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[Case Study] Russian Sanctions: Worth it the EU and U.S.?

The crisis in Ukraine started over a year ago when pro-Moscow leader Viktor Yanukovych broke a trade agreement with the E.U. in favor of an agreement with Russia. This caused protests in Kiev, eventually toppling Mr. Yanukovych and causing Russia to move in and annex Crimea. Now, Russia is facing sanctions because of the situation they caused in Ukraine.

Image via Flickr by Leszek Kozlowski

The Situation

President Obama signed three executive orders in March 2014 to put sanctions on the entities responsible for violating the sovereignty of Ukraine and stealing their assets. Further moves were made against Russia in July. The sanctions included travel restrictions as well as bans on trade. To date, the U.S. has put sanctions on 24 Russian and Ukrainian individuals and several companies who are responsible for destabilizing Ukraine. The E.U. has also placed their own sanctions against Crimea, including banning European cruise ships from visiting Crimea's ports.

The Approach

President Obama sees the sanctions necessary because Russia's misappropriation of assets in Ukraine puts the U.S. national security at risk and the U.S. always stands up for justice. Both the U.S. and E.U. are hoping that their sanctions will tighten the economy in Russia and eventually push them back to the negotiating table. The biggest concern is that Russia is too invested in Ukraine's outcome to let the rebellion fail, even if it means causing a recession in Russia. In December, President Obama threatened further sanctions on Russia if they are unwilling to show any cooperation.

Impact and Advantage

Things in Ukraine have not gotten better since the original sanctions from the U.S. and E.U. in March. The U.S. is still not using the ports in Crimea or doing business with many of the entities involved in the annex in Crimea and crisis in Ukraine. Some supply chains have been affected, but overall the U.S. is faring well. The same cannot be said for Russia. Of course, that was the purpose of the sanctions in the first place. Supply chains in the E.U. are seeing more of an impact because the ports in Crimea are closer to home and more widely used.

So far, the sanctions in Russia have been worth it for the U.S. and E.U. because it makes the point that they are not going to stand for Russia's behavior. However, minor hits have been made to both U.S. and E.U. supply chains and economy. And, additional sanctions are possible, meaning that the effects could be bigger in the future. The sanctions definitely make it more difficult for Russia, which is what the U.S. and E.U. were trying to achieve in the first place.

As of December 2014, President Obama has not yet imposed new sanctions on Russia, but he is urging them to de-escalate their tension in Eastern Ukraine. Russian Foreign Minister Sergei Lavrov said, "threatening new sanctions against Russia could undermine the possibility of normal cooperation between our countries for a long time." So, the crisis in Ukraine may not get any better for a while.

Do you think the sanctions in Russia are worth it for the U.S. and E.U.?

Why Is Coca-Cola Investing in China, Africa, and India?

Image via Flickr by enjosmith

Coca-Cola plans to invest $30 billion to expand their global market share in the beverage industry. They are targeting developing countries, including China and India. Africa will also see a large chunk of the investment money. According to AJC.com, 2 billion people will move to big cities and join the middle class by 2020 in these developing countries. Coca-Cola plans to capture their thirst with this big global expansion investment. They have promised investors a 7 to 9 percent growth in earnings per year.

Why Coca-Cola Is Turning to Developing Countries

In 1989, people in North America bought $2.6 billion in Coca-Cola. 20 years later that only increased to $2.9 billion. That means that if Coca-Cola wants to expand, they must target countries around the world where Coca-Cola has not grabbed hold yet, such as developing countries. This worked for them in South America where Coca-Cola is now the predominant beverage brand. China, India, and places in Africa are a major focus for Coca-Cola right now because their per capita consumption of Coca-Cola products is much lower than in North America and their middle class populations are growing.

Investment Challenges in China and India

Coca-Cola sells products in both China and India already, but there is a lot of room for growth. The biggest obstacle is competition in the beverage industry. China's market will be a little more difficult to breach than India's market because of Wahaha, the largest beverage producer in China. People in India drink Coca-Cola, but Pepsi is also a loved beverage brand in the country.

That means Coca-Cola's $30 billion investment will go towards advertising and brand awareness. However, money will also have to be spent on their supply chain to keep production and shipping costs low and to meet new market demands for Coca-Cola products.

Africa is Coca-Cola's Biggest Opportunity for Growth

Africa presents an even better opportunity than China and India. Coca-Cola is already the dominant beverage brand in Africa, but they plan to capitalize on Africa's emerging middle class, like they did in South America. The annual per capita consumption of Coca-Cola in Mexico is 665 servings. In Kenya, it is only 39 servings. That goes to show the potential for growth.

Along with this growth means more jobs for people in Africa. One of the largest employers in Africa is actually already Coca-Cola. They have 160 plants with 65,000 employees. Pepsi only has a 15 percent share of the beverage market. Coca-Cola's investment in Africa will bring more supply chain jobs and further promote the growing middle class. This is both good news for Coca-Cola and Africa.

To aggressively increase revenue in India, China, and Africa, Coca-Cola is using the lessons learned in South America to expand. They want to make Coca-Cola the favorite beverage brand of people around the world. Their first step in global expansion is to turn to China, India, and countries in Africa. Of course, Pepsi is also looking to do the same thing, so Coca-Cola will still have its competition.

[Case Study] GlaxoSmithKline and Codexis: A Look at the Licensing Agreement

Image via Flickr by e-Magine Art

Codexis is an enzyme producer that develops biocatalysts for the pharmaceutical industry. They have proven technology that reduces the cost of manufacturing drugs through sustainable processes. In July 2014, Codexis signed an agreement with GlaxoSmithKline (GSK) to share a technology license.

The Situation

GSK was looking for cheaper ways to manufacture drugs while minimizing their impact on the environment. They turned to Codexis for a license to use CodeEvolver®, a protein engineering platform that is both sustainable and cost effective. GSK paid $6 million upfront for the Codexis technology. They also promised to make milestone payouts and give Codexis royalty opportunities up to $25 million total, depending on how much GSK uses the technology.

Under the terms of the agreement, GSK can use proprietary Codexis technology for protein engineering and in their manufacturing processes. GSK plans to install CodeEvolver® at their R&D site in Pennsylvania to develop enzymes. Then, GSK will engineer the proteins needed for drug manufacturing internally and ship them where needed within their network of pharmaceutical companies.

Mark Buswell, Head of GSK Advanced Manufacturing Technologies said, "We want to find more elegant ways to do the chemical process to make active pharmaceutical ingredients… We have some capabilities we have developed internally, but Codexis has a world-leading process that will advance our efforts by 4 to 5 years."

The Approach

Codexis has not always been focused on the drug manufacturing industry. They also helped Shell Oil with ethanol technology before researching drug manufactuing technology. Codexis got more into drug manufacturing research when helping Merck & Co. develop Januvia, a less expensive Type 2 diabetes drug. Now sustainable drug manufacturing is their focus. That's why GSK turned to Codexis for help.

Codexis's main focus is continuous manufacturing processes, which is more sustainable than other types of drug manufacturing. Codexis uses smaller reactors in their protein engineering that run 24 hours a day. That's what makes it "continuous." Their process doesn't require costly heating and cooling processes that also eat time. Plus, Codexis eliminates a large chunk of the hazardous material that results from manufacturing drugs. The smaller equipment also costs less to run. Essentially, this means it is more cost effective and better for the environment.

Impact and Advantage

The continuous manufacturing process created by Codexis is currently being used at a drug manufacturing facility in Singapore where their carbon footprint has been reduced by 50 percent. GSK plans to do a similar thing at all of their drug manufacturing facilities around the world. Sustainable manufacturing is important to GSK and Codexis, as well as creating authentic drugs that are cost effective for customers.

The prescription drug industry has been struggling to keep costs down for years. GSK wants to take measures to lower costs, but at the same time improve their sustainability. That's what they aim to achieve with the Codexis licensing agreement. Continuous manufacturing processes are paving the way for all future drug manufacturing processes. It's a good thing for everyone.

Down the Road: Looking at Tesla’s Gigafactory and the Grid

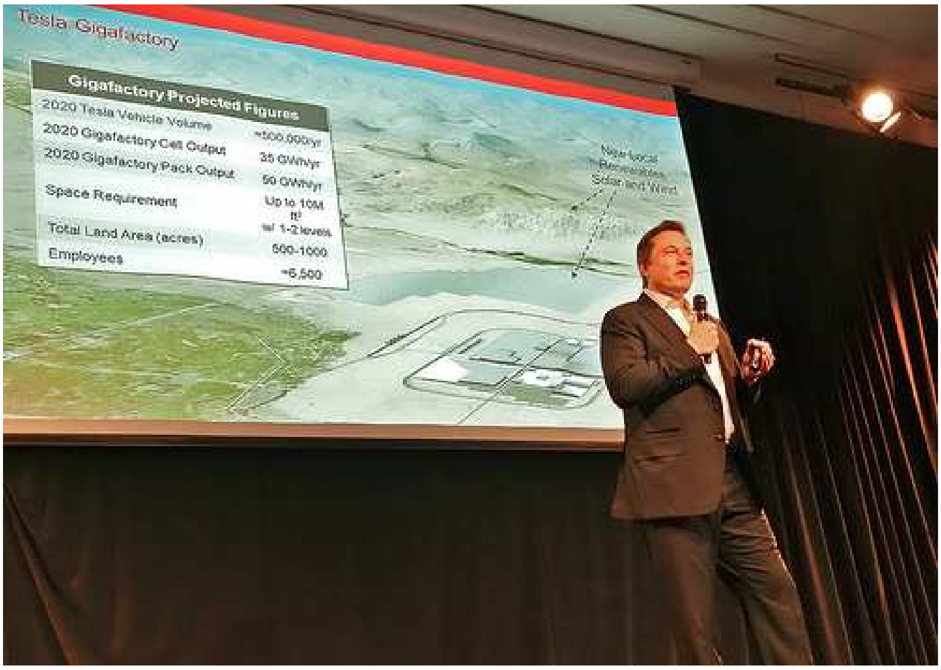

Image via [Flickr](#) by Steve Jurvetson

At the beginning of September, Nevada Legislators approved Tesla's $5 billion Gigafactory to be built in Reno. The state wooed Tesla with a $1.25 billion incentive package. The package included several tax credits and abatements as well as a discount on electricity and free land. The state beat out competitors such as California, Arizona, New Mexico, and Texas.

A Closer Look at What Tesla Plans to Accomplish with Its New Gigafactory

Tesla is working on their Model 3 car, which is a luxury sedan expected to cost around $35,000. They want to mass market this electric vehicle starting in 2017. The Gigafactory is supposed to lower Tesla's cost of manufacturing the car's battery and battery packs. It's estimated to lower their battery production rate by 30 percent. Tesla plans to manufacture enough batteries for 500,000 cars by 2020. The factory will be fully operational by 2017.

The Gigafactory is not only a battery manufacturing facility, it will also be a net zero energy factory. This means it will generate enough electricity to be self-contained, even during peak usage. The Gigafactory will be shaped like a diamond and produce energy through a combination of solar, wind, and geothermal producton processes. The solar panels will be arranged on the roof pointing true north to maximize sun exposure.

Tesla's Gigafactory Is Good News for the Grid

Tesla's Gigafactory plans to run on 100 percent renewable energy and generate enough energy to give back to the grid. According to Tom Lombardo from Rock Valley College in Rockford, the Gigafactory could generate more than 2,900MWh every day, which is 20 percent more electricity than it needs. That's actually a conservative estimate. That's enough extra electricity to power 20,000 homes or more.

Many companies are following suit by investing in renewable energy. Not only does it save money, but it helps cut down on carbon emissions that damage the environment. Of course, renewable energy isn't a viable option for all companies yet because of the initial cost. Plus, manufacturing facilities have to be large enough to house their operations as well as the equipment to generate renewable energy.

The Gigafacotry Will Positively Impact Nevada's Economy

Tesla's Gigafacoty is going to bring thousands of new jobs to Nevada and positively impact their economy. Governor Brian Sandoval estimated the creation of 6,500 new jobs at the factory alone. This will help Nevada fight its high unemployment rate. Plus, Tesla's Gigafactory is expected to bring $100 billion in economic benefit to Nevada over the next two decades.

Nevada is also paying for a $43 million four-lane road to connect to US Highway 50 and also open up the Tahoe Reno Industrial Center to more development. Tesla's Gigafactory will be located on the main extension, named "Electric Ave."

Nevada is pushing for more manufacturing facilities that generate renewable energy. It is the right step towards lower electricity costs for everyone. An energy grid crisis can be prevented with this new technology.