



## HEARING BEFORE THE SENATE PERMANENT SUBCOMMITTEE ON INVESTIGATIONS

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Joint Statement of Dr. Peter F. Brown, Co-Chief Executive Officer and Co-President, Mr. Mark Silber, Chief Financial Officer and Chief Legal Officer, and Mr. Jonathan Mayers, Counsel  
on Behalf of Renaissance Technologies LLC

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Chairman Levin, Ranking Member McCain, and members of the Subcommittee, we appreciate the opportunity to be here today to speak with you and to answer your questions on behalf of Renaissance Technologies LLC (“Renaissance”). We will do our best to explain to you who we are as a firm, what our approach to investing entails, and why we believe that our activities were and are appropriate under current law.

Below we discuss the topics you have asked us to address. As you know, we have also supplied your staff with information that further addresses these topics in document responses and in interviews over the last year and a half. We appreciate having had the opportunity to meet with your staff on a number of occasions to discuss this matter, and we hope that you have found our engagement cooperative and responsive.

We want to be clear: Renaissance’s Medallion fund entered into barrier options with Deutsche Bank and Barclays, both large and sophisticated counterparties, for substantial non-tax business purposes. When we exercised an option held for more than a year, we reported any resulting gains as long-term capital gains, in accordance with current tax law. We reported gains on options held for less than a year as short-term capital gains. If the law changes in the future, we will of course comply. We also understand that there are questions about the level of leverage allowed in arrangements with our counterparties. Under current law, derivative instruments permit higher leverage than many other forms of investment. Again, if the rules concerning leverage change, we will comply.

The IRS has been reviewing these options for over six years now. Renaissance has been cooperating fully with that review and is working through this issue within the IRS’s process. Ultimately, we expect to prevail. However, if it is determined that Renaissance’s view is incorrect, we will fully comply with that determination. We recognize as well the responsibility and authority of Congress to take a careful look at this matter and to consider any related policy matters. We have been transparent with our regulators and hope we can also answer your questions today.

## **Renaissance – Background and Business Model**

Renaissance was established for the purpose of producing superior financial results for our investors by adhering to mathematical and statistical methods in the design and execution of trading strategies. We were founded and are principally owned by scientists and we generally hire physicists, mathematicians, astronomers, and computer scientists.

Renaissance's equity trading and advisory activities bring added liquidity to the equities markets, reduce inefficiencies, and improve capital formation. We collect all the publicly available data we can find that we believe might bear on the movement of the prices of tradable instruments—news stories, analysts' reports, energy reports, crop reports, weather reports, regulatory filings, accounting data, and, of course, quotes and trades from markets around the world. Our models use this data to make predictions about future price changes. Although we use different strategies in managing our different funds, all of our strategies depend on the output of our data-driven models. Of particular note for today's discussion is the fact that our models do not factor in tax rates when making trading recommendations.

Medallion has achieved exceptional returns over the years, but we are mindful that past success is no guarantee of future performance. We also understand the need for thoughtful regulation and laws to govern the operations of the financial system as a whole, and we are committed to being a constructive participant in the dialogue about what those regulations and laws should be.

### **The Use of Barrier Options by Medallion**

Deutsche Bank proposed a barrier option transaction to Renaissance in the late 1990s. It did not do so with a focus on tax benefits. The barrier options that Deutsche Bank proposed allowed Medallion to obtain leverage on a non-recourse basis that could not be obtained through any other product. Medallion entered into its first barrier option with Deutsche Bank in September 2000 and later entered into similar options with Barclays so as to diversify its counterparty risk.

The model developed by Renaissance for Medallion makes predictions that are profitable only slightly more often than not. Moreover, the predicted price movements can be easily overwhelmed by external events. To compensate for these factors, the model generates a large number of recommendations, so that by virtue of the mathematical principle known as the law of large numbers, the variability of the returns produced by the model is greatly reduced.

However, because the model's recommendations are expected to be profitable only slightly more often than not, the rate of return obtained by applying the recommendations to an unleveraged portfolio would be very small. Leverage magnifies the effect of positive changes in the overall value of the portfolio on the rate of return, and this effect is greater the higher the level of leverage employed. Medallion's barrier options with Barclays and Deutsche Bank provide the high leverage necessary to take optimal advantage of the predictions made by Medallion's model. This leverage is entirely permissible and appropriate under current law. As the Joint Committee on Taxation has recognized, "[d]erivatives are critically important tools in the risk management process," and "[o]ne commercial reason for the popularity of derivatives is that derivative contracts typically afford a party much higher leverage than would be commercially

possible (or permitted by relevant margin regulations) if the party were to establish a position in the underlying physical.”<sup>1</sup>

In addition to leverage, a key benefit of these barrier options is that they provide Medallion with protection against losses that might occur when trading at high leverage. Models often work well, but the markets have many times taught participants the lesson of humility. Long Term Capital Management in 1998 and numerous banks and hedge funds caught up in the sub-prime crisis in 2008, for example, put too much trust in their models and were not wary enough of what we have come to call Black Swan risk. This is the risk of an event that lies far enough outside previous experience that it cannot be anticipated by existing models. Black Swan events can have catastrophic outcomes. For a model-based high-leverage strategy like Medallion’s, mitigating Black Swan risk through loss protection is therefore crucial. We witnessed the importance of this in 1998 when Long Term Capital failed, and again when the dot-com bubble burst in 2000.

The barrier options offered by Barclays and Deutsche Bank are non-recourse, which means that Medallion’s downside risk is limited to the premium paid when the option is first purchased. No other investment structure of which we are aware provides both high leverage and loss protection. As noted above, the options were not marketed to Renaissance for their tax benefits, and Medallion’s decision to purchase the options was driven by a desire to obtain the leverage and the loss protection that they offered. In fact, Medallion currently enters into loss protection barrier options with terms of less than one year, even though these can only produce short-term capital gains.

Our decisions to exercise the barrier options were driven by business imperatives. For example, the average holding period of the Deutsche Bank options from 2000 to 2009 was 455 days, not the 366 days that might be expected if the holding periods were purely tax-driven.<sup>2</sup> After the August 2007 “Quant Quake,” we exercised a Barclays option after only a few months and reported the profit as short-term capital gain; in early 2009, we exercised another Barclays option after only a few months during the market turmoil surrounding the financial crisis and again reported the profit as short-term capital gain. It is true that when new tax rates were enacted in 2012, we, like many other investors, sought to recognize gains inherent in our options before the new rates took effect. But this is simply the sort of prudent planning that our investors would justifiably expect us to undertake.

We are prepared to discuss issues of tax policy during the hearing in more detail. The Supreme Court recognized over 30 years ago that when a taxpayer enters into a transaction for real business purposes, with real economic substance, to manage real risks, the form of that transaction should be respected for tax purposes.<sup>3</sup> In our case, our primary business purposes for purchasing these options were, and continue to be, leverage and loss protection.

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<sup>1</sup> Joint Committee on Taxation, *Present Law and Analysis Relating to the Tax Treatment of Derivatives* (JCX-21-08), March 4, 2008, available at <http://www.jct.gov/x-21-08.pdf>.

<sup>2</sup> The first Deutsche Bank barrier option, which was an operational test trade in 2000, is excluded from this calculation.

<sup>3</sup> *Frank Lyon Co. v. United States*, 435 U.S. 561 (1978).

## **How the Barrier Options Work**

Each barrier option references the performance of a notional basket of securities, called the reference portfolio, generated by Medallion's trading model. There are other, publicly available options today that reference changing baskets of securities, such as options on the "Dogs of the Dow" or the S&P 500. When our model performs well, the fund profits, aided by the superior leverage available through these options. Upon exercise of the option, Medallion is entitled to a cash settlement payment generally equal to the net positive performance of the reference portfolio. If the model performs poorly, the option limits Medallion's downside risk, because Medallion's maximum possible loss is the amount of premium paid to purchase the option. We know of no other way to obtain this combination of leverage and loss protection.

Each option contains a barrier provision, pursuant to which the option automatically terminates if the value of the reference portfolio falls below a specified level, even momentarily. Thus, the barrier provision prevents Medallion from benefiting from a rebound in the value of the reference portfolio after such a decline. The barrier feature of the options helps the banks manage their risk; without this feature, the banks likely would not enter into the options. The U.S. Tax Court has specifically said that options with barrier provisions, such as ours, are taxed as options.<sup>4</sup>

The barrier options provide Medallion with critical loss protection and superior leverage, but these benefits come with a price. Because Medallion does not own the underlying instruments that make up the reference portfolio, it would have no claim to any of the assets its counterparty might hold to hedge an option should that counterparty suffer a Lehman Brothers-like collapse or default on the transaction. Instead, Medallion would be in line as just another of the counterparty's general creditors, with no guarantee of recovering any portion of the value of the option. Stated more directly, choosing the option form for our transaction meant we gave up the meaningful ownership rights, including bankruptcy protections, that we would have had in a prime brokerage relationship.

It is common for banks that enter into derivatives contracts to hedge against risk of loss by taking offsetting positions in the referenced instruments. Although nothing in the option agreements with either Deutsche Bank or Barclays required either to maintain hedge accounts, it is not surprising that each bank would choose to hedge its risk by actually holding the positions in the reference portfolio in bank-owned accounts. Renaissance was hired by the banks as an investment adviser to help facilitate the hedging process. At the banks' request, Renaissance executed the hedging trades on the banks' behalf, but it had no control over the positions thereafter; the banks had the power subsequently to lend out or even to sell the positions thus acquired.

## **How the Barclays and Deutsche Bank Barrier Options Changed Over Time**

Although the details of the barrier options have been modified slightly over the years to adapt to the unique demands of each bank, the Barclays and Deutsche Bank barrier options held by Medallion today are essentially identical in many important respects to the first barrier options Medallion purchased from these banks. Each option has required a single up-front premium

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<sup>4</sup> *Garcia v. Commissioner*, 101 T.C.M. (CCH) 1388, 1390-1 (2011).

payment. Each option has provided for cash settlement generally equal to the net positive performance of the reference portfolio at the valuation date, and each option has included a barrier provision. The underlying reference portfolio for each option was generated by Renaissance's trading algorithm. Neither bank was required to maintain a hedge against the reference portfolio for any option. Each bank explicitly preserved its unrestricted ownership of any positions in its hedge for each option.

The 2007 "Quant Quake" demonstrated convincingly that the strategies of different quantitative funds were correlated, and thus that the risk faced by even the best-run funds was significantly greater than previously thought. In particular, a forced liquidation by any fund could have cascading effects on other funds, resulting in greater losses for all. Newly sensitized to these concerns about risk, from 2007 until late 2008, Deutsche Bank and Renaissance renegotiated some of the terms of their barrier options prospectively. We negotiated for changes clarifying the parties' responsibilities in the event that an option hit a barrier and needed to be unwound. Deutsche Bank negotiated for, among other things, a change to a European-style option, which meant Medallion had no right to exercise an option prior to its stated maturity date, and for a non-refundable component of the premium that locked in a portion of Deutsche Bank's profits up front. These changes had real economic effects. Both we and Deutsche Bank exercised sensible business diligence, including discussions with our outside advisors, to understand the implications of all aspects of the changes, including those potentially related to tax.

In the wake of the "Quant Quake," we also modified prospectively our barrier options with Barclays. The relatively modest changes made to the Barclays barrier options addressed risk issues. We also are aware that in 2009 Barclays amended the articles of association of Palomino, the company through which it held its hedges to the options. We understand that this was done by Barclays for UK accounting purposes, but that it did not affect Barclays' status as the owner of the hedge positions for bank regulatory and other purposes. We entered into a letter agreement with Barclays in 2009 confirming our understanding that the Palomino changes did not affect the parties' rights and obligations under the option documents.

### **Tax Treatment of the Options**

You have also asked more broadly about the tax treatment of barrier options. Renaissance has historically consulted with outside advisors on the tax treatment of the options at issue here and is comfortable that its tax treatment of the options is correct under current law. As noted above, the IRS has been reviewing these options for over six years. Renaissance has been cooperating fully with that review, and ultimately we expect to prevail. We hope you understand that we are unable to discuss the legal advice we received in more detail today without risking waiver of legal rights to which we are entitled in connection with this ongoing IRS proceeding. We hope also that the proceeding will move quickly as we and the IRS have a shared interest in obtaining a final determination of this matter.

It is common for parties to an agreement to allocate between themselves the burdens of various risks, including tax risk. Medallion's agreements with Barclays provide that Medallion bears the risk that the IRS will determine that Barclays should have reported the options differently. Medallion's agreements with Deutsche Bank do not contain a similar provision.

In 2010, the IRS issued Generic Legal Advice Memorandum (“GLAM”) 2010-005, a non-precedential internal analysis of the tax treatment of a barrier option based on summary facts set forth in the GLAM. Renaissance carefully reviewed the GLAM when it was released and did not believe that its description of the facts accurately reflected Medallion’s barrier option transactions—particularly as to the risks associated with the transactions. We continue to believe that today. Should the IRS wish to change the tax treatment for barrier options, it could promulgate new rules to this effect—something that it has not done to date.

### **Conclusion**

Medallion enters into barrier options to address the business imperatives discussed above. We believe we have reported the income from these options in accordance with current law, and are eager for a speedy resolution of the matter now before the IRS. We look forward to studying your report and will be pleased to address questions you may have.