Eganov Asset Management Partners

The Black–Scholes Option Pricing Model is not always effective for equities indexes

Eganov Asset Management Partners

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www.eampartners.com

Introduction

An idea that is not dangerous is unworthy of being called an idea at all.
Oscar Wilde

About the Company

- *Eganov Asset Management Partners* (*EAMPartners*) is an investment company that was founded in 2012
- *EAMPartners* manages a hedge-fund *Eganov Asset Management Stocks&Derivatives Strategies S.P.* (*EAM Strategies*), using option strategies with high levels of return/risk
- The company provides asset management services exclusively to qualified investors
- The company doesn't offer services to residents of the USA

Denis Eganov
Partner, Director and Marketing Strategist

- Since 2012 he has created and developed *EAM Strategies* hedge-fund
- From 2003 to 2008 he created and managed the biggest fund family in Russia
- From 1999 to 2003 Denis was a Head of an Asset Management Company
- From 1997 to 1999 he was a Fixed Income Trader

Alexander Kurguzkin
Partner, Chief-trader and Risk-manager

- Since 2012 he has developed algorithmic trading systems and estimation methods for options
- Since 2012 he has managed a web-site for traders: www.long-short.ru
- Alexander is the author of *Exchange Trading: Playing the Game by its own Rules* (2009)
- He created algorithmic trading strategies for the trading of equities in the Russian stock market from 2002 to 2012

Problem

The first step in solving a problem is to recognize that it does exist.
Zig Ziglar

The Mathematical Formula linked to the Financial Crash

- In 2012 the BBC published an article “Black-Scholes: The maths formula linked to the financial crash”
- In 1997 Myron Scholes won the Nobel memorial prize. The next year, his hedge fund *Long-Term Capital Management* crashed and it lost almost all its assets, about 4 billion dollars
- Nevertheless the model Black-Sholes is still installed in all computer programs for estimating the value of derivatives in banks and investments companies

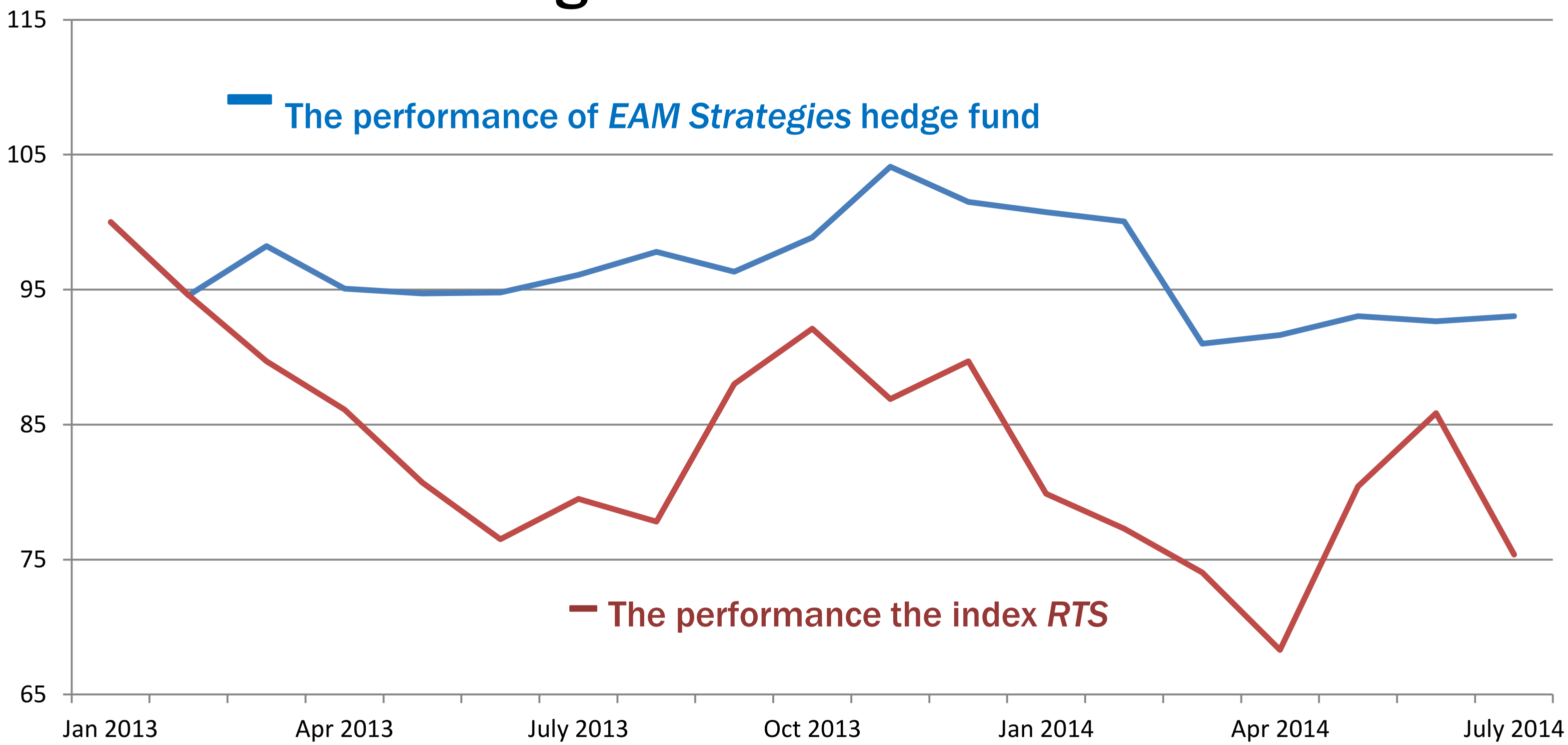
Why does the Formula Black-Sholes result in Losses?

The Black–Scholes Option Pricing Model supposes future changes in prices obeys the law of normal distribution (Gaussian distribution). But in real trade in options, for the majority of classes of assets the assumption of normal distribution of future price changes is often ineffective for the following reasons:

- significant asymmetry - prices is far more volatile in a falling market than in a growing market
- strong volatility clustering can be observed
- heavy tails in price returns distribution - there is an increased probability of strong price movements

EAM Strategies used the Black-Sholes Option Pricing Model

We used the formula Black-Sholes in trading in the Russian stock market from 2013 to May 2014. Our hedge fund earned nothing!



The problems of using the Black-Sholes Option Pricing Model

- Most funds use the Black Sholes Option Pricing Models and the result has been major losses in periods of high price volatility
- If we examine the performances of hedge funds in the periods of autumn 2008 and August 2011, we see the funds lost about 80% of AUM during these periods

Decision

You can never solve a problem on the level on which it was created.

Albert Einstein

Problem-solving in Valuation of Options

We have created and are using an alternative option pricing method which allows us:

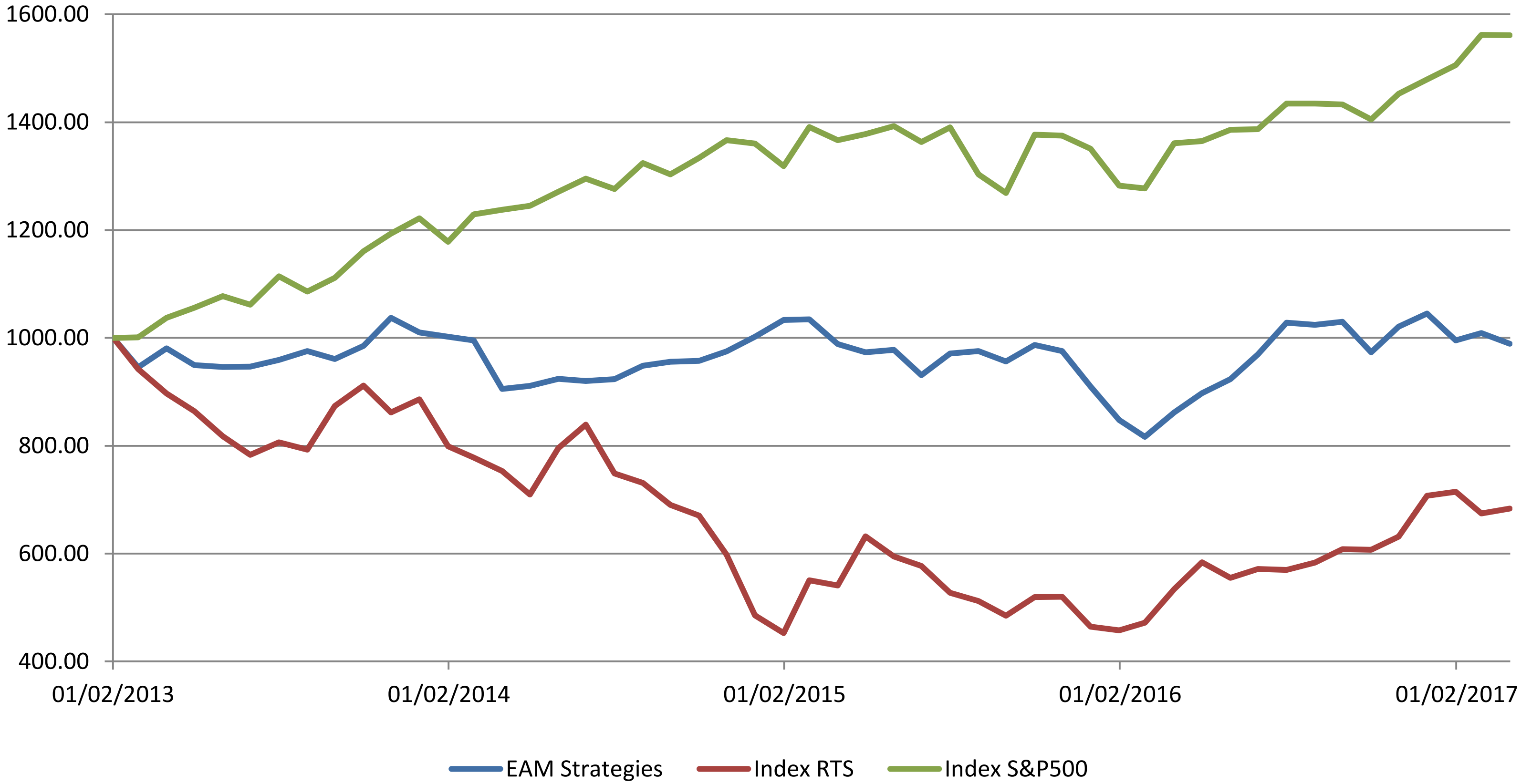
- to get quantitative estimations which takes into account the price features of the equities indexes
- to use historical data to reconstruct price returns distribution for option price valuations
- to use volatility normalization which takes into account volatility clustering effect

EAM Strategies:

- Strategies of buying call options on S&P 500 Index and long-term value and quality portfolio create positively correlates with market part of a fund position
- On the other side, in a part which correlates negatively with the market, we have the strategy which creates a position from hedging instruments
- In all strategies, we use position size normalization to the medium-term volatility to control the overall portfolio volatility
- Also, we use a strategy of selling modest volumes of market neutral option constructions

Performance on April 01, 2017

This graph presents the current performance of *EAM Strategies*, as confirmed by administrator *Apex*, using our option pricing method in comparison with the indexes *S&P500 and RTS*:



Conclusion

Of course it is just a trifle, but there is nothing as important as the trifles.

Arthur Conan Doyle

Conclusions

- Using the Black–Scholes Option Pricing Model for equities indexes is largely ineffective
- In our model of valuation options we calculate option prices taking into account a wide range of value criteria, such as underestimating and overestimating options out of the money for equities indexes
- We combine a set of strategies which to make an optimal use of various market features and contacts with various factor premiums, leaving an overall contact with the market volatility at a moderate level. One of our additional strategies is a long-term stock portfolio to contact with market factors of Value and Quality

Conclusions

- To reduce the contact of fund overall position with a market beta, we use a strategy which creates a hedging position from a combination of instruments negatively correlated with a market index: treasury ETFs, VIX-related derivatives, and others
- The goal of hedging position is to reduce the overall fund’s beta position by 50-65%. We suppose reasonable not to remove fund’s beta position completely and leave some contact with market premium

Why do you think you are better than the funds in your asset class?

- Our team doesn’t use the Black–Scholes Option Pricing Model in our trading of options. We created our own model of evaluating options for equities indexes. It helps us to make more precise valuations of option prices and it has shown to be more effective than funds with option strategies using the Black–Scholes Option Pricing Model
- Portfolio managers make their own personal investments in the fund

Who are your Business Partners?

Our fund conducts business with the leaders of world financial industry, such as:

- Broker companies:

Interactive Brokers Group, Inc.

Bank:

Northern Trust

- Audit company:

Deloitte

- Independent accounting, money transfer and administration:

Apex Fund Services

A Hedge-Fund “Eganov Asset Management Stocks&Derivatives Strategies S.P.”

Foundation	January 17, 2013
Jurisdiction	Cayman Islands
Initial stock price	$1 000
Subscription amount	$100 000
Subscription period	Monthly
Redemption period	Monthly
Redemption notice	5 days
Performance fee	20% High Water Mark
Management fee	2.0% annually
Lock-up period	No
Ticker in Bloomberg	EAMDSSP KY
ISIN	KYG1988M1657

Subscription

Enter a subscription to *EAM Strategies* using the administrator Apex Fund Services:

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Isle of Man, IM1 1JD

Telephone: +44 1624 630400

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Thank you for your attention!

If you have any questions ask Denis Eganov

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