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Law an Independent Variable: Firms' Response to Affordable Care Act

Christopher M. Bays,

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I. Intro

In 2010, Congress passed the Patient Protection and Affordable Care Act (PPACA) which created an individual mandate for every American to carry health insurance or face financial penalties. The end result is the single largest increase in the number of insured Americans since the creation of Medicare under Lyndon B Johnson's Great Society Program.¹ The drafters of PPACA emphasized three main objectives: 1) to provide access to healthcare to all; 2) to improve quality of care; and 3) to find ways to slow or reduce the cost of care.² In expanding healthcare coverage to more than 30 million Americans currently without insurance, the act will guarantee that many who need medical care will not be left hanging.³

However, after the Supreme Court's recent ruling upholding the key components of PPACA the mere validation of the healthcare bill has hardly ended the debate. Healthcare organizations face a unique and wide-ranging set of challenges as a result of this

¹ Ben Shepherd, *A new Focus: How to Profit from Healthcare Reform*, Investing Daily (January 14, 2013), available at <http://www.investingdaily.com/16082/a-new-focus-how-to-profit-from-healthcare-reform>

² Ron Rimkus, *The economics of Obamacare: The implications for Healthcare Investing*, Enterprising Investor (July 11, 2012), available at <http://blogs.cfainstitute.org/investor/2012/07/11/the-economics-of-obamacare-the-implications-for-healthcare-investing/>

³ *The Lurking Danger in the Affordable Care Act*, Daily Finance (October 2, 2012), available at www.dailyfinance.com/2012/10/02/the-lurking-danger-in-the-affordable-care-act/

legislation, from payment to reimbursement reform.⁴ These changes, regardless of whether critics are in favor or against the reform, will have a drastic effect outside the healthcare market. PPACA will affect employment practices, tax considerations and the way individuals and firms invest their money.⁵ One of the controversial provisions in the healthcare reform bill, which will have these cross market effects, is the new tax on medical device sales. This new 2.3% tax on the United States sale of medical devices began in January 2013.⁶ This tax will be assessed on revenues of the devices not solely profits.⁷ On top of federal, state and local taxes companies in 2013 are anticipating to pay approximately 50 percent of every dollar earned.⁸

With the healthcare industry becoming an integral part of the United States economy; it will be critical for investors to maintain exposure to the changes they face with the implementation of PPACA in order for them to enjoy robust gains, sustain a solid footing in the healthcare industry and maintain a diversified portfolio. This paper will focus on the public policy implication of policy makers need to be conscious of market trends and Wall Street perceptions when determining the full effect of their legislation. Part 2 of the paper will discuss the projected effects of the implementation on PPACA on the healthcare industry. Specifically, this paper will focus on how investors, brokers and investment firms will be affected by the new Medical Loss Ratios (MLR) regulations on

⁴ *Affordable Care Act Update: Implementing Medicare Cost Saving*, CMS Office of the Actuary (June 8, 2010), available at <http://www.cms.gov/apps/docs/aca-update-implementing-medicare-costs-savings.pdf>

⁵ Jim Blankenship, *What Obamacare Will Do to Your Taxes*, Forbes (July 9, 2012), available at <http://www.forbes.com/sites/advisor/2012/07/09/what-obamacare-will-do-to-your-taxes/>

⁶ *Just the Facts: The Medical Device Excise Tax*, MedReps.com (Last Visited February, 27 2013), available at <http://www.medreps.com/medical-sales-careers/medical-device-excise-tax/>

⁷ Ruth Hoffman, *KPMG TaxWatch Recap: New Medical Device Excise Tax*, KPMG (2012), available at http://www.us.kpmg.com/microsite/taxnewsflash/2012/Jan/Excise.v5_web.pdf. The tax is levied against medical device manufacturer's revenues regardless of whether the manufacturer has a profit.

⁸ Devon Herrick, *The Job-Killing Medical Device Tax*, National Center for Policy Analysis (February 2012), Issue Brief No. 106, <http://www.ncpa.org/pdfs/ib106.pdf>

issuers, formation of Accountable Care Organizations (ACOs) and the new tax on medical devices. These new implications will have a direct effect on their corresponding markets, for instance; Formation of ACOs will affect the way hospitals operate, medical device manufacturers will have to adapt to the way medical devices are developed and sold and MLR regulations will impact how issuers price their products and the quality of service. However, with the passage of the Affordable Care Act (“ACA”) still in its infancy the full effect of these provisions are only mere speculations.

This uncertainty has led analysts looking to invest in the healthcare industry to project how hospitals, doctors and medical manufactures will react to these new ACA regulations. One particular area of interest is venture capitalist contributions and medical technology Initial Public Offerings. Initial indications express decreasing confidence in the upcoming years in these areas and project less funding of research and development as well as advancement of startup companies.⁹ Considering the projections from several conflicting analysts as to their anticipated effects on the overall market response to this legislation, these opinions will assist us in understanding how investors gain or lose confidence in an investment opportunity based on how other perceive the rate of return and market stability. While one sub-sector of the healthcare industry see continuous growth and revenue, others might discover increased costs due to the need to conform to the new ACA standards coupled with a decreased influx of available capital contributions.

⁹ Scott Gottlieb, *Healthcare consolidation and Competition after PPACA*, American Enterprise Institute (May 18, 2012), <http://www.aei.org/speech/health/healthcare-reform/ppaca/health-care-consolidation-and-competition-after-ppaca/>; see also Allison Bell, *Hearing Witness: PPACA Is Scaring Capital Away from Health Services*, Life Health Pro (May 18, 2012) <http://www.lifehealthpro.com/2012/05/18/hearing-witness-ppaca-is-scaring-capital-away-from> (discussing the differing views of Scott Gottlieb and Thomas Greaney regarding incentives to invest capital)

Part 3 of this article will provide a brief overview on how analysts and investors determine and assess investment potential value through quantitative analysis. Quantitative analysis is a financial analysis technique that seeks to understand behavior by using complex mathematical and statistical modeling, measurement and research.¹⁰ These types of financial breakdowns can be done for a number of reasons such as measurement, performance evaluation or valuation of a financial instrument.¹¹ It can also be used to predict real world events such as changes in a share price or to ascertain investment quality.¹² In general, during economic downturns investors need to track pricing and premium levels, medical costs and member growth over time, as well as the regulatory noise related to covered charges through the government health programs. Part 3 will further discuss how analysts apply quantitative analysis to assess the value of healthcare industry investment opportunities. Predominantly, this area will focus on projection analysis and financial ratios investors rely on such as Medical Cost Ratio.¹³ In addition, investors utilize market data such as the S&P Healthcare Sector Index and return on investment breakdowns. Although quantitative analysis is a powerful tool for evaluating investments, it rarely tells a complete story without complementary qualitative analysis. This article will also discuss other statistics used by investors to obtain an optimal portfolio within the healthcare context.

Part 4 of this article discuss the detachment of policy makers within the health care industry who do not appreciate the fragility and instability of capital markets as a result of

¹⁰ Campbell R. Harvey, *Quantitative Analysis*, Hyper textual Financial Glossary, available at <http://people.duke.edu/~charvey/Classes/wpg/bfglosq.htm>

¹¹ *Understanding Financial Statements*, Dun & Bradstreet (Last Visited April 10, 2013), available at <http://www.dnb.com/customer-service/understanding-financial-statements.html>

¹² *Id.*

¹³ Robert Kohut, *UnitedHealth Investors: Buy, Sell or Hold?*, Wall St. Cheat Sheet (October 27, 2012), available at <http://wallstcheatsheet.com/stocks/unitedhealth-investors-buy-sell-or-hold.html/>

the policies they legislate. Using the information gathered by quantitative analytics many investors and analysts project trends of investing in the healthcare sector based on this information.¹⁴ In a theory developed by John Maynard Keynes to explain price fluctuations in markets, Keynes believed “investors are not looking only at fundamental values, but rather on what they think everyone else thinks their value is, or what everybody else would predict the average assessment of value to be.”¹⁵ Despite some reports focused on the opportunity growth and potential investment return for the healthcare industry, others see a shrinking market for investment in companies within the early stages of development, in particular the medical device sector. Ultimately, as the market responds to the changes in the healthcare sector the medical device tax may only hurt patient care and exacerbate current trends of reduced utilization of medical devices. We may learn that the effect of the Affordable Care Act not only affects the regulatory facet of health care but also the economic landscape of health care. Artificially capping profits in the health sector may mean that venture capitalists and investment firms will find themselves in a position where it is no longer profitable to add healthcare companies to their portfolios.¹⁶ This could result in an exodus of capital funding, jobs, and new innovation.

¹⁴ Suzanne McGee, *Obamacare Ruling: Tricky Investing Terrain*, MSN Money (June 29, 2012), available at <http://money.msn.com/top-stocks/post.aspx?post=2d91f7e6-4ff1-4327-ac83-f27b0fdb317f>

¹⁵ Robert J. Shiller, *The Beauty Contest That's Shaking Wall St.*, The New York Times (September 3, 2011), available at http://www.nytimes.com/2011/09/04/business/economy/on-wall-st-a-keynesian-beauty-contest.html?_r=0

¹⁶ Frank Pasquale, *Joining or Changing The Conversation: Catholic Social Thought and Intellectual Property*, Cardozo Arts & Entertainment, Vol. 29:681 p. 687. “Other unintended consequences could emerge. Compulsory licensing of essential drugs could lead to a diversion of more resources to research on nonessential drugs. No one is pushing for compulsory licensing for baldness cures or pet medications. In 2008, the purchasing power of the average American dog was higher than that of forty percent of the world’s population”

II. Implementation of the Affordable Care Act

a. ACO's

ACOs are collaborations that integrate groups of providers formed from a variety of entities. These include physicians (particularly primary care physicians), individual physicians, hospitals, partnerships and others forms of joint-ventures.¹⁷ These providers work to manage and coordinate care for Medicare and commercial beneficiaries. A common feature of successful ACOs will be its ability to connect and synchronize the interests of the providers, payers and patients.¹⁸ In doing so, these ACOs may receive shared-saving bonuses from a payer by achieving measured quality targets and demonstrating real reductions in overall spending growth for a defined population of patients¹⁹

The majority of ACO proposals assume that providers within each community will come together to form these integrated delivery models and solicit other providers in the community to voluntarily join the ACO.²⁰ ACOs aim to change both the philosophy and practice patterns of providers and in turn benefit all patients from the delivery of higher-

¹⁷ Timony K. Lake, Kate A. Stewart and Paul B. Ginsburg, *Lessons from the Field: Making ACOs Real*, National Institute for Health Care Reform, No.2 (Jan. 2011)

¹⁸ Elizabeth G. Litten. "ACOs: Getting More for Less?" *New Jersey Law Journal* Vol. 204- No. 8 (May 23, 2011) available at <http://www.foxrothschild.com/newspubs/newspubsArticle.aspx?id=4294967686> (last visited April 29, 2012)

¹⁹ David Newman, "Accountable Care Organizations and the Medicare Shared Savings Program" Congressional Research Service (November 4, 2010), pp. 1. (Quoting Aaron McKethan, Mark McClellan, Elliott Fisher, et al., *Moving from Volume-Driven Medicine Toward Accountable Care*, Health Affairs, Health Affairs Blog, August 20, 2009. <http://www.healthaffairs.org/blog>.) available at http://assets.opencrs.com/rpts/R41474_20101104.pdf .

²⁰ Centers for Medicare & Medicaid Services: Accountable Care Organizations (Last modified 04/05/2012) <https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/ACO/index.html?redirect=/ACO/> (The ACO concept envisions multiple providers assuming joint accountability for improving health care quality and slowing the growth of health care costs. The concept was also included in national health care reform legislation as one of several demonstration programs to be administered by Medicare (Patient Protection and Affordable Care Act, 2010). However, ACOs described in health reform legislation are operationally different from other ACO models. The role of ACOs in integrating and aligning provider incentives in care delivery requires participating organizations to possess certain key competencies.)

quality, lower-cost, and better integrated services.²¹ Philosophically, the attention of the health care system changes under ACOs from the traditional focus on treating patients with truly urgent problems to preventing those conditions in the first place. On the financial side, ACOs shift away from paying based on the *quantity* of services rendered and more toward paying based on the *quality* of services.²² Although ACOs may contract with any payer (Medicare, Medicaid, or private insurer) to provide services and share in any resulting savings, the results from this shift are assumed to be far reaching and favorable for the health care delivery system.

As payment for medical services shifts from fee-for-service to more integrated, bundled charges, health providers will have to work together to provide services in a cost-effective manner. For instance, as physicians begin partnering with hospitals and health providers, hospitals face a very unique challenge of establishing a cost-effective ACO, conforming to the Medicare Shared Savings Program criteria, while not losing money.²³ Although big integrated hospital systems and academic medical centers are in the best position to benefit from the ACO, speculation suggests short term struggles for hospitals are to be expected. Hospitals will face the difficult task of learning how to cut costs without losing money which will take time.²⁴ Additionally, asset management firms like

²¹ Stephen G. Pelletier, *ACOs: Controlling Costs While Improving Care*, Association of American Medical Colleges Reporter (February 2011), available at

https://www.aamc.org/newsroom/reporter/feb11/174756/controlling_costs_while_improving_care.html

²² Julie Barnes, *The Many Legal Barriers Standing in the way of Health Care Reform*, The Atlantic (March 15, 2012, 9:02 AM ET), reprinted in Bipartisan Policy (Posted March 16, 2012), available at

<http://www.theatlantic.com/health/archive/2012/03/the-many-legal-barriers-standing-in-the-way-of-health-care-reform/254259/>

²³ Anna Wilde Mathews, *Can Accountable-Care Organizations Improve Health Care While Reducing Costs?*, Wall Street Journal (January 23, 2012), available at

<http://online.wsj.com/article/SB10001424052970204720204577128901714576054.html>

²⁴ Jenny Gold, *FAQ on ACOs: Accountable Care Organizations Explained*, Kaiser Health News (October 21, 2011), available at <http://www.kaiserhealthnews.org/Stories/2011/January/13/ACO-accountable-care-organization-FAQ.aspx>

Lazard Asset Management LLC see “managed care, hospitals and post-acute care providers as the subsectors most impacted by healthcare reform. Key factors we consider for companies in these subsectors include health insurance coverage changes, profitability outlook and potential business model changes as a result of the ACO pilot projects.”²⁵

ACOs are projected to have a profound impact on other subsectors of the healthcare industry as well such as pharmaceutical manufacturing.²⁶ One gap in PPACA was the inability to create a system for ACOs to limit the patient’s access to cost effective treatments. Essentially, a provider can create internal rules limiting access to the most cost effective care, in turn choosing the cheaper of two comparable drugs.²⁷ In a study by BioTech Stock Research of United Healthcare’s episodic payment system,

“providers will be more sensitive to cost. If you have two drugs with similar patient outcomes, the least expensive one will be used first. As we wrote in detail in the April issue of Biotech Monthly, this means the one used second will still see revenues but lower revenues due to Label Shift²⁸ and the Leaky Bucket²⁹.”³⁰

²⁵ Ross Seidon, *U.S. Healthcare Reform: Drivers, Economics and the Supreme Court*, Lazard Asset Management LLC (March 2012), available at http://www.lazardnet.com/confcalls/pdfs/2012/U.S.HealthcareReform-DriversEconomics_LazardInsights_201203.pdf

²⁶ Paul H. Keckley, Ph.D, *Value-based Purchasing: A Strategic Overview for Healthcare Industry Stakeholders*, Deloitte center for Health Solutions (2011), available at http://www.deloitte.com/assets/Dcom-UnitedStates/Local%20Assets/Documents/Health%20Reform%20Issues%20Briefs/US_CHS_ValueBasedPurchasing_031811.pdf

²⁷ *Investment Implications of ACOs & IPAB*, Biotech Stock Research Monthly Vol. 11, No. 6 (June 2011), available at http://www.biotechstockresearch.com/free/v11-n06_IPAB-ACO.pdf

²⁸ “Label Shifting” is the process by which a provider alters the drugs they customary prescribe to a similar less expensive drug based on external factors

²⁹ Yale economist Arthur Okun famously described the "Leaky Bucket" problem as one in which the mechanisms necessary to move income from one group to another would inevitably result in losses from, among other things, administrative costs of government transfer programs. Intuitive picture of a leaking bucket captured the idea that: government policy and "the market" are opposing forces, with the market poised to do its work if only the government would get out of the way.

³⁰ Paul H. Keckley, *supra* note 27

Under widespread adoption of ACOs, investors are going to have to pay more attention to pharmaceutical economic analysis and comparative efficacy data.³¹ This type of change makes companies more price-sensitive when pricing their drugs. Researchers suggest it will take longer for ACOs to adopt new drugs than it currently does because of questions of cost effectiveness. However, ACOs will not have a drastic effect on the way the market participants invest in healthcare because they offer too little incentive for doctors and hospitals to change behavior. With only modest rewards for creating ACOs that comply with the Shared-Saving Requirements this will not eliminate and may potentially increase rewards to providers from maintaining current costly practices.³² While shared savings may entice some providers into new arrangements, it provides a relatively weak impetus to real change.³³ With very small incentives, the change will be extremely slow.

b. Medical Device Tax

When Congress carefully drafted the Affordable Care Act it did so with the intent of not adding to the federal budget deficit.³⁴ To help pay for the expansion of health coverage to 27 million uninsured Americans, the ACA either reduces Medicare payments or increases taxes for a wide range of industries that will benefit from health reform

³¹ Nikolas H. Goldberg; Sebastian Schneeweiss, MD, ScD; Mary K. Kowal, BA; Joshua J. Gagne, PharmD, MS *Availability of Comparative Efficacy Data at the Time of Drug Approval in the United States*, JAMA. 2011;305(17):1786-1789, available at <http://jama.jamanetwork.com/article.aspx?articleid=899516> “Efficacy studies are randomized, controlled trials comparing an intervention to a control (often a placebo or a sham treatment) on a carefully selected group of subjects under controlled conditions. These studies utilizes a variety of data sources, including systematic reviews of existing literature and analysis of secondary data, such as claims data, patient registries, and electronic health records.”

³² Anna Wilde Mathews, *supra* note 23

³³ Judy Feder and David Cutler, *Achieving Accountable Care and Affordable Care: Key Health Policy Choices to Move the Health Care System Forward*, Center for American Progress (December 2010), available at <http://www.americanprogress.org/wp-content/uploads/issues/2010/12/pdf/affordablecare.pdf>

³⁴ Paul N. Van de Water, *Excise Tax on Medical Devices Should Not BE Repealed: Industry Lobbyists Distorts Tax's Impact*, Center on Budget and Policy Priorities (March 11, 2013), available at <http://www.cbpp.org/files/2-14-12health.pdf>

including; hospitals, home health agencies, clinical laboratories, health insurance providers, drug companies, and manufacturers of medical devices.³⁵

The ACA imposes a tax equal to 2.3% on the sales price of any taxable medical device by a medical device manufacturer, producer or importer of such device.³⁶ According to the Congressional Budget Office (CBO) anticipates that this medical excise tax will generate \$20 billion dollars.³⁷ The excise tax applies to sales after December 31, 2012.³⁸ As such, medical device manufacturers will need to begin accounting for this tax for all sales, other than tax free sales, beginning January 1, 2013³⁹ and will need to consider the impact of this tax on their 2013 results.⁴⁰ Medical devices encompass an extremely wide range of products such as; surgical gloves, dental instruments, wheelchairs, coronary stents, artificial knees and hips, defibrillators, cardiac pacemakers, irradiation equipment, and advanced imaging technology. However, the tax does not apply to eyeglasses, contact lenses, hearing aids, or any other medical device that the public generally buys at retail for individual use.⁴¹

³⁵ Peter n. Van de Water, *supra* note 34

³⁶ Affordable Care Act Tax Provisions, Internal Revenue Service (Last Updated March 19, 2013) available at <http://www.irs.gov/uac/Affordable-Care-Act-Tax-Provisions>

³⁷ See Congressional Budget Office, Estimates for the Insurance Coverage Provisions of the Affordable Care Act Updated for the Recent Supreme Court Decision (July 2012). The ACA comprises the Patient Protection and Affordable Care Act (Public Law 111-148) and the provisions of the Health Care and Education Reconciliation Act of 2010 (P.L. 111-152) that are related to health care.

³⁸ *Id.*

³⁹ Keenan Steiner, *Backed By Hatch, Klobuchar, Medical Device Makers Score Victory*, Sunlight Foundation Reporting Group (April 15, 2013), available at <http://reporting.sunlightfoundation.com/2013/backed-by-hatch-klobuchar-medical-device-makers-score-victory/> (Currently there is a bipartisan effort to repeal the medical device tax. "Momentum is clearly growing in Congress to repeal the medical device tax as Senators continue to hear from their constituents that the impact is real.)

⁴⁰ Price Waterhouse Cooper, *Medical Device Excise Tax*, Pharmaceutical and Life Sciences Industry Alert (2012-13), available at http://www.pwc.com/en_US/us/cfodirect/assets/pdf/insight/pls-alert-2012-3-medical-device-excise-tax-final.pdf

⁴¹ The excise tax is established by section 1405 of the Health Care and Education Reconciliation Act of 2010 (Public Law 111-152), which effectively substituted for section 9009 of the Patient Protection and Affordable Care Act of 2010 (Public Law 111-148).

In 2011 the Advanced Medical Technology Association (AdvaMed) and Furchtgott-Roth Economic Enterprises conducted a study which found that:

"The effect of the tax on earnings of U.S. companies is likely to be significant. In 2006, medical device manufacturers reported taxable income of \$13.7 billion and paid \$3.1 billion in corporate taxes. The new 2.3 percent excise tax will roughly double their total tax bill and raise the average effective corporate tax rate to one of the highest effective tax rates faced by any industry in the world."⁴²

The U.S. medical device industry has estimated total sales of \$106 billion to \$116 billion a year.⁴³ For example, Johnson and Johnson's worldwide sales of medical devices and diagnostics totaled \$27 billion in 2012.⁴⁴ The firm had total sales (on both medical devices and other products) of \$67 billion on which it earned profits of nearly \$11 billion.⁴⁵ The effect of the tax on earnings of U.S. companies is likely to reduce their net profits from a low of 6.8 percent to a high of 40 percent.⁴⁶

Although venture capitalist and investors have mixed views on the effectiveness of the ACA, it seems to be unanimous when it comes to medical devices tax that skepticism is high and confidence is at an all-time low. In a LinkedIn poll taken from over 550 members of the Medical Device Group, Medcity News found "35 percent of respondents said they expected 2013 to be a bad year for the medical device industry, citing problems with higher-priced devices that provide minimal advantages among areas of concern and lack of

⁴² Diana Furchtgott-Roth and Harold Furchtgott-Roth, *Employment Effects of the New Excise Tax on The Medical Device Industry* (September 2011), available at http://www.chi.org/uploadedFiles/Industry_at_a_glance/090711EmploymentEffectofTaxonMedicalDeviceIndustryFINAL.pdf

⁴³ Christopher Flavelle, *Medical Device Industry Overstates Tax Impact*, Bloomberg Government Study, February 9, 2012.

⁴⁴ *Johnson & Johnson Reports 2012 Fourth-Quarter and Full-Year Results*, January 22, 2013, available at <http://www.investor.jnj.com/releasedetail.cfm?ReleaseID=734718>

⁴⁵ *Id.*

⁴⁶ Diana Furchtgott-Roth and Harold Furchtgott-Roth, *supra* note 42

investments.”⁴⁷ Exacerbating the lack of confidence, a PricewaterhouseCoopers MoneyTree Report found that medical device companies received a combined \$434 million from 65 deals in the third quarter, which marks a 37 percent drop in dollar amount and a 27 percent decline in the number of deals from the second quarter.⁴⁸ Furthermore, Med Tech Initial Public Offerings (IPOs) have been virtually non-existent in the past four years which serves as another indicator of a change in the industry’s health. Additionally, PricewaterhouseCoopers also found that Venture Capital Deals were cut in half from 2010 to 2011 from 54 to 22 respectively.⁴⁹ Given the amount of innovation of medical devices that come from smaller companies, that require such capital investments from large players in the industry or venture capitalist firm, Bill Trainor of Mutual Capital Partners Fund is confident investors will have to change the way they manage their portfolios.⁵⁰ Other sources, such as Terry McGuire, co-founder of Polaris Venture Partners, explained “the excise tax is clearly a burden, but hardly a driving factor in investment decisions.”⁵¹ Although there seems to be some optimism for the medical device industry, now is not an advantageous time to implement such an excise tax. Since the medical industry has been struggling for the past three years such an excise tax would hinder the flow of capital investments to medical device manufactures.⁵² A study of Universal HealthCare in Massachusetts provides an example of what might happen nationwide. The reports showed

⁴⁷ Deanna Pogorelc, *The Best and Worst Bets for Healthcare Investing in 2013*, MedCity News (December 21, 2012), available at <http://medcitynews.com/2012/12/the-best-worst-bets-for-healthcare-investing-in-2013/>

⁴⁸ Venture Capital Investments Decline in Dollars and Deal Volume in Q3 2012, Pricewaterhouse Cooper LLP (October 19, 2012), <http://www.pwc.com/us/en/press-releases/2012/venture-capital-investments-q3-2012-press-release.jhtml>

⁴⁹ Matt Dolan, *Innovation 101—Technology & Innovation in the Medical Device Industry*, Roth Capital Partners LLC (September 13, 2012), available at http://www.roth.com/files/marketing/email_blasts/Roth%20Capital%20CONNECT.pdf

⁵⁰ Pogoreic, *supra* note 47

⁵¹ Dan Primack, *Is Obamacare Killing Medical Device Startups?*, CNN Money (December 6, 2012), <http://finance.fortune.cnn.com/2012/12/06/is-obamacare-killing-medical-device-startups/>

⁵² Matt Dolan, *supra* note 49

that in Massachusetts, 8 out of 9 companies experienced negative comparative growth rates in Massachusetts as compared to the rest of the US following the implementation of universal health care in that state.⁵³ Despite the assumption that medical device manufacturers would benefit from the windfall of formerly uninsured customers now insured under ACA, there is little data to suggest that such a conclusion after comparing the average age of a medical device patient (60 years of age) to new insured customers (45 years of age).⁵⁴ Using six case studies, Roth Capital Investments found that trends in Massachusetts, contrary to an expectation for higher medical device utilization rates, actually lagged the rest of the US in the years following the legislation of universal health care.⁵⁵

c. Medical Loss Ratio

Another regulation enacted as part of the Affordable Care Act was the imposition of reporting and rebating requirements upon insurers in order to promote efficiency. Beginning in August 2012, insurers must report plan costs for the purpose of calculating their medical loss ratio (the percentage of insurance premium dollars spent on reimbursement for clinical services and activities to improve healthcare quality).⁵⁶ Large group insurers must spend at least 85 percent of premium dollars on claims and activities to improve healthcare quality.⁵⁷ Individual and small group insurers (those with a total

⁵³ Thomas Sullivan, *Affordable Care Act: Medical Device Tax a Problem for Innovation*, Policy and Medicine (November 5, 2012), available at <http://www.policymed.com/2012/11/affordable-care-act-medical-device-tax-a-problem-for-innovation.html>

⁵⁴ Matt Dolan, *supra* note 52

⁵⁵ Thomas Sullivan, *supra* note 53

⁵⁶ Gensina Seiler, *Look Out, Look Out: Here Comes Obamacare*, 22 No. 1 Wis. Emp. L. Letter 1

⁵⁷ U.S. Department of Health and Human Services, *New Affordable Care Act rules give consumers better value for insurance premium*, HHS (November 22, 2010), available at <http://www.hhs.gov/news/press/2010pres/11/20101122a.html>; see also *Medical Loss Ratio: Getting Your Money's*

average of one to 50 employees based on the preceding calendar year, depending on the state's definition) must spend at least 80 percent of premium dollars on claims and activities to improve healthcare quality.⁵⁸ This efficiency is measured through the “Medical Loss Ratio” (MLR), which according to the Act, tracks the percentage of premium dollars actually expended on health care services or on efforts to improve the quality of health care services.⁵⁹ The ACA requires each insurer to report, on an annual basis, the percentage of its annual premium receipts that have been applied to medical services or improvements to medical services.⁶⁰ In essence, the medical loss ratio is intended to limit the amount of overhead that an insurer can carry (and, by implication, profit levels and executive compensation) by requiring the insurer to rebate to its policyholders and plan participants any premium revenue in excess of the overhead amount allowed by the Act.⁶¹

Professor Tara Ragone⁶² defines the MLR as a calculation where “the numerator of the ratio containing the insurance company’s expenses related to health care, and the denominator contains the premiums collected by the insurance company.”⁶³ Which expenses may be included in the numerator and what adjustments insurers may or must make to the denominator greatly affect the resulting MLR. Prior to the ACA, some states but not the

Worth on Health Insurance, Healthcare.gov (November 22, 2010), available at <http://www.healthcare.gov/news/factsheets/2010/11/medical-loss-ratio.html>

⁵⁸ Paul J. Routh, *Medical Loss Ratio*, Welfare Benefits Guide §3:15 (2012)

⁵⁹ *Affordable Care Act's Medical Loss Ratio Provision: Is There A Private Right Of Action?*, Thorp Reed Armstrong LLP (November 15, 2012), available at http://www.martindale.com/insurance-law/article_Thorp-Reed-Armstrong-LLP_1627212.htm

⁶⁰ U.S. Department of Health and Human Services, *supra* note 57

⁶¹ *Affordable Care Act and Medical Loss Ratios*, Coventry Healthcare (2012), available at http://chccarolinas.coventryhealthcare.com/web/groups/public/@cvtv_regional_chcnc/documents/webcontent/c068403.pdf

⁶² Professor Tara Adams Ragone, J.D., Seton Hall University School of Law- Center for Health & Pharmaceutical Law & Policy

⁶³ See Tara Adam Ragone, J.D., *The Affordable Care Act and Medical Loss Ratios: Federal and State Methodologies*, Rutgers Center for State Health Policy/Seton Hall Law (May 2012), available at <http://www.cshp.rutgers.edu/Downloads/9340.pdf> (citing American Academy of Actuaries Loss Ratio Work Group, *Loss Ratios and Health Coverages*(Nov. 1998), available at <http://www.actuary.org/pdf/health/lossratios.pdf>)

Federal government regulated loss ratios.”⁶⁴ If an insurance company's MLR falls below the 80% or 85% threshold, the company must send rebates to the people it insures.⁶⁵ Not every state required insurance companies to calculate their MLR, and those that did used various definitions and formulae for calculating this ratio.⁶⁶ However, the new “Medical Loss Ratio” system is entirely novel in a number of respects: 1) unlike loss ratio regulation under existing state statutes, the “Medical Loss Ratio” treats administrative expenses relating to healthcare quality improvement differently from other administrative expenses, 2) rates are reviewed retroactively rather than the prospective review that is the norm under state rate regulation statutes, 3) the medical loss ratio refunds apply to large group coverage, which has not generally been subject to rate regulation in the past, and 4) the medical loss ratio refunds will be computed by broad categories⁶⁷ rather than on a product-specific basis.⁶⁸ This Federal mandate has led to heavy scrutiny and debate in two specific areas affecting insurers: (1) brokers' commissions and (2) federal and state taxes.

One of the ways in which some insurers have been cutting their administrative costs has been by cutting compensation to agents and brokers. According to the Department of Health and Human Services (HHS) insurance brokers “are independent agents who receive commissions from an insurer for selling insurance products.”⁶⁹ Brokers have many

⁶⁴ Ragone, *supra* note 63

⁶⁵ Wesley D. Markham, *Healthcare Reform's Mandatory Medical Loss ratio: Constitutionality, Policy and Implementation*, 46 U.S.F.L. Rev. 139 (2011)

⁶⁶ Ragone, *supra* note 63

⁶⁷ Kelly Cruz-Brown, Hilary N. Rowen, R. John Street and Matthew Bernier, *Recent Developments in Insurance Regulation*, Tort Trial & Insurance Practice Law Journal 47:1 (Fall 2011). “Thus, whether a carrier issues a refund with respect to a given health policy and the amount of the refund will depend on the performance of all products issued in the state within broad individual, small group, and large group categories rather than profitability of a specific product.”

⁶⁸ Hilary Rowen, Esq., *How the Federal Healthcare Reform Law will Affect Healthcare Premiums, Healthcare Benefits and the Market for Coverage*, 23 No. 4 Health Law. 55 (April, 2011)

⁶⁹ HHS, Patient Protection and Affordable Care Act; Establishment of Exchanges and Qualified Health Plans; Exchange Standards for Employers, FINAL Rule (3/27/2012) available at

important tasks such as (1) help employers design the “right” plan(s) for their employees; (2) explain the costs and benefits of the plan(s) to the insured; (3) resolve claims-related problems; and (4) refer customers to health insurance providers, thereby allowing the insurance companies to limit marketing-related expenses.⁷⁰ Specifically, the brokers expressed concern regarding ACA counting their commissions counted as administrative expenses in the MLR calculation. This has been the leading reason why insurers are already cutting commissions to improve medical loss ratios.”⁷¹ According to a survey by the National Association of Insurance and Financial Advisors (NAIFA) of “861 of its members who sell health insurance 70 percent of respondents who sell health insurance have seen a decrease in commissions since the MLR has gone into effect.”⁷² Additionally, state insurance agencies worried that they would be flooded with calls for help if the MLR pushed too many brokers out of business.⁷³ This reduction of brokers comes at a time where our economy is at the weakest and millions of health care consumers need the most help.

With regard to the Federal and State taxes at first glance, the Medical Loss Ratio may look like a good thing. Allowing insurers to deduct federal and state taxes which apply to their health insurance coverage from the insurer’s premium revenue is an attractive

<https://www.federalregister.gov/articles/2012/03/27/2012-6125/patient-protection-and-affordable-care-act-establishment-of-exchanges-and-qualified-health-plans>

⁷⁰ Markham *Supra* note 65 (citing Leslie J. Conwell, Ctr. for Studying Health Sys. Change, *The Role of Health Insurance Brokers 2* (2002))

⁷¹ See Jennifer Haberkorn, *Health Policy Brief, Updated: Medical Loss Ratios*, Health Affairs (Nov. 24, 2010), http://www.healthaffairs.org/healthpolicybriefs/brief.php?brief_id=33 (discussing the MLR debate).

⁷² Elizabeth Festa, *MLR Killing Off Business, Hurting Consumers, NAIFA Survey Says*, LifeHealth Pro (May 7, 2012), available at <http://www.lifehealthpro.com/2012/05/07/mlr-killing-off-business-hurting-consumers-naifa-s>

⁷³ Markham, *supra* note 65

feature of the MLR calculation provision.⁷⁴ However, this provision may have the opposite effect on insurers. The significance of the MLR calculation depends on the detail of calculations. A smaller denominator makes the MLR requirement easier to meet.⁷⁵ Therefore, insurance companies naturally want to exclude as many taxes and fees as possible. However, the drafters of the ACA provided for provisions “that refer[s] only to Federal taxes and fees that relate specifically to revenue derived from the provision of health insurance coverage that were included in the ACA.”⁷⁶ By allowing less opportunity to exclude taxes, this relatively narrow definition would make it more difficult for insurance companies to meet the ACA's minimum MLR requirements.⁷⁷ The MLR as explained has the effect of keeping the carrier's profit down by requiring the carrier to spend more money in rebates than to the carrier's bottom line.

III. Investing in Healthcare

a. Quantitative Analysis

Quantitative methods involves a review of the cash flow aspects of the transaction by employing statistical and mathematical tools that can be used to analyze information in order to estimate the expect gain or loss of an investment.⁷⁸ The term quantitative analysis or research, while distinct, is often confused with qualitative analysis. Although qualitative and quantitative research are the two main schools of research and often used in tandem, quantitative analysis involves assembling statistical information that is absolute such as

⁷⁴ Stephen Miller, *HHS Issues Medical Loss Ratio Interim Final Rule: Regulations Rewuire Insurers to Spend Premium Dollars on Care, or Pay Rebates*, Society for Human Resource Management (December 20, 2010), available at <http://www.shrm.org/hrdisciplines/benefits/articles/pages/medicalllossratio.aspx>

⁷⁵ Ragone, *supra* note 63

⁷⁶ See Douglas Holtz-Eakin, *MLR Bait and Switch: PPACA's Latest Controversy*, Am. Action Forum (Aug. 12, 2010), available at <http://americanactionforum.org/content/mlr-bait-and-switch-ppacas-latest-controversy>

⁷⁷ *Id.*

⁷⁸ Federal Reserve Board, ¶96-905 FCIC Reports on Credibility of Credit Ratings, The Investment Decisions Made Based on Those Rating, and the Finacial Crisis, Fed. Banking L. Rep. P 96-905 (C.C.H.), 2010 WL 7364562

numerical records, so that it can be examined in an impartial manner.⁷⁹ The central theory behind quantitative analysis is being able to isolate data easier so that they can be counted and evaluated statistically as well as remove outlying factors that may distract from the resolution of the inquiry.⁸⁰ An analyst generally has a very clear idea what is being measured before they start measuring it and their study is set up with controls and a very clear blueprint. The result of quantitative research is a collection of numbers, which can be subjected to statistical analysis, to come to the end results. This result is what separates quantitative analysis from other forms which instead describe and analyze an occurrence using words.

Formulating a financial speculation or hypothesis into a quantitative model allows analysts to apply statistical analysis to the problem and calculate the probability of certain outcomes such as, how likely a yield is to increase when a specific action is taken.⁸¹ For firms seeking to invest in a particular venture, quantitative methods are most commonly used to value different classes of securities (ie: stocks, bonds, debentures, notes),⁸² analyze criteria for guiding investment decisions, measure risk and asset return, and use statistical techniques for forecasting.⁸³

⁷⁹ Carrie Williams, *Research Methods*, Journal of Business and Economic Research, Vol. 5 No.3 (March 2007), available at <http://journals.cluteonline.com/index.php/JBER/article/viewFile/2532/2578>

⁸⁰ *Id.*

⁸¹ Janet Campagna, *Why Quantitative Investing Can Do Well in Turbulent Markets*, QFinance (Last Visited March 22, 2013), available at <http://www.qfinance.com/asset-management-viewpoints/why-quantitative-investing-can-do-well-in-turbulent-markets?page=1>

⁸² The Securities Act of 1933. The **33 Act § 2(a)(1)**: Provides a very long, broad and expansive list of what constitutes a security. There are several enumerated items coupled with a “Catch all Phrase.” In order to be classified as securities the property must pass a two-part test: 1) “note”; “stock”; “bond”; or “debenture” essentially a transferable share. 2) Items with “any evidence of indebtedness,” “certificate of interest or participation in any profit-sharing agreement,” “any investment contract,” and any “instrument commonly known as a ‘security.’”

⁸³ Savvakis C. Savvides, *Risk Analysis in Investment Appraisal*, Project Appraisal, Vol. 9 No. 1 (March 1994), available at http://mpr.ub.uni-muenchen.de/10035/1/MPRA_paper_10035.pdf

b. Methods of Valuation

When an event occurs that creates such sweeping reform inevitably there are winners and losers. The job of analysts is to understand those consequences regardless of how we feel about the healthcare law. Choosing an investment position in the health care market is not as simple as purchasing stocks based on news headlines; such strategy is generally a recipe for disaster. With the healthcare industry soon becoming one of the largest segments of the United States economy with the massive expansion of insured individuals, it will be very critical for investors to maintain exposure to it so they can enjoy robust gains in addition to balanced portfolios.⁸⁴

In the view of analysts, valuation is based on fundamentals aimed to give an estimate of their intrinsic value of a company or its stock based on predictions of the future cash flows and profitability of the business.⁸⁵ In financial markets, valuation is the method of calculating theoretical values of companies and their stocks. Knowing what an asset is worth and what determines that value is a pre-requisite for intelligent decision making when it comes to choosing an investments for a portfolio, in deciding on the appropriate price to pay or receive, and choosing to finance a business.⁸⁶

Analysts use a wide spectrum of models ranging from the simple to the sophisticated. These quantitative models often make very different assumptions that cannot

⁸⁴ Meir Statman, *How many Stocks Make a Diversified Portfolio*, Journal of Financial and Quantitative Analysis, Vol 22, No. 3 (September 1987)

⁸⁵ Dong, Ming and Chen, Zhiwu, *Stock Valuation and Investment Strategies* (June 30, 2001). Yale ICF Working Paper No. 00-46. available at SSRN: <http://ssrn.com/abstract=277008> or <http://dx.doi.org/10.2139/ssrn.277008>

⁸⁶ Aswath Damodaran, *Damodaran on Valuation: Security Analysis for Investment and Corporate Finance*, Wiley; 2 edition (August 4, 2006) p. 5

be assessed without analyzing the finances of a company.⁸⁷ Each method in its own way makes it easier to understand how an investment will fit into the big picture of your investment scheme. In general terms, there are two approaches to valuation. The first, Discounted Cash Flow valuation, relates the value of an asset to the present value of expected future cashflows on that asset.⁸⁸ The second, relative valuation, estimates the value of an asset by looking at the pricing of comparable assets relative to a common variable like earnings, cashflows, book value or sales.⁸⁹

Discounted Cash Flow (DCF) is a valuation method used to estimate the attractiveness of an investment opportunity by analyzing future free cash flow projections and discounts the projections to arrive at a present value, which is used to evaluate the potential for investment.⁹⁰ The principle of DCF is that a dollar received today is less valuable than a dollar received in the future.⁹¹ Therefore, the purpose of a DCF analysis is to anticipate returns in their present value (PV).⁹² This can be accomplished in one of two ways. They are: Net Present Value (NPV) method and the Internal Rate of Return (IRR) method.⁹³

⁸⁷ Aswath Damodaran, *Investment Valuation: Tools and Techniques for Determining the Value of Any Asset*, John Wiley & Sons (April 17, 2012) 3rd Edition, p. 599

⁸⁸ *Consolidated Rock Products Co. et al v. Du Bois*, 312 U.S. 510 (1941) (Justice Douglas referred to Discounted Cash Flow as the most common valuation method used in many legal settings. Typically a firm or investment will be valued as a perpetuity or a growing perpetuity)

⁸⁹ Aswath Damodaran, *Damodaran on Valuation*, *supra* note 86

⁹⁰ *Consolidated Rock Products Co.*, *supra* note 88

⁹¹ Harris, Robert S., *Fundamentals of Discounted Cash Flow*, Vol. , pp. 1-41, . available at SSRN:

<http://ssrn.com/abstract=909070>

⁹² *Id.*

⁹³ *Id.*

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|--|
| DISCOUNTED CASH FLOW |
| $DCF = \frac{CF_1}{(1+r)^1} + \frac{CF_2}{(1+r)^2} + \dots + \frac{CF_n}{(1+r)^n}$ |
| <p>CF = Cash Flow r = Discount Rate (calculated by computing Weighted Average Cost of Capital (WACC))</p> |

Net present value (net cash flow) is the sum of the initial investment (a negative cash flow) plus the present values of future cash flows (which may be either negative or positive).⁹⁴ If net present value is positive, the investment is profitable and a profit-seeking investor would pursue it. If the NPV were zero, the investor's assets would not change. The investment is neither profitable nor unprofitable, and a profit-seeking investor would be indifferent to it.⁹⁵ If the NPV were negative, the financial value of the investor's assets would be decreased and the investment would not be financially attractive.⁹⁶ An investment that is unprofitable, and a profit-seeking investor would avoid it.⁹⁷ In summary, NPV or DCF determines the present dollar value of the future dollar returns and this amount is compared with the present value of the investment. If the present value of the return is greater than the present value of the investment, the investment is considered favorable.⁹⁸

An Internal Rate of Return (IRR) is a discount rate that makes all future cash receipts and expenditures equal to the initial cash investment.⁹⁹ The use of internal rates of return permits different investments to be analyzed mathematically to determine which

⁹⁴ Robert J. Haft and Peter M. Fass, *Tax-Advantage Securities Handbook*, 2 Tax Adv. Sec. Handbook §9:2 (quoting *Walford v. C.I.I.*, T.C. Memo 2003-296, T.C.M. (RIA) ¶2003-296, 86T.C.M (CCH) 479 (2003))

⁹⁵ *Id.*

⁹⁶ Calculating the return- Net Present Value, *Tax-Advantaged Securities*, 4 Tax-Advantaged Securities §2:13

⁹⁷ *Id.*

⁹⁸ Jill E. Fisch, *Relationship Investing: Will It Happen? Will it Work?*, 55 Ohio St. L.J. 1009

⁹⁹ Harold Bierman, Jr. and Seymour Smidt, *Capital Budgeting Decision*, Routledge Publishing, Nov. 12, 2012 p 103

ones have the greatest return after considering the time value of money.¹⁰⁰ The IRR is that discount rate at which the PV of the anticipated total cash inflows is equal to the PV of the anticipated total cash outflows or the rate at which NPV is zero.¹⁰¹ IRR is determined through trial-and-error calculations using a mathematical formula (included with most spreadsheet programs) or a graph.¹⁰² IRR higher than the minimum acceptable rate of return, also known as the hurdle rate, indicates a desirable investment project. However, a project or investment with a lower projected IRR nonetheless may be preferable if that lower IRR can be earned on a larger principal amount.¹⁰³ For example, an opportunity to earn 30% on a \$100,000 investment brings greater absolute rewards than 40% on \$1,000.¹⁰⁴

By evaluating the end result of either forms of DCF analysis, one can determine if an investment is a wise decision. A DCF outcome higher than the current cost of the investment results in a good investment opportunity.¹⁰⁵

The second method to valuation is by means of relative valuations. These methods of valuations compare a firm's value to that of its competitors to determine the firm's financial worth.¹⁰⁶ Relative valuation models are an alternative to absolute value models, which try to determine a company's intrinsic worth based on its estimated future free cash flows discounted to their present value.¹⁰⁷ Investors use relative valuation models when determining whether a company should buy, sell or hold a particular stock or investment

¹⁰⁰ Ocsar Lasdon, *Investment and Finance, Banking Law Journal*, 86 Banking L.J. 764 (August 1969)

¹⁰¹ Banking Terminology, *Banking Compliance Guide*, 2009 WL 2784910 (C.C.H.)

¹⁰² Peter Moles, Robert Parrino and David S. Kidwell, *Corporate Finance*, John Wiley & Sons, 2011, p. 383.

¹⁰³ Eugene F. Brigham and Michael C. Ehrhardt, *Financial Management*, Cengage Learning, 12 e. 2008, p. 384

¹⁰⁴ John Kay, *To Rate a Turn, Thank of What You're Missing*, *Financial Times* (August 8, 2010)

¹⁰⁵ Robert S. Harris, *supra* note 91

¹⁰⁶ Aswath Damodaran, *supra* note 87.

¹⁰⁷ *Id.* at p. 11

option.¹⁰⁸ These models are designed to take advantage of perceived mispricing among related financial assets and are often based on “the long-run tendency of market prices to revert to equilibrium relationships.”¹⁰⁹ The simplest example of a relative value trade involves identifying a price divergence between two historically related stocks and being the short position¹¹⁰ of the over-valued stock and the long position¹¹¹ on the historically under-valued stock.¹¹² Valuing securities entails expending efforts to uncover information, assessing its relevance, and determining the proper quantitative price change that properly reflects the information.¹¹³

| | |
|--|---|
| Net Margin | $\frac{\text{Net Income}}{\text{Revenues}}$ |
| EBITDA Margin | $\frac{\text{EBITDA}}{\text{Revenue}}$ |
| Return on Equity | $\frac{\text{Net Income}}{\text{Total Equity}}$ |
| Consolidated Medical Cost Ratio ¹¹⁴ | $\frac{\text{Medical Expense}}{\text{Premiums}}$ |
| Price Earnings | $\frac{\text{Market Price per share}}{\text{Earnings per share}}$ |
| Book Value | $\frac{\text{Price}}{\text{Book Value}}$ |

¹⁰⁸ Aswath Damodaran, *supra* note 87

¹⁰⁹ Thomas E. Holber, *Full of Hot Air? Evaluating The Airgas Court's Reservation About Shareholder's Short-term and Long-term*, 18 Fordham J. Corp. & Fin. L. 123 (2012)

¹¹⁰ Walter Updegrave, Ask an Expert, CNN Money (February 2, 2005), available at http://money.cnn.com/2005/02/02/pf/expert/ask_expert/. “Owner of an asset in the short position has an expectation that the asset will decrease in value.”

¹¹¹ *Id.* “Long Position is obtained when the owner has an expectation the asset will rise in value.”

¹¹² Damodaran on Valuation, *supra* note 86

¹¹³ Jeffery S. Glaser, *The Capital Asset Pricing Model: Risk Valuation*, Judicial Interpretation and Market Bias, 50 Bus. Law. 867 (February, 1995)

¹¹⁴ Used when investing in Health Insurance Companies

The main advantage of relative valuation is that it reflects market volatility, enabling investors to realize at any given moment if it is to their best interest to sell a stock or to invest building momentum.¹¹⁵ In addition, relative valuation provides portfolio managers with a variety of securities that are overvalued or undervalued, thus enabling them to build more diversified portfolios.¹¹⁶

IV. Wall Street's Response

This paper takes the position that although regulation is needed in order to prevent fraud, ensure fair competition and to provide affordable health care for all, instituting specific regulatory action such as the medical device tax creates more complications and potential harm than potential gains.

Robert Field¹¹⁷ addresses the similar issue pertaining to governments reoccurring involvement in the private pharmaceutical industry.¹¹⁸ The pharmaceutical industry has grown to be and continuously remains a successful investment because of the ability to constantly enter the market to replenish the supply.¹¹⁹ Advocating for government's involvement, Field stressed the continually participation was an indispensable catalyst for

¹¹⁵ Malcolm Baker & Jeffrey Wurgler, 2007. "Investor Sentiment in the Stock Market," Journal of Economic Perspectives, American Economic Association, vol. 21(2), pages 129-152, available at http://www.nber.org/papers/w13189.pdf?new_window=1

¹¹⁶ Damodaran, Aswath. "Valuation Private Firms." *Stern School of Business* (2006), available at <http://people.stern.nyu.edu/adamodar/pdfiles/country/relval.pdf>

¹¹⁷ Professor of Law, Earle Mack School of Law and professor of health management and policy, School of Public Health, Drexel University. The author is also adjunct senior fellow of the Leonard Davis Institute of Health Economics at the University of Pennsylvania. A.B., Harvard College, J.D., Columbia Law School, M.P.H., Harvard School of Public Health, Ph.D., Boston University

¹¹⁸ Robert I. Field, *How the Government Created and Sustains the Private Pharmaceutical Industry*, St. Louis Journal of Health Law & Policy, Vol 6:11)

¹¹⁹ Robert I. Field, *supra* note 118

market growth.¹²⁰ Without government assistance, the private sector would not have realized large and robust gains.¹²¹ However, there are some clear distinctions that separate Field’s analysis of the pharmaceutical industry with that of the medical device industry. Most notably, the government encouraged growth of pharmaceutical discoveries by offering tax credits to companies conducting research.¹²² These tax credits became very valuable especially for private firms who were reluctant to invest in initial product development. This cannot be said of the 2.3% medical device tax. Typically, excise taxes are used to discourage consumption of potentially dangerous substances, such as tobacco and alcohol, which might be abused or over consumed if not for the absence of taxation.¹²³ An industry survey discovered 70 percent of device makers thought this tax would have a negative impact and would result in oppressive compliance measures.¹²⁴ When analyzing financial investment options, investors seek to avail themselves to sufficient returns or investors will seed their capital elsewhere despite record low interest rates. To see how the device tax stymies private investment, Forbes analyzed Hill-Rom (“HRC”), a hospital bed producer.¹²⁵ Over the past year HRC generated \$1,633 million in revenue and earned \$145.1 million of net income.¹²⁶ Hill-Rom’s return on equity (“ROE”) totaled 18.6

¹²⁰ Robert I. Field, *supra* note 118

¹²¹ *Id.*

¹²² *Id.*

¹²³ James R. Hines Jr., *Excise Taxes*, Michigan Ross School of Business, (May 31, 2007), Working Paper No. 2007-2, available at <http://www.bus.umich.edu/otpr/WP2007-2.pdf>. See also Jame R. Hines, Jr., *Taxing Consumption and Other Sins*, *Journal of Economic Perspectives* Vol. 21, No. 1 (2007), available at http://aysps.gsu.edu/isp/files/SESSION_IX_Taxing_Consumption_and_Other_Sins.pdf

¹²⁴ Bill Flax, *Obamacare Will Stifle Healthcare Innovation, Making it A Real Pain*, *Forbes* (October 9, 2012) <http://www.forbes.com/sites/billflax/2012/10/09/obamacare-will-stifle-healthcare-innovation-making-it-a-real-pain/>

¹²⁵ *Id.*

¹²⁶ *Id.*

percent.¹²⁷ At 2.3 percent of gross revenue, the device tax knocks net income down to \$108 million slashing ROE to 13.7 percent.¹²⁸

Another theory Field's puts forth is the need for governmental presence as a provider of public trust and confidence in the industry.¹²⁹ Political debates over economic policy commonly pit the virtues of the free market against those of government oversight. When health care policy is discussed it is normally done so just in the context of the vacuum that is the health care industry. Policy makers often do not appreciate how the policies they enact affect the industries around them especially the markets on Wall Street. Although the medical device industry is known for commitment to shareholder returns with growth potential from emerging markets and new products,¹³⁰ quantitative analytics by performed Wall Street analysts may prove that these new regulations and taxes imposed no longer make healthcare sub-sectors attractive for investors. In a study co-sponsored by the National Venture Capital Association ("NVCA") and the Medical Innovation & Competitiveness Coalition, 42 percent of venture capital firms planned to make fewer medical device investments over the next three years and 61 percent of venture capitalist survey respondents identified regulatory concerns as the most significant factor affecting their investment decisions.¹³¹

¹²⁷ Bill Flax, *supra* note 124

¹²⁸ *Id.*

¹²⁹ Robert I. Fields, *supra* note 118

¹³⁰ Kelly Roche, *Investment Opportunities in the Healthcare Industry*, Boston Private Bank & Trust Investment Notes (December 2012), available at <https://www.bostonprivatebank.com/index.cfm/pid/10492?pk=download&pid=10492&id=10822>

¹³¹ *U.S. Medical Innovation At Risk: Fewer New Companies and Therapies Receiving Funding, Says Report*, National Venture Capital Assn. (October 6, 2011), *see also* Thomas A. Hemphill, *The Medical Device Excise Tax: Another Barrier to Innovation*, American Action Forum (November 13, 2012), available at <http://americanactionforum.org/topic/medical-device-excise-tax-another-barrier-innovation>

With the January 2013 passage of the medical device tax, venture capitalists are looking at prospects for their return-on-investment and now actively factoring in the economic effects of the excise tax on their prospective clients. The result is that this excise tax is making it difficult for smaller innovative medical device firms to acquire venture capital necessary to survive and prosper a determining factor of why the pharmaceutical industry has thrived with government assistance.¹³²

This unintended effect seems to be counter intuitive to the overall goals of the Affordable Care Act, which is to cut costs and make healthcare available to all.¹³³ A prime example is the creations of ACOs which are intended to lower the cost of healthcare by creating incentives to improve the quality of care.¹³⁴ However, a penalizing tax on medical devices has a contrary effect to the cost of healthcare.¹³⁵ Predictive healthcare, such as a microchip implant that sends blood chemical results via Bluetooth to predict whether an individual is likely to have a heart attacks, could be obsolete without such investments in medical device R&D and in the end cost individual and insurers more money.¹³⁶ The National Bureau of Economics recently found that cardiovascular disease costs the United States \$110 billion annually.¹³⁷ In addition, for an individual who has had a heart attack, the average cost to traditional health insurers for the first 90 days following a heart attack is \$38,501.¹³⁸ Furthermore, Medicare spends over \$14,000 per

¹³² Robert I. Fields, *supra* note 118

¹³³ Stephen G. Pelletier, *supra* note 21

¹³⁴ Timony K. Lake, *supra* note 17

¹³⁵ Julie Barnes, *supra* note 22

¹³⁶ Ezra Klein, *This Gadget makes our Health-care Projections Obsolete*, Washington Post (March 25, 2013), available at http://www.washingtonpost.com/blogs/wonkblog/wp/2013/03/25/this-gadget-makes-our-health-care-projections-obsolete/?wprss=rss_ezra-klein

¹³⁷ Matt Nesvisky, *Economic Benefit of Heart Attack Treatments Outweigh the Costs*, National Bureau of Economics (NBER), available at <http://www.nber.org/digest/oct98/w6514.html> (Last Visited April 21, 2013); See also David Cutler, Mark McClellan and Joseph Newhouse, *The Costs and Benefits of Intensive Treat for Cardiovascular Disease*, NBER Working Paper No. 6514 (April 1998), available at <http://www.nber.org/papers/w6514>

¹³⁸ *Id.*

patient on hospital bills in the year after a heart attack, plus additional amounts for physicians and outpatient care.¹³⁹

Nevertheless, the greatest source of reassurance for investors is the quality of the investment themselves. For the medical device tax to have the same effect as government intervention in the pharmaceutical context, entrepreneurship and innovation need to be the catalyst for growth.

V. Conclusion

The health care industry is a sector that strives on free market economics dependent upon private investments and firm competition. The economic implications stemming from PPACA may significantly hinder the way our health care industry functions. The 27 taxes found within in ACA in order to raise revenues for universal health care may prove debilitating to medical device companies, American patients, and the U.S. economy. As the market responds to the changes, it is quite likely that many small innovative medical device companies will not receive the venture capital funding necessary to fund their devices and thus they will not be able to provide their life sustaining technologies to patients. The more cognizant policy makers are of capital market trends and conscious of the quantitative consequence of their decisions, the health care industry may be able to limit instability within the sector and move toward the overall goals in the Affordable Care Act.

¹³⁹ Matt Nesvisky, *supra* note 137