuracy or incompleteness of this information). Investors are expected to take full responsibility for any and all of their investment decisions based on their own independent research and evaluation of their own investment goals, risk tolerance, and financial condition. Investors are further cautioned that small-cap and microcap stocks have additional risks that may result in trading at a discount to their peers. Liquidity risk, caused by small trading floats and very low trading volume can lead to large spreads and high volatility in stock price. Small -cap and microcap stocks may also have significant company-specific risks that contribute to lower valuations. Investors need to be aware of the higher probability of financial default and higher degree of financial distress inherent in the small-cap and microcap segments of the market. The information, opinions, data, quantitative and qualitative statements contained herein have been obtained from sources believed to be reliable but have not been independently verified and are not guaranteed as to accuracy, nor does it purport to be a complete analysis of every material fact regarding the company, industry, or security. The information, opinions, or recommendations are solely for advisory and informational purposes and are only valid as of the date appearing on the report and are subject to change without notice. Statements that are not historical facts are "forward-looking statements" that involve risks and uncertainties. "Forward looking statements" as defined under Section 27A of the Securities Act of 1933, Section 21B of the Securities Exchange Act of 1934 and the Private Securities Litigation Act of 1995 include words such as "opportunities," "trends," "potential," "estimates," "may," "will," "could," "should," "anticipates," "expects" or comparable terminology or by discussions of strategy. These forward looking statements are subject to a number of known and unknown risks and uncertainties outside of the company's or our control that could cause actual operations or results to differ materially from those anticipated. Factors that could affect performance include, but are not limited to those factors that are discussed in each profiled company's most recent reports or registration statements filed with the SEC. Investors should consider these factors in evaluating the forward looking statements contained herein and not place undue reliance upon such statements. Investors are encouraged to read investment information available at the websites of the SEC at <http://www.sec.gov> and FINRA at <http://www.finra.org>

Additional information about the subject security or RedChip Companies Inc. is available upon request. To learn more about RedChip's products and services, visit <http://www.redchip.com>, call 1 -800-RedChip (733-2447), or email info@redchip.com.

