

YALE ECONOMIC REVIEW

A Yale College Student Publication

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EQUAL JUSTICE UNDER LAW

When Justice isn't Blind

*An Economic Analysis
of Bail Policy*

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From the Editor's Pen

Uncertainty lies ahead as political change has swept across the United States and Europe. Political volatility will continue to have an impact on consumers, firms, and the financial markets. Investor euphoria has already subsided following the 2016 U.S. presidential election as markets begin to correct for legislative uncertainty. The U.S. economy continues in slow-growth mode as it experiences its slowest expansion during the post-WWII era. Abroad, stagnating oil prices have increased emerging market debt and driven Gulf Cooperation Council countries to seek new sources of financing.

As a Yale student organization comprised of undergraduates, graduate students and faculty members from across the university, the Yale Economic Review continually strives to be a vehicle for the delivery of timely and insightful coverage of current economic issues. We would like to thank the entire YER team for its dedication to this goal and for its tireless pursuit of understanding of our economic world. We hope you find this issue of interest, as we continue to explore new ways to make the publication useful and more relevant to your work.

It is with great pleasure and excitement that we direct you to our rapidly growing website, which can be found at YaleEconomicReview.org. The site features a collection of new articles as well as many articles in the archives, and we hope that you will visit the site for news about current events and Economics at Yale. We look forward to sharing what we have been building these past few months with our readers.

Sincerely,

Pranam Dey
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Insights

What's Next? The Minimum Wage Over Time and Proposed Alternatives

BY CHARLES PARRINO

Americans disagree on what the minimum wage should be, and economists disagree on what to expect if it changes. The center of the debate is unemployment: increasing the cost of labor will increase unemployment or...it won't.

The research varies greatly. For example, a study by economists at the Federal Reserve Board and UC-Irvine insists that a higher minimum wage would hurt employment because businesses will be unable to afford more expensive labor, while the Department of Labor suggests that a higher minimum wage would provide "some help on the jobs front" because an increase in purchasing power for the poor working class will stimulate the economy. Unemployment is not the only pertinent argument. Some advocates of a higher minimum wage take a moral stand and claim it should be raised to help alleviate poverty. Some opponents suggest that crime rates will rise when teenaged and

low-skilled workers can no longer find jobs. Either way, changing the minimum wage will have effects beyond the millions of workers and employers facing new wages and costs. Before we look forward, though, let's look back.

Unfortunately, historical data, like contemporary research, remain inconclusive. The inflation-adjusted minimum wage surpassed \$10 in 1968 and remained well above \$8 throughout that decade and the next. Workers received more purchasing power from their minimum wages 40 years ago than they do now, which many see as anti-progressive. On the other hand, the average inflation-adjusted minimum wage since it was introduced in 1938 is \$7.40, just 15 cents higher than the current federal minimum wage of \$7.25. Some believe that this wage represents a natural resting point that should remain where it has for the last three quarters of a century.

Today, the battle for the federal minimum wage is all over the place. Many want it to stay at \$7.25, while others join Senator Bernie Sanders in the fight for \$15. More moderate proposals hover somewhat safely in the \$9-\$11 range, but different dollar amounts are not the only suggestions on the table. Several Republican candidates in this year's primary suggested that the federal minimum wage should be abolished, and there are economists who agree that indeed the market should be free to set the price of labor based on supply and demand as it does with most other goods. At the other extreme, proposals like a reverse-income tax would pay the difference to any individual who does not receive a benchmark monthly salary. The most popular proposed alternative to raising the minimum wage is to increase the Earned Income Tax Credit (EITC), a refundable credit that particularly benefits low-income workers with children.

Research on the minimum wage, while diverse and interesting, cannot itself answer the question of what the value should be. The areas that are currently phasing in \$15 will serve as valuable models for other states considering change. Emeryville, California currently has the highest minimum wage at \$14.82, but the near future could see the federal minimum wage increase by over 100% or not by a single cent.

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Global Investment Trends and the Rise of Luxury Real Estate

BY SANTIAGO BOTTO

In February of 2015, the New York Times published a shocking expose voicing a secret that was already well known to many people: the New York City real estate market is a magnet for massive inflows of suspicious money. Focusing on the Time Warner Center, a luxury apartment building near Central Park, the Times article details how questionable figures from Russian oligarchs to Chinese industrialists to allegedly corrupt Mexican officials have been spending sums in the tens of millions of dollars to own these luxurious apartments, often relying on opaque shell companies to hide their identities. The lack of regulation on real estate transactions allows these suspect figures to spend potentially dirty money and convert it into a legal property. While money laundering is not a new problem by any means, funneling it through luxury real estate is a trend that has become more and more popular in recent years. In the larger scheme of things however, this spending spree on astronomically costly real estate is a direct result of one of the most telling changes in the global economy of the last decade: luxury real estate markets in a handful of global cities are ballooning at an unprecedented rate.

The changes in real estate markets for cities like New York, London and Hong Kong are obvious just from the physical landscape: the last years have brought a building spree that transformed the cityscapes of some of the world's largest urban areas. Even though the supply of luxury apartments has increased, demand has been going up even faster, as is clear from the quickly rising prices for premier real estate in major cities. According to the New York Times, spending for NYC properties that cost over \$5 million has

tripled in the last decade to \$8 billion. In spite of the dramatic increases in prices and ensuing construction projects, this real estate boom is remarkable because it is limited to a handful of cities, and under very specific circumstances.

The international real estate firm Christie's conducted a study including the Toronto housing market and those in the cities it considered the top luxury real estate markers: Cote d'Azur, Dallas, Hong Kong, London, Los Angeles, Miami, New York, Paris and San Francisco. All of these cities have seen consistent, almost uninterrupted increases in real estate prices in the past decade and a half. In Dallas, the number of luxury properties on the market increased by 35% from 2014 to 2015, and the number of luxury homes sold increased by 25%. In many cases, the market booms have also led to an increase in prices across all tiers of the real estate market, as evidenced by the increased cost of living across all income levels in places like New York and London. However, in other cities with booming luxury real estate markets, prices for standard housing are still depressed following the Great Recession. Meanwhile, real estate markets in the majority of the developed world are only now beginning to recover

from the 2007-2008 crash, and do not show the same frenzied activity as their luxury counterparts.

This stark divergence between luxury and ordinary real estate markets is a



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result of global economic trends that favor supposedly safe investments since the 2008 crisis. After the stock market crashed in 2008, investors fled stocks for the time being and looked for safer investments that might still yield high returns. The deteriorated economic conditions across the developed world made this a difficult task. While many

developing countries were still growing after the global financial crisis, some felt that the level of risk was too high to invest in emerging markets. Therefore, real estate investments in cities with well-established property markets emerged as a viable solution for investors looking for good returns on large amounts of money. The values of luxury properties had not dropped nearly as much as the standard residential properties which were more prone to bad mortgages and a crash in demand. High-end real estate became very popular with investors and luxury property markets started booming as a result. Even before the financial crisis, the last decades have seen a trend of more and more wealth being concentrated in a few global “gateway” cities. These cities developed unique property markets that became established as investment opportunities for global capital. Many investors and real estate agents realized that these trends could become even more powerful in the wake of the financial crisis, as accumulated capital needed to find a relatively low risk and high return outlet. The shockingly loose regulations were an added bonus and allowed for dirty money to join the flow into the luxury global cities.

Additionally, investment funds that were also looking for higher returns developed special funds called Real Estate Investment Trusts (REITs) that were open to anybody and typically invested in the development of luxury properties. Thus the luxury market attracted even more investment because the majority of the population could participate easily. Since 2008, luxury real estate markets have been reliably booming because they fulfill a need for stable investments that can store a large amount of capital. The unique investment environment of the past eight

years, with a weak global economy and unstable investment opportunities but a large movement of capital, set the stage for the high-end property boom.

More recently, there have been rumblings in the global economy that suggest a shift with potentially significant impact on the real estate market. In general, the global economy is still performing weakly, with the IMF warning that the growth of the world economy will be “disappointing” in 2016. Parts of the developed world seem to be recovering from the Recession, with the United States economy improving and some European countries growing again. The recent increase in interest rates in the United States may redirect investment towards normal U.S. investment vehicles and away from the far flung “gateway” cities. At the same time, many

market, they suggest that London’s real estate markets may not have the same level of frenzied activity of recent years.

Although conventional investments may be recovering some of their value, it is very likely that luxury real estate will still play an important role in global savings in the future. If anything, the uncertainties and contradictory evidence about the strength of the world economy will make real estate an attractive option for its stability. The luxury real estate market has carved a space as an important feature of global investment and looks strong enough to remain that way for the next few years.

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Picture used under a Creative Commons license. developing countries such as Brazil and China are facing difficult economic periods, which may slow down real estate activity in these markets. The negative trends in foreign markets and the recovery in the Western economies might raise expectations of increased activity and investment in the developed world, but there are some contradicting signs from some countries. According to the Financial Times, the growth in U.K. house prices will slow down in 2016. While these forecasts do not necessarily reflect activity in the luxury real estate

Insights

Trump, Russia, and a New European Paradigm

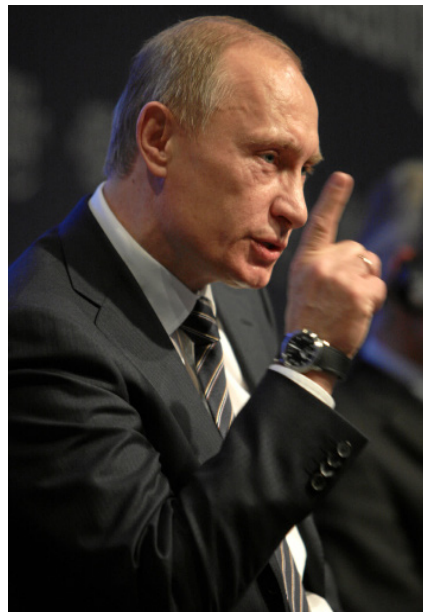
BY MICHELLE PRINTSEV

With the end of one of the most divisive presidential elections in U.S. history, Donald J. Trump stands as the next president. His stance differs from that of the 'establishment' over a wide range of issues, so domestic and foreign players alike will be carefully watching over the coming months. Chief among the interested parties is the Kremlin, as Mr. Trump's election may herald yet another reset in US-Russia relations.

Russia has figured prominently in the 2016 election, from accusations of Kremlin interference with election results to heated debates over the future of US involvement in NATO. Under President Obama, the US has upheld its commitment to its European allies, and continued to engage in joint military activity (both training and otherwise) across the world. Moreover, the US took an active interest in the events in Ukraine, joining the European Union in imposing sanctions against Russia in 2014. When President Obama first entered office, there had been hopes for an improvement in US-Russia relations. It is clear, however, that no such improvement has occurred, and that relations between the two nations have only worsened during the last eight years. Many, in both the US and Russia, saw Ms. Clinton as the candidate of the establishment, and did not anticipate significant reversal of US policy toward Russia in the event of her election. Given the election of Mr. Trump, however, there is reason to believe that such a change may occur.

The President has been especially outspoken in his criticism of the current state of affairs within NATO, taking issue with the disproportionately large US contributions and questionable gains from such spending. Currently, the US funds 22% of NATO's Common Funded Budgets

(\$685 million out of \$2.8 billion per year), making it the largest contributor (Germany follows at 14%). NATO's charter recommends that member states spend 2% of GDP on defense. However, only 5 of 28 members (the US, UK, Poland, Greece and Estonia) at least this amount in 2015. That year, NATO Europe spent 1.43% of GDP on defense, a total of \$235,668 billion. This amount is less than half of that spent by the US (\$641,243 billion) in 2015, though the combined



GDP of NATO Europe exceeds that of the US. Of all NATO countries, the US has the highest defense expenditure, both by dollar value and by percentage of GDP (3.78% in 2015). Estimates for 2016 show that six NATO members will spend at or below 1% of GDP on defense – less than half the recommended amount.

Mr. Trump asserts that while he supports NATO, he intends to cut US contributions to make other member states pay their "fair share." Though the proposal to cut U.S. funding for NATO is not in-

consistent with the organization's charter, it has been made during an inopportune time of increased Russian activity and is thus interpreted by some as a weakening commitment to European allies. Moreover, limiting the US contribution to NATO may signal a withdrawal of US influence from Europe, possibly allowing Russia to expand its own. To that point, Mr. Trump notes that he does support NATO, but that the US "can't continue to be the policeman of the world". He has also remarked that he is "certainly not a fan of us being against Russia". Currently, NATO's rhetoric has a noticeably anti-Russian tone, so while proposals to cut US expenditures on the alliance may have an economic appeal, they carry heavy political connotation that will make them difficult to implement.

In his speeches, President Trump has also indicated support for Russian President Vladimir Putin's military action in Syria, and hinted at the possibility of lifting some of the sanctions against Russia. The sanctions were implemented in 2014, and fall into three broad categories: those that restrict the ability of some Russian state-owned enterprises to access Western financial markets, those that embargo exports of designated oil exploration and processing equipment to Russia, and those that embargo exports of designated military and dual-use goods to Russia. Additional measures targeted sixteen ranking Russian government officials, restricting their mobility and residence. In August 2014, Russia retaliated by imposing a ban on food imports from Western nations.

While the sanction's effects are still debated, there were discernable economic developments in late 2014 through 2015 that can claim the sanctions among their causes. From 2014-I to 2015-I, the EU

lost €8654 million in exports to Russia, but gained €40,019 million in exports to other markets as a result of trade diversion. Most EU members saw similar trade gains; only seven states experienced losses to their total value of exports (the Baltic States, Sweden, Finland, Belgium and Greece). The European Commission has estimated the effect of the sanctions to be a 0.3% loss to the EU's GDP in 2014 and 0.4% loss in 2015. The Institute of Economic Forecasting of the Russian Academy of Sciences finds similar effects, and estimates 8-10% of Russian GDP lost as a result of the sanctions.

There is significant uncertainty about the effects of the sanctions, however, because their onset coincided with falling oil prices, a decline in the value of the Russian Rouble, and the Russian recession in 2014. In addition to weakening consumer demand, the recession led to capital flight as well as higher inflation in Russia. These developments complicate analyses of the sanctions' efficacy; the fall in trade volume could have resulted from any number of factors and to varying degrees.

Should Mr. Trump decide to lift at least some of the sanctions against Russia, there would be both economic and political implications. If the EU were to follow, there would likely be an increase in trade volume between the EU and Russia, as they remain among each other's largest trading partners. Trade will not recover fully for some time, however, because of deep structural issues in the Russian economy. It lags behind other developed countries in terms of technology and innovation, is too dependent on exports of raw materials, and has less developed financial markets and institutions. The sanctions have exacerbated these issues. It will take time for countries to re-establish pre-sanction trade patterns and for Russia to address its structural deficiencies. When viewed politically, even a gradual removal of sanctions may indicate diminishing US presence in Eastern European politics, and give President Putin more free reign. He

has shown no willingness to back down in Ukraine or Syria so far, despite persistent economic problems at home. Lifting sanctions might encourage further expansion into Ukraine, and possibly elsewhere



ing a wave of anti-American sentiment in Russia", according to Matthew Rojansky, adjunct professor at Johns Hopkins SAIS. As David Satter, fellow at Johns Hopkins SAIS notes, "although the US wants Rus-

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in Eastern

Europe. Interestingly, joint sanctions have signaled allied cohesion among European states and the U.S. and have allowed the West to present a more united front against Russian expansionism. If the U.S. lifts sanctions, but the EU does not follow, Putin will have a stronger position as a result of Western divisions. Mr. Trump would likely retain some of the sanctions for negotiating purposes, and only lift some to indicate willingness to work with Russia towards achieving shared strategic goals.

Mr. Trump's plans for Russia have drawn criticism from several fronts. He faces opposition from Congress since both chambers are held by the Republican Party, which has historically taken a hard-line stance against Russia. More generally, both President Putin and President Trump might find it difficult to improve relations because of deep-rooted domestic opposition to cooperation. In 2012, Mr. Putin's reelection campaign partly relied on "fuel-

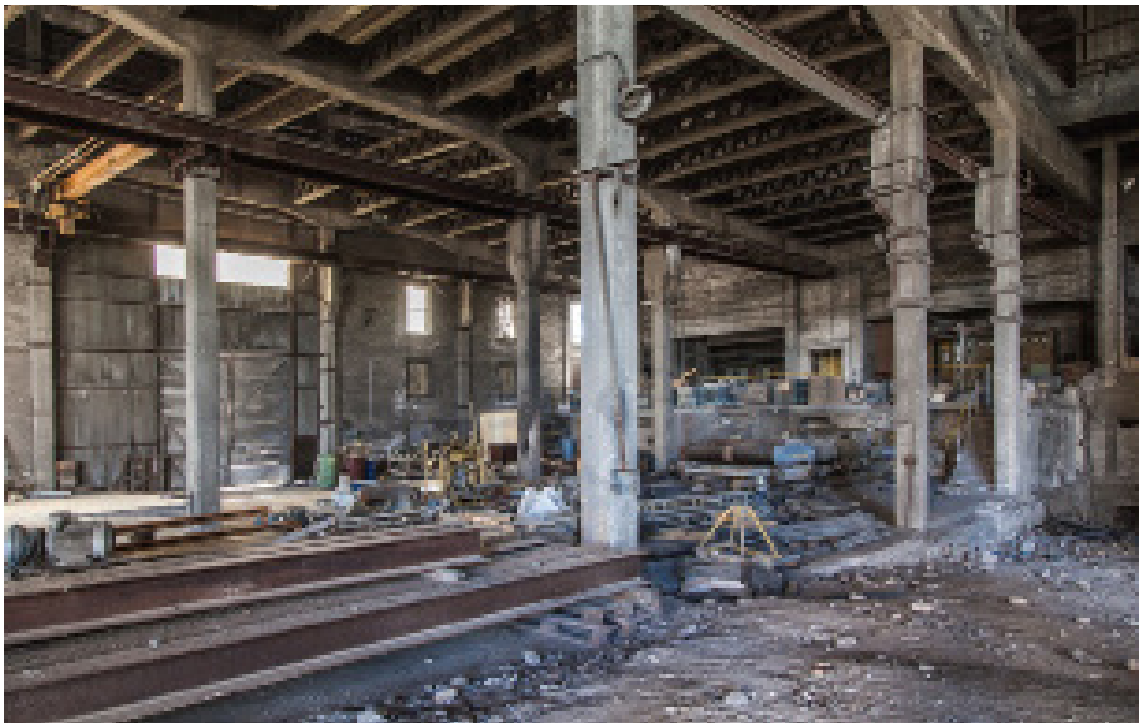
sia as a friend, Russia's leaders need the US as an enemy"

So, while the election of Mr. Trump represents potential for real change in US-Russia relations, a reset will be quite difficult to realize.

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Protectionism in US Politics

BY DREW TOMBACK



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At the core of the 2016 campaign debate—whether it be between Hillary Clinton and Bernie Sanders, among Donald Trump and the Republican primary candidates or Clinton and Trump in the General Election—was the issue of protectionism. Both Trump and Sanders vowed to bring jobs, especially in manufacturing, back to America through protectionist routes. Such policies include restraining trade between the U.S. and predominantly developing countries through the use of tariffs and other government regulations. All center on the United States' current trade deficit and our recent loss of manufacturing jobs blue-collar workers relied on. These protectionist policies have gained popularity because of Trump's and Sanders's use of rhetoric and falsehoods. Yet, a review of the protectionist policies during the 1929 Great Depression and the far better alternative options demonstrate the danger of the protectionist policies candidates vowed to enact.

Despite harsh criticism from

economists, previous presidents implemented protectionist policies. Such policies were used as a means of com-

economic problems caused by protectionism, interstate competition rose as high tariffs and currency devaluations

“By destroying relations with emerging countries, the U.S. also loses opportunities for investments in fast-growing economies.”

bating the recession that ultimately turned into the 1929 Depression. The Smoot-Hawley Act of 1930 notoriously installed American tariffs on over 20,000 imported products. Ultimately the isolationist policies of the U.S. after World War I started a cascade of worldwide tariffs and protectionist policies. These policies led to a serious decline in trade and ultimately the destruction of the worldwide economy. Beyond the

pitted countries against each other. Later, these combative strategies would manifest themselves in World War II. While protectionism did not directly cause the Depression, it did reduce efficiency and the American economy's potential output. Clearly, however, protectionism failed to jumpstart the economy and was ineffective at best.

Despite history's repeated examples of the flaws of protectionism, we seem

poised to commence the most significant protectionist program to date. At the core of Trump's winning campaign was a promise to reinvigorate protectionism by renegotiating trade deals and installing tariffs. He specifically vowed to destroy the North American Free Trade Agreement (NAFTA), eliminate the Trans-Pacific Partnership (TPP), and impose tariffs on goods from countries that failed to meet his trade demands. Specifically, Trump proposed 35%–45% tariff penalties that would raise prices for consumers, destroy export jobs, and scare off investors and businesses. By destroying relations with emerging countries, the U.S. also loses opportunities for investments in fast-growing economies—as new growth areas develop in the rest of the world, countries with protectionist policies remain isolated and unable to capitalize on growing global trends. Additionally, Trump's campaign rhetoric often pitted U.S. industry against the rest of the world in a zero-sum game. In Trump's world, if China takes a manufacturing job from the U.S., they have won and we have lost. This is not the reality. Competition between China and the U.S. has lowered prices for consumers and benefitted the world economy. While the U.S. may suffer in the manufacturing sector from importing Chinese consumer goods, it lowers overall prices for Americans and provides service and technology jobs as the economy grows. The end result in international trade is positive sum. Despite harsh criticism from both Democrats and Republicans, Trump appears ready and eager to carry out his threats to impose these protectionist policies. While Trump's calls for reversing globalization resonated with millions of white-working class Americans, his attacks on the free market and open trade will do little to improve their job security or financial situation. The labor market changes observed in the recent decades, especially the transfer of national manufacturing to overseas operations, was the

result of technological and productivity changes, not international trade. In fact, economists Hicks and Devaraj found that increases in productivity accounted for 88% of the manufacturing job losses in the U.S. from 2000–2010. As it stands, the U.S. will not be able to compete with the less expensive labor in China and other developing countries. If Trump tried to bring manufacturing back to the U.S., consumers would be burdened with



far higher prices. However, while other developing countries offer cheaper low-skilled labor, the U.S. continues to have a technological and educational advantage that Trump could use to his advantage.

Instead of focusing on reducing imports and eliminating free trade policies, Trump should look towards improving the economy through generous fiscal policy and promoting high-tech

manufacturing. The near-zero monetary policy that has plagued countries since the market crash in 2008 has rendered fiscal policy as the only viable option for generating gains in the economy. Trump could easily package a bipartisan infrastructure bill with a fiscal boost that could finally sustain a national +2% economic growth. In addition to fiscal boosts, Trump should take advantage of the U.S.'s service economy and larger proportion of skilled laborers. Adam Smith's global economy works to the benefit of all participants as each country specializes in industries they best perform in. Rather than bringing back low-cost manufacturing to the U.S. at higher prices and isolating the U.S. from the global market, Trump should provide incentives for U.S. businesses to specialize in high-tech sectors. Unlike protectionism, fiscal packages and increasing exports benefits both the American and global economies.

Ultimately, Trump may pull back on his protectionist rhetoric as he has done on other policy issues, such as immigration, so the future remains uncertain. However, as President, Trump should be wary of installing and promoting protectionist policies that could ultimately damage the U.S. economy in the long run.

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Energy Junk Debt: Dynamic and Surprising

BY SUKH DHILLON

Junk. What a fascinating name for a useful asset class. Junk debt, also known as high yield debt, simply refers to bonds issued by companies with risky credit profiles. In other words, junk debt pays a higher interest rate than the going average rate in corporate bond markets due to the higher risk premiums associated with these companies. These higher risk premiums manifest themselves in the subpar credit ratings given to them by credit rating agencies. Under the Standard & Poor's credit ratings scale, anything from AAA to BBB is considered investment grade credit, while companies with ratings from BB to D are considered to issue speculative grade, or junk, debt.

The high yield debt market established itself in the late 1970s and early 1980s so that companies that fell under the profile of a fallen angel could still receive financing. This fallen angel profile is for a company that used to issue investment-grade debt, but then shouldered a substantial hit to its credit rating. Energy junk debt is simply the speculative-grade credit issued by companies in the energy industry. This includes companies tasked with the exploration and development of oil and gas reserves, the drilling of oil or gas, or supplying the derived power to consumers.

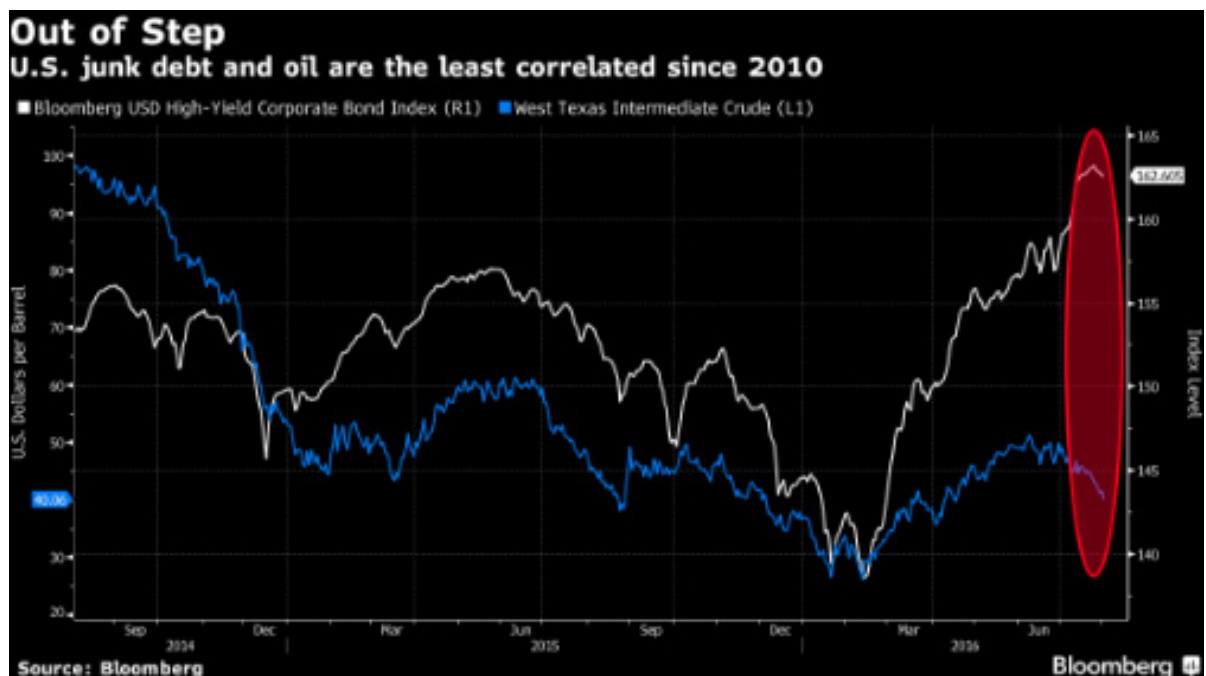
Moving in lockstep with oil's substantial

price decline that began in the summer of 2014, the value of high yield energy debt fell as indicated by movements in the Bloomberg USD High-Yield Corporate Energy Index (BUHYEN). The junk bond sell-off, punctuated by the Third Avenue Focused Credit Fund's liquidation in December 2015 due to increasing defaults in speculative-grade credit, ended when oil prices stabilized in early 2016. This price stabilization, and subsequent rise in oil prices, led to investors moving money back into high yield energy notes they had just sold off which contributed to the energy junk debt's 23% loss in value.

When investors moved their money back into this debt in February 2016, high yield energy debt's options-adjusted spread (OAS), which is the measurement of the spread between a fixed-income security rate and the risk-free rate of return, stopped its precipitous rise and hit its peak of approximately 1800 basis points.

From March to July, high yield energy debt gained nearly 40% in value, which is equivalent to a gain of \$53 billion. Additionally, high-yield energy debt now pays the smallest amount of extra yield over the broader high yield bond market since June 2015.

The most interesting part of the high yield energy debt story is what happened this summer. This summer, the value of the high yield energy debt market and the price of oil registered a seemingly unexplainable decoupling. The fallen angel hypothesis, or that a rise in credit quality due to certain companies' debt being temporarily designated junk had a disproportionately positive effect on the market's value, was proposed by many. A more interesting hypothesis is investors' never-ending hunt for yield. The tightening spreads in high yield energy debt combined with falling oil prices are likely a manifestation of the problems inherent with prolonged easy money brought on by persistently low interest rates.



An interest rate represents the cost of capital. Although traditionally this refers to the cost of investment capital, it can also be applied to the cost of financial capital. So when interest rates are low, the cost of financial capital is low, so investors are less likely to demand high premiums for risk or, equivalently, will be more likely to put that capital in assets with worse risk profiles than they would if the cost of capital were higher. This seems even more likely to be the reason why spreads have tightened when considering the financing constraints put on a significant share of energy companies and the reaction by private equity firms to meet this newfound demand.

Banks have minimized their credit lines to energy companies this year by approximately 19% as early in the year as April 20. One would think that the excess of demand for creditors over the supply of creditors created by banks stepping away from this kind of lending would lead to increasing spreads in high yield energy debt. However, private equity has seized on the uncertainty in energy debt markets to get involved in middle market and distressed debt. This minimized the effect that banks' reluctance to be involved in distressed lending had on high yield energy debt spreads.

As of late, there have been a few more interesting developments pertinent to the state of the high yield energy debt market. The first is that OPEC's accord has come out of favor with markets. In Algiers on September 28, OPEC agreed to reduce output of its member producers to a range of 32.5 million to 33 million barrels a day. The announcement pushed oil prices to a 15-month high. WTI hit a high of \$51.60 a barrel on October 19.

However, the market's lack of faith in the cartel's ability to enact the proposal and realization that OPEC's proposal would barely dent the problem of physical oil

inventories have caused a substantial decline in prices. Since October 25, WTI has fallen roughly 10% to \$44.57 on November 7. This corresponded with a 2.6% decline in the BUHYEN index from October 25 to November 4, indicating a continuation of a semblance of the decoupling between crude oil prices and high yield energy debt.

Additionally, investors have been skittish with regards to high yield debt. In the market week ending on November 4, investors pulled roughly \$4 billion from the broader high yield bond market. High yield debt, and particularly energy, has performed very well over the past six to eight months. This performance has brought about very high prices for the debt and investors are no longer as optimistic about the market going forward. Peter Briger of Fortress Investment Group, a big player in distressed debt, recently said of the possibility of a high yield downturn, "I guess the best that can be said is that the seeds of the next great opportunity are being planted now." Similarly, KKR has been selling distressed debt to lock in gains and Oaktree Capital Management is saving up to deploy in case of a downturn.

Finally, inflation seems to be making a comeback. On November 2, the spread between U.S. 30-year and five-year bonds rose to 1.33 percentage points, the highest spread since late June. This spread was caused by a substantial increase in 30-year yields, which meant that longer maturity bonds, which are greatly affected by inflation expectations, went through a selloff. This, in conjunction with the jobs report on November 4 registering the greatest year-over-year wage increase since June 2009, means the Fed is near its dual mandate required to raise rates. The Fed raising rates would choke off investors' insatiable hunger for junk debt as a means to the end of higher income than available in government and investment-grade corporate debt. This

last development for inflation and what it means for the Fed setting rates has the greatest potential to spell trouble for high yield energy debt's miraculous run.

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THE ECONOMIC OUTLOOK OF GRADUATE STUDENT UNIONIZATION

BY HANNAH YANG

Though the topic of graduate student unionization has only recently captured widespread attention on campus, the process leading up to this event has been years in the making. Since its founding in 1991, Yale's Graduate Employees and Students Organization (GESO) has been working to promote the interests of graduate employees on campus. The GESO is far from alone in this pursuit. By 2015, according to the Coalition of Graduate Employee Unions, there were 31 officially recognized graduate-student unions in the U.S., along with 18 more still in the process of gaining recognition.

GESO's motives for unionization are clear. Many supporters believe that a union is the most effective way to resolve key issues between graduate employees and the administration, such as poor job security, a lack of administrative transparency, and race and gender inequalities. Some have called attention to the funding cuts that make it difficult for many upper-year graduate researchers to continue making a living. Others point out that at least half of graduate students seek mental health services while at Yale, often facing long wait times and uncomprehensive healthcare coverage; similarly, access to childcare remains limited and inflexible for graduate parents. These are all valid and pressing concerns, many of which the university has been slow to act on in the past.

However, the economic impact of unionization is not so straightforward. In the general labor market, labor unions are similar to monopolies. Just as cartels have the power to raise a product's prices at the expense of total output, labor unions

have the power to demand higher wages, thereby reducing the number of jobs available on the market. According to a 2009 study by the Heritage Foundation, unions "benefit their members but hurt consumers generally, and especially workers who are denied job opportunities." Furthermore, labor unions are exempt from anti-trust laws, and are allowed to inhibit production by going on strike until their demands are met. The necessity of acting with the union's plans also imposes costs on both the employers and the employees. For these reasons, unions are often unpopular in the private sector.

The situation is similar in a university setting. Many administrators at the University of Michigan objected to graduate worker unions, fearing that such a union would reduce their number of graduate hires, lower their quality of research, and ultimately make their institution less competitive than other research universities. More importantly, collective bargaining may not be a beneficial type of interaction at a private research university. For one thing, the high turnover rates in leadership positions may make the method less effective, especially since leadership roles are often filled by senior graduate students. At the University of Wisconsin, Madison, for example, the union loses approximately 25% of its membership every year. Additionally, students and faculty alike express concern that unionization may interfere with the traditional trust and mentoring relationships between students and advisors.

Unlike public universities, private universities like Yale are not required by law to recognize graduate workers' right

to unionize, because the National Labor Relations Board ruled in 2004 that graduate workers are not necessarily employees. However, supporters should not lose hope; some private institutions, such as NYU, do choose to voluntarily recognize their graduate student unions. The decision was announced in March 2015, after 14 months of negotiations. Among other policies, the contract enacts a 4% raise for teaching assistants, tax-free child care, and a family health care fund for graduate employees. This remains the first voluntary contract between a private university and a graduate employee union, and its ultimate impact has yet to be made clear.

Given all of these different economic consequences, what will be the ultimate effect of graduate unionization on the Yale community? It may be too early to tell. The Yale administration has yet to reach an agreement with the newly formed UNITE HERE Local 33, and no policy changes have been made. Whatever happens, it will be interesting to follow GESO's progress, and hope that the benefits outweigh the costs.

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AN ECONOMIC ANALYSIS OF BAIL POLICY

BY MONICA HANRATTY

In the span of only a year, 12 million people are processed in jails across the United States. These jails are operating at an average of 91 percent capacity. Of these 12 million people, 60 percent have not been convicted of a crime. Instead, they are held as they await the resolution of their charges.

For almost all defendants, the custodial status is determined at a hearing at the commencement of their cases. The hearing is usually brief, and it allows the introduction of evidence which would be inadmissible at trial. Historically, the process has required judges to consider a variety of factors, including the risk that the defendant will not appear in court, the severity of the offense, and the defendant's

prior criminal record. If the judge believes that the defendant is likely to flee or poses a danger to society, the judge may decide to keep him or her in custody. For more minor crimes or technical offenses, it is common to release the defendant of his or her own recognizance, i.e. without posting bail. Sometimes judges attach conditions to the defendant's release, such as attendance to an alcohol treatment program. Most often, the judge sets bail at a certain dollar amount. If the defendant is unable to pledge acceptable assets or pay a bondsman to do so, he or she will remain in prison until trial.

This has enormous implications for the criminal justice system. When defendants are held awaiting trial, it has an impact on the outcome of cases. Defendants who are incar-

cerated experience exaggerated costs of court delays – and they have incentives to take plea bargains in order to get out of jail more quickly. Defendants who are released can afford to wait for court delays and are acquitted more frequently.

Furthermore, judges' decisions about bail affect the outcome of cases. Detention adversely affects the productivity of the defendant's resources (market and time

inputs). For example, it is more difficult to consult with lawyers, find witnesses, and engage in other investiga-

tory activities while one is in jail. Since bail is regressive in nature, these burdens fall disproportionately on low-income defendants.

Given the importance of bail, it is appropriate for scholars to develop an understanding of the subject. Quantitative models provide important insights about the process of setting bail. Economists are able to estimate the effects of bail on individual defendants, as well as public safety.

A Brief History of Bail

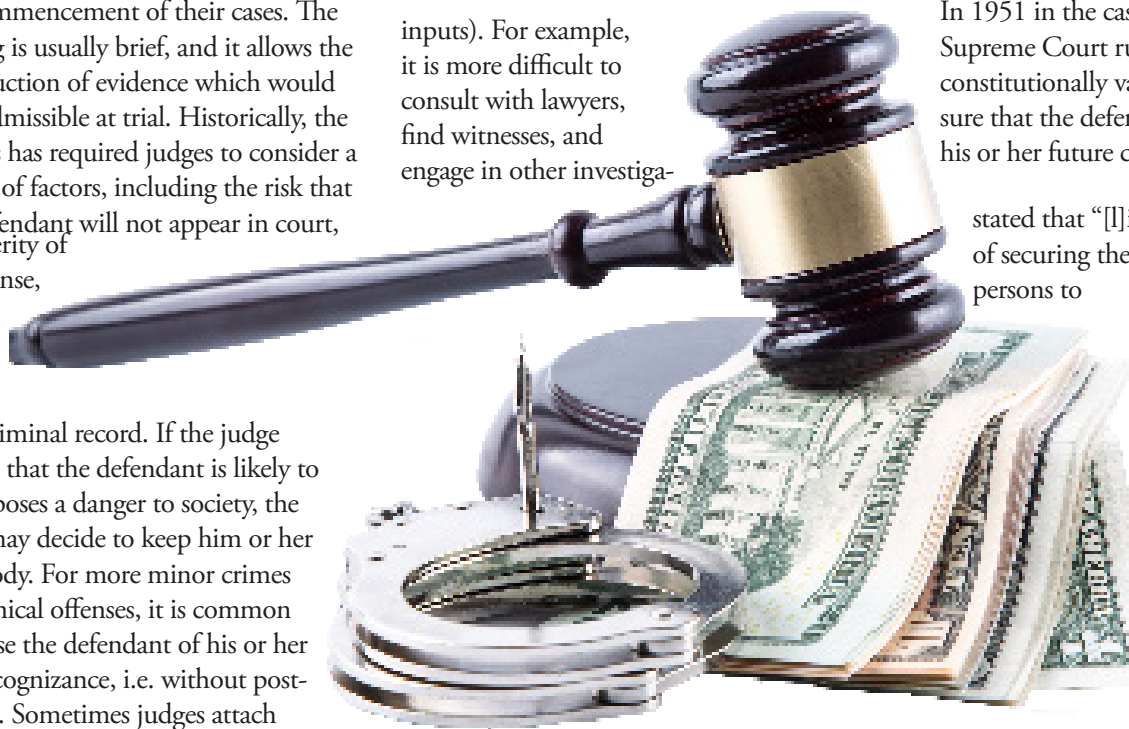
Though the concept of bail dates back to ancient Rome, the current American understanding of bail has its roots in English common law. Originally, defendants did not have an inherent right to bail. The Constitution does not guarantee bail to defendants. The Eighth Amendment only stipulates that when bail is permitted, it must be reasonable.

In 1951 in the case *Stack v. Boyle*, the Supreme Court ruled that bail's sole constitutionally valid purpose was to ensure that the defendant would come to his or her future court dates. The court

stated that "[l]ike the ancient practice of securing the oaths of responsible persons to

stand as sureties for the accused, the modern practice of requiring a bail bond or the deposit of a sum of money subject to forfeiture serves as additional assurance of the presence of an accused."

In the 1960s, a national reform movement emerged. Citizens became concerned about bail's impact on the poor, and they sought to reduce pretrial detention of defendants. The movement spurred the creation of dozens of bail programs in local jurisdictions. It also caught the attention of the White House, Congress, and the media. As a result, the Bail Reform Act was passed in 1966. Where the Constitutional right to bail was lacking, the law established a statutory right for defendants



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to be released pending trial, either on recognizance or on bond. The law preserved the reasoning of *Stack v. Boyle*, maintaining the sole purpose of bail is to ensure the defendant's appearance at court dates, not to prevent the commission of future crimes.

Later, the political winds shifted. As crime rates rose, people became more concerned about crime control than the detention of poor defendants. The 1966 Act was criticized, particularly in the District of Columbia, where all crimes formerly fell under Federal bail law. The District of Columbia Court Reform and Criminal Procedure Act of 1970 marked the national mood. The new law allowed judges to consider the dangerousness of offenders when they set bail in noncapital cases. By 1978, twenty-three states had some form of preventative detention, and the total reached thirty-four states by 1984. The Reagan administration recognized the public support for further reform, and Congress passed the Bail Reform Act of 1984. It allowed federal judges to utilize preventative detention where clear and convincing evidence demonstrated that detention would prevent future crimes. The Act was criticized for being inconsistent with *Stack v. Boyle*. However, three years after the passage of the Act, *United States v. Salerno* held that public safety considerations could factor into judges' bail decisions.

A Model of Optimal Bail Policy

Economists have created models which predict the optimal bail for any given defendant. Particularly prominent is the model produced by William Landes, which is the subject of a great deal of further research. Landes models bail as a product of economic markets. He formulates a set of equations which describe the conditions that affect bail. Landes starts with the fundamentals of economics – demand and supply. He asserts that defendants' demand for bail is a func-

tion of the price of release (i.e. the level of bail), the length of time from arrest to disposition of the case (i.e. the length of pretrial detention), and the probability of re-apprehension if the defendant does not appear for future court dates. Correspondingly, the state exerts control on the supply of bail. Landes models the state as if it were a benevolent social planner, and he argues that the state should adjust the supply of bail to maximize the net benefit to society.

Landes formulates an equation which predicts the net benefit of releasing defendants on bail. He determined that there are four factors which contribute to the net benefit: the sum of the gains to the individuals released on bail, the gains to other members of the community, the costs of re-apprehending defendants who do not appear for court dates, and the harm (through additional crimes, for example) caused by released defendants. In turn, each of these factors is dependent on the number of defendants released on bail, the length of pretrial detention, and the probability of re-apprehension. According to Landes's model, the following equation describes the optimal bail:

Marginal Gain from Release of an Additional Defendant = Marginal Harm from Release of an Additional Defendant + Marginal Costs of Re-apprehension and Expanding Court Services – Marginal Savings in Detention Costs

Landes outlines several implications of his model. One of the consequences of bail policy is that wealthier defendants are willing to pay higher bail. Landes argues that forgone earnings tend to rise with wealth, and "days free" are likely a consumption good with a wealth elasticity greater than zero. Therefore, at a given level of bail, more wealthy defendants will be released, and more low-income defendants will be detained awaiting trial. The implication is that bail ought to be set proportionally to wealth.

Furthermore, Landes notes that if there is an exogenous increase in congestion in the court system, the delay between arrest and trial will increase. This would cause defendants' gain from release to increase. Consequently, court delays cause an increase in demand for bail. Landes model would suggest that in times of higher crime, or a delayed court process, bail ought to increase.

Setting Bail to Protect Public Safety

William Landes recognized two competing rationales for bail: to ensure defendants' appearance at future court dates and to prevent future crimes. Accordingly, he constructed two separate models. He termed the first the "detering flight" model, and he termed the second the "preventing crime" model. Both utilize the same equations modeled above. In both models, the state acts as a benevolent social planner, and it aims to maximize the net benefit of releasing defendants on bail.

These two models have vastly different implications. Landes notes that the marginal harm from increasing the number of defendants released, from lengthening the period of pretrial release, and from lowering the probability of re-apprehension are greater in the "preventive detention" than the "detering flight" model. Furthermore, the marginal cost of releasing additional defendants is less in the "detering flight" model because it does not regard the additional demand for trials that results from releasing more persons as a cost of the bail system.

These differences have significant consequences. The "detering flight" model results in a lower money bail and a greater proportion of defendants released than the "preventative detention" model. Additionally, advocates of the "preventative detention" model put less emphasis on expanding the court's resources, since the costs of reducing delay offset the benefits. Therefore, this model leads to added congestion

in the court and increased demand for trials. In contrast, in the “detering flight” model, court delay or pretrial detention is kept at a minimum. Anything greater lowers the net benefit. Another implication is that the optimal probability of apprehending defendants would be set higher in the “preventive detention” than the “detering flight” model, since the former model accounts for future crimes committed by defendants.

Another economist, Curtis E. Karnow, also conducted extensive research on competing justifications for bail. He argues that it is impossible to discourage crime using bail. The most basic condition – not to commit any new offenses – is already a condition of every release. Defendants do not forfeit bail when they commit another crime; they only forfeit bail if they do not appear at a hearing. As a result, the in terrorem effect of bail is diminished since there is no direct link between committing a new offense and forfeiting bail.

Karnow uses game theory to model defendants’ decision-making processes. He assumes that defendants who contemplate committing an offense while on bail will initially evaluate whether the odds of getting caught are high or low. If defendants are unlikely to be caught, they will probably not be dissuaded from committing crimes regardless of the level of bail. If the probability of getting caught is high, however, then the defendants must evaluate the price of the new offense’s penalty, the cost of the loss of posted bail, and the added consequence of possible incarceration. Future punishment can be threatened by increasing penalties over what would be imposed for any individual offense. Karnow calls this estimate of the increased punishment the CRP. A depiction of defendants’ pay-off matrix is included below:

Karnow asserts that bail will only deter crime when, the forfeitable bail is “significant” to the defendant, the defendant thinks there is a good chance of getting

caught for the second offense, and the CRP itself is not enough to dissuade a defendant from committing a new offense. These conditions are not realistic. Bail hearings are usually held at an early stage in the case. In order to truly inhibit crime, bail levels must be set with precision. However, judges usually have too little information to do so. Furthermore, the CRP is usually extremely high, making bail levels irrelevant.

Optimal Bail and Current Practices

John Goldkamp and his colleagues reviewed the bail practices in a variety of courts. In 1985, they published a two-year study of Philadelphia municipal courts. In 1995, they published additional studies examining the bail practices in various cities and counties in Florida, Arizona, and Massachusetts. These appear to be the most exhaustive empirical study of bail practices so far.

Goldkamp studied which factors correlated with bail decisions. Judges claimed that they set bail according to the severity of the offense which the defendant allegedly committed. On the surface, this makes sense. If judges wish to protect the public safety, they should treat more serious crimes more harshly.

However, Goldkamp’s 1995 study concluded that the seriousness of a charge is not a predictor of flight or crime. Failure rates on bail actually correlate with other factors. For example, charges involving crimes against the person reduce the failure rate. If the defendant lived alone or had prior failures to appear, Goldkamp found that the failure rate increased.

His studies address the very real risk of being wrong in setting bail. Bail hearings take place early in the proceedings, when most of the key information is known only by the defendant. As such, it is unlikely that bail is a precise mechanism to prevent crime.

Conclusions

Clearly, bail policy is important. However, despite its immense importance, bail policy is poorly understood. Economists have created quantitative models which describe the optimal levels of bail in terms of such factors as the severity of the crime committed, the cost of re-apprehending criminals who jump bail, the cost of expanding court services, and the savings in detention costs. These studies ultimately suggest that it is imprudent to set bail to deter crime. Bail should only serve to prevent flight – i.e. to prevent defendants from skipping future hearings. Future bail policy should take these findings into account and most likely result in lower levels of bail.

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THE NEW WORLD OF CORPORATE TAXATION

BY NEERAJ SHEKHAR

In 1982, Louisiana construction company McDermott International reincorporated in Panama, a move memorialized as the “Panama scoot.” Despite soaring global revenues, McDermott’s profits were stuck outside Louisiana. They were subject to a 46 percent repatriation tax upon United States entry. If the company were not based in America, however, the IRS could not levy such a tax. Hence, McDermott’s Panamanian operation, its largest subsidiary, became the home of its corporation.

In the wake of McDermott’s success, the IRS hit back. While flipping an existing subsidiary into a parent became illegal, in 1994, cosmetics company Helen of Troy merged with a Bermudian subsidiary for an inversion. This prompted new regulations. In the 20 years since, 52 companies have successfully inverted. The most recent legislation bans inversions altogether, but a recent wave has exploited a loophole allowing mergers of significant size to act as springboards.

With minimal change in American tax policies, the inversion appeal remains. Corporate tax on foreign profits has fallen from the 46 percent McDermott faced to 35 percent. Yet, 35 percent is still significant. When Walgreens acquired Swiss pharmaceuticals giant Alliance Boots, Barclays estimated the inversion could save \$783 million a year in taxes. Moreover, target destinations are increasing. Both the United Kingdom and Canada only tax domestic profits. Although regulations have evolved, the United Kingdom, Canada, Ireland, and others are home to corporations large enough to make inversions a real and well-utilized possibility. Yet, this raises the question: why does American tax policy create this incentive?

It is highly unlikely that every nation will adopt identical corporate tax rates. This

provides arbitrage opportunities. The decision of where to be based, however, is not as simple as choosing the lowest rate. For example, American firms have exclusive access to many lucrative markets. Defense, infrastructure, and national security grants are only awarded to American firms. For some firms, this makes leaving the United States impossible. Other firms, especially pharmaceutical companies, rely on federal grants—many of which are only available to American firms—to develop products. Additionally, America’s legal system is friendly to corporations.

That firms still leave shows how unfriendly the American tax climate is. This is not to say the policy is illogical. Although sound, the policy’s execution has failed. Even the United States implicitly recognizes the 35% tax rate is too burdensome. This recognition is felt in the corporate tax system’s loopholes. These exemptions lead to \$150 billion in lost revenue annually. While these exemptions reduce the average tax rate, it does little to help the government. Moreover, for those firms who cannot exploit these exemptions, inversions become appetizing and taxing foreign profits as they enter the United States only encourages multinational firms to avoid reinvesting foreign profits. Hence, more than \$2 trillion earned by American firms are left outside the nation.

Trying to combat each new inversion technique with regulation may not be prudent. The incentive itself must be removed. Instead of allowing some firms to exploit loopholes while leaving others to face the full rate, it seems wiser to lower the base rate and simplify the whole system. The rate is not important, so long as it is within reach of the rest of the world.

Moreover, the United States must cease to tax international profits. While abolishing

the tax on foreign profits may take time, a one-time holiday allowing multinationals to bring the ever-growing profits held overseas to the United States at a discounted or zero rate could help recoup some revenues. This simplification does not prevent stricter regulations on inversions. For example, Germany’s 2008 decision to simplify its corporate tax system while implementing strict regulations has been a resounding success. Regulation, however, can only be effective if inversions are less attractive. With the painful history of inversions and their resurgence in the last decade, why not make inversions unappealing in the first place?

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The Art of Investing

BY ARISTIDES HADJIPANTELI

For as long as art has been produced, it has been valued. But within the past few decades art has taken on a wildly different role: acting as an investment vehicle. A quick Google search of art investment yields thousands of results. This increased attention warrants an exploration of art as investment.

Returns from art investment are predicated on cash earned from selling a work after it has appreciated in value. There are a few common avenues. One can purchase from previous owners, private galleries and exhibitions, auction houses, or directly from artists. A more streamlined process of investing is an art fund. Such funds will perform research, acquire the art, maintain it, and eventually sell it for a return that

accrues to both the investors and the fund management. Relative to the size of veteran investment fund classes, the art fund market is quite small at roughly \$500 million across the U.S. and Europe. However, growth is impressive considering most funds have only emerged within the past decade. Aside from these funds, no full-fledged financial instruments have been developed. Although many large, commercial banks own vast corporate collections, these are mainly held on the basis of patronage rather than practical investment.

Emphasis is placed on art's role as a diversifying investment. This is because its fluctuations in value are relatively uncorrelated with those of typical

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equity. An investment in artwork has little fundamental risk, that is, risk referring to the asset underlying the investment. Indeed the only fundamental concern regarding an artwork is the physical integrity of the piece itself. However, the dissociation of value from the physical state of the art piece leaves little concrete substance on which to base value. Unlike a company, an artwork neither fundamentally improves nor deteriorates, so any fluctuation in value is typically determined by other intangible factors.

There is still no consensus regarding the quality of art as an investment. Some believe it is viable. Research by Jiangping Mei and Michael Moses finds that the real rate of return for art

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from 1950 to 1999 is as high as 8.2%, which is comparable to stock return from that same time. The Blouin Art Sales Index records that art had a 10% annual return between 1972 and 2010. However, the preponderance of recent studies suggest that the return is actually lower. For instance, an investigation conducted by professors Arthur Korteweg, Roman Kräussl, and Patrick Verwijmeren revealed that the rate of return is near 6.5% for the period from 1972 to 2010. This is much lower than the returns for traditional stocks. Moreover, this study further revealed that investing in art might actually be riskier than investing in stocks: their calculated Sharpe ratio, or rate of return adjusted for risk is only .04, while the equivalent for U.S. equity soars above this at .30. Future investigations, such as the recent study by Luc Renneboog and Christophe Spaenjers, confirm these findings.

With such high risk given the relatively low return, why do investors continue to participate? According to a study by Erica Coslor and Christophe Spaenjers the development of art investment was largely due to an “epistemic culture” surrounding the idea, meaning that investors relied on a widely held, yet unconfirmed, belief. The authors also explain that much of the continued investment is based on the reading of earlier academic pieces that supported art investment, while more recent studies have revealed their dubiousness. The concept has gained institutional traction, leading to development of indices, consulting firms specializing in art investment, and the art funds. In addition, it seems that the prolonged interest in art investment may also be related to fluctuations in the business cycle. The Renneboog and Spaenjers investigation explained that art prices track quite closely with consumer confidence. Perhaps it is these cyclical busts and booms that constantly renew

interest in art investment.

What accounts for fluctuations in returns to art investment? First, valuations of artwork are largely based on sales data collected from vendors of artwork. They are estimated based on the changes in sales prices of works with comparable characteristics. One such characteristic is the style of artwork, which is defined by the materials, aesthetic technique, and historical context of the work. If there were a scarcity of works of particular style, then the valuations for works of that style would rise but valuations for others would remain unaffected. Interestingly, the Mei and Moses research actually found that so-called “Masterpieces” do not realize their expected returns. This is due to a tendency for overbidding at auctions. Since most estimates are based on sales data, the sales precedent for a type of artwork will have a large bearing on the expected value of comparable works, showing how irrational expectations can feature in the market.

Since art is considered a luxury good, changes in consumer income lead to disproportionate change in demand for art. Inflation is another macroeconomic factor that determines changes in value. Art value is positively correlated with inflation, making it a possible hedge against inflation due to its illiquidity. An investigation of Turkish painting conducted by Aylin Seçkin and Erdal Atukeren verified this. Yet the correlation coefficient they calculated was approximately 0.2, which is not too strong.

Regardless of the statistics, art has established itself as an asset class to be considered, as supported by surveys of professional investors and even banks. So long as it holds its position as an asset class, investors will continue to pursue art’s enigmatic value, whether

by searching for the next individual masterpiece or by earning a steady return with a full-scale art portfolio.

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TAX AVOIDANCE: HOW AMERICA'S BIGGEST COMPANIES CHEAT THE SYSTEM

BY PETER ZABLOCKI



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In 2012, the US Senate Permanent Subcommittee on Investigations conducted a case study on Microsoft Corporation regarding offshore profit shifting. Microsoft US had entered into a cost-sharing agreement with foreign associates Microsoft Ireland, Microsoft Puerto Rico, and Microsoft Singapore, so that Microsoft US licenses the rights to intellectual property developed within the United States

For years, the US budget deficit has become an increasingly controversial topic as Americans seek a delicate balance between taxation and expenditure on government programs. Many political discussions revolve around income taxes and claim that the US tax system should be more progressive than it currently is, somewhere along the lines of what we see in Western Europe. As the US Government's most potent source of income, individual income tax rates undergo an immense amount of debate and rightfully so – the expansion of social programs and general government spending has left US politicians little choice but to increase government revenue through taxes or face a climbing budget deficit. However, adjustments

to the individual income tax system are not the only ways to adequately shape future government turnover. Over the past half-century, an alarming trend has been the dramatic decrease in corporate tax revenue as a percentage of total tax revenue. At its post-World War II peak in 1952, corporate income tax revenue made up 32.1% of all US tax revenue. Today corporate income tax makes up only 8.9% of US tax revenue with this attrition, in part, due to the shifting of mobile income offshore. In order to address some of the pressing issues surrounding US fiscal policy, more attention should be paid to how the US can address corporate taxation more efficiently.

manufactured, and sold by foreign affiliates in low tax jurisdictions. These Microsoft affiliates are then able further license these products or manufacture and sell the products both domestically and abroad. Foreign affiliates typically pay “buy-in” costs for the rights to intellectual properties for a fraction of their worth in lop-sided trade deals that Microsoft will argue occur at arms-length or fair market value. Consequently, Microsoft is accumulating revenue in the form of what should be US taxable income overseas and avoiding paying billions of dollars in US taxes as a result.

Microsoft Ireland, Microsoft Puerto Rico, and Microsoft Singapore, the three primary regional headquarters

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representing the Europe, Middle East, and Africa (EMEA) region; the North and South American region; and the Asia-Pacific region respectively, further license these products to Microsoft affiliates across the globe. With regard to the United States and its role in the North American region based in Microsoft Puerto Rico, Microsoft will manufacture its goods in Puerto Rico and employ third party US manufacturers to manufacture and distribute Microsoft products within the United States. This configuration annually with evidently little purpose other than to manipulate its US tax burden. In aggregate, nearly fifty-percent of Microsoft's global income accumulates overseas and navigates this process. These tax avoidance techniques are utilized by Microsoft affiliates around the world.

Unfortunately, tax avoidance has become common practice among large US-based companies. It has been noted that business leaders who may otherwise morally oppose this phenomenon, feel that by choosing not to participate in tax evasion tactics, they are putting their companies at a competitive disadvantage. Island destinations such as the British Virgin Islands, the Cayman Islands, the Marshall Islands, and the Bahamas serve as notable tax havens. By comparison, US companies are taxed up to a 35% statutory tax rate on their worldwide income, while companies located in Bermuda and Ireland are subject to corporate tax rates as low as 0% and 12.5% respectively. As a result, a significant fraction of American tax dollars are lost to foreign tax agencies or are simply retained by these parent companies in offshore accounts.

So, one might ask, how is this legal? Large international companies essentially seek to perform internal trading between affiliates in order exploit relative prices between them. This is referred to as transfer pricing and it occurs when affiliated companies under the same

umbrella company buy or sell goods and services from each other under the discretion of the umbrella company. There are several ways in which this can occur including through the outright sale of assets, through licensing agreements where economic rights are transferred in exchange for royalty fees, or through agreements between parties to share the cost of developing an intangible assets. As a result, companies are able to capitalize on price differentials and formulate advantageous trade deals, ultimately permitting income shifts from higher tax jurisdictions toward lower tax jurisdictions. Highly complex "tax webs" are calculated and employed in order to maximize profits and to shift income between subsidiaries in different countries and tax jurisdictions.

Tax optimization, or tax avoidance, is a generally considered a legal practice, though sometimes falling into somewhat of a legal gray area as it causes the loss of over \$337 billion taxable dollars or approximately 8.9% of US GDP.

A major assertion made by corporations involved in income shifting is that these deals occur at arms-length, meaning at the price that would be negotiated between otherwise unaffiliated companies in the market, or in other words, at the market price. International tax law dictates that trade deals between subsidiaries under the same parent or umbrella company must meet this arms-length standard. A major challenge for the IRS and analogous agencies in other nations where companies are shifting profits is determining what the arms-length standard actually is and having the wherewithal to hold these companies accountable.

As billions of dollars in taxable US income flow out of the country, the US Government and ultimately the people of the United States are losing valuable economic resources during a time in

which the United States has attempted fiscal tightening. \$337 billion in potential US tax revenue was lost in 2011 due to corporate tax avoidance – a figure akin to well over a third of the money designated for the stimulus package in 2008. In an attempt to solve this problem and to make the United States "a better place for business," President Donald Trump seeks to cut the corporate income tax drastically from 35% to 15%. The hope is that enough business would return to America that the tax break would be made up for by a larger taxable income pool.

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China: College-educated and Unemployed

BY HUI YANG

Since 1978, the Chinese national economy has improved greatly to alleviate poverty and create wealth. Despite the progress, China faces a new series of obstacles. Unemployment adversely affects social well-being at a time when China is trying to build a social safety net. The official unemployment rate in China, reported by the Ministry of Human Resources and Social Security, fluctuates around 4%. However, several outside sources have called these statistics unreliable. For instance, in August 2015, a report by the National Bureau of Economic Research estimated the unemployment rate in China to be around 10%. Thus, the problem of unemployment in China is more severe than may appear from the official statistics.

Poorly-tailored college education is behind high unemployment rates among the youth. According to China's Household Finance Survey, the youth unemployment rate stands around 9.6% for the age group of 14-28. However, for youth with college degrees, the unemployment rate reaches an astonishing 16.4%. This is possibly due to the expansion of enrollment in higher education, a national scheme launched by the central government to increase the intake of students by universities and colleges. According to People's Daily, when Xiaoping Deng resumed the Chinese College Entrance Examination in 1977, 5.7 million people took the exam and 273 thousand were admitted into colleges – an admission rate of 4.7%. However this year, about 9.42 million took the exam and the college admission rate is around 75%. From the official

examination statistics, over the past 38 years the number of students admitted increased by 24 times while the admission rate increased by 15 times. The number of colleges in China have more than doubled, going from 1022 in 1998 to 2542 in 2014. However, since jobs have not grown commensurately to the number of college degrees, this program has also increased the difficulties for many graduates. Those without college degrees are more willing to take blue-collar jobs, thus leading to a low unemployment rate of 4% for youth without college degree according to the same Household Finance Survey. However for those millions of college graduates, they are looking for more socially prestigious positions. This has only increased the competition among graduates – leading to phenomenon of “four thousands graduates bidding for one position.”

The unemployment crisis is further worsened by the fact that most of the college graduates lack foreign language proficiency, information technology skills, and entrepreneurial spirit. Hence they are not competitive or productive for foreign companies, overseas corporations, or entrepreneurial projects. Students find that graduating with a bachelor's degree does not greatly increase their competitiveness since they do not really acquire meaningful skills or expertise. For college graduates, some of them go on to advance their learning pursuing graduate degrees, while many others remain unemployed at home.

A possible solution could be a redesign of the Chinese education to focus on

innovation and creativity in order to drive sustainable growth. Nathan Rosenberg, a Professor of Economics in Stanford, claims that innovative activity has been the single, most important component of long-term economic growth. As China moves closer to the technology frontier, it will need to innovate in order to sustain economic growth and employment. Innovation-led, data-driven and technology-based entrepreneurship, which comes as a result of competent and robust education system, will in turn create more job opportunities in the economy and hence employ those college graduates. This suggests that an education system that focuses on cultivating innovation and creative spirit, adapts the teaching materials to market labor demand, and respects knowledge and expertise will be the ultimate solution to improving the struggling economy and tackling high unemployment.

In conclusion, the extremely high unemployment among college graduates causes great social instability and sentiments, and the only viable method should be to reform the educational system, especially in college, and create innovative and employable graduates, who will drive long run economic growth in turn.

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