



Accredited Investors Only

## Pendragon: Blockchain, South Park, Keynes & Friedman

October 2017

The creators of South Park, Trey Parker and Matt Stone, called it “Space Cash”, we call it Bitcoin. Bitcoin has been addressed in the mainstream media, and while it is true that Bitcoin may have reached a high in popularity, a quick review of history suggests that at its core, Bitcoin or something like it has been expected for some time. Technology needed to advance in order for cryptocurrencies to evolve. In 1999, Milton Friedman predicted that the evolution of the internet would have profound ramifications on our society. He also saw a role for a digital currency, as quoted below:

“I think that the Internet is going to be one of the major forces for reducing the role of government. The one thing that’s missing, but that will soon be developed, is a reliable e-cash, a method whereby on the Internet you can transfer funds from A to B, without A knowing B or B knowing A. The way I can take a \$20 bill hand it over to you and then there’s no record of where it came from.”

Bitcoin is a digital currency whose value is based upon two things: the first is the use of the payment system, or how many people buy into the story, and the second is the volume and velocity of payments running through the ledger. Many people are confused about where the value in Bitcoin comes from; Bitcoin currency does not have some arbitrary value that people are trading. Bitcoin is valuable because it is frictionless and people can exchange it with no fraud and very low, or no, transaction costs.

Bitcoin at its most fundamental level is a breakthrough in computer science. It is the first practical solution to the “double payment problem”.

This longstanding problem in computer science is not new, and was originally derived from what many call the “Byzantine Generals Problem”, where a group of Generals of the Byzantine army camped with their troops around an enemy city. The troops were communicating only by messenger and the Generals needed to agree on a coordinated battle plan. Since the Generals did not trust each other, they were faced with finding a method to reach a common agreement. How can one build a network with a secure consensus with parties that don’t trust each other? The answer lies in combining cryptography and economic incentives, the foundations of a network that builds consensus in a secure fashion, or Blockchain.

This is far from the calls of a fad or Ponzi scheme. Could the value of Bitcoin go to zero? Yes! Will it be a bubble? Yes! However, the technology derived from solving the above problem is about to profoundly effect the way our society operates. Keeping an open mind is key.

The practical consequence of solving the “Byzantine Generals Problem” is that Bitcoin gives us a way for one internet user to transfer property rights to another user. The transfer is guaranteed to be safe and secure, everyone knows that the transfer has taken place, and no one can challenge the legitimacy of the transfer. The consequences of this breakthrough are hard to overstate.

As the Second World War was ending, economic experts of the Allies met in a New Hampshire resort to hammer out an international monetary system that would help prevent a recurrence of the Great

Depression. The ensuing debate centered around two main proposals. John Maynard Keynes, the greatest economist of the 20th century, presented the British case while Harry Dexter White, one of Franklin D. Roosevelt's key economic advisors, presented the American one. Keynes' point was not to repeat the past. The global economy is closed and it needs a global currency and a fixed adjustment process to force the economy to deal with trade imbalances in real time, while having incentives for countries to adjust.

Keynes lost on most key points and the result was the Bretton Woods system, named after the small town in which the conference was held. As part of the agreement, it also created what would later become the International Monetary Fund and the World Bank. This served as the system of managing international trade and currencies for nearly three decades. The die was cast and it was predicted that the global economy would have another major structural adjustment in approximately 80 years, that period is upon us now.

Keynes suggested that a global medium of exchange, called Bancor, be introduced. Bancor was country agnostic. The Americans wanting the U.S. dollar to replace the Pound Sterling as the global medium of exchange refused. Keynes foresaw that the U.S. would slowly evolve from a creditor nation to a debtor nation. He also predicted that the U.S. economy would no longer be able to absorb the excess capacity that the global economy was producing and the rise of populism was going to be a certainty.

The basic problem with international trade is that imbalances can develop, with big winners and big losers. Some countries get big export surpluses, while others develop major trade deficits since the world cannot be in surplus or deficit with itself. The global economy has found it very difficult, if not impossible, to go through any needed structural adjustment without breaking out in war.

President Trump ran his election campaign on a populist agenda. Many question the ability of a

centralized authority to focus on the common good of society and the desire for decentralized systems is now becoming a global phenomenon.

Bretton Woods was disassembled in 1971 when President Richard Nixon suspended the convertibility of the dollar into gold. The introduction of a digital currency, in a perverse way provides a solution that Keynes would have preferred in 1945. Bitcoin may not last, but the technology behind it will. The consequences of solving this important computer science question cannot be underestimated.

No one knows who will be the winners during this new phase of evolution, but we do know this new regime will be life changing for many. The global economy continues to evolve from a world based on analog to an economy based on its true native digital state. We can be sure that too much capital will be allocated and a bubble will be created, just as it happened during the internet of information in 1999, as well as the building of the railroads throughout the 19th century. That is the normal part of the evolutionary process. This time it is not different.

**Dr. James E. Thorne**  
Chief Capital Market Strategist  
& Senior Portfolio Manager

# Pendragon Fund

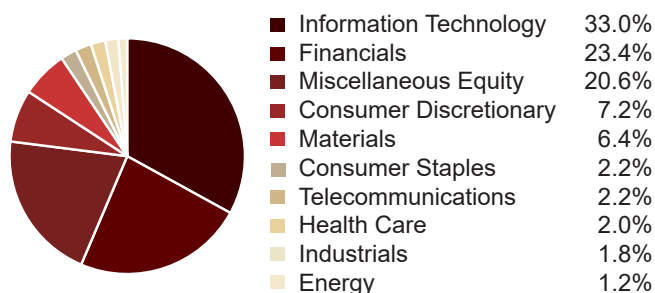
As at October 31, 2017

## Top Ten Holdings

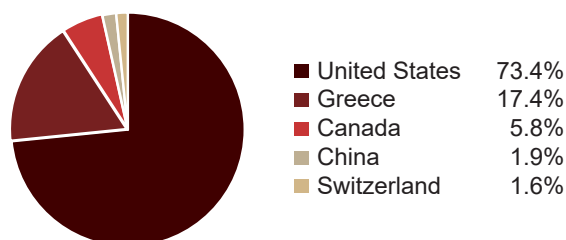
OVERSTOCK.COM INC.  
FANNIE MAE  
FANNIE MAE PREFERRED SHARES  
FREDDIE MAC  
NVIDIA CORP.

CITIGROUP INC.  
LAM RESEARCH CORPORATION  
MICRON TECHNOLOGY INC.  
AMAZON  
ALPHA BANK

## Sector Weights



## Geographic Weights



***Please contact us if you would like an updated holdings sheet.***

## Pendragon FundSERV Codes: CWF1400 | CWF1401

Inception Date	September 15, 2016	Manager	Caldwell Investment Management Ltd.
Subscriptions	Monthly	Eligibility	RRSP, RRIF, DPSP, DSP, RESP, TFSA
Liquidity	Monthly Redemption (5 business days notice)	Auditors	Deloitte LLP
Currency	CAD	Custodian	Caldwell Securities Ltd.
Minimum Investment	\$10,000 (Builders Class) \$25,000 (Investors Class)	Legal	McCarthy Tetrault LLP
		Administrator	SGGG Financial Services Inc.

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Caldwell Investment Management Ltd. 150 King Street W., Suite 1702, P.O. Box 47 | Toronto, ON M5H 1J9

General Inquiries: Tel: 416-593-1798 | 1-800-256-2441 | funds@caldwellinvestment.com

www.caldwellinvestment.com

