

# THE OPTIMAL BUNDLE.



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*Dividing \$1.6 trillion—equivalent to the GDP of the New York Metropolitan Area—by Bitcoin's total Dollar value transactions of \$210 million is a possible method of finding a fair market price for the cryptocurrency.*

Photo Credit: The Port Authority of New York and New Jersey

## The Intrinsic Value Of Bitcoin

About six weeks ago the CEO of JPMorgan Chase stated that anyone who bought and sold bitcoin was "stupid" and its only value is what "the other guy will pay for it". Now, the price of a single bitcoin has increased about 30% and his company is looking at different ways to become involved. Bitcoin is a digital currency that has gained interest because of low transaction fees, anonymity and no government oversight. The key problem for anyone who seeks to become involved with bitcoin is deciphering its worth in real terms. According to the Boston Federal Reserve, Bitcoin meets the qualifications of being a currency. It serves as a medium of exchange, unit of account and a store of value. While it is extremely volatile, it is still considered a currency.

If we think of bitcoin as a currency, then we can use the quantity theory of money to find the intrinsic value. The quantity theory of money states that money supply has a direct relationship with inflation. The theory can be shown through the formula  $MV = PT$ , where  $M$  is equal to the money supply,  $V$  is equal to the velocity of money,  $P$  is the price level and  $T$  is the value of transactions. The formula can be used to value Bitcoin by rearranging it so that  $P = T / MV$ . In the case of Bitcoin, the supply can't go above \$21 million and the velocity of major currencies is fairly stable at about \$10 million. Thus, the intrinsic price of bitcoin can theoretically be found by dividing the dollar value of transactions by \$210 million. This leads us to calculate that a generous total transaction dollar value is equal to the value of the illegal drug market, \$100 billion, plus the global value of remittances, \$500 billion, and then a very generous 5% of United States GDP which is about \$1 trillion. Remittances is money that migrants send back to friends and family in their home country, often the recipients don't have access to a bank accounts so bitcoin is a no fee option anyone with a phone can use. So \$1.6 Trillion / \$210 Million gives a price of \$7,700 which is just short of the current market price of \$8,250. This is one possible method of finding a fair price for Bitcoin and to predict whether the price will rise or fall in the long term. —PR

Sources: <http://pewrsr.ch/2cewSng>; <http://bit.ly/2jjyey4>; <http://on.wsj.com/2A9g6zc>; <http://bit.ly/2hNPSK3>

## Artificial Intelligence And The Economy

Developments in technology are occurring each day in the world and affect a variety of markets in the economy. The way artificial intelligence (AI) has changed industries across continents is unprecedented. Robots are thinking for us, doing work for us, and in some cases, taking jobs. There is much debate over the controversy of AI and where it is taking the economy. Artificial Intelligence is making big changes to the way we live, and also the way we work.



**Intelligence. Squared.** *The IBM Watson IoT laboratory in Munich. In an effort to push AI-human interaction on the factory floor, IBM has developed a cloud-connected robot arm for Taiwan-based electronics manufacturer Foxconn to increase productivity in the production of Apple iPhones.*

Photo Credit: Stephan Rumpf

Since many jobs are being taken over by robots which are engineered to perform tasks such as factory work, grocery store checkout, or truck driving, the job market has become an unpredictable place for the new generation. A recent article by CNBC predicts that it is in students' best interest to consider trade school rather than a four-year university. It has long been assumed that a college education will automatically lead to a higher salary, however this might no longer be the case. Vocational education will provide workers with useful options and could help decrease the high level of income inequality in the country. Beyond the job market, Artificial intelligence will have enormous effects on the economy as a whole. According to recent projections by PwC and Accenture, AI is predicted to add \$15.7 trillion to the global economy by 2030. Research shows that the four sectors to reap the most benefit from adopting to AI technology will be retail, manufacturing, professional services, and financial services. Globally, China is projected to be the leader in AI technology, with a projected growth of \$7 trillion by 2030.

There is little doubt that all sectors of the economy will be affected by the developments in AI technologies, whether it affects the job market or productivity. The next 15 years will see major changes in the way markets function with these new adaptations. While there is much debate about how this technology will affect the economy, there is no stopping this momentous global development. —AR

Sources: [goo.gl/cg1vCG](https://goo.gl/cg1vCG); [goo.gl/Qv1RYF](https://goo.gl/Qv1RYF); [goo.gl/6yNiUz](https://goo.gl/6yNiUz)

## European Fortunes

The Eurozone was perhaps the most widely affected region by the Global Financial Crisis. Ireland, the first country to enter recession during the crisis saw nearly 35,000 of its citizens emigrate. In Spain, unemployment rose to over twenty percent and quickly plunged into its worst recession since the Franco dictatorship. Italy defaulted into a sovereign debt crisis. Thousands of young Portuguese fled their country's crumbling economy to find jobs in the booming markets of its former sub-Saharan African colonies. Once the economic crisis tumbled European markets like dominoes, Eurozone administrators in Brussels and Frankfurt applied a generalized policy intended for all countries comprising the economic bloc.



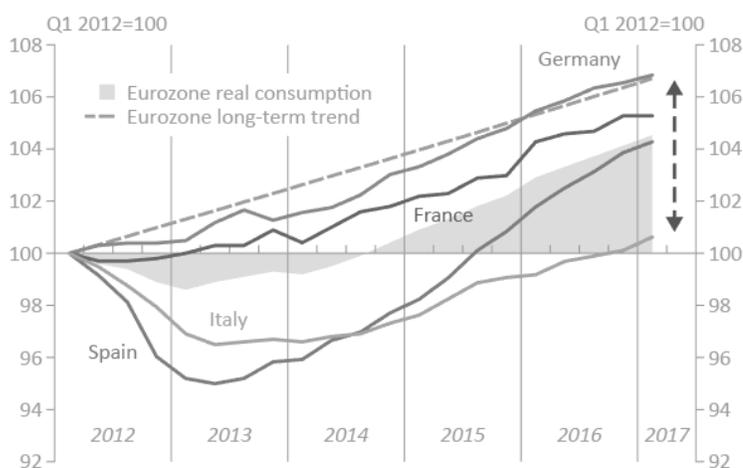
**Fortuna Europea** *Consumers crowd Galleria Vittorio Emanuele II in Milan. Built in 1877, it is the world's oldest shopping mall. After years of sluggish growth, The Italian economy is showing slow but steady signs of recovery.*

Predictably, the Eurozone's "One size fits all" policy would bring different results for each of the eighteen member countries. Nearly a decade after the Global Financial Crisis, European economies have managed to turn the tides and enjoy a robust recovery. We will briefly analyze just how they have done it.

The landslide election of Emmanuel Macron as President of France mitigated political risks that were one of the key forecasted barriers to the Eurozone's growth. According to Daniel Solomon, the probability of a Eurozone recession was reduced by 5-10% over a 1-year horizon in 2017. The reduction in downside risks is a great way to increase consumer confidence in an economy, thus spending will increase due to rise in animal spirits

### **Real Consumption in the Eurozone**

Source: Euromonitor International/Eurostat



The graph above shows that consumption increased steadily from the final quarter of 2014 until the end of 2016. Improved profit outlook, low financing costs and positive demand conditions boosted business' confidence to increase investment spending in the aggregate Eurozone economy. Investment in Eurozone is expected to increase by 4.3% in 2017 and 2.8% in 2018. Broadly, the Phillips Curve can be used to describe this trend. This empirical model, first developed by A.W. Phillips in 1958 illustrates a negative correlation between inflation and unemployment. An increase in investment spending will lead to the creation of more jobs, leading to fall in unemployment. The negative correlation indicates that inflation will increase as there will be increased spending in the economy due to a multiplier effect.

*Despite strong signs of recovery, there are non-economic risks that could threaten long-term growth.*



Despite strong signs of recovery, there are non-economic risks that could threaten long-term growth. Carsten Brzeski, Chief Economist of ING-DiBa expressed concerns that the Eurozone economy will go through a period of uncertainty in core countries due to political risks. Another economist, Chris Williamson of London-based Markit also echoed Brzeski's argument. He stated that recent labor market improvements will decline if political uncertainty continue in 2018. As a result, domestic demand and aggregate spending will fall in the economy as unemployment is very likely to rise. This could drive some recovering economies back towards the path of recession. Italy, the third largest economy of the Eurozone best illustrates this evidence. Due to institutional inefficiencies, there are huge number of non-performing loans (NPLs) in Italy. Broadly, these loans are granted to individuals by private banks despite clients having low credit scores, overdrawn accounts, or even bankruptcies. Such loans kept economic growth in Italy subdued for a long time. Lack of regulatory oversight and other shortfalls due to incompetence by individual governments could result in possible interest rate hikes for the Eurozone as a whole in the near future, even if some countries' economies are still not ready for such action by the European Central Bank. For example, a rise in interest rates will increase Italy's annual payments in servicing its outstanding loans and constrain long-run growth prospects. —NM

Sources: <http://bit.ly/2zn0hDP>; <http://onlinelibrary.wiley.com.ezaccess.libraries.psu.edu/doi/10.1111/1468-0319.12198/epdf>; <http://bit.ly/2hQYe3u>; <http://cnb.cx/2AaqI5>

## BRIEFINGS

### Glorious Revolution in Zimbabwe

The reign of Robert Mugabe, prime minister, president, master of hyperinflation, and dictator of Zimbabwe, has come to an end after 37 years. On November 14, the Zimbabwe Defense Forces took control of the capital city of Harare. This bloodless revolution was carried out as quietly as permitted and protesters were permitted to take to the streets. Within a week the former African totalitarian resigned from his position, guaranteeing prosecutorial immunity for him, and a smooth transition of power for his country. Former Zimbabwe Vice President Robert Phelekezela Mphoko took over as acting president during the time of transition. Another former Vice President, Emmerson Dambudzo Mnangagwa was inaugurated on November 24.—PS

Source: <http://cnn.it/2B8vv2z>



### Hackers Get a Free Ride

On Tuesday November 21, Uber revealed that two hackers had accessed the company's customer data a year prior. Upon Uber discovering the breach, they paid the hackers \$100,000 to delete the information. This comes after a sensitive time in cybersecurity following other high-profile hacks and cover-ups such as the Equifax scandal. Hacks will certainly continue if companies like Uber incentivize hacking through sneaky payments to hide the breaches.—PS

Source: <http://cnnmon.ie/2zc3G89>

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### A College Town Revitalized.

College towns across the country are adapting to changing student demographics and fluctuating local economies. Irene Miller, Executive Director of Downtown State College Improvement District shares with *The Optimal Bundle* how the organization is working with investors and the local community to establish downtown as the premier business and entertainment destination in central Pennsylvania. —NG

#### **Broadly, what strategies has the Downtown State College Improvement District implemented to revitalize visitor traffic and assist small downtown firms compete with suburban shopping centers?**

Downtown State College enjoys a thriving business atmosphere. Strolling along the sidewalks, there are many specialty shops to explore and tasty restaurants to enjoy. Downtown boasts a unique charm – each business reflects the personality of its owner and each owner prides themselves on stellar customer service. Shopping and dining experiences like the ones in Downtown State College cannot be replicated anywhere else, which is what makes our local scene so fun and unforgettable.

#### **What role has the organization played in attracting ambitious new property investments such as the newly opened Fraser Centre?**

The Downtown State College Improvement District is always available to meet with potential new business owners and developers. As community connectors, we're happy to facilitate conversations that will progress our area.

#### **What strategies, if any, has Downtown State College Improvement District implemented to counterbalance low traffic during the summer months when university students leave campus?**

While I've been in the community for six years, I joined this organization in September. So, I'm excited to bring some ideas to fruition that have been percolating in the community. Locals love living here and the summertime in State College is one of those perks that our year-round residents get to enjoy. 🍷