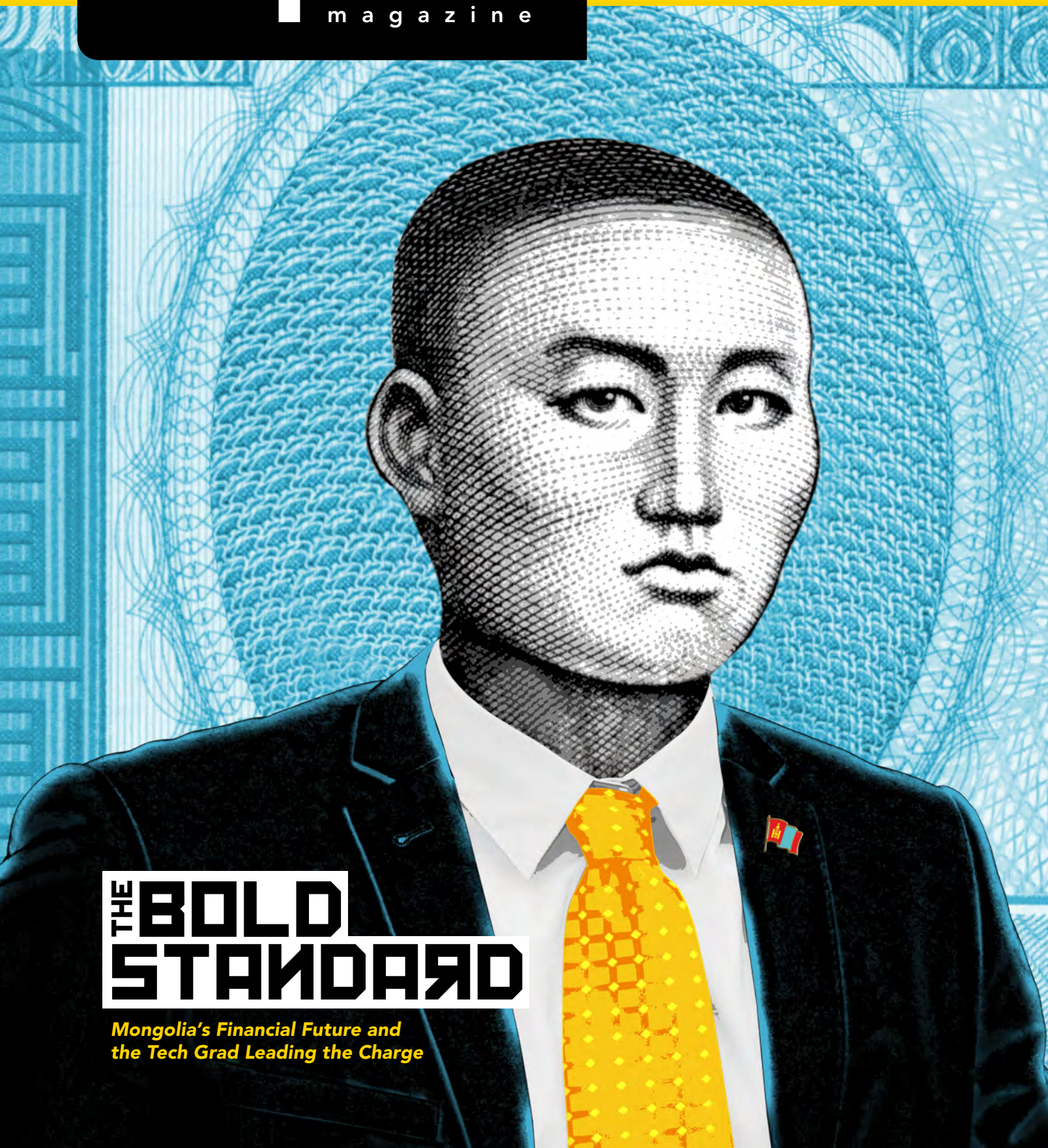


# Impact

magazine

MICHIGAN TECH  
SCHOOL OF BUSINESS  
AND ECONOMICS

SPRING 2013 | VOLUME 3 | ISSUE 2



## THE BOLD STANDARD

*Mongolia's Financial Future and  
the Tech Grad Leading the Charge*



“THE BEST WAY TO PREDICT  
THE FUTURE IS TO INVENT IT.

— ALAN KAY, COMPUTER SCIENTIST AND INNOVATOR

Businesses never sit still, rest on their laurels. They evolve, they adapt, they react, and they innovate. Publications on business and business education should be no different.

Welcome to the new *Impact*.

The articles in this issue show how business and technology are such close partners, and how the globalized economy has made the business world smaller than ever. But it is also filled with possibility and opportunity. This is the real story of business and economics education at Michigan Tech.

Bold Sandagdorj spoke with us between meetings with government officials in Mongolia. The Bank of Mongolia chief economist is guiding economic policy as his nation embarks on the rapid development of mineral deposits, greatly increasing GDP and standards of living.

JoAnn Heck also stands at this confluence of economy and technology, but instead of raw minerals, she works with the finished product. As director of consumer and market insights at Chrysler Group LLC, she knows what it's like to invent the future, read the market, and take the next step in innovation.

The crisis in the eurozone has raised a lot of questions about economic integration and the tools available to manage public debt. With opinions ranging far and wide on how to handle the debt-fueled debacle, School of Business and Economics faculty, as well as experts from around the world, weigh in on the situation and the lessons we can learn integrating currencies and markets.

Hard decisions, bold action. That is reality in the *School of Business and Economics*. That is what we invent by merging business and technology. That is the edge every business strives to grasp. That is the advantage we seek for our students as they create the future.

And that is where we, as business professionals, as educators, as humans, make an impact.

*R. Eugene Klippel*

#### About

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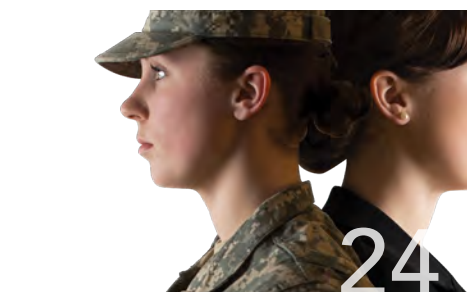
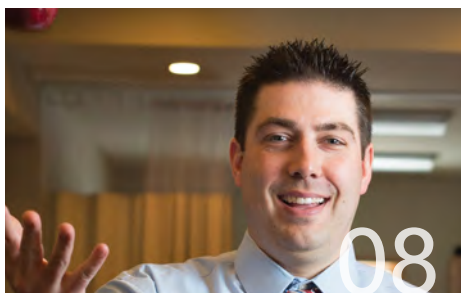
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Photo | Sarah Bird





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08, 10, 18, 24, 30

## On the Table: Engineering Management

Business and engineering join forces for students in the engineering management program. We sat down with two current students and an alum to talk innovation, technology, and how business and engineering help to create the future.

## Made for Mongolia

Still a young alum, Bold Sandagdorj is helping plot the economic future of his native Mongolia. We caught up with him to hear his incredible story, what he gained through his Tech education, and his vision for Mongolia's future.

## Imported from Houghton

You have pain points with your car, and JoAnn Heck is trying to anticipate and overcome them. As director of consumer and market insights with Chrysler Group LLC, JoAnn is helping to build the cars of tomorrow and talks about education today.

## Chaos in the Eurozone

The chaos of the eurozone over the last several years has taught the world some hard lessons about economic and political policy. We consulted experts from Michigan Tech's School of Business and Economics and around the world to discover what we've learned from the crisis.

## Making an IMPACT

**08**—Chris Moore heals injuries while helping his community with his physical therapy practice; **10**—Kate Hogberg builds for the future with HDR, Inc. in Denver; **18**—As we go from raw material to finished product, how can the market address pollution and other negative consequences?; **24**—Saurav Pathak explores the possibilities for veteran entrepreneurs in the modern economy; **30**—We asked the faculty and students around the SBE's home Academic Office building for their take on the eurozone crisis and the idea of a global currency. See what they have to say and chime in with your thoughts as well.

## Cover

Damdin Sükhbaatar, the father of Mongolian independence, has his 20 tögrög portrait updated for the new, market-oriented Mongolia. Read about Bold Sandagdorj, chief economist at the Bank of Mongolia, on page 12.

**Cover Artwork:** Brandy Tichonoff



# on the TABLE

**This issue marks the debut of On the Table, a regular feature highlighting a program or organization in the School of Business and Economics. This issue features the new Engineering Management program, combining the best of technology and business to create a degree generating a ton of buzz. On the Table is an opportunity for current SBE students to meet with faculty and/or industry and converse in a casual setting.**

Photo | Sarah Bird



## Some of the hallmarks of a Tech education

are an aptitude in technology, strength in science, engineering, and mathematics, and comfort working on challenging, complicated problems. In technical careers after college, though, students need to be more than engineers or marketers or employees with just one skill-set. Corporations need product managers, project managers, quality engineers, and technical salespeople to tell their story and provide the spark of innovation among and between engineers and clients.

The bachelor's of science in engineering management from the School of Business and Economics is designed to deliver just these sorts of professionals. We sat down with two students currently in the program, as well as an alum whose work is in the nexus of business and technology, to capture their thoughts and feelings about business, technology, their careers, and their hopes for the future.

### The Guestbook



**Tony Schwenn**

In his role as technical sales representative with ThermoAnalytics, Tony knows how business and engineering come together to solve problems in the real world.

When asked about the engineering management program, Tony immediately recognized its value. "It would have helped me immensely had I had more integration between business and engineering in my education," he says. **"Those are exactly the skills our business and industry are looking for."**

"There's a need there," he stresses. "A big need."



**Madeline Haben**

"I think like an engineer," says Madeline, specializing in biomedical engineering. Madeline is making plans for the next step in her career.

**"I'm looking for internships,"** she says. "I've had several interviews, so I'm just waiting to hear back from everyone and see which one I'll take."

A varsity volleyball player, Madeline understands teamwork and the value of communication. When thinking of her experience in engineering management, she reflects, "Business and engineering combined can do amazing things."



**Kori Sternik**

Kori Sternik found exactly what she was looking for with this new degree program. "When I was at Michigan State, I decided on accounting because I couldn't decide on a specific engineering field. When I wanted to transfer, I found out about the new engineering management program.

**It seemed like fate; the timing was so perfect!"**

Now that she's on campus and digging into two fields, Kori can reflect on how engineering and business combine. "Imagine what we can accomplish by bringing all of this together."

**S**now in the spring isn't unusual in the Keweenaw, and the day of our conversation was one of the snowiest of the season. Still, everyone was able to make the trek to Habañeros restaurant over the bridge in Hancock. One at a time a new person would wander in, and once we were all there, our conversation turned from the weather to the serious business of education. Over baskets of chips and bowls of guacamole and plates of burritos, each guest explained where they are and where they're going, their ideas building on each other to give us a clearer picture of what engineering management has done for them and what it means beyond the halls of Michigan Tech.





"... think like an engineer"  
"... The communication is so critical"

**Tony Schwenn** holds an undergraduate degree in mechanical engineering and an MS in Business Administration from Tech, and he works for ThermoAnalytics, a leading engineering and software development company formed by Michigan Tech alumni. He explained how, for him, business and technology come together seamlessly to help his customers. "We have to figure out what their pains are," he said while watching our server prepare the fresh guacamole. "We need to know what the customer needs and how we can help. For me, even though I'm in sales, that would be impossible without an engineering background."

**Madeline Haben**, a fifth-year undergrad studying both sports and fitness management and engineering management, could see the two fields coming together and was convinced that fit her just fine. "I definitely like the business side, but I also really like the practicality of engineering," she said. "I think like an engineer."

**Kori Sternik**, a second-year transfer student, feels much the same way. "I'm more at home on the engineering side," she said. "But I see myself as a leader, as part of the team; when I work on projects, I enjoy handling the business side of things."

How does innovation work between business and engineering? Engineering is, after all, about problem-solving, while business is looking for that edge, that advantage.

"Communication," Tony and Madeline reply almost simultaneously, Kori nodding in agreement. "They work hand in hand," Tony goes on to explain. "In sales, we can identify new opportunities, but it takes engineers to identify what is possible."

**On the Table** was hosted by Habañeros Fresh Mexican Kitchen of Hancock, a restaurant in the old Scott Hotel building. To find out more, visit [facebook.com/habanerosfresh](https://facebook.com/habanerosfresh)

**Photo** | Sarah Bird



A black and white photograph of a young woman with long dark hair, smiling broadly. She is in a restaurant or cafe setting, with a glass of water and a napkin on a table in the foreground. In the background, there are arched doorways and wall sconces.

*"We're trying to bring those two mentalities together."*  
**al to getting the end product you want."**

"We have to communicate a whole lot, from the customer to the engineer, to break new ground," he said. Madeline responded, "Communication is sometimes lacking in our projects. But it's something we focus on, we work on, something both my business classes and engineering classes have emphasized." She paused looking for the right words. "You know, it's a gap that can be bridged."

Kori, in her first year at Tech, has already seen how the different approaches from business and engineering can come together. "In my business classes, everyone sits down and talks through a problem," she said. "In engineering, most would rather work out a problem on their own, and they come up with all of these incredible solutions. We're trying to bring those two mentalities together."

Tony nods in agreement. "Being able to understand how people think and communicate what you need is so important. The communication is so critical to getting the end product you want."

Madeline has seen this during her Tech education. "In business people collaborate naturally. It's important to

bring that to engineering because engineers and business people are both innovators, creative, striving to reach that next level." Kori agreed, amazed at how "engineers can just make something out of nothing. They're as innovative as business people, just in a different way."

The conversation then turned to internships and travel and plans for the summer, all between bites and sips. We come back around to Tony one more time, asking how he got where he is, why he works in technical sales. "Well," he said, looking out into the snow and thinking about his path. "You have to be creative to be in either business or engineering, and I'm much more interested in business when it's on the technical side."

We finished up, the table a collection of empty plates, bowls, glasses. Tony, Madeline, and Kori prepared to make their way back out into the storm. Tony gave both students his contact information, in case they have any questions or need advice. We ventured out into the late winter, and the snow didn't seem quite so heavy anymore.

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# The Fruit of His Labor

*Chris Moore on the business of physical therapy*





*The trees outside of Back in Motion in Kingsford, Michigan, are in late-winter slumber, the conifers standing tall around the parking lot while shrouded in snow, the deciduous trees empty of leaves and blooms and fruit. The sun is shining, though, and once the temperatures warm up, those leaves and blooms will shoot out, reaching as far as they can.*

**C**hris Moore has reached out pretty far himself.

Instead of looking for a new position in his field when the economy took a downward turn, he took a risk and went back to school to get his degree in physical therapy. In 2007, he opened his own physical therapy practice. This was thanks in no small part to the practical education he gained in physical therapy wedded to the skill, insight, and discipline he learned from the School of Business and Economics.

"I got a head start on all of the other physical therapists because I understood the financial world, knew the banks, knew business," Moore says. "Compared to most physical therapists, I have an enormous business background: marketing, finance, banking, etc. Most PTs are biologically book smart with tons of medical background, but few of them knew how to write a business plan, market, or access credit."

**Moore, a former basketball player at Tech, learned** about physical therapy his final year here. He was out with a knee injury and spent a lot of time with the therapist. It planted a seed of interest, and later, when he decided a career in finance wasn't for him, he was able to pursue this sprouting opportunity armed with the business knowledge he gained from his degree.

"I was better at understanding the economics of a business, from maximizing profit to accounting" he said. "I have faculty like Dean Johnson to thank."

Moore understood early the importance of fusing these fields. His stepfather, a physician, struggled with

some of the business elements of his practice. "He was a phenomenal doctor, but he didn't know how to do anything with money." Meanwhile, a friend of his was a stockbroker, for whom it was "just money, money and numbers." Back in Motion has brought together for Chris the care for patients and medical excellence

of his stepfather together with a passion for proper business principles.

**Now, with his practice** established, he takes pride not only in his accomplishment, but also what his practice does for the local economy and in employing young talent in the area. "The opportunity to grow and create jobs for other people has been very

rewarding. It's kind of cool that young people have moved back here to be involved."

Thinking of current students, Moore has a bit of advice to pass along. "Have a wide variety of experiences. Take an honest look at your strengths and play to them."

Still, even as a medical professional, Chris Moore realizes the value of having business acumen and the drive to be the best. He hasn't stopped reaching for success.

"The best apple is always at the end of the branch. You've got to take a little risk."

**"THE BEST APPLE  
IS ALWAYS AT  
THE END OF THE  
BRANCH. YOU'VE  
GOT TO TAKE A  
LITTLE RISK."**



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# Putting the Pieces Together

*Kate Hogberg on the union of business, architecture, and engineering*





*Villa Savoye, Le Corbusier's attempt to convey his architectural principles in one building, is a triumph of modernist architecture. It is renowned enough to have made the Lego Architecture series alongside the Sydney Opera House and Frank Lloyd Wright's Falling Water.*

**K**ate (Harkins) Hogberg conveys architectural principles in her job as Communications Specialist with HDR, Inc. She also is learning a fair amount about building blocks.

Kate, a Michigan Tech SBE graduate, is helping with Duplo instead of Lego sets at home—her child is two years old, and she and her husband are expecting another in June—but communicating about architecture, engineering, and construction is something she does every day.

"My typical day consists of communicating with engineers and scientists to tell stories of successful projects around the world," says Kate. She leads the production, writing, and editing of internal and external publications, as well as developing the storylines, content, and production for internal and external videos. "Communication happens by email, phone, text, video conference, and in-person, and usually involves me asking a lot of questions to get to the bigger meaning of our work. The technical minds get focused on the technical aspects of their work, and it's my job to extract how that work was new and innovative, used the latest technology, and made an impact on a community."

**Kate's work tells the story of science and technology in the world.** "I do a lot of writing and editing, work that communicates internal messages and goals and tells the story of our work and its impact," she says. "Reshaping technical information into straightforward marketing materials takes an ability to collaborate with engineers, something business students at Tech are comfortable taking on."

In fact, studying business at Tech prepared Kate to step into a technical world and make a difference by telling its story. "Working in the architecture, engineering, and construction industry (AEC) was a natural fit given my education at Tech," she says. "I was instantly comfortable working with engineers, architects, and scientists, and understood the quirks of communicating with many of them."

"At Tech, the usual question was 'What are you?' What kind of engineer, in other words. That mentality has been a huge advantage for me in the business world."

**Looking back out that window to the mountains,** Kate thinks of what her work means in the big picture. "Engineering and science are the foundation of our communities," she says, gazing at the grid of structures and transportation all the way to the base of those mountains, the ones in the distance barely more than tiny building blocks. "The minds that drive the

technical fields have the ability to make a huge difference in our futures. These people solve complex infrastructure challenges and develop scientific breakthroughs."

**Away from the office,** Kate's ability to plan and manage is just as important for leisure as it is for cranking out information on a building project. "Being able to manage your time well is huge," she says. "I always know what's coming so I can

plan my days accordingly and still have time to spend enjoying the outdoors with my family."

She pauses again, turning back from the window. "I think it's important to balance work and fun, and finding a company and position that value that as well is critical."

And what advice for students leaving school and heading into the working world? "It's exciting to start a career when you graduate, and I think that's the time to make a name for yourself." She thinks back on her path from a biomedical engineering firm to a construction company, and now to her home in Denver and career with HDR. "Bring your fresh ideas, show your enthusiasm and put in the time it takes to be great at what you're doing."

**"... IT'S IMPORTANT TO BALANCE WORK AND FUN, AND FINDING A COMPANY AND POSITION THAT VALUE THAT AS WELL IS CRITICAL."**

[WWW.MTU.EDU/MKTG](http://WWW.MTU.EDU/MKTG)

# MADE FOR MONGOLIA

## BOLD SANDAGDORJ PLANS THE ECONOMIC FUTURE OF A NATION

**I**N ITALO CALVINO'S NOVEL *INVISIBLE CITIES*, MARCO POLO AND KUBLAI KHAN ARE SITTING COMFORTABLY, THE FORMER REGALING THE LATTER WITH DESCRIPTIONS OF THE IMPOSSIBLE PLACES HE HAS VISITED. KHAN ASKS POLO WHERE HE GOES ON HIS VOYAGES AND WHY; ARE THESE "JOURNEYS TO RELIVE YOUR PAST," OR "JOURNEYS TO RECOVER YOUR FUTURE?"

Mongolia's nomadism is a sign of the past, but the transition to parliamentary democracy and a market economy shows a nation recovering its future. Bold Sandagdorj, chief economist at the Bank of Mongolia and holder of an MS from Michigan Tech in Applied Natural Resource Economics, is helping to build that vision of the future.

"Most of the decisions I make are directly related to macro-economic policymaking and effectiveness of monetary policy implementation," he says, explaining his part in building Mongolia's new economy. "I have policy discussions with the Governor of the Bank of Mongolia on a daily basis and advise him as necessary."

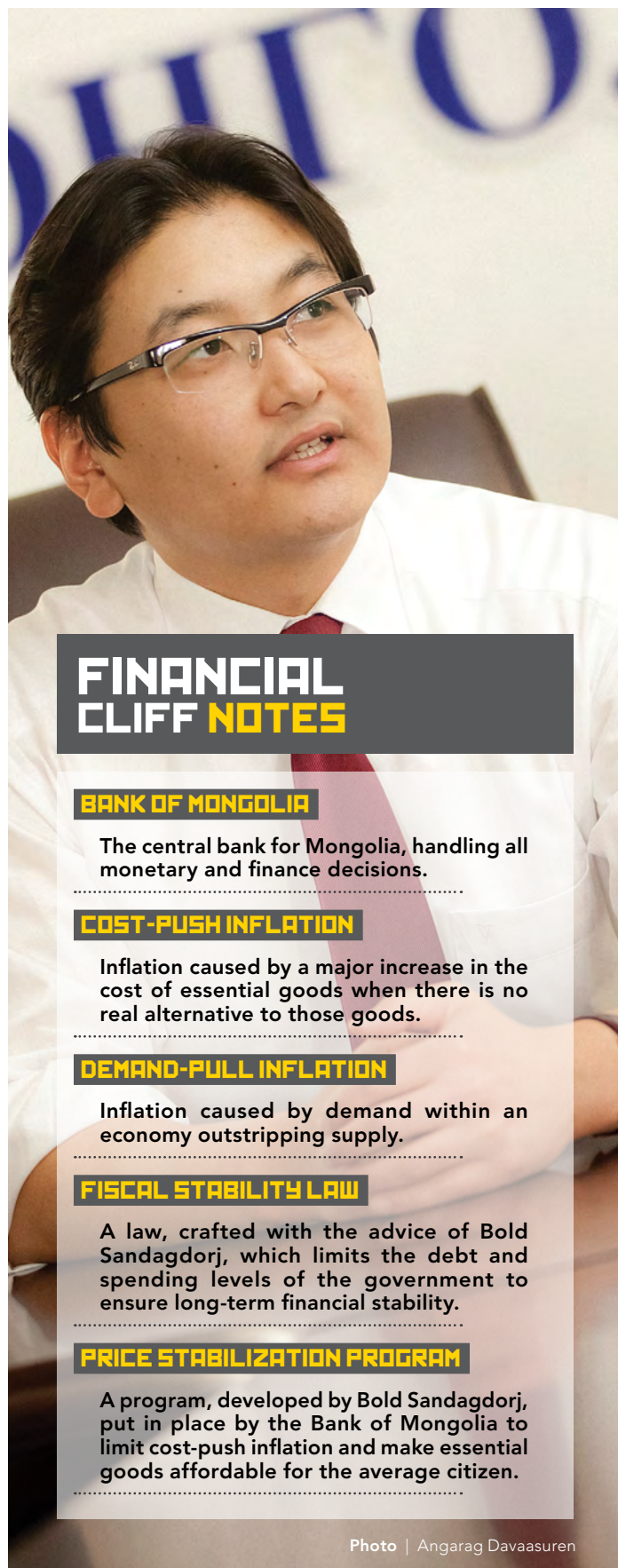
In addition to being chief economist, Bold is also an advisor to the Governor of the Bank of Mongolia and a member of the monetary policy committee and board of directors of the Bank. Helping chart the course of his country on its new economic voyage: not bad for someone still in his early 30's.





Bold Sandagdorj, chief economist at the Bank of Mongolia, standing on the balcony of the Bank building in Ulaanbaatar. Bold holds a Master's in applied natural resource economics from Tech.

Photo | Angarag Davaasuren



## FINANCIAL CLIFF NOTES

### BANK OF MONGOLIA

The central bank for Mongolia, handling all monetary and finance decisions.

### COST-PUSH INFLATION

Inflation caused by a major increase in the cost of essential goods when there is no real alternative to those goods.

### DEMAND-PULL INFLATION

Inflation caused by demand within an economy outstripping supply.

### FISCAL STABILITY LAW

A law, crafted with the advice of Bold Sandagdorj, which limits the debt and spending levels of the government to ensure long-term financial stability.

### PRICE STABILIZATION PROGRAM

A program, developed by Bold Sandagdorj, put in place by the Bank of Mongolia to limit cost-push inflation and make essential goods affordable for the average citizen.

Photo | Angarag Davaasuren

*"I have thought of a model city from which I deduce all the others. It is a city made only of exceptions, exclusions, incongruities, contradictions. But I cannot force my operation beyond a certain limit: I would achieve cities too probable to be real."*

Ulaanbaatar seems too improbable to be real; the major city of Mongolia is the center of government, culture, and economy, but it also grows right out of the plains and hills and mountains, an extension of the people, reaching up toward the sky.

Bold sees a much different city and country rising up from just two decades ago. Vast mineral deposits have been discovered out on those plains, and nomadism is slowly giving way to permanent settlements, citizens seeing a remarkable improvement in lifespan and quality of life as a result, both out in the sparsely-populated countryside and in the increasingly vertical city. As chief economist, Bold knows the reputation central bankers generally have, but he also knows the difference they can make in guiding growth and prosperity, both up in the city and out across the plains.

"Although people commonly think and even criticize that central bankers are inflexible, incongruous, and impractical, central bankers always try and need to be forward-looking, prudent, and pragmatic," he says, describing the role of his institution in Mongolia's economy and politics.

"In this rapidly changing environment, central bankers are and should always be proactive rather than reactive. We have to look broader, think ahead of others, work harder, and take more resolute and effective measures to achieve policy objectives."

The changes wrought by the peaceful transition from communism to parliamentary democracy in the early 1990's have gathered steam. The transformation is both economically and socially ambitious.

"During the last two decades Mongolia has gained three important achievements," Bold says. "These include democracy and liberty, transparency and accountability, and equal opportunity."

From a controlled economy and one-party system, "it became one of the most democratic and transparent countries in Asia," Bold says.

That change, the move to a new government and economy, is the root from which modern Mongolia has risen.

*"I shall tell you what I dreamed last night. I saw from a distance the spires of a city rise."*

For the westerner, getting an image of Mongolia in the mind's eye can be a challenge. We can easily picture the low population and caricatures of the nomad warrior Genghis Khan and his mark on history. But modern Mongolia is one of the fastest growing economies in the world, with a population moving rapidly from common nomadism to permanent settlements and improvements in life expectancy and overall life quality.

It is Bold's job to help maintain stability and manage that growth, to temper the white-hot economy into a system that is stable and benefits everyone. In his role with the Bank, Bold is plugged into this growth engine and sees his role as not merely reactive, but proactive.

"The most important macroeconomic challenge," he says "is to immediately reduce double-digit inflation to our targeted level



and keep it low and stable. Indeed, ensuring low and stable inflation by targeting its main components is a core condition for maintaining long-term, sustainable growth and safeguarding the economy in Mongolia."

Inflation has been a large concern for this economy, with the danger of pricing ordinary citizens out of basic needs. As a solution, Mongolia has adopted a law regarding the budget and debt while enacting measures to stabilize prices.

"The Fiscal Stability Law has been effective," Bold says. "Strictly adhering to this law ensures long-term fiscal stability and discipline in Mongolia, which enables us to significantly decrease demand-pull

there is a supply shock, infrastructure and logistics bottlenecks, and no adequate alternative available, has also been an issue while regular, growth-friendly supply lines are developed.

"The Bank of Mongolia has been implementing a policy to prevent supply shocks," Bold says. "The Price Stabilization Program (PSP) reduced the cost of main consumer goods, and stabilized food, retail gasoline prices, housing, and rents."

These policies, developed by Bold and his team, have worked well, making life for the average citizen more comfortable. "Cost-push inflation has significantly decreased as a result of the success of these programs."

for 30 percent of Mongolia's GDP in the near future.

It's not a surprise that this mineral rush has meant high pressure for the Bank of Mongolia. But while it is a blessing for wealth, Bold is concerned by the strength of the minerals industry in Mongolia.

"Mongolia aims to develop its vast mineral resources and ultimately transform natural resources into human capital for sustainable, but inclusive, growth," he says, emphasizing Mongolia's desire for the new economy to benefit everyone. "However, current statistics show that the country has been overly dependent on the minerals sector. Over 93 percent of total exports are mineral commodities

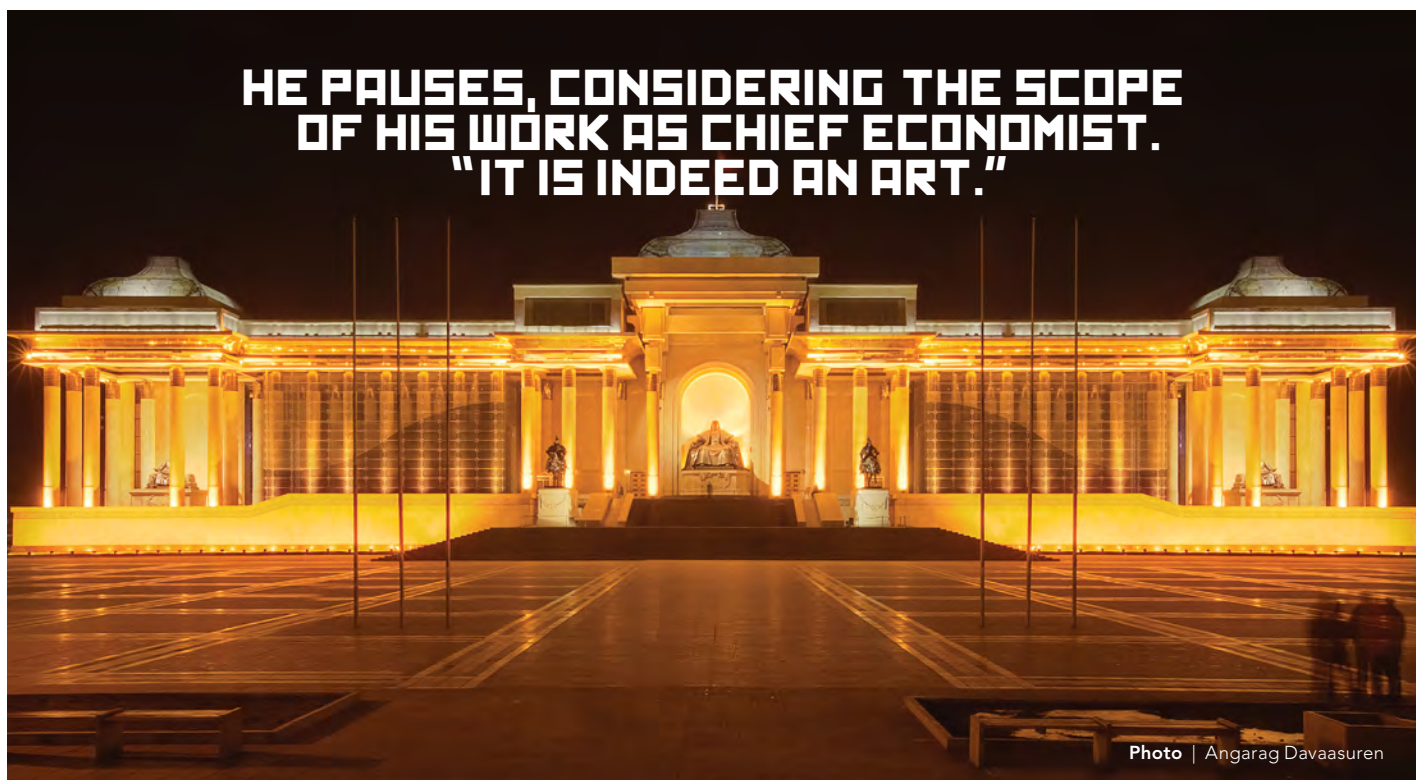


Photo | Angarag Davaasuren

inflationary pressure." Demand-pull inflation occurs when demand outstrips supply, and is regarded as a byproduct of an increasing GDP and decreasing unemployment. In other words, it is a potential pitfall along a path that is positive for the country as a whole.

He pauses, considering the scope of his work as chief economist. "It is indeed an art."

Demand-pull inflation has not been the only pitfall, however. Cost-push inflation, where the price of goods increases when

*"Marco thought of the mists that cloud the expanse of the mountain ranges, when dispelled, leave the air dry and diaphanous, revealing distant cities."*

The Oyu Tolgoi copper mine, the largest financial project in the history of Mongolia, has just begun producing minerals. It is expected to generate nearly 80 billion pounds of copper in its lifetime, nearly four times the copper resources estimated to be remaining in the Upper Peninsula. This site alone will account

and 85 percent of net foreign investments are in minerals."

"Of course," he says with the concern of an economist, "these are not desirable or healthy statistics."

Bold supports such developments, but emphasizes the importance of diversification.

"Mongolia aims to build a strong middle class, to increase nationwide savings and investments, to diversify the whole economy, to ensure inclusiveness of economic growth, to increase economic



competitiveness, and to decrease poverty," he explains. "I think Mongolia is going in a right way to make this economic reform realistic. The key is definitely good governance."

Bold is unequivocal about the role of the central bank. "The Bank of Mongolia always cares about the economy and its stability," he says. "Since the economy is becoming highly dependent on minerals, I think one of our obligations is to maintain macro stability, safeguard the economy, and protect the middle class."

"Ultimately, I am sure that people in Mongolia will enjoy the fruits of effective economic reform and their own contributions to it."

*"No one, wise Kublai, knows better than you that the city must never be confused with the words that describe it."*

It is a challenge to envision the future of a city or a country. But in the mind of Bold Sandagdorj, that undiscovered country is already taking shape.

"Asia has been a core engine of global economic growth, and Mongolia is expected to be the fastest growing economy," he says. "The real GDP growth of Mongolia grew by over 17.5% in 2011 and the economy has rapidly been expanded by 16% per quarter since 2011."

But it goes beyond just the numbers for Bold, who sees the people in those high

risers and on those plains. "Providing inclusive growth is more important than just having high growth. Mongolia's economic and social reforms are not targeting high growth, but high-quality growth."

Within 10 years, he sees poverty decreased to single digits, Mongolia as the fastest growing economy in the world, a strong middle class, a diversified economy, "green" growth and environmental protection, and enhanced quality of life.

Considering the future brings Bold back to his family: his wife (a television commentator), his children (including a child born during the production of this article), and his parents. In Bold's parents, one can see his perspective and personality, and the interweaving of social and economic goals for an entire nation.

"One of my role models was my father, a retired economist. My professors at Michigan Tech have also been a significant influence" Bold says. "Gary Campbell, Mark Roberts, Dean Johnson, Brent Lekvin, and many others at Tech have really influenced my life. I learned from them a lot and the basis of my achievement was their assistance and investment in my brain."

Just as Mongolia is more than its economics, Bold also honors what his mother impressed on him. "I have great respect and love for my mom," Bold says. "She helped me to understand the meaning of human life."

*All quotes from Invisible Cities by  
Italo Calvino.*





# ТАЙТАЙ ЦЭЛЭСЭНДЭЭ БАУЯТАЙ БАЙНА

*(Pleased to Meet You)*

## CAPITAL U

- “ Ulaanbaatar literally means “Red Hero,” and is the name given to the city following Mongolia’s independence and alignment with the Soviet Union. The fall of communism near the end of the 20th century resulted in the parliamentary democracy, free markets, and burgeoning skyline of Ulaanbaatar today.
- “ Seated at the confluence of the Tuul and Selbe rivers, Mongolia’s capital city of Ulaanbaatar has a centuries-old legacy. But the city once known as Uрга did not always occupy this scenic valley
- “ In 1639, a yurt monastery situated some 160 miles away from the current site was the first location of Mongolia’s major city. It moved along the major rivers as the need for supplies grew.
- “ As the city became larger and larger, it was too difficult to continue to move. By 1778, with more than 10,000 monks inhabiting this place, the location became fixed at its current site.

## THE RED HERO

- “ Outside Mongolia, the Khans (and Ghenghis Khan in particular) are well known. More obscure in the West is Damdin Sūkhbaatar, the hero of Mongolian independence.
- “ He is far from obscure in Mongolia, however, with the main square in Ulaanbaatar named for him, and his face adorning several units of currency.
- “ Born in 1893 in what is now Ulaanbaatar, Sūkhbaatar lived through a tumultuous time in Mongolia’s history, with two declarations of independence within one decade. He was part of a delegation that consulted with the Soviets about military assistance, famously carrying a letter from the Mongol leader in the hollowed-out handle of his whip. This whip is now on display in the national museum.
- “ Sūkhbaatar died in 1923 at the age of 30, shortly after independence but still in the midst of developing a government. His image appears on currency, the city square is named for him, he is honored with a statue in front of the main government building in Ulaanbaatar (immediate left), and a province is named in his memory.





*"It seems as though we don't care about future generations  
when it comes to our debt and climate modification"*

FULL

[WWW.MTU.EDU/NATRES](http://WWW.MTU.EDU/NATRES)



# CIRCLE

Individual economies and corporations can talk about output, resources, and profits, but all of us must deal with the results of production-based economies. From raw materials to final products, pollution is a consequence the market does little to manage, and it's something **William Breffle**, associate professor of natural resource economics at Michigan Tech, would like to see change.

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**From April through December**, freighters glide along the Lake Superior horizon off the coast of the Keweenaw Peninsula, carrying raw materials to and fro, forming their own kind of economic indicator. These materials—everything from taconite pellets and lumber to copper, salt, and goods from across the world—turn into cars and paper and pipes and a thousand other products.

While the market is excellent at balancing supply and demand, William Breffle, associate professor of natural resource economics in the School of Business and Economics, points out that the market handles pollution poorly. In a conversation with CBS Detroit's Matt Roush, he recounted, "We're going to have to start treating our waste stream as a necessary but negative side effect of production if we're going to have long term sustainability of economic services that benefit people."

As much hype as there has been about an information economy, we still survive thanks in large part to old economic processes of production and consumption of physical goods. These raw materials come from somewhere, and the byproducts of their consumption, and the waste from the end of their lifecycle, all goes somewhere, too.

**Pollution, along with all of the other** unwanted byproducts of our economic engines, is generally not accounted for in current market models. Despite his belief in conservative market principles, Breffle feels we need to be aware of these effects and finds them to be the right place to intervene in the market.

"It seems as though we don't care about future generations when it comes to our debt and climate modification," he says. "And it becomes a moral issue because the people aren't even here yet to express

their preferences for a clean environment. They aren't here to vote, and federal and state governments enact regulations and conduct policy in ways that are too myopic to benefit the future as much as they should."

**While extraction industries continue** to transform our economy—we see this in everything from the price of minerals making mining more attractive to the huge increase in supply of natural gas provided by the controversial process called fracking—we will continue to see the question of harmful environmental and social consequences. The question for economists is how to account for these byproducts in the market and reward behavior that takes the long view of the health of future generations into account, the ones who are not yet here to speak.



# IMPORTED FROM HOUGHTON

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*At the Walter P. Chrysler Museum, gleaming cars, so shiny they almost don't look real, make for a colorful, metallic backdrop, a reminder of the power of engineering and technology. This has been the way of Detroit for decades.*

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**C**ONTEMPORARY AUTOMAKERS INTEGRATE wireless technology and fuel efficiency instead of fins and chrome. Knowing what to put into a car and how consumers will respond is JoAnn Heck's job. She is the director of Consumer and Market Insights for Chrysler Group LLC, and a 1985 graduate of Michigan Tech with a degree in economics.

"We try to understand their pain points," she says of consumers. "Then our findings go to the engineering product planning teams who identify ways to meet those needs. People know what they want and need to function in life, and we have to figure out what tangible things might fill that gap, like a rear backup camera when they tell us they want to back up without hitting anything."







**JoAnn Heck**, director of consumer and market insights at Chrysler Group LLC, is shown here at the Walter P. Chrysler Museum. The Museum is available for events and special occasions. For more information, visit: [wpcryslermuseum.org](http://wpcryslermuseum.org).

Photo | Sarah Bird



# FAMILY TRANSPORTATION



The first family transportation was the touring car, followed in the 1920s by the sedan. Station wagons, originally designed for the post-war suburbia or the family vacation, cruised the roads. Chrysler's first wheel-drive economy car, the Dodge Dart, came from the beginning to be a family car.

## PLYMOUTH VOYAGER



## THE MAGIC WAGON





**WHILE THE LOOK AND FEEL OF A CAR MAY** get eyeballs, customers want to know what the vehicle can do for their lives. The minivan is a favorite example for JoAnn. "The minivan is all about interior space and flexibility and usability," she says. "We continue to hear about storage and loading flexibility. I want to be able to put 'x' in my minivan." That's where stow-and-go seating came from, and consumers love it."

While necessity is frequently the mother of invention, weather can take a close second. It was a little over twenty-five years ago, a sunny, cold winter morning in Detroit. JoAnn, as a new employee at Chrysler working in the parts and service division, was just learning what it meant to be a good corporate employee.

"If you didn't drive a Chrysler brand vehicle, you had to park in this lot that was all the way on the other side of the campus," she says.

A few weeks later a major snowstorm hit, and the walk from the remote lot seemed a whole lot longer. "I bought a cherry red Dodge Shadow a few weeks later."

She pauses, remembering her first time behind the wheel. "That's when the fun began."

Today, JoAnn drives a brand new Jeep Grand Cherokee, the car that fits her and her family the best. "I'm pretty active and we need it for our lifestyle," she says. "And I love Jeep!"

JoAnn looks at how consumers relate to vehicles and how they pick what fits their needs. "Grounded or foundational elements are what people look for first," she says. "Durability, reliability, fuel economy, etc. Beyond that, what they consider goes to other rational and, more importantly, emotional needs. What fits my life? What does this vehicle say about me when I drive it? That's what differentiates and drives people from one vehicle to another."

**JOANN DESCRIBES HER TECH DEGREE AS** "highly analytical, very strong, very quantitative." Her education in economics from Tech and master's in international business, melded with her knowledge of technology, has been a huge asset in her career. "That intersection is really critical. It doesn't mean everyone in the company needs to have both of these skills. But having both means you can understand the industrial and commercial sides of the coin. For instance, you can't engineer something without any regard to

the customer or the financial end anymore than you can ignore product development in favor of the bottom line. Having a handle on both sides of that equation gives you a good handle of the over-all business."

**AND A COMPLICATED BUSINESS IT IS. "THERE'S** so much to the auto industry; it's rational, emotional; it's complex," she says. "Because of the complexity, it really helps if you have the ability to take in a lot of information and synthesize it at one time. You need the ability to multitask, to think of different aspects of whatever job you're doing."

JoAnn Heck feels like she makes a difference with her career, and she knows what skills helped her to get there. "Communication is going to go a long way for young people," she says, stressing each word. "Get involved, be well-rounded, learn to work with people. You have to learn to be able to function with different people one-on-one or on a team. Whatever varying experiences you can have through your college years, the better off you'll be in your career."

And gut out a really good class or two to learn how to write, how to communicate in the business world." She recalls a business writing class in particular where the professor "pounded us on how to write succinctly, efficiently, effectively, saying we needed to be able to do that in our careers," she recalls. "He couldn't have been more right."

And for those about to make the transition from student to employee?

**"THEY HAVE TO EXPECT TO WORK HARD," SHE** says, frankly, "to become engaged, to contribute. Go in with the attitude of being a life-long learner, valuing curiosity, recognizing that you're never going to know it all. There is always room for improvement; even when you're doing something well, there's room to do it better."

JoAnn even laughs when she recalls what she put down on a recent job posting: "You have to be curious as hell."

These days, JoAnn parks her Grand Cherokee closer to her office. She can reflect on a career spent melding business and technology, human and machine. "The two together, they're a perfect match."

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***"... you can't engineer something without any regard to the customer or the financial end anymore than you can ignore product development in favor of the bottom line."***

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# ABO

## FROM THE BARRACKS TO THE BOARDROOM

**T**HE MILITARY IS NOT WHAT anyone would call a social movement. Limits are rigidly guarded, and for good reason. A group of soldiers who decide on their own targets or flanking maneuvers would lead to mayhem.

In business, however, limits are there to be pushed, to be surpassed, and to be left behind. Returning veterans would seem to be ready for this challenge. The skills are clearly there. So is the maturity. But maybe the biggest hurdle keeping veterans from becoming entrepreneurs is the huge step from taking orders to being self-motivated in every decision, and most of all, finding the support from the community to take that step.

Enter **Saurav Pathak**, the Rick and Jo Berquist assistant professor of entrepreneurship and innovation at the School of Business and Economics. He knows making the transition from student to professional can be rough, but for veterans, moving from soldier to student to professional can be much more jarring.

"I don't have the data set to completely verify this, but from talking to veterans in Detroit, I found that senior military people may be less averse to risk," Pathak observes. "Junior officers are so used to taking orders, which could hinder them when they need to take the lead in business decisions. More research will demonstrate if this is true."

With PhDs in mechanical engineering and entrepreneurship, Pathak understands how to combine technical skills with a business mindset.

Veterans, he says, "certainly show leadership and are achievers and risktakers. These qualities are key to becoming an entrepreneur." When asked what sets veterans apart, Pathak was unequivocal. "Their personality. To me they are better

fitted to the role of entrepreneurs given their training and experience. We believe that the research will show that veterans are more likely to thrive as entrepreneurs."

By entrepreneurship, he's referring to either a new business started by a veteran or getting involved in an existing business, through franchising, contracting, or consulting. "The literal meaning of starting an entrepreneurial firm — spotting an opportunity, then applying an innovative idea to create a business — is seldom the case for veterans' entrepreneurship," he says.

Pathak's focus is on what hinders veterans from beginning or succeeding as

behaviors of veterans pre- and post-military career."

"In Michigan alone, there are some 700,000 veterans," he says. "And on campus there are about 90 veteran students and another 90 faculty and staff. If we can harness just a small percentage of them in a University veterans center for entrepreneurship, we can help them succeed and propel Michigan Tech and the community into prominence at the same time." This community of entrepreneurs would be "a sustainable network of self-employed vet-

## VETERAN ENTREPRENEURSHIP IN THE UNITED STATES HAS TO BE A SOCIAL MOVEMENT.

entrepreneurs. Success can be difficult to measure but would most likely mean the progression from incubation of an idea to the launch of a business to the cusp of profitability. He has just finished refining a survey that will soon go out to veterans. First he built a network of cooperation with the ROTC program at Michigan Tech, the Veterans Affairs/Michigan Works office in Houghton, and the Whitman School of Business at Syracuse University.

With support from the Research Excellence Fund at Michigan Tech, Pathak's survey will help to determine what level of preparation and support veterans have received so far. Veterans who are currently self-employed will be asked a different set of questions than active duty military personnel. "The responses will allow us to discern the entrepreneurial

erans connected through social media or physically or both, who meet to share their experiences and train other aspiring veteran entrepreneurs."

The goal is to build sustainable community, one that will foster mentorship and provide a welcoming setting for new veterans seeking to explore the possibilities of entrepreneurship.

Pathak pauses, considering his work and the steps we still need to take to help veterans become entrepreneurs.

"Veteran entrepreneurship in the United States has to be a social movement."



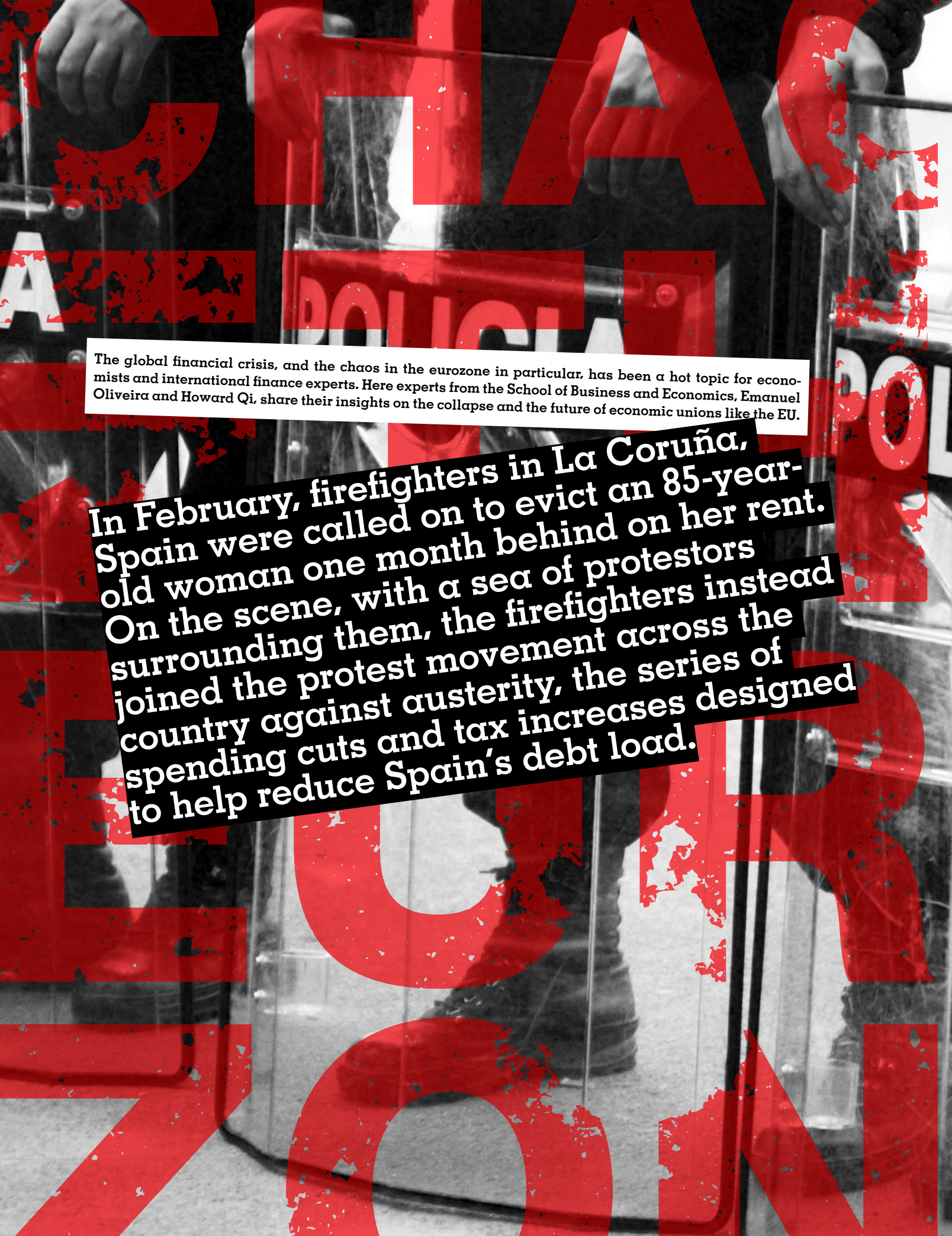
# UNLEASH



**Jessica Tompkins,** a fifth-year student in business management, is the owner of Two Bows LLC, an apparel company serving the needs of the outdoors woman. She is also a Senior Army ROTC Cadet, Commissioning Second Lieutenant, Army Reserves in May of 2013.

[WWW.MTU.EDU/MIL](http://WWW.MTU.EDU/MIL)




A black and white photograph of a protest scene. In the background, a person is holding a flag. Large, semi-transparent red letters are overlaid on the image, spelling out 'CHAOS' at the top and 'EUROPE' at the bottom. A white text box is positioned in the upper left area.

The global financial crisis, and the chaos in the eurozone in particular, has been a hot topic for economists and international finance experts. Here experts from the School of Business and Economics, Emanuel Oliveira and Howard Qi, share their insights on the collapse and the future of economic unions like the EU.

**In February, firefighters in La Coruña, Spain were called on to evict an 85-year-old woman one month behind on her rent. On the scene, with a sea of protestors surrounding them, the firefighters instead joined the protest movement across the country against austerity, the series of spending cuts and tax increases designed to help reduce Spain's debt load.**





**S**pain, alongside Portugal, Italy, Ireland, and especially Greece, has faced a storm of criticism from other eurozone nations about their budget and spending policies. Yet, several economists have warned since the inception of the euro experiment, dating back several decades (see the timeline on the next page), that having a common currency without enforced rules for budgets would lead to disaster. Cheap, accessible credit dried up almost overnight, and these nations, with high levels of spending, suddenly had bills they could not pay. International bodies agreed to a bailout, but at the cost of austerity, a policy where public spending is drastically reduced with a commensurate reduction in services and public support. Some nations have had more success with this approach than others. Here we look at the perspective of Michigan Tech faculty in the School of Business and Economics as well as finance experts from around the world.

### The Road to Recovery?

In March, the Dow Jones Industrial Average finally crawled back above the previous high water mark set in 2008, marking—statistically, at least—the end of the long road to recovery from the global economic crisis. Five long years of shuffling, restructuring, bailing out, and bankruptcy have led to upheaval, change, and questions. The collapse of the American housing market draws parallels to other burst bubbles.

“We are certainly better off than a couple of years ago,” says **Emanuel Oliveira**, senior lecturer in economics at Tech. “But besides the known economic problems that society still has to deal with, recent events make one wonder which other bills the taxpayer has yet to pay and if we are heading to a lost decade similar to what Japan experienced when its housing market collapsed in the early 1990s.”

Nations faced the choice between austerity and an attempt at stimulus. “They are indeed two inseparable sides of the issue and neither is a good answer in my view,” says **Howard Qi**, associate professor of finance at Tech. “The solution lies somewhere in between. Neither stimulus nor austerity is enough to manage this situation.”

Despite valid arguments on both sides of this debate, Oliveira favors stimulus policies during severe recessions in order to prevent socio-economic Armageddon/chaos such as the one seen these days on European streets. Oliveira stated he was “incredulous at the magnitude of the financial meltdown and flabbergasted by the learning opportunity.” The results of the various government policies will be studied closely for years to come.

In Spain, where a construction boom fueled by cheap credit resulted in ballooning debt, the credit crunch hit very hard, with unemployment skyrocketing and public projects left unfinished. There were few spending limits on regional governments, so a race to construct cultural and sporting landmarks was well underway. This lack of fiscal discipline has hit the central Spanish government very hard, with multiple bailouts of the country’s financial sector the only thing standing between them and default.

And here is the microcosm for what has happened to the European economy: just like Spain, where budgets were handled regionally but the ability to borrow and sustain debt was national, for European nations, they have control over their budgets, expenditures, and debt, but cannot manipulate currencies to ease financial pressures.

In the *Financial Times*, Antonio Garcia Pascual, the chief southern European economist at Barclays, says, “In terms of financial stress, one could say that Spain has touched the bottom... but in terms of growth and economic activity there is still no light at the end of the tunnel.”



Spain is following a pattern of austerity to make up budget shortfalls caused by an economy that is still contracting, though this is perpetuating itself because consumers have less to spend, causing a further slowdown in the economy.

"What I find quite surprising is that most countries around the world are implementing stimulus whereas the European Union is mainly implementing austerity," Oliveira says. "Even more astonishing is that peripheral EU countries persist in implementing such policies despite experiencing significant socioeconomic turmoil such as severe unemployment rates, decreases in real GDP per capita, heavily discounted privatizations of public assets, the rise of violent extremist groups (e.g. neo-Nazis in Greece), criminality, suicides, nationwide street protests, strikes... Such problems are reminiscent of the interwar period."

### Small Economy, Big Issues

Greece has been the face of the eurozone's struggles with the global economic crisis. Writing in *Foreign Policy*, John Sfakianakis runs through some of the numbers that tell the story of hardship in Greece. While he points out that the government deficit has been cut more than half in just four years, 2013 is the sixth year of depression for the nation. Comparing the situation to the Great Depression in the United States, he notes that, "Although the United States' depression saw GDP decline 27 percent, it lasted for only four years (1929 to 1933) and the country returned to its pre-Depression GDP by 1937, surpassing it the year after. This kind of recovery will almost certainly not happen in Greece before 2020." Wages are down more than 30 percent, unemployment over 25 percent, and expectations for quality of life and income are in free-fall.

Greek veterinary student Evi Pouloupoulou, speaking to satellite network Al Jazeera, put it more succinctly: "No one from the middle class can live happily." Charis Mertis, a Greek architecture student, goes further, claiming that, "Austerity

measures have led to students in primary school fainting from hunger."

In the United States, one of the key tools available to the Fed was the ability to adjust the value of the dollar. The core of the crisis in Europe lies in the fact that individual nations did not have this option. The 17-member eurozone shares a common currency, but does not share common budgets. This means that these economies, while working together in a free trade zone, did not all have the same strengths and weaknesses, and the central bank's ability to assist one ailing economy would have a detrimental effect on another.

### Economics and Political Power

The nation most at odds with the situation in Greece is Germany, which in early 2012 proposed that the Greek government be replaced by a European commissioner. The logic was that, as Europe already controls the Greek national currency, should they not also control levels of taxation and spending to get the nation and the eurozone through this crisis?

According to Reuters, news of this proposal hit Greece "like a hurricane." The rift that has formed between two nations with deep ties—one in ten Greeks has lived, worked, or studied in Germany, while German tourists hail Greece as a top destination. In addition, cultural differences have strained that relationship beyond the breaking point.

There is a cold economic logic to the proposal. "Germany's proposal makes sense from Germany's perspective," says Qi. "It does not make sense from Greece's perspective because of sovereignty concerns and the harsh standard of living" that would result. Perhaps unsurprisingly, the move failed.

Germany's economy depends on exports, and 40 percent of those exports go to the rest of the European Union. Without those exports, Germany would be plunged into a recession or depression. It is in Germany's interests to keep spending levels up in neighboring nations to maintain demand.

## A HALF CENTURY OF INTEGRATION: A LOOK AT THE EUROZONE EXPERIMENT

1958 —

The Treaty of Rome is signed by West Germany, the Netherlands, France, Italy, Belgium, and Luxembourg, establishing the European Economic Community.

1979 —

The European Exchange Rate Mechanism (ERM) is introduced reducing exchange rate variability and volatility across Europe, a prelude to tighter economic integration.

1992 —

Economic and Monetary Union (EMU) members of Europe sign the Maastricht Treaty, obligating all signatories to limits on debt and deficit spending.

1993 —

The high exchange rates of the Bundesbank (Germany's central bank), in place to counter inflation, cause major stress to the original ERM.

1999 —

The EMU adopts a common currency. Seventeen of the 27 member states of the eurozone adopt the new euro.



For a small economy like Greece, devaluing the drachma would have been a tool to relieve the economic crisis. As it stands, however, that tool is unavailable to Greek economists and politicians so long as they are a member of the eurozone.

### Lessons to be Learned

The important lesson in this drama, still unfolding, is that economic integration can only be as successful as political integration. Our economy is undoubtedly globalized, but currencies and central bank decisions are still national and regional. Nations and regions forging closer ties would be well-advised to remember that their political integration needs to match their economic integration in order for the economy to be as flexible as it needs to be. For the system to work in Europe, "Budgets and tax collection must be matched," says Qi. "This requires the economic and political systems to be consistent, which might be achieved in two ways: the EU countries could become more independent or more integrated. The status quo is what causes the problem."

Oliveira agrees on the need for change, but points out that now is the time to alleviate socioeconomic turmoil, not to implement further austerity with the pretense of fostering political union. The outcome might end up being exactly the opposite — as daily news from Europe clearly shows: "The least disruptive solution to this dilemma is to make such reforms in times of abundance, not during a severe recession," Oliveira says.

The choices left— austerity or debt-fueled stimulus spending—are uncertain, leading to dueling notions on what needs to be done. The lessons learned from this crisis will sculpt the next economic and political unions. The United States may also react to the process, in the halls of power, in boardrooms, and on the streets, as these economies all try to climb the ladder once again.

**2005** — Greece has the eurozone's fastest-growing economy. Shipping and tourism, mainstays of the Greek economy, are disrupted a few years later by the global financial crisis and collapse the Greek economy.

**2010** — Spain's real estate bubble, which fuelled public spending, bursts, causing a dramatic surge in debt levels. A program of austerity is introduced.

**2012** — The effects of the eurozone crisis are fully felt. The inability of individual nations to adjust currencies takes away a key tool from policymakers.

# ex¢hange

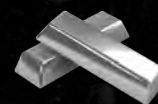
**THROUGH THE CENTURIES, REGIONAL AND GLOBAL CURRENCIES HAVE BEEN ADOPTED BY BOTH POLICY AND CONVENIENCE. HERE ARE A FEW THAT GAINED WIDE CIRCULATION:**



**Roman denarius** — As Rome grew, so did the denarius, first minted in 211 BCE. Meaning "containing ten," it has survived as the "dinar," as well as "dinero" (Spanish) and "denaro" (Italian) for money.



**Spanish dollar** — Dating to the end of the 15th century, it was introduced to correspond with the German thaler—the origin of the word "dollar." The Spanish dollar was legal tender in the United States until 1857 and was in wide use in Europe, the Americas, and East Asia as a global currency.

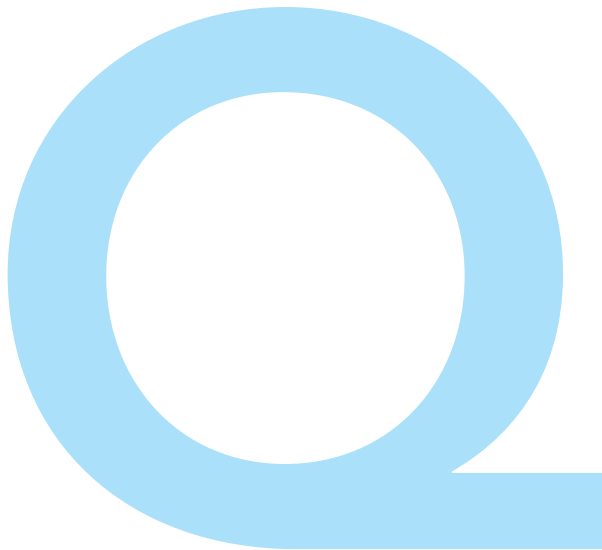


**Gold Standard** — Used as an international currency due to its stability, gold has held sway for many centuries. The international gold standard collapsed around the time of World War I.



**Bitcoin** — Without geographic boundaries, the online currency of bitcoins is exchanged freely across virtual space. As of writing, the value of all bitcoins in circulation is over half a billion US dollars. However, without a central bank, the value of a bitcoin can vary dramatically.






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*The debt crisis in the eurozone has raised strong questions about sharing a currency across a number of nations. Yet, our global economy is more and more integrated, with nations and major city-regions forming a global economic network; a global currency would not be outside the realm of possibility, so the eurozone crisis is a lesson for a potential monetary future. Should we adopt a global currency?*

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## **1 Dean Johnson: James and Dolores Trethewey Professor**

Let's look at economic history for an answer. A global currency would, in essence, be a global Gold Standard. Under a gold standard, each currency was worth a certain amount of gold. As such, there was a fixed exchange rate between currencies and, de facto, there was a global currency — gold. The US abandoned the gold standard, primarily, because it gave government little flexibility to employ monetary policy to counteract shocks to the economy. Economic history has shown that inflation may be tempered under a gold standard, but economic output is subject to much greater variability.

## **2 Cody Renard: Student**

A global currency will lead to the loss of free monetary policy for independent nations throughout the world. Monetary policy for a particular currency is controlled by the central bank of that independent region or nation, and is a key tool in adjusting interest rates in order for independent nations to adjust to economic recessions and expansions. With a common global currency and monetary policy, independent nations will no longer have the authority to control their individual monetary policy. This could cause drastic economic effects in some nations. Even as the world economy is at an integrated scale never seen before, a global currency should not be adopted because there are too many economic discrepancies between independent nations to create a functional global currency.

## **3 Emanuel Oliveira: Senior Lecturer in Economics**

If "money is power" then the adoption of a global currency is quite difficult to implement as it would decrease the geopolitical influence of national central banks and their affiliates. Impossible? No. Seventeen European countries did it and the euro has been in circulation since 2002. The main advantage of a single currency would be lower transaction costs, whereas the disadvantage would be the impossibility of using monetary policy to address country-specific recessions (as the eurozone now knows). Another issue of concern would be who would manage such global currency? China? USA? An unbreakable and permanent code for money creation like the one used in Bitcoins could potentially be the solution. No particular country would run it. It runs itself. As long as the incumbents do not stop adoption, then we are already on our way to a single global currency.

## **4 Becky LaFrancois: Assistant Professor in Economics**

A single global currency would reduce transactions costs and eliminate exchange rate risk faced by global firms and consumers, increasing the efficiency of markets. However, a single currency would also inhibit effective central banking targeted at controlling interest rates and inflation within a particular economy. Although economies across the world today are more interconnected than in the past, it is too soon to act as if there is only one global economy.



Join the conversation on global currency by visiting the Impact website at: [www.mtu.edu/business/alumni/impact](http://www.mtu.edu/business/alumni/impact)





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Photos | Sarah Bird





## Students in the School of Business and Economics take the University's motto very seriously. Here's what they did during the Fall 2012 semester to Create the Future:

### On-Site Company Research for Finance Competition at Perrigo

In late November, four students in the Applied Portfolio Management Program traveled to Perrigo, the largest manufacturer of over-the-counter pharmaceuticals in the United States, as part of the CFA Institute Research Challenge. This competition brings students, publicly traded companies, and industry investment professionals together to promote hands-on mentoring and intensive training in company analysis and presentation skills.

Anna Paul, Jessica Zaiki, Mike Harry, and Justin Wilson took part in the investor relations meeting and talked to Perrigo's CFO, Judy Brown, about financial decision making and analysis within the company. The students took the information and compiled financial forecasting to present at a competition against five other schools at Western Michigan in February.

"This trip made learning about the actual company so much easier than pulling information from the website," said Paul. "It's nice to see that a world leader in the pharmaceutical industry cares about the local community and not about cutting corners."

### Management Information Systems Students Team Up with Blue Terra Energy

Emily Jensen, Rachel Platfchan, and Seth Stever worked closely with Blue Terra Energy LLC, a local energy company in Hancock, to develop a usable

database system as part of an upper-division management and information systems class. Haiyan Huang, assistant professor in management information systems (MIS), designed the curriculum to include this experiential learning opportunity.

"The goal was to streamline the data collection, organization, updating, reporting, and analysis processes for the company," she added.

Working closely with Dave Camps, CEO of Blue Terra Energy and mechanical engineering alum, students were able to create a workable database with customized customer fields, inputs, and sorting that will keep projects running smoothly.

"I have been very uneasy about our data and the cost to maintain it. I am very excited about the system the students developed and it has great potential," said Camps. "This system is really going to help us a lot to track customers, schedules, and orders. It will allow us to move forward more aggressively. I am eager to get this implemented on our server."

### FinanceU Educates Michigan Tech Students about Financial Literacy

During December, the Michigan Tech Finance Club, in partnership with the Michigan Tech Office of Financial Aid, held the first FinanceU educational event at the J.R. Van Pelt and John and Ruanne Opie Library. Aimed at fostering financial literacy on campus, the event was specifically tailored to students, regardless of class and major. Finance Club members offered personal consultations

and information related to personal finance, financial aid opportunities, the upcoming FAFSA for 2013-14, and useful tips on how to benefit from CashCourse, a free online personal finance program sponsored by the Alumni Association.

"Since last May, this fantastic group of students and financial aid representatives has been working together on organizing and developing content to make FinanceU as effective and fun as possible for everyone, regardless of class and major," said Finance Club advisor Emanuel Oliveira. "Now it is time to learn from this first experience and the questionnaires we collected from students concerning their demographics and financial habits. Ultimately, the goal is to make FinanceU an annual financial literacy event on campus, though we are also seriously considering the feasibility of holding it every semester."

### A Leaner Meaner Brand: Students Report on Subway's Marketing

Amber Campbell, Michael Bennet, Joel Vertin, and Qin Xu developed a marketing plan to improve the brand of Subway in both America and China. As part of the MBA Marketing, Technology, and Globalization course taught by Assistant Professor of Marketing Soonkwan Hong, the team worked together to present a compelling case for change.

"The task of trying to reinvigorate the brand image and marketing campaign for a large company, like Subway, really required us to use all of the skills and knowledge that we developed throughout the semester," said Vertin.





"The project went well. It was a valuable learning experience and I know that I was able to immediately apply some of the concepts to my professional life."

### Marketing for Local Businesses: Gitzen Company

Students in Assistant Professor of Marketing Jun Min's Business-to-Business marketing course provide marketing consulting for local companies. This student consulting project was designed to apply knowledge of marketing theories in a real business context, evaluate the practices of the client company, and develop an advertising strategy for potential customers.

A team of students, including Angela Barr, Kaylee Betzinger, Chyanne Knudsen, Samantha Robbins, Christina Ruth, and Sarah Vadnais, put together a strategy including a commercial for the Gitzen Company, which provides wholesale food products like candy and snacks and operates out of Houghton.

### Digital Marketing for ShareBliss.com

ShareBliss.com is a new website that combines features from popular social sites, such as Pinterest and Sharethis, and integrates online advertising by using Google AdSense. While ShareBliss.com is a live site, the founders are completing beta testing and needed digital marketing advice for their formal launch. Instructor Cindy McColley's Digital Marketing class completed projects and sent them to the ShareBliss.com founders who were thrilled to obtain thoughts and insights from the Michigan Tech students and impressed with the quality and detail of the work.

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Tidwell's Ties is a tradition in the SBE celebrating graduates who pass the CPA exam. Started by the legendary Sam Tidwell, it is a mark of accomplishment and inspiration to others. We recently heard from Melodie Hayes with her good news:

**Melodie A. Hayes,**  
Director of Accounting,  
Exel Supply Chain US/Canada

"I never dreamed in my first four years at Tech that I would one day be a CPA. I loved mathematics and even though I didn't have a clear direction with that major, I pursued it at Tech. When I was nearing graduation, I found out about the new MSBA program; I was in the first graduating class for that degree.

It was a proud day for me and quite a journey once I finished all four parts of the Ohio CPA Exam. The CPA has made quite a difference in my job opportunities at Exel. I've been here nearly 18 years and have progressed to my current position, Director of Accounting for the US and Canada.

Please accept this red tie as a thank you to the School of Business and Economics!"

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# FACULTY PUBLICATIONS

## Breffle, William S.

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**Karol Pelc began teaching at Michigan Tech** over 27 years ago. During his time at Tech, he co-founded and directed the Center for Technological Innovation, Leadership, and Entrepreneurship (CentILE) and he initiated the founding of the Entrepreneurs Club.

As professor emeritus, Pelc continues to advance technological innovation across the globe. Pelc is active in editorial work as a guest editor for the International Journal of Knowledge Management and he has continued teaching graduate courses at Michigan Tech during the summer. In spring 2010, Pelc served as a visiting scholar at Japan Center for Michigan Universities in Hikone, Japan, where he conducted research on manufacturing management practices and lectured on "Japanese Innovation Management."

This summer he will be teaching Managing in the Global Environment for the School of Business and Economics.

- » Pelc, K. I. (2013) "Global dynamics of innovation in social networking," ASBBS Proceedings 2013, 20th Annual Conference of the American Society of Business and Behavioral Sciences, Las Vegas Feb. 21 -24, 2013, v. 20, p. 340-350.
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