Can't See the Forest for the Trees
The Misapplication of Economic Theory to the Increasing Regulatory Trend Against Vertical Healthcare Integration

Robert James Cimasi, MHA, ASA, MCBA, FRICS, CVA, CM&AA
David W. Grauer, Esq.
Todd A. Zigrang, MBA, MHA, ASA, FACHE
Jessica L. Bailey-Wheaton, Esq.

"Plentie is no deintie, ye see not your owne ease.
I see, ye can not see the wood for trees."[1]
- John Heywood, 1546

With the emergence of accountable care and value-based reimbursement models, which rely on achieving better outcomes at lower cost, U.S. hospitals are increasingly seeking more integrated relationships with physicians, including vertical integration strategies such as direct employment and co-management arrangements.[2] Corresponding with this growing trend toward vertical integration in healthcare delivery, there has been increased federal, state, and local regulatory scrutiny regarding the legal permissibility of these arrangements. Most notably, government regulators (more specifically, the *Office of the Inspector General* [OIG] of the *U.S. Department of Health and Human Services* [HHS], and the *U.S. Department of Justice* [DOJ]) have, in some cases, challenged these transactions under various federal and state fraud and abuse laws, basing their arguments, in part, on the concept that the acquisition of a physician practice, which then operates at a "*book financial loss*,"[3] is, in and of itself, dispositive evidence of the hospital's payment of consideration based on the volume and/or value of referrals.[4] The underlying principle of this concept, termed the *Practice Loss Postulate* (PLP),[5] appears to be the allegation that hospitals enter into these arrangements in order to induce legally impermissible referrals from physicians, thus generating margins/profits that offset those "*book financial losses*" associated with the acquired physician practices.

In the context of vertical integration in healthcare, the use of the PLP by government regulators, as well as private *qui tam* plaintiffs, is misguided and imprudent, in that: (1) the PLP misapplies established and accepted economic thought; and, (2) the PLP represents a less than rational interpretation and application of the threshold of *commercial reasonableness*. Should the PLP continue to evolve into accepted "*legal doctrine*," and ultimately the "*law of the land*," the result may be to impede the development of innovative new structures of emerging healthcare organizations to the extent that it would cause significant harm to the healthcare economy, such as the losses of both: (1) operating cost-related efficiencies associated with *vertical integration*; and, (2) the qualitative benefits that *vertical integration* can provide to a community.

This paper details the progression of the PLP through elements derived from statutes, regulations, and case law distilled into the components of the postulate. Next, the paper describes the benefits and drawbacks of vertical integration in healthcare and how, in light of these benefits and drawbacks, government agencies are promoting, and the market for healthcare delivery services are trending toward, vertical integration in healthcare, despite the regulatory impediment of the PLP. Finally, the paper discusses how the PLP: (1) does not satisfy the basic requirements for ***economic assumptions***; (2) reflects a misapplication of fundamental ***economic principles***; (3) runs contrary to established and accepted ***economic theories***; and, (4) represents a less than rational interpretation and application of the threshold of *commercial reasonableness*.

DESCRIPTION OF THE PLP

Review of the Stark Law and Anti-Kickback Statute

The thresholds for satisfying regulatory requirements under healthcare fraud and abuse laws vary, depending on: (1) the law in question, (e.g., the Stark Law or the *Anti-Kickback Statute* [AKS]); (2) whether the arrangement utilizes *direct* or *indirect* compensation; and, (3) whether the transaction involves *horizontal consolidation* or *vertical integration*. Within the context of one potential healthcare integration strategy, i.e., a direct employment arrangement between a hospital and a physician practice, the law in question can alter the analysis required. For example, the Stark Law differentiates between ***direct*** and ***indirect*** compensation arrangements,[6] defining a *direct* compensation arrangement as one in which "*…remuneration passes between the referring physician (or a member of his or her immediate family) and the entity furnishing DHS [i.e., designated health services] without any intervening persons or entities…*"[7] Alternatively, an *indirect* compensation arrangement must satisfy three parts:

(1) "*Between the referring physician (or a member of his or her immediate family) and the entity furnishing DHS there exists an unbroken chain of any number (but not fewer than one) of persons or entities that have financial relationships…between them*";

(2) "*The referring physician (or immediate family member) receives aggregate compensation from the person or entity in the chain with which the physician (or immediate family member) has a direct financial relationship that varies with, or takes into account, the volume or value of referrals or other business generated by the referring physician for the entity furnishing the DHS, regardless of whether the individual unit of compensation satisfies the special rules on unit-based compensation…*"; and,

(3) "*The entity furnishing DHS has actual knowledge of, or acts in reckless disregard or deliberate ignorance of, the fact that the referring physician (or immediate family member) receives aggregate compensation that varies with, or takes into account, the volume or value of referrals or other business generated by the referring physician for the entity furnishing the DHS.*"[8]

Notably, under the Stark Law, both the *employment exception* (which qualifies as a *direct* compensation arrangement) and the *indirect compensation arrangement exception* require the compensation in question to meet the distinct and separate

thresholds of *fair market value* (FMV) and *commercial reasonableness*.[9] However, it should be noted that certain compensation arrangements do not fit the Stark Law definitions of *either* ***direct*** or ***indirect*** compensation, and as such may avoid scrutiny under the Stark Law.[10]

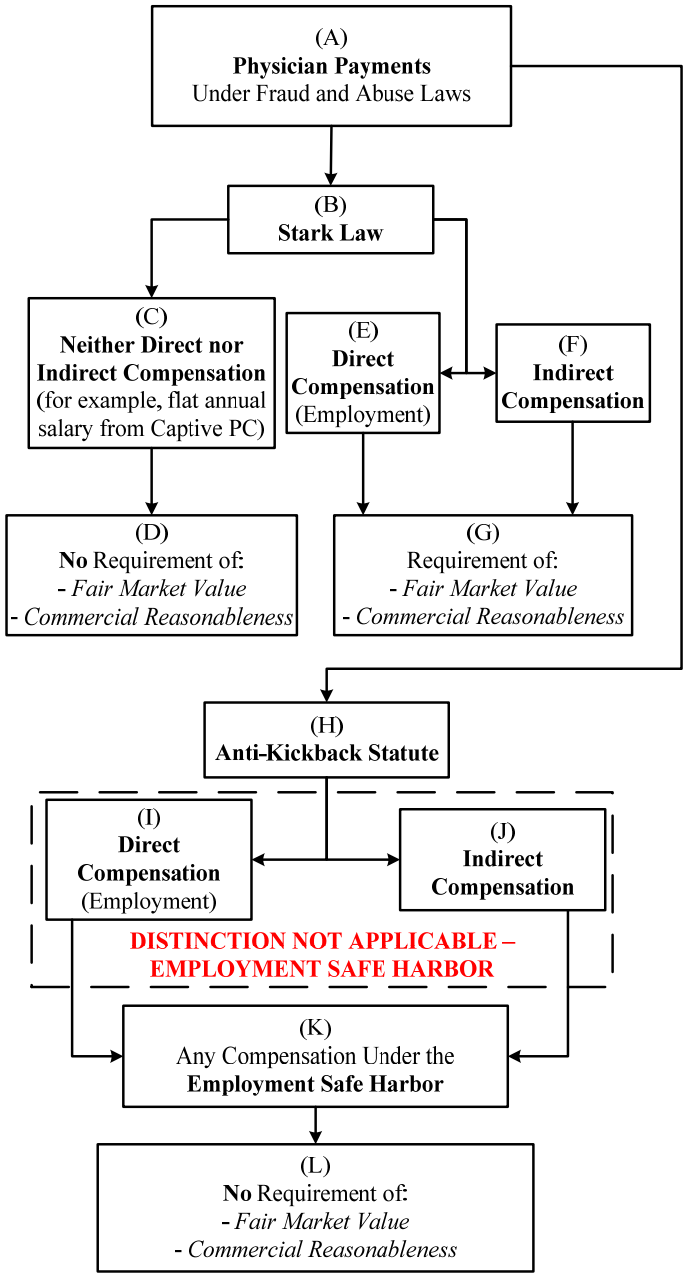
In contrast to the Stark Law, the AKS does not distinguish between ***direct*** and ***indirect*** compensation. Specifically, under the *employment safe harbor*, "'*remuneration' does not include any amount paid by an employer to an employee, who has a bona fide employment relationship with the employer, for employment in the furnishing of any item or service for which payment may be made in whole or in part under Medicare, Medicaid or other Federal health care programs.*"[11] Importantly, unlike the *employment exception* under the Stark Law, the *employment safe harbor* under the AKS ***does not*** include a requirement that compensation meet the standards of FMV or *commercial reasonableness*.[12]

The differences between the regulatory thresholds implicated by the Stark Law and the AKS regarding direct employment arrangements are illustrated below in Figure 1.

When determining the appropriate thresholds for satisfying regulatory requirements under healthcare fraud and abuse laws, it is important to consider the structure of the integration transaction, as well as, the specific law(s) implicated by the integration transaction. Employment arrangements are merely one potential integration strategy available to vertically integrated health systems that may implicate the Stark Law and AKS, as there are other integration strategies (e.g., professional services arrangements, clinically integrated networks, clinical co-management arrangements, or joint ventures) which may also implicate separate regulatory exceptions and safe harbors.

Efforts to maintain regulatory compliance are costly, difficult, and healthcare providers seeking vertical integration may bear significant risk related to regulatory scrutiny under federal and state fraud and abuse laws.[13] In particular, the Stark Law has evolved into a web of rules that may complicate providers' efforts toward regulatory compliance regarding physician compensation.[14] As stated by Judge James A. Wynn, Jr., of the 4th Circuit Court of Appeals in his concurring opinion to the 2015 decision in *U.S. ex rel. Drakeford v. Tuomey*: "*It seems as if, even for well-intentioned health care providers, the Stark Law has become a booby trap rigged with strict liability and potentially ruinous exposure—especially when coupled with the False Claims Act.*"[15]

Figure 1 – Physician Employment Arrangements under the Stark Law and AKS



Case Law

U.S. ex rel. Drakeford v. Tuomey

Within this complex regulatory environment, in which even "*well-intentioned*" providers may face "*potentially ruinous exposure*" under fraud and abuse laws,[16] certain government regulators are relying on the PLP to assail vertical integration transactions in healthcare. The seeming escalation in reliance on the PLP in regulatory enforcement actions may be better understood by tracing its origins (in part) to the landmark case, *U.S. ex rel. Drakeford v. Tuomey Healthcare System* (*Tuomey*). In *Tuomey*, the relator, Michael Drakeford, M.D., alleged that Tuomey, a private, non-profit community hospital in South Carolina, violated the Stark Law when it entered into more than fifteen employment agreements, all of which allegedly were designed to induce and maintain referral relationships.[17] Specifically, the relator alleged that Tuomey entered into compensation contracts with area physicians, conferring salary and

About the Authors:

Robert James Cimasi, MHA, ASA, MCBA, FRICS, CVA, CM&AA, is CEO of **HEALTH CAPITAL CONSULTANTS**, *and may be reached at rcimasi@healthcapital.com.*

David W. Grauer, Esq., is a Partner in the Columbus, OH office of Jones Day, and may be reached at dgrauer@jonesday.com.

Todd. A. Zigrang, MBA, MHA, ASA, FACHE, is President of **HEALTH CAPITAL CONSULTANTS**, *and may be reached at tzigrang@healthcapital.com.*

Jessica L. Bailey-Wheaton, Esq. is Vice President & General Counsel of **HEALTH CAPITAL CONSULTANTS**, *and may be reached at jbailey@healthcapital.com.*

benefits to those physicians in excess of the net collections received from their professional practices.[18] Tuomey would then bill Medicare for the *ancillary service and technical component* (ASTC) associated with these physicians' professional services (i.e., a "*facility fee*"), because Tuomey provided the space, nurses, equipment, and other items required for the delivery of those services.[19] The relator, and the U.S. attorney intervening in the case, argued, and the court concluded,[20] that within the context of inpatient and outpatient hospital services, any ASTC services performed in connection with personally performed services constituted an impermissible referral.[21]

In 2010, a U.S. district court entered a judgment against Tuomey for nearly $45 million due to violations of the Stark Law.[22] Then, in 2012, the U.S. Court of Appeals for the 4th Circuit overturned the judgment of the district court on 7th Amendment grounds related to jury instructions, and remanded the case for a new trial.[23] In its opinion, the 4th Circuit opined that ASTC services billed in connection with a physician's personally performed services constitute a "*referral*" as defined by Stark and its regulations.[24] In doing so, the court relied on the OIG's official commentary, which stated:

> *"We have concluded that when a physician initiates a designated health service and personally performs it him or herself, that action would not constitute a referral of the service to an entity…However, in the context of inpatient and outpatient hospital services, there would still be a referral of any hospital service, technical component, or facility fee billed by the hospital in connection with the personally performed service. Thus, for example, in the case of an inpatient surgery, there would be a referral of the technical component of the surgical service, even though the referring physician personally performs the service."*[25]

In addition, both the U.S. District Court and the 4th Circuit considered the testimony of the relator and DOJ's expert witness Kathleen McNamara, who, after the 4th Circuit issued its opinion, noted:

> "*Case documents I examined and the testimony I reviewed shows that Tuomey took into account the value and volume of anticipated physician referrals by…Acknowledging that the hospital's technical and facility fees earned each time the physicians performed an outpatient surgery are reasonable "off-sets" for its $1.5 [million] annual operating losses. Notably because Tuomey's technical and facilities earned [sic] are deemed to be the physicians' patient referrals.*"[26] [Emphasis Added]

The 2012 *Tuomey* ruling from the 4th Circuit, as well as, a 2013 U.S. district court judgment against Tuomey for $237 million stemming from the relator's allegations, marked a milestone in a series of costly judgments and settlements against vertically integrated health systems for allegedly violating the Stark Law. In hindsight, the litigation and outcome surrounding this case serves as a harbinger for future cases involving the PLP, due to *Tuomey's* holding as to the Stark Law connection between physician professional component revenues and ASTC revenues in a hospital setting.

U.S. ex rel. Parikh v. Citizens Medical Center

In the case, *U.S. ex rel. Parikh v. Citizens Medical Center* (*Parikh*), a group of physician relators alleged that Citizens Medical Center (CMC) hired five cardiologists from one physician practice, as employees, and paid them salaries that more than doubled the salaries that those physicians earned while they were employed by their independent legacy practice, in an effort to secure referrals to CMC in violation of the AKS and Stark Law.[27] Notably, the relators argued that after entering into the employment agreements, CMC suffered net losses of as much as $400,000 in 2008, and $1,000,000 in 2010, but that CMC continued to employ the cardiologists "*because of the volume and value of their patient referrals*."[28] In a 2013 order denying CMC's motion to dismiss the relator's claims, Judge Gregg Costa of the U.S. District Court for the Southern District of Texas stated:

> *"Relators have made several allegations that, if true, provide a strong inference of the existence of a kickback scheme. Particularly, the Court notes Relators' allegations that the cardiologists' income more than doubled after they joined Citizens, even while their own practices were costing Citizens between $400,000 and $1,000,000 per year in net losses. Even if the cardiologists were making less than the national median salary for their profession, the allegations that they began making substantially more money once they were employed by Citizens is sufficient to allow an inference that they were receiving improper remuneration. This inference is particularly strong given that it would make little apparent economic sense for Citizens to employ the cardiologists at a loss unless it were doing so for some ulterior motive—a motive Relators identify as a desire to induce referrals."*[29] [Emphasis Added]

In 2015, CMC agreed to pay $21.75 million to the DOJ as part of a settlement agreement to resolve the allegations of AKS and Stark Law violations.[30] Notwithstanding that *Parikh* was settled, the judge's memorandum and order in *Parikh* serves as an eye-opening, key development in the progression of the PLP, in that a federal judge[31] directly articulated judicial support for the validity of the inference that "*book financial losses*" generated by a vertically integrated physician practice may signal the payment of compensation, remuneration, and consideration to physicians as an inducement of legally impermissible referrals from physicians.

U.S. ex rel. Reilly v. North Broward Hospital District

September 2015 served as a watershed moment for healthcare fraud and abuse settlements based, in part, on the PLP. On September 15, 2015, the DOJ and OIG announced a then-record breaking settlement for allegations of Stark Law violations not reaching trial with Florida-based *North Broward Hospital District* (Broward Health).[32] The lawsuit, titled *U.S. ex rel. Reilly v. North Broward Hospital District, et al.* (*North Broward*), which settled for $69.5 million, alleged that Broward Health compensated numerous employed physicians in excess of FMV for their services, at levels which were not *commercially reasonable*, and at levels that took into account the volume or value of referrals made by the physicians.[33] In this case, the relator alleged that Broward Health purposely tracked referrals from physicians to the hospital for ASTC services in "*Contributive Margin Reports*," the revenues from which ASTC services were then used to offset the "*massive direct losses*" arising from what the relators alleged to be excessive compensation to the referring physicians.[34] The complaint against Broward Health relied on the health system's alleged utilization of the "*Contributive Margin Reports*" in developing the claims of Stark Law and AKS violations, noting:

> "*Broward Health's strategic scheme of paying employed physicians more than fair market value and more than they can ever hope to collect for their personal services is not a commercially sustainable business model. This practice is only sustainable by anticipating and allocating hospital*

> *referral profits to cover the massive direct losses from excessive physician compensation*."[35] [Emphasis Added]

The allegations in the *North Broward* case provide further evidence of the progression of the PLP, as the relators alleged impermissible payments to employed physicians for referrals by separating the professional component of physician services (albeit, personally performed) from the associated ASTC services. In short, the relators based their allegations on the profitability (or lack thereof) of the physicians' professional services, *independent* of the economic performance of the *vertically integrated* health system, of which those professional services were an integral part.

U.S. ex rel. Payne v. Adventist Health System

The record settlement payment of $69.5 million, announced on September 15, 2015, for alleged Stark Law violations in the Broward Health case was broken less than one week later, on September 21, 2015, when the DOJ and OIG announced a $115 million settlement in *U.S. ex rel. Payne, et al. v. Adventist Health System, et al.* (*Adventist*).[36] The complaint, filed by a group of relators associated with compliance activities within the Adventist system,[37] alleged that Adventist repeatedly authorized non-*commercially reasonable* compensation arrangements that exceeded FMV with physicians such that the hospitals would have operated at a ***financial*** (monetary) loss, but for the revenues resulting from referrals for ASTC generated by the physicians.[38] The relators in the *Adventist* case extended their *commercial reasonableness* argument, alleging that the physician practices within the health system were not "*economically viable*" when considered on their "*own merits,*" effectively judging the *vertically integrated* hospital employed physician's professional practices as though they were *independent* economic entities and operating enterprises:

> "*[Adventist] Hospitals are thus compensating the doctors whose practices they have purchased at levels that not only exceed what [Adventist] can rationally pay while maintaining a physician practice that could be economically viable on its own merits, but that even more dramatically exceed what [Adventist's] employee physicians could reasonably expect to earn if those physicians had continued to own and operate the business themselves*."[39] [Emphasis Added]

The *Adventist* case provides further clarity to the PLP by explicitly treating a vertically integrated physician practice as an *independent* free-standing physician practice enterprise, which the relators allege should be "*economically viable on its own merits.*"[40] This treatment ignores the additional market leverage and other operating advantages that are manifested by *hospital-owned* physician practices, which are not available to *independent* free-standing physician practices. Further, it does not address the amount that "*…physicians could reasonably expect to earn if those physicians had continued to own and operate the business themselves*" from the higher profit ASTC revenue stream that the physicians abandoned when they became employed.[41]

Together, these four cases reflect increasing utilization of the PLP in the regulatory scrutiny of vertically integrated health systems. Further, the magnitude of the financial penalty paid by each vertically integrated health system implicated in the above cases, due to allegations of healthcare fraud and abuse violations built on the PLP, may create significant organizational risk for vertically integrated health systems paying employed physicians compensation in excess of those physicians' professional collections [*Tuomey*];[42] and, in the cases of *Parikh*, *Broward Health*, and *Adventist*, where a combination of physician compensation and practice overhead expenses were in excess of physician professional collections.[43] Under federal *fraud and abuse* laws for employment arrangements, a determination first needs to be made as to whether the compensation at issue is *direct*, *indirect*, or *neither*. If the compensation is neither *direct* nor *indirect* (e.g., a flat annual salary from a Captive PC), then no further determination as to FMV or *commercial reasonableness* is required. Conversely, healthcare transactions involving *direct* or *indirect* compensation must be demonstrated to both: (a) not exceed FMV; and, (b) be *commercially reasonable*, in order to be deemed legally permissible[44] A failure to meet these two thresholds may result in Stark Law or AKS violations; in particular, with regard to FMV under these statutory edicts. The judicial leap, e.g., assuming that "*[p]ayments exceeding FMV are in effect deemed 'payment for referrals'*,"[45] irregardless of the totality of the facts and circumstances regarding the total economic benefits of the vertical integration transaction under which these payments were made, illustrates a regulatory propensity to "*deem*" isolated payment transactions exclusive of their synergistic role with the whole of the enterprise.

Summary of the Practice Loss Postulate

Having considered the treatment of compensation arrangements under certain fraud and abuse laws (i.e., the Stark Law and the AKS), and based on an analysis of *Tuomey* (2012), as a harbinger case[46], as well as, *Parikh* (2013), *North Broward* (2015), and *Adventist* (2015), it is possible to distill certain elements from these landmark cases into the gravamen of the PLP.[47] In brief, the PLP treats vertically integrated physician practices as stand-alone economic enterprises, which, when stripped of their ASTC revenue, and relying solely on professional services, i.e., *work relative value unit* [wRVU] related revenue, and paying physicians at FMV, are almost certain to generate "*book financial losses*".[48]

Through the utilization of the PLP, regulators are asserting the presupposition that *specific* and *immediate* "*book financial losses,*" from the operation of the professional practice of the employed physicians is not an *integration support payment*, i.e., a subsidy supporting *vertical integration*, based on the difference between physician compensation at FMV, coupled with practice overhead expenses, and collections on physicians' professional services. Rather, the PLP asserts that the hospital's sufferance of these "*book financial losses*" serves as dispositive evidence of the legally impermissible payment of compensation, remuneration, or consideration based on the volume and/or value of the hospital's employed physician referrals of ASTC services to the hospital, which require a physician's authority (i.e., the "*power of prescription*") to order admission, diagnostic tests, drugs, *durable medical equipment*, and other services for their patients. Consequently, under the PLP, a "*book financial loss*" on a physician practice borne by a vertically integrated health system, when treating that practice as a stand-alone economic enterprise, is viewed as evidence of legally impermissible referrals under the Stark Law.

In doing so, the PLP ignores the efficacious aspects of other economic benefits associated with vertical integration in healthcare (see *Potential Benefits of Vertical Integration*, below), and focuses exclusively on the existence, or lack of, *immediate* and *direct* ***financial (cash)*** returns on and of investments related to *vertical integration* transactions. This regulatory conjecture hinders the ability of a vertically integrated health system to withstand fraud and abuse scrutiny, and erects a barrier to satisfying the threshold of *commercial reasonableness*.[49]

The potentially deleterious impact of this theory on vertically integrated health systems mandates a careful examination of the PLP, as to whether the PLP properly applies established and accepted economic thought on the subject of healthcare delivery service organization and integration in the U.S. marketplace to the subject enforcement actions. Additionally, because the PLP has erected a barrier for vertically integrated healthcare organizations to surmount the threshold of *commercial reasonableness* (which must be satisfied under the Stark Law and AKS),[50] an examination of the validity and efficacy of the PLP within the analytical framework of the threshold of *commercial reasonableness* is warranted.

VERTICAL INTEGRATION

In order to understand the fundamental flaws inherent in the PLP, it is important to define the term *vertical integration* and its current and future impact on the U.S. healthcare delivery system, as well as, the contributory reform initiatives and market forces that are driving healthcare providers to pursue this strategy.

Potential Benefits of Vertical Integration

Across all industries, *vertical integration* may be defined as "*[t]he combination in one firm of two or more stages of production normally operated by separate firms.*"[51] Firms engage in vertical integration transactions in pursuit of certain known benefits typically associated with this form of organization, including:

(1) The development of *economies of scale*,[52] i.e., the ability of large firms to produce large quantities of a good at a *reduced cost per unit*;[53]

(2) The development of *economies of scope*,[54] i.e., the ability of large firms to produce a variety of goods *more cheaply* than producing those goods separately;[55] and,

(3) Vertically integrated firms with centralized management structures can, if strategically constructed and implemented, create *superior production efficiencies* relative to more fragmented business structures and markets.[56]

In the U.S. healthcare industry, *vertical integration* describes the "*integration of providers at different points along the continuum of care, such as a hospital partnering with a skilled nursing facility (SNF) or a physician group*,"[57] which organizational model can provide additional benefits to healthcare delivery organizations, as well as, to the communities they serve. Through the integration of providers at different stages of the production of healthcare services (i.e., along the *continuum of care*), *vertically integrated* healthcare systems may be able to generate both ***qualitative*** and ***quantitative*** economic benefits above and beyond those produced by non-vertically integrated healthcare systems. The ***qualitative*** and ***quantitative*** economic benefits often associated with *vertical integration* in healthcare include:

(1) Satisfaction of the *charitable mission* of the healthcare enterprise;

(2) Achievement of higher levels of *care coordination*, relative to a non-vertically integrated healthcare system;[58]

(3) Utilization of complimentary and requisite care mapping of services, which can:
   (a) Provide organizations with the size necessary to justify certain services and employ certain physicians in the instance where, separately, they would not have the patient volume or financial resources to employ a specialist or service; and,
   (b) Allow for the management of an enterprise to exert a span of control across the *continuum of patient care* and implement those strategies which are more likely to result in the most beneficial patient outcomes;[59]

(4) Creation of operational efficiencies by:
   (a) Reducing duplicative treatments and capitalizing on firm synergies to create more efficient provider/patient contact;[60]
   (b) Reduction in transportation costs for the patients and the medical service providers;[61] and,
   (c) Incorporating *healthcare information technology* (HIT) across multiple sites of service, which allows for closer collaboration between providers in the provision of care to patients;[62]

(5) Improved likelihood of achievement of *Pay for Performance* (P4P) goals;[63]

(6) Satisfaction of the "*Triple Aim*," which consists of:
   (a) Improving the patient's experience of healthcare;
   (b) Improving population health; and,
   (c) Reducing health expenditures per capita;[64]

(7) Mitigation of providers' risk by:
   (a) Allowing health systems to diversify their supply chain;[65] and,
   (b) Allowing health systems to spread the risk of participation in global payment mechanisms over a larger population; and,

(8) Satisfaction of *continuum of care* requirements under state licensing regulations and *Certificate of Need* (CON) laws.[66]

Note that many of the economic benefits of healthcare *vertical integration* are ***non-monetary (non-cash)***, in contrast to ***monetary (cash)*** benefits.[67] Although these ***non-monetary (non-cash)*** benefits may not provide *immediate* ***monetary (cash)*** returns on and of the investment, they may still provide ***utility***, i.e., "*the ability of a product to satisfy a human want, need, or desire.*"[68] This distinction is essential to understand, as it highlights a primary difference between ***financial economics***, which focuses on a broader sense of ***utility***; and, ***accounting conventions***, which only focus on ***financial (cash)*** considerations. Further, because not all forms of ***utility*** accruing to the vertically integrated healthcare system, such as satisfaction of the *Triple Aim* and improved care coordination across the *continuum of care*, may be fully reflected on the financial reports for the enterprise, the analysis of healthcare vertical integration transactions may be skewed as to the conclusions drawn regarding FMV and *commercial reasonableness*; and, therefore as to the legal permissibility of the transaction.

Potential Drawbacks of Vertical Integration

Firms pursuing *vertical integration* strategies should be cognizant of certain potential *drawbacks* in their cost/benefit analysis of this market behavior strategy. Among the potential drawbacks of *vertical integration* are the potential to: (a) implicate antitrust laws due to non-competitive concerns; and, (b) require an increase in the capital requirements associated with market entry for competitors, both of which may negatively impact competition.[69] In healthcare, antitrust considerations, as well as, the potential for fraud and abuse violations (see *Review of the Stark Law and Anti-Kickback Statute*, above) may factor into a healthcare enterprise's decision to engage in a vertical integration transaction, particularly in light of the 2015 decision from the 9th Circuit Court of Appeals in *Saint Alphonsus Medical Center-Nampa Inc. v. St. Luke's Health System, Ltd* (St. Luke's).

In the *St. Luke's* case, the 9th Circuit Court of Appeals affirmed a lower court decision ordering the divestiture of a large multispecialty practice from an Idaho health system in violation of Section 7 of the Clayton Act, which prohibits acquisitions with effects that "*may be substantially to lessen competition, or to tend to create a monopoly*."[70] In the *St. Luke's* case, Saltzer Medical Group, a multi-specialty physician practice group located in Nampa, Idaho, with sixteen adult *primary care physicians* (PCPs), was acquired by St. Luke's Health System, a non-profit health system based in Boise, Idaho (twenty miles east of Nampa) with eight PCPs.[71] The 9th Circuit opinion noted the lower court's findings that 68% of Nampa residents with commercial insurance obtained primary care services from local physicians, with only 15% of residents obtaining similar services in Boise.[72] Based on this fact, the 9th Circuit opinion affirmed the lower court's conclusion that "*commercial health plans need to include Nampa PCPs in their networks to offer a competitive product*," which could lead to increased leverage when negotiating with insurers for higher reimbursement rates.[73] Because St. Luke's controlled nearly 80% of the Nampa PCP market post-acquisition and sought to use this increased market share to negotiate higher reimbursement rates from commercial insurers, the 9th Circuit opinion upheld the lower court ruling that the merger created a *prima facie* case for a violation of the Clayton Act.[74]

Of particular relevance to vertically integrated healthcare systems, the *St. Luke's* case analyzed the potential benefits of increased efficiencies as a defense to scrutiny under Section 7 of the Clayton Act. Specifically, St. Luke's claimed the acquisition would generate efficiencies and "*would benefit patients by creating a team of employed physicians with access to Epic, the electronic medical records system used by St. Luke's*."[75] As indicated above (in *Potential Benefits of Vertical Integration*), such compatibility of *health information technology* (HIT) systems is one of the ***qualitative benefits*** of vertical integration in healthcare, and may lead to improved care coordination.[76] However, the 9th Circuit affirmed the lower court's conclusion that St. Luke's provided "*no empirical evidence to support the theory that St. Luke's needs a core group of employed primary care physicians beyond the number it had before the Acquisition to successfully make the transition to integrated care*."[77] In discussing the intersection of the potential efficiencies of vertical integration transactions and the antitrust laws, the 9th Circuit stated:

> "*At most, the district court concluded that St. Luke's might provide better service to patients after the merger. That is a laudable goal, but the Clayton Act does not excuse mergers that lessen competition or create monopolies simply because the merged entity can improve its operations.*"[78]

Healthcare delivery systems should also note that the simple act of closing a vertical integration transaction does not guarantee immediate achievement of the anticipated benefits discussed above. In particular, vertically integrated organizations must often wait "*a long time to realize positive gains from these investments*."[79] Further, the culture of the vertically integrated healthcare enterprise may influence the achievement of the benefits associated with it; as explained by Louis C. Gapenski, Ph.D., and George H. Pink, Ph.D., in *Understanding Healthcare Financial Management*:

> "*The key feature of integrated delivery systems is that, to be successful, the primary focus must be the clinical effectiveness and profitability of the system <u>as a whole</u>, as opposed to each individual element. This emphasis requires a much higher level of administrative and clinical integration than is seen in most organizations; <u>more important, it requires that managers of the system's individual elements place their own interests second to those of the overall system.</u>*"[80] [Emphasis Added]

Without this commitment, a healthcare vertical integration transaction may not result in reduced healthcare expenditures, improved care coordination, and heightened care quality.[81]

Transactional Initiative Types

Given that the application of the PLP to a particular integration transaction may call into question the validity of the FMV analysis of the property interest (i.e., a physician practice), it should be noted that a FMV analysis assumes a hypothetical transaction involving a universe of typical buyers, sellers, owners, and investors.[82] Similarly, the application of the PLP to a particular integration transaction may call into question the validity of the *commercial reasonableness* analysis of the transaction. These analyses would necessarily include consideration of whether the hypothetical (or in the case of a *commercial reasonableness* analysis, prospective) buyers, sellers, owners, and investors are pursuing the transaction based on the objective of *horizontal consolidation* or *vertical integration*.[83] Therefore, in this consideration, the distinct nature of the objective pursued by the acquirer may impact the value of the considered enterprise. As stated in *Potential Benefits of Vertical Integration*, above, vertical integration may be defined as "*[t]he combination in one firm of two or more stages of production normally operated by separate firms.*"[84] In contrast, *horizontal consolidation* may be defined as "*[c]ombining two or more enterprises at the same stage of production.*"[85] In healthcare, a distinction is drawn between *horizontal consolidation*, "*which integrates organizations providing similar levels of care under one management umbrella, [and] vertical integration[, which] involves grouping organizations that provide different levels of care under one management umbrella.*"[86] *Vertical integration* and *horizontal consolidation* have separate and distinct economic advantages and drawbacks,[87] which may impact a valuation analyst's consideration of a hypothetical transaction. Because of these distinctions, the valuation analyst should be careful to delineate between *vertical integration* and *horizontal consolidation* when considering: (1) the potential benefits of the integration transaction; (2) the potential drawbacks of the integration transaction; and, (3) the FMV of a hypothetical transaction. Similarly, the analyst should consider the distinction between *vertical integration* and *horizontal consolidation* when analyzing the *commercial reasonableness* of a prospective integration transaction. To date, *horizontal consolidation* transactions have not appeared to be subject to the regulatory scrutiny utilizing the PLP; as such, this paper focuses on *vertical integration* transactions.

Implementation of Vertical Integration

Due, in part, to the potential benefits of *vertical integration*, certain governmental agencies, such as the *Centers for Medicare & Medicaid Services* (CMS) and OIG, have undertaken initiatives promoting or requiring *vertical integration* in healthcare. These efforts include, but are not limited to:

(1) The promulgation of the *Comprehensive Care for Joint Replacement* (CJR) program, a mandatory CMS *value-based reimbursement* initiative that includes tools for hospitals to integrate with other providers along the *continuum of care*;[88]

(2) The creation of *accountable care organizations* (ACOs), as part of the *Patient Protection and Affordable Care Act* (ACA), which seek to integrate multiple providers along the *continuum of care*, as well as, hold integrated providers accountable for defined populations, as an incentive to improve population health;[89]

(3) The approval by the OIG of medical directorships, co-management agreements, and other arrangements related to physician-hospital alignment;[90] and,

(4) The requirement under certain state licensure laws and CON programs that hospital enterprises provide a full range of services along the *continuum of care*.[91]

As a result of government initiatives promoting, and sometimes requiring, *vertical integration* in healthcare, providers have engaged, or are currently engaging, in *vertical integration* transactions in the marketplace.[92] A 2005 survey by *Medical Group Management Association* (MGMA), entitled "*Physician Compensation and Production Survey: 2005 Report Based on 2004 Data*," reported that over half of physicians were working for organizations owned by physicians.[93] The 2015 version of the same survey (based on 2014 data) reported that the share of physicians working for organizations owned by physicians had fallen to less than one third of the physician population.[94] Conversely, over the same time period, the share of physicians working for organizations owned by hospitals and health systems more than doubled.[95] This migration of physicians toward practicing in hospital-owned enterprises serves as evidence of providers seeking vertical integration in the marketplace.

ARGUMENTS AGAINST THE PLP

As discussed in the *Summary of the Practice Loss Postulate*, above, the PLP treats vertically integrated physician practices as stand-alone economic enterprises, distinct from the health system under which the physician practice operates. Further, the PLP focuses exclusively on the existence of, or lack of, *immediate* and *direct* ***financial (cash)*** returns on or of investments in physician practices acquired as part of a vertical integration transaction. As demonstrated below, the conclusion that *specific* and *immediate* "*book financial losses*" stemming from a physician practice within a vertically integrated health system reflect payment of consideration based on the volume and/or value of physician referrals, ignores established and accepted ***economic theories*** built off fundamental ***economic principles***, which demonstrate the validity of other forms of economic benefit aside from *immediate* and *direct* ***financial (cash)*** returns on or of investments. As the regulatory thresholds of FMV and *commercial reasonableness* are built on ***economic*** concepts, not on ***accounting conventions***, which focus solely on ***financial (cash)*** considerations, the utilization of the PLP to scrutinize vertical integration in healthcare reflects a significant misapplication of ***economic theory*** that may drastically affect the overall legal permissibility of healthcare vertical integration transactions. Additionally, by not considering the ***qualitative***, as well as the ***quantitative***, economic benefits associated with vertical integration in healthcare, the PLP is a less than rational interpretation and application of the threshold of *commercial reasonableness* under the Stark Law and AKS.

Economic Argument

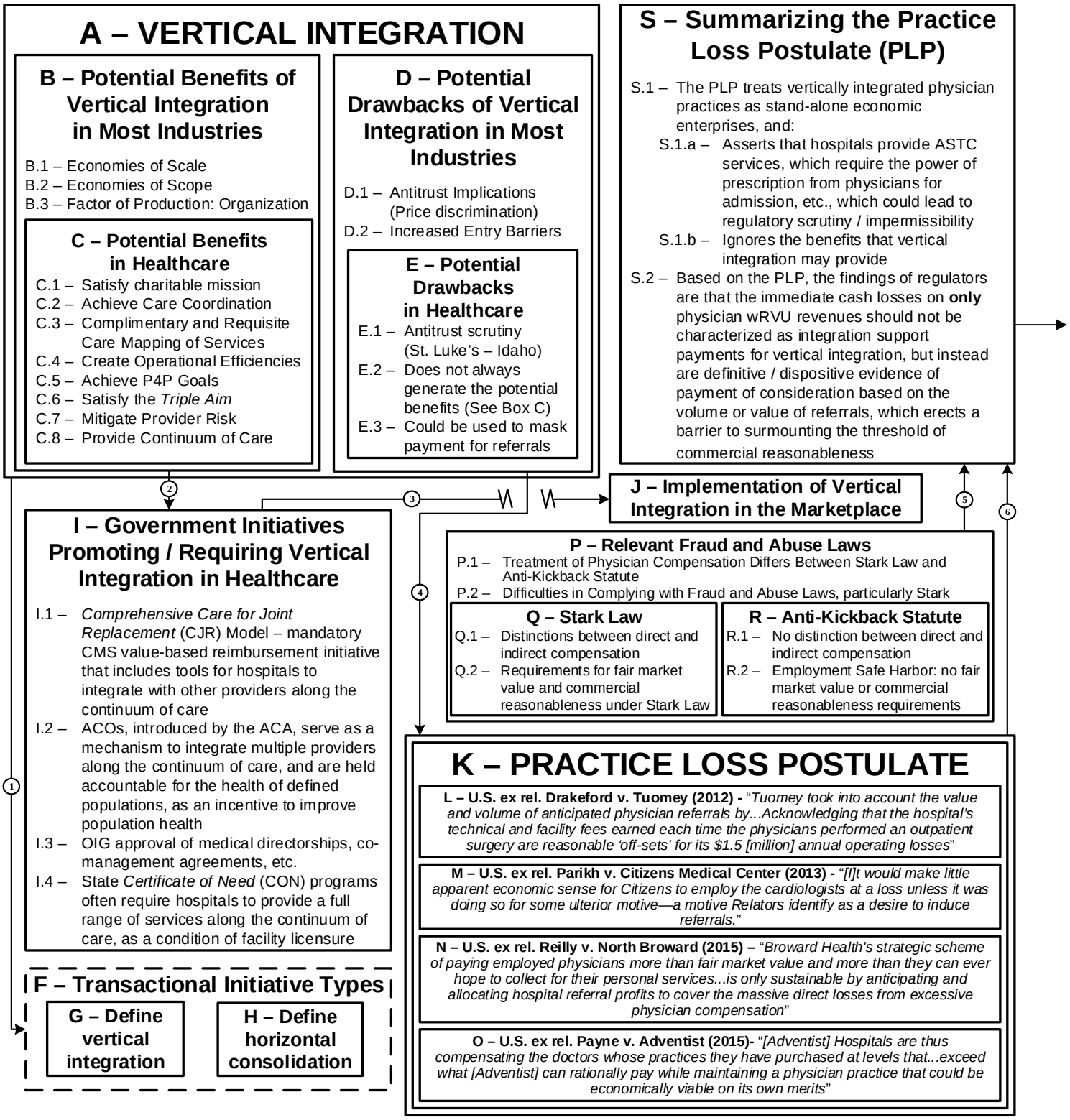
In order to appreciate the economic underpinnings of the argument against the PLP, it is helpful to have a basic understanding of how economic ***principles*** and ***theories*** have evolved. In 1890, Alfred Marshall discussed the development of economic thought (or as he termed it, *economic law*) in his seminal work, "*Principles of Economics.*"[96] Marshall explained that the *physical* sciences progress through a process intended to explain observations of nature; according to this process: (1) an investigator makes a statement about the world, which statement is then subjected to rigorous testing; (2) if the statement withstands the testing, and the statement is successfully used to predict events, it graduates to the level of a *law*; and, (3) having accepted a common understanding of how certain elements of the natural world behave (as explained by the tested *laws*), individual investigators may pursue further studies of phenomena that have yet to be explained.[97] Marshall argued that economics, as a discipline, aspired to function by this same process, by attempting to derive and utilize generally accepted *economic laws*.[98]

Under the framework of Marshall's process for the advancement of economic thought, the use of the PLP as a basis for judicial, legislative, or regulatory action is troubling, because the PLP defies each step of this process of advancing economic thought. Specifically, the PLP: (1) does not satisfy the basic requirements for ***economic assumptions***, or, as Marshall may have termed it, it fails to withstand the basic testing that any economic statement must undergo; (2) reflects a misapplication of fundamental ***economic principles*** (similar to Marshall's *economic laws*); and, (3) runs contrary to established and accepted ***economic theories***, ignoring more complex economic studies that are based on fundamental ***economic principles***.

Economic Assumptions

As stated above, the first step in the progression of economics as a discipline is to put forward a statement to be tested, referred to herein as an ***economic assumption***. The ***economic assumption*** put forth by the PLP (see the *Summary of the Practice Loss Postulate*, above) is captured in statements from case documents related to *U.S. ex rel. Parikh v. Citizens Medical Center, U.S. ex rel. Reilly v. North Broward Hospital District, et al.*, and *U.S. ex rel. Payne, et al. v. Adventist Health System, et al.*, e.g.:

> *Parikh – Memorandum and Order, 2013*: "*…it would make little apparent economic sense for [a hospital] to employ [physicians] at a loss unless it were doing so for some ulterior motive—a motive Relators identify as a desire to induce referrals.*"[99] [Emphasis Added]
>
> *North Broward – Relator's Third Amended Complaint, 2012*: "*[A hospital]'s strategic scheme of paying employed physicians more than fair market value and more than [the hospital] can ever hope to collect for [the employed physicians'] personal services is not a commercially sustainable business model. This practice is only sustainable by anticipating and allocating hospital referral profits to cover the massive direct losses from excessive physician compensation.*"[100] [Emphasis Added]
>
> *Adventist – Relator's Amended Complaint, 2013*: "*…Hospitals are thus compensating the doctors whose practices they have purchased at levels that not only exceed what [the hospitals] can rationally pay while maintaining a physician practice that could be economically viable on its own merits, but that even more dramatically exceed what [the hospitals'] employee physicians could reasonably expect to earn if those physicians had continued to own and operate the business themselves.*"[101] [Emphasis Added]



Notes to Relationship Lines

(1) A FMV analysis assumes a hypothetical transaction involving a universe of typical buyers, sellers, owners, and investors, including consideration of whether they are pursuing the transaction based on the objective of horizontal consolidation or vertical integration. The distinct nature of the objective pursued by the acquirer may impact the value of the considered enterprise.
(2) The potential benefits of vertical integration have influenced some government agencies (such as CMS and the OIG) to promote, and sometimes require, vertical integration in healthcare.
(3) Various government initiatives, such as CJR, ACOs, and licensing and CON requirements, are moving healthcare providers toward vertically integrated models of healthcare delivery.
(4) Due to the drawbacks of vertical integration in most industries (and the potential drawbacks of vertical integration in healthcare), government regulators (more specifically, officers of the OIG and the DOJ) have, in some cases, challenged vertical integration transactions in healthcare under the federal fraud and abuse laws, basing their arguments, in part, on the PLP.
(5) The authors have considered the details of compensation arrangements under various federal and state fraud and abuse laws in its analysis of the PLP.
(6) Based on *Tuomey* (2012) as a harbinger case, *Parikh* (2013), *Adventist* (2015), and *North Broward* (2015), it is possible to distill certain elements of the PLP.
(7) The PLP reflects a misapplication of fundamental economic principles, runs contrary to established and accepted economic theories, does not satisfy the basic requirements of economic assumptions, and is a less than rational interpretation and application of the threshold of commercial reasonableness.
(8) Given the Commercial Reasonableness Argument (Box Y) and the Economic Argument (Box U), the application of the PLP is misguided and imprudent.

T – ARGUMENTS AGAINST THE PLP

U – Economic Arguments

V – PLP Does Not Satisfy the Basic Requirements for Economic Assumptions

V.1 – PLP oversimplifies nature of vertically integrated practices, loses any correspondence to the real world
V.2 – PLP fails – does not correspond with reality

W – Misapplication of Economic Principles Under the PLP

W.1 – **Principle of Scarcity** – PLP ignores the fact that physicians are becoming increasingly scarce, and therefore their value is rising, which may lead to "losses" resulting from economic operating expenses
W.2 – **Principle of Utility** – PLP construes utility as equivalent financial returns on / of investment, and ignores the other forms of economic benefits that may accrue to vertically integration systems (i.e., avoidance of cost and generation of social benefit)
W.3 – **Principle of Substitution** – PLP ignores providers' choice of vertical integration as the most efficient strategy to achieve certain benefits (other strategies to achieve same benefits would incur greater costs)

7

X – PLP Runs Contrary to Established & Accepted Economic Theories

X.1 – Based on established and accepted economic principles, economists propose more complex economic theories. Economic studies related to organization and integration include the following:
- X.1.a – Coase, 1937 – individuals organize into firms because having one entity coordinate resources is more efficient than all resources being bought / sold by independent actors in an open market
- X.1.b – Edgeworth, 1881 – use of contracts / cooperation (in favor of individual action) maximizes aggregate utility of all parties involved
- X.1.c – Bonbright, 1937 – avoidance of cost is equivalent to creation of utility

X.2 – Together, the aforementioned economic theories demonstrate that, by organizing into coordinated firms, individual actors can maximize aggregate utility and reduce costs (which is, in turn, equivalent to creating utility). The PLP ignores these benefits.

Y – Failure of the PLP's Commercial Reasonableness Argument

Y.1 – Even if you [incorrectly] treat vertically integrated practices as stand-alone entities generating a loss for the hospital, this fact does not contraindicate commercial reasonableness – hospitals routinely invest in initiatives, service lines, and uses of capital that do not immediately (or may never) yield immediate or direct financial returns on or of their investment, but may nonetheless be efficacious in the avoidance of cost or the generation of a social benefit
- Y.1.a – Emergency rooms, trauma services, pathology labs, and *neonatal intensive-care units* (NICU)
- Y.1.b – Research labs and clinical studies
- Y.1.c – Principal research investigators, medical directors, and other types of physician executives
- Y.1.d – Education of residents
- Y.1.e – Artwork / Aesthetics

Y.2 – The potential benefits of vertical integration can help hospitals meet their charitable mission, provide for population health, and meet licensing, CON, and other regulatory requirements (e.g., EMTALA)

8

Z – PRACTICE LOSS POSTULATE IS MISGUIDED & IMPRUDENT

Z.1 – Should the PLP continue to evolve into accepted "*legal doctrine,*" and ultimately the "*law of the land,*" the result may be to impede the development of innovative new structures of emerging healthcare organizations to the extent that it would cause significant harm to the healthcare economy, such as the losses of both: (1) operating cost-related efficiencies associated with *vertical integration*; and, (2) the qualitative benefits that *vertical integration* can provide to a community (e.g., improvements in care coordination, promotion of population health, and achievement of *Triple Aim*).
Z.2 – The PLP does not meet the basic requirements for an economic assumption, is unsupported by fundamental economic principles, and runs contrary to established and accepted economic theory.
Z.3 – The PLP is a less than rational interpretation and application of the commercial reasonableness threshold.

In 1932, Joan Robinson put forth two metrics by which economists may determine the usefulness of an ***economic assumption***, such as the one put forth by the PLP. Robinson stated that "*The two questions to be asked of a set of assumptions in economics are these: Are they tractable? And: Do they correspond to the real world?*"[102] The latter standard mirrors Marshall's assertion that proposed statements attempting to explain observations of nature must survive rigorous testing before rising to the level of established and accepted *law*, while the former speaks to an assumption's usefulness as an analytical tool. Robinson explained that there is an inherent tension between these standards, noting that "*Some sets of assumptions are too complicated to be manageable by the technique which is now at our disposal. But a set of assumptions that is manageable is likely to be unreal.*"[103] For example, economists often assume a set of *axioms* related to ***utility***, and define behavior that conforms to these *axioms* as *rational*.[104] This supposedly *rational* behavior, i.e., behavior in accordance with the set of assumed *axioms*, does not always correspond with individuals' actual behavior in the real world (i.e., the assumption is not perfectly *realistic*).[105] Additionally, individuals may pursue seemingly *irrational* behavior based on a set of information that is incomplete, or flawed.[106] Despite these limitations of the assumption of *rationality*, economists are able to use these assumed *axioms* to mathematically model consumers' behavior.[107] Because the *axioms* of *expected utility theory* have survived testing against observations of real-world economic actors,[108] the assumption of *rational* behavior rises to the level of an ***economic principle*** (i.e., the *Principle of Utility*, discussed below). This demonstrates the balance between the goals that ***economic assumptions*** be both *tractable* and *realistic*.

The assertion of the PLP in recent cases may have arisen in such a hastily aggressive, and typically uncontested, manner, on the false premise that it gains probity because it is *tractable*,[109] without due consideration as to whether it is also *realistic*, i.e., whether the ***economic assumption*** "*correspond[s] to the real world.*"[110] In this instance, the PLP has dramatically oversimplified the nature of vertically integrated physician practices, by essentially reducing the question of a transaction's *commercial reasonableness* to an analysis of only whether or not a practice's professional services generate ***financial (cash)*** gains for the acquiring hospital. In doing so, the PLP embodies an ***economic assumption*** that foregoes correspondence with the real world (as discussed below) in favor of *tractability*.

With respect to the question of whether the PLP is *realistic*, evidence shows that the PLP does not correspond with the real world. The PLP treats *vertically integrated* practices as *independent* freestanding operating enterprises in making its case that these physician practices are economically unviable.[111] However, benchmarking data indicates that *vertically integrated* physician practices *do not* operate in the same way as *independent* physician practices. Rather, *vertically integrated* physician practices, in comparison to *independent* physician practices, typically: (1) provide significantly more charity care; (2) serve a different payor mix, specifically in that *vertically integrated* physician practices provide more services to Medicaid beneficiaries, and fewer services to patients covered by commercial insurance; and, (3) operate with relatively fewer *non-physician practitioners* per physician.[112] Together, these characteristics of *vertically integrated* physician practices lead to reduced revenues, relative to the revenues generated by *independent* physician practices.[113] Thus, the PLP's treatment of *vertically integrated* practices as economically unviable, when considering them as *independent* enterprises, clearly contradicts the reality that these are not *independent* practices.

As discussed above, the PLP has put forth an ***economic assumption*** that foregoes correspondence with the real world in favor of *tractability*. It is important to note that, given two sets of assumptions that are equally *tractable*, the question of which set of assumptions is preferable depends on which set is more *realistic*.[114] Correspondingly, as the availability of data and computing power have improved, increasingly complex models have been rendered *tractable*, allowing economists to perform nuanced studies that more closely correspond with the real world,[115] e.g., detailed *commercial reasonableness* analyses. Because these more *realistic* analyses are also *tractable*, the PLP should be discarded as an inferior ***economic assumption***.

Economic Principles

Perhaps more concerning than the PLP's failure to put forth a viable ***economic assumption***, is the fact that the PLP misapplies or disregards established and accepted ***economic principles***. As described above, those ***economic assumptions*** that have survived rigorous testing "*graduate*" to the level of an ***economic principle***.[116] Marshall utilized the term *economic law*, defining *economic laws* as "*…statements with regard to the tendencies of man's action under certain conditions.*"[117] For the purposes of this analysis, ***economic principles*** are defined to include not only *economic laws* regarding individuals' actions, but also established and accepted statements about the fundamental nature of economies. As stated above, the use of the PLP in guiding regulatory, legislative, or judicial action is concerning, because it clearly misapplies or ignores several of these ***economic principles***, e.g.: (1) the *Principle of Scarcity*; (2) the *Principle of Utility*; and, (3) the *Principle of Substitution*, which are each discussed below.

Scarcity is defined as "*the general condition… that more is wanted of goods and services than is available (either to individuals or to populations).*"[118] Following from this, the *Principle of Scarcity* states that "*No object… can have value unless scarcity is coupled with utility,*" and further states that as a property interest becomes more scarce, the value of the subject property interest increases.[119] With respect to the PLP, the resource in question is physician labor, which is becoming increasingly scarce.[120] As the demand for coordinated, efficient healthcare services rises, hospitals are seeking to integrate with physicians, based on the potential gains of vertical integration (discussed above).[121] Simultaneously, as physician labor becomes more scarce, hospitals must incur increasing expenses in order to retain a physician's services,[122] which may result in a "*book financial loss*" on the physician's professional services, when considered independently. The PLP fails to recognize this reality, and therefore ignores the *Principle of Scarcity*.

The *Principle of Utility* states that "*rational*" economic actors will attempt to maximize their expected *utility*,[123] where ***utility*** is defined as "*the ability of a product to satisfy a human want, need, or desire.*"[124] Therefore, while ***utility*** may stem from ***monetary (cash)*** benefits, it may also be derived from other sources, e.g., the *avoidance of cost*, or the creation of a *social benefit*. The PLP asserts that vertically integrated systems offset the "*book financial losses*" associated with *integration support payments* related to physician labor through the revenues associated with legally impermissible referrals. This inference regarding "*book financial losses*" ignores the other forms of ***utility*** that healthcare organizations may derive from *vertical integration*, such as the *social benefit* to the community or the ***utility*** gained from

eliminating inefficiencies. In doing so, the PLP misconstrues ***utility*** as being equivalent to only ***monetary (cash)*** gain, in contrast to *"the ability of a product to satisfy a human want, need, or desire,"*[125] which may take the form of ***non-monetary (non-cash)*** benefits. Given this analytical deficiency, the PLP misapplies the *Principle of Utility*.

The *Principle of Substitution* states that *"The price of a desired substitute, or one of equal utility, sets the ceiling of value for a particular good or service."*[126] Inherent in the PLP is the assumption that *integration support payments* are evidence that hospitals would be irrational to prefer *vertical integration* to their continued operation in the service area, *independent* of physician practices, unless the hospitals were the beneficiaries of revenues resulting from legally impermissible physician referrals. However, based on the *Principle of Substitution*, market participants and policy makers would select an alternative route to receiving the benefits that *vertical integration* provides (e.g., meeting *continuum of care* requirements or satisfaction of the *Triple Aim*) if the alternative required a lower cost than the cost of *vertical integration* (i.e., *integration support payments*). This is not the case, as evidenced by the significant growth of *vertical integration* strategies in the healthcare industry (see *Implementation of Vertical Integration*, above). Therefore, the assumption inherent in the PLP ignores rational actors' selection of *vertical integration* as the optimal alternative under the *Principle of Substitution*.

Having discussed the *Principle of Scarcity*, the *Principle of Utility*, and the *Principle of Substitution*, it is evident that, in evaluating vertical integration transactions, the PLP misapplies or disregards established and accepted ***economic principles***. Further, the PLP also disregards more advanced ***economic theories*** that are based on the aforementioned ***economic principles***, as discussed below.

Economic Theories

The third stage in the progression of economics as a discipline is for students of economics to propose further ***economic theories***, based on the accepted ***economic principles*** that were established by previous investigators into the discipline of economics, allowing *"…the individual student [to] speak with the authority of his science."*[127] Economists have long studied the topic of organization and integration in the marketplace, and developed complex ***economic theories***, which theories have been analyzed and accepted as models that accurately describe economists' observations of the real world.[128] In turn, these theories have been utilized as the bases for further economic studies; as described by Marshall, this iterative process allows each student to expand the "*scope*" of economic knowledge.[129] However, the PLP runs contrary to these established and accepted ***economic theories***, and consequently, the PLP contraindicates a large body of economic thought. A selection of several seminal works published over the past 135 years regarding ***economic theories*** related to organization, integration, and efficiency in the marketplace are discussed below.

In 1881, Francis Edgeworth published *Mathematical Psychics*,[130] in which he utilized a mathematical analysis to argue that "*…the basis of arbitration between contractors is the greatest possible utility of all concerned…*"[131] Edgeworth studied negotiation and cooperation between economic entities, starting from the simple case of interactions between two parties, whose interests depend on two variables (i.e., x and y), which the parties have agreed not to alter without mutual consent (i.e., they have entered into a contract).[132] By plotting the two variables graphically, Edgeworth mapped out what he termed a *contract curve*, with each point along the curve representing a potential bargain between the parties.[133] Based on mathematical analysis of this curve (more specifically, the formulas underlying the curve), Edgeworth showed that "*…the total utility of the system is a relative maximum at any point on the pure contract-curve.*"[134] This indicates that cooperative contracts among healthcare providers (e.g., *vertical integration*) would be preferable to *independent* operation, maximizing the ***utility*** of the entities involved.

In 1937, Ronald Coase published *The Nature of the Firm*,[135] in which he argued that individuals organize into firms because one entity coordinating scarce resources is more efficient than independent actors' purchase and sale of all resources in an open market.[136] Coase's theory is based on the idea that there are *transaction costs* associated with the operation of a market, which firms may mitigate or eliminate.[137] Notably, Coase stated that "*The entrepreneur [who is allocating the resources of the firm] has to carry out his function at less cost [than the market]… because it is always possible to revert to the open market if he fails to do this.*"[138] This reinforces the importance of the *Principle of Substitution* as applied to vertical integration in healthcare, suggesting that if healthcare providers *could* achieve the benefits of vertical integration through independent operation in the open market (thus avoiding *integration support payments*), then they *would* choose to operate in the open market.

In 1937, James Bonbright published *The Valuation of Property: A Treatise on the Appraisal of Property for Different Legal Purposes*,[139] a foundational text that precipitated the modern understanding of valuation and appraisal in economic terms. In this work, Bonbright stated that one of the key propositions in the theory of valuation is that "*The value of a property to its owner is identical in amount with the adverse value of the entire loss, direct and indirect, that the owner might expect to suffer if he were to be deprived of the property.*"[140] In short, Bonbright proposed that the *avoidance of cost* is equivalent to the creation of ***utility***.[141] Considered in conjunction with Coase's theory that firms exist to mitigate or eliminate *transaction costs*,[142] Bonbright's proposition on the *avoidance of cost* suggests that the efficiencies generated by organizing healthcare providers into a *vertically integrated* firm creates ***utility*** for the integrating entities, and may therefore be preferable to *independent* operation.

In 2005, Alain Enthoven and Laura Tollen published "*Competition in Health Care: It Takes Systems To Pursue Quality And Efficiency*," in which they advocated for integrated delivery systems as a solution to improve the U.S. healthcare delivery system.[143] Enthoven and Tollen stated:

> "*There is more to safe, appropriate, affordable health care than what is evident to a patient in an encounter with an individual provider. We need systems to ensure that health care providers are...deployed in the appropriate...numbers and specialties to meet a population's needs efficiently; current on evidence- based practice and supported by tools (such as monitoring and reminders) to overcome widespread practice variations and quality failures; ...supported by teams of colleagues sharing goals, work processes, and information and able to coordinate care across multiple settings; supported by a system that records test results, diagnoses, and treatments and transmits orders accurately; practicing in facilities with equipment selected based on evidence of safety and efficacy; and supported financially and logistically to participate in common efforts such as guideline*

> *development...which [is] important for evidence-based practice.*"[144]

In 2008, Michael Porter published an expanded edition of *On Competition*, in which he argued that ***social benefits*** and ***economic benefits*** are "*integrally connected*" for business enterprises.[145] Porter stated:

> "*It is true that economic and social objectives have long been seen as distinct and often competing. But this is a false dichotomy; it represents an increasingly obsolete perspective in a world of open, knowledge-based competition. Companies do not function in isolation from the society around them. In fact, their ability to compete depends heavily on the circumstances of the locations where they operate…The more a social improvement relates to a company's business, the more it leads to economic benefits as well.*"[146]

Together, the aforementioned ***economic theories*** demonstrate that individual actors can maximize aggregate ***utility*** and mitigate or eliminate certain *transaction costs* (which are, in turn, equivalent to the creation of ***utility***) by organizing into coordinated firms. As reflected under the *Principle of Substitution*, rational economic actors are choosing to engage in *vertical integration* transactions in order to maximize aggregate ***utility*** related, in part, to ***non-monetary (non-cash)*** benefits. By assuming that specific and immediate "*book financial losses*" on *vertically integrated* physician practices constitute dispositive evidence of the payment of consideration based on the volume and/or value of legally impermissible physician referrals, the PLP ignores the conclusions of an established and accepted canon of economic literature. In doing so, regulators and legal professionals who utilize the PLP are effectively disregarding the body of knowledge available to them, rather than relying upon "*the authority of [the] science*"[147] of economics.

Commercial Reasonableness Argument

In addition to the deficiencies of the PLP as an ***economic assumption***, as well as, the PLP's disregard for established and accepted ***economic principles*** and ***economic theories***, the PLP misinterprets the threshold of *commercial reasonableness.* Specifically, losses on *vertically integrated* physician practices do not contraindicate the threshold of *commercial reasonableness*, a specialized concept within the realm of ***financial economics*** that considers, in part, ***utility considerations***, not solely relying on ***accounting conventions***, which focus exclusively on ***financial (cash)*** considerations.

HHS has interpreted the term "*commercially reasonable*" to mean an arrangement which appears to be "*…a sensible, prudent business agreement, from the perspective of the particular parties involved, even in the absence of any potential referrals.*"[148] Additionally, HHS's *Stark II, Phase II* commentary suggests that:

> "*An arrangement will be considered 'commercially reasonable' in the absence of referrals if the arrangement would make commercial sense if entered into by a reasonable entity of similar type and size and a reasonable physician…of similar scope and specialty, even if there were no potential DHS referrals.*"[149]

One element that may indicate a *sensible, prudent business arrangement* is the *anticipated economic benefit* (i.e., ***utility***) to be derived from the *financial profitability* resulting from the transaction. As discussed in *Economic Principles*, above, economic benefit can be derived from both ***monetary (cash)*** and ***non-monetary (non-cash)*** sources; however, the ultimate source of value is the ***expected utility*** to be derived from the ownership or control of a property interest. ***Financial (cash)*** remuneration is, in fact, an intermediary economic benefit, whose value emanates from its exchange for an asset which directly provides ***utility***. However, many of the economic benefits derived from *vertical integration* in healthcare (e.g., providing the continuum of care in meeting its community benefit mission, promotion of population health, and achievement of the *Triple Aim*) are ***non-monetary (non-cash)*** economic benefits that provide ***utility*** to the *vertically integrated* health system, separate and distinct from ***utility*** derived from ***monetary (cash)*** economic benefits.[150]

In light of these considerations, along with other standards, constituting the *commercial reasonableness* threshold, hospitals routinely invest in initiatives, service lines, and uses of capital that do not *immediately* (or may never) yield *direct* ***financial (cash)*** returns on or of their investment, including:

(1) Emergency rooms, trauma services, pathology labs, and *neonatal intensive-care units* (NICU);
(2) Research labs and clinical studies;
(3) Principal research investigators, medical directors, and other types of physician executives;
(4) Education of residents; and,
(5) Artwork and other aesthetics that aim to generate therapeutic benefits for the hospitals' patients.[151]

Even though many hospital investments do not create *immediate* or *direct* ***financial (cash)*** returns, these investments may allow hospitals to accrue other forms of ***utility***, e.g., the ***avoidance of cost*** or the generation of ***social benefits***. Therefore, despite the lack of *immediate* or *direct* ***financial (cash)*** return on or of certain investments by healthcare enterprises, these services may nevertheless satisfy the threshold of *commercial reasonableness*. For example, the investment may be "*necessary*" for the continued operation of the healthcare entity, or may satisfy a "*business purpose*" of the healthcare enterprise apart from obtaining referrals,[152] such as those listed above (in *Potential Benefits of Vertical Integration*).

In particular, for a tax-exempt healthcare organization, under which health systems qualify and must be *"…organized and operated exclusively for an exempt purpose…"*[153] such as, *"charitable, religious, educational, scientific,… [or] public safety…,"*[154] financial losses may be incurred in accordance with *Internal Revenue Service* (IRS) Revenue Ruling 69-545, which states:

> *"In the general law of charity, the promotion of health is considered to be a charitable purpose. […] A nonprofit organization whose purpose and activity are providing hospital care is promoting health and may, therefore, qualify as organized and operated in furtherance of a charitable purpose."*[155]

This *charitable mission* provides the basis for the tax-exempt status of the vertically integrated health system, which, in lieu of a ***monetary (cash)*** benefit, will, in the service of their stated charitable mission, generate a *social benefit* for the community it serves. Vertically integrated health systems are increasingly required to serve as *organizers* and *integrators* of care in a community, whereby they provide a *continuum of care* across a population.[156] This charitable mission may not necessarily be profitable from the perspective of ***accounting*** precepts, but is nonetheless necessary for the *health of the population* in the community served by the vertically integrated health system.

The PLP's reliance on ***accounting*** conventions, such as "*book financial losses*", reflects a less than rational interpretation and application of the *commercial reasonableness* threshold, which requires consideration of the broader concept of ***economic utility***, not simply *immediate* or *direct* ***financial (cash)*** returns. Accounting documents, such as an income statement, balance sheet, or general ledger, rarely account for ***non-monetary (non-cash) economic*** benefits in ways that efficaciously reflect the overall ***utility*** produced by an enterprise, asset, or service that may support the *commercial reasonableness* of the vertical integration transaction. The sole reliance on ***accounting*** documents that demonstrate "*book financial losses*" as evidence against the *commercial reasonableness* of a vertical integration transaction erodes the ***economic*** underpinnings of the threshold of *commercial reasonableness* in healthcare transactions, which requires the analysis and consideration of both the *qualitative* and *quantitative* economic benefits that vertical integration may provide.

CONCLUSION

In summary, the current trend in the regulatory application of the PLP to challenge vertical integration in healthcare is misguided and imprudent. Specifically, the PLP is flawed from an economic perspective, primarily in that it: (1) does not meet the basic requirements for an ***economic assumption***; (2) is unsupported by fundamental ***economic principles***; and, (3) runs contrary to established and accepted ***economic theory***.

Additionally, the PLP represents a less than rational interpretation and application of the *commercial reasonableness* threshold, in that it focuses its analysis solely on the financial ***quantitative*** factors, e.g., ***monetary (cash)*** returns, and ignores the ***qualitative*** factors, e.g., the ***avoidance of cost***, and the generation of ***social benefit***. Should the PLP continue to evolve into accepted "*legal doctrine*," and ultimately the "*law of the land*," the result may be to impede the development of innovative new structures of emerging healthcare organizations to the extent that it would cause significant harm to the healthcare economy. This may include the loss of both: (1) operating cost-related efficiencies associated with *vertical integration*; and, (2) the qualitative benefits that *vertical integration* can provide to a hospital's community in furtherance of its community benefit mission.

In considering the application of the PLP to vertical integration in healthcare, economists and valuation professionals that work with healthcare providers and their legal advisers, should understand and educate their clients that studies of FMV and *commercial reasonableness* are specializations within the broader discipline of ***financial economics***. The requisite economic concepts involve ***utility***, which is not satisfied simply by ***financial (cash)*** considerations but also by ***non-monetary*** economic benefits, such as the ***avoidance of cost*** and the generation of ***social benefits***. In contrast, arguments embodied by, and decisions relying on, the PLP are habitually based on the unfounded misapplication of ***accounting conventions***, which focus only on ***financial (cash)*** considerations. When considering ***economic*** issues, such as the FMV and *commercial reasonableness* of a healthcare vertical integration transaction, the reliance on ***accounting*** precepts may mislead healthcare providers and the legal community regarding the legal permissibility of the transaction.

The deleterious impact of the increasing regulatory trend against healthcare vertical integration arising from the application of the PLP presents an existential threat to healthcare reform. Accordingly, notwithstanding the legal community's often seeming disdain for the *dismal science*, and fully recognizing the limitations of economic analysis, it is nonetheless essential that the misapplication of economic theory embodied in the PLP be redressed by trained, learned professionals with access to, and who are conversant with, the pertinent body of knowledge. In 1932, Joan Robinson, in her groundbreaking work, *Economics is a Serious Subject*, opined on the distinction between economists and certain "*practical men*," such as accountants, bankers, and businessmen.[157] Discussing how this distinction could impact the future role of economists in influencing issues concerning the general public, Ms. Robinson stated:

> *"…[T]he relations of economics and practical life are similar to the relations of physiology and medicine… [A]s an inadequate knowledge of physiology led in the past to a medicine which killed more patients than it cured, so, in the history of the last hundred years…economics…once primitive and over-confident, has done more harm than good in the sphere of political life. Economics as medicine is in an even more elementary state than economics as a serious subject.*
>
> *But it does not at all follow that economists should refrain from giving governments the benefit of their advice. If there is no doctor in the neighbourhood, it is better to ask a physiologist what is wrong with the patient than to ask an engineer…*
>
> *[G]overnments [have been led] to prefer the advice of bankers, industrialists, and other practical men. But it is certainly better for the patient to ask the physiologist what is wrong with him than to ask the advice of the first man he meets. For the first man that he meets may be an undertaker who has his own view of the course that the disease ought to follow."*[158]

Robinson's thoughts capture the essence of the problem in the application of the PLP as the basis for judicial, legislative, or regulatory action, in that the PLP embodies a regulatory analysis of vertically integrated transactions that focuses exclusively on the integrated physician practice's ***financial (cash)*** returns, while entirely disregarding fundamental ***economic*** considerations, e.g., ***non-monetary (non-cash)*** forms of ***utility***, including the ***avoidance of cost*** and the generation of ***social benefit***, and more generally, FMV and *commercial reasonableness*.

This may lead analysts, regulators, legislators, and legal professionals to lose sight of the benefits of vertical integration; in essence, they are misled by a myopic fixation on red ink, such that they "*cannot see the forest for the trees.*" This potential impediment to sound decisions on policy and case law is particularly troubling, given the acute need to improve the quality, accessibility, and efficiency of the U.S. healthcare delivery system.[159] If there was ever a time for the legal and economic communities to collaborate to address these important issues impacting the U.S. economy, and more particularly the U.S. healthcare delivery system, it would be now.

Endnotes

1 "The Proverbs of John Heywood: Being the 'Proverbes' of That Author Printed 1546. Ed., with Notes and Introduction" By Julian Sharman, London, England: George Bell and Sons, 1874, p. 107.
Per Oxford English Dictionary: (1) "*Plentie*," or "*Plenty*" is defined as "*a full or ample amount, a sufficiency, more than enough*"; (2) "*Deintie*," or "*Dainty*" is defined as "*Estimation, honour, favour (in which anything is held)*"; (3) "*Ease*" is defined as "*Absence of painful effort; freedom from the burden of toil; leisure; in bad sense, idleness, sloth*"; and, (4) "*Wood*" is defined as "*A collection of trees growing more or less thickly together…*"; in modern meaning, i.e., "*The assumption of being wholly sufficient is not worthy, you see not your own indolence. I see, you cannot see the forest for the trees.*"

2 "2014 Global Health Care Outlook: Shared Challenges, Shared Opportunities" By Deloitte Touche Tohmatsu Limited, 2014, p. 13; "The 5 C's of 2013 Health Care" By Deloitte Touche Tohmatsu Limited, 2012, http://www.deloitte.com/assets/Dcom-UnitedStates/Local%20Assets/Documents/us_chs_MondayMemo_2013Healthcare_%205Cs_021313.pdf (Accessed 6/4/14); "Co-Management Arrangements: Common Issues with Development, Implementation and Valuation" By Ann S. Brandt, et al, American Health Lawyers Association, May 2011, http://www.healthlawyers.org/Events/Programs/Materials/Documents/AM11/hutzler.pdf (Accessed 6/5/14).

3 See further discussion on "*book financial losses*" below in Sum*mary of the Practice Loss Postulate*.

4 "United States ex rel. Drakeford v. Tuomey Healthcare System, Inc." 675 F.3d 394, 407 (4th Cir. 2012); "United States ex rel. Parikh v. Citizens Medical Center" Case No. 6:10-cv-00064, (S.D. TX. September 20, 2013), Memorandum and Order, p. 27-28; "United States ex rel. Reilly v. North Broward Hospital District, et al.," Case No. 10-60590-CV (S.D.Fla. September 11, 2012), Relator's Third Amended Complaint Under Federal False Claims Act, p. 31; "United States ex rel. Payne et al. v. Adventist Health System et al.," Case No. 3:12cv856-W (W.D.N.C. February 13, 2013), Relator's Amended Complaint, p. 56; "Health System Practice 'Losses' Make Headlines, Plaintiffs Make New Stark 'Law'" By Eric B. Gordon and Daniel H. Melvin, BNA's Health Care Fraud Report, Bloomberg BNA, November 25, 2015, http://www.mwe.com/files/Publication/a1a5d17c-3c79-4380-baef-0d11822334a1/Presentation/PublicationAttachment/5bb1e6ca-6491-4907-9a57-1049c2f3eec6/Gordan-Melvin.pdf (Accessed 12/15/15).

5 "The American Heritage Dictionary" Second Edition, Houghton Mifflin Company: Boston, MA, 1985, p. 969. The American Heritage Dictionary defines "*postulate*" as "*Something assumed without proof as being self-evident or generally accepted, esp[ecially] when used as a basis for an argument."*

6 "Exceptions to the Referral Prohibition Related to Compensation Arrangements" 42 C.F.R. § 411.354(c)(1)(i) (2015); "Exceptions to the Referral Prohibition Related to Compensation Arrangements" 42 C.F.R. § 411.354(c)(2) (2015).

7 "Exceptions to the Referral Prohibition Related to Compensation Arrangements" 42 C.F.R. § 411.354(c)(1)(i) (2015).

8 *Ibid*.

9 *Ibid*.

10 "Medicare Program; Physicians' Referrals to Health Care Entities With Which They Have Financial Relationships (Phase III); Final Rule" Federal Register, Vol. 72, No. 171 (September 5, 2007) p. 51028.

11 "Exceptions" 42 C.F.R. § 1001.952(i) (2015).

12 *Ibid*.

13 "Whistle-blower Worries: Hospitals Likely to See More False Claims Suits Tied to Doctor Compensation" By Lisa Schencker, Modern Healthcare, November 21, 2015, http://www.modernhealthcare.com/article/20151121/MAGAZINE/311219980 (Accessed 5/10/16).

14 *Ibid*.

15 "U.S. ex rel. Drakeford v. Tuomey" 792 F.3d 364, 395 (4th Cir. 2015).

16 *Ibid*.

17 "United States ex rel. Drakeford v. Tuomey Healthcare Systems, Inc." 675 F.3d 394, 399 (4th Cir. 2012).

18 *Ibid*.

19 *Ibid*.

20 *Ibid*, p. 406-407.

21 "United States ex rel. Drakeford v. Tuomey Healthcare Systems, Inc." Case No. 10-254 (4th Cir., September 20, 2010), Opposition of the United States of America to Petition by Tuomey Healthcare System, Inc. for Permission to Appeal Interlocutory Order, p. 8-9.

22 "United States ex rel. Drakeford v. Tuomey Healthcare Systems, Inc." 675 F.3d 394, 403 (4th Cir. 2012).

23 *Ibid*.

24 "United States ex rel. Drakeford v. Tuomey Healthcare Systems, Inc." 675 F.3d 394, 406-407 (4th Cir. 2012).

25 *Ibid*.; "Medicare and Medicaid Programs; Physicians' Referrals to Health Care Entities with Which They Have Financial Relationships" Federal Register, Vol. 66, No. 3 (January 4, 2001), p. 941.

26 "United States ex rel. Drakeford v. Tuomey Healthcare System, Inc." Case No. 3:05-CV-2858 (D.S.C. October 15, 2012), Supplement to Expert and Rebuttal Reports, By Kathleen McNamara, p. 15.

27 "U.S. ex rel. Parikh v. Citizens Medical Center" Case No. 6:10-cv-00064, (S.D. TX. September 20, 2013), Memorandum and Order, p. 25. Note that, the physicians were paid a salary by CMC, and thus, it could have been argued by the defendants that under the Stark Law, the flat annual salary constituted neither *direct* nor *indirect* compensation under the Stark Law.

28 *Ibid*, p. 26-27.

29 *Ibid*, p. 27-28.

30 "Texas-Based Citizens Medical Center Agrees to Pay United States $21.75 Million to Settle Alleged False Claims Act Violations" U.S. Department of Justice, April 21, 2015, https://www.justice.gov/opa/pr/texas-based-citizens-medical-center-agrees-pay-united-states-2175-million-settle-alleged (Accessed 3/24/16).

31 Albeit, in the context of an order denying a hospital's motion to dismiss.

32 "Adventist Health System to pay $118.7 million settlement over Stark, False Claims allegations" By Lisa Schencker, Modern Healthcare, September 21, 2015, http://www.modernhealthcare.com/article/20150921/NEWS/150929974 (Accessed 10/9/15).

33 "Florida Hospital District Agrees to Pay United States $69.5 Million to Settle False Claims Act Allegations" U.S. Department of Justice, September 15, 2015, http://www.justice.gov/usao-sdfl/pr/florida-hospital-district-agrees-pay-united-states-695-million-settle-false-claims-act (Accessed 10/9/15); "U.S. ex rel. Reilly v. North Broward Hospital District" Case No. 10-60590-CV (S.D.Fla. September 11, 2012), Relator's Third Complaint under Federal False Claims Act, p. 8.

34 "U.S. ex rel. Reilly v. North Broward Hospital District" Case No. 10-60590-CV (S.D.Fla. September 11, 2012), Relator's Third Complaint under Federal False Claims Act, p. 28-31.

35 *Ibid*, p. 31.

36 "Adventist Health System Agrees to Pay $115 Million to Settle False Claims Act Allegations" By DOJ, September 21, 2015, http://www.justice.gov/opa/pr/adventist-health-system-agrees-pay-115-million-settle-false-claims-act-allegations (Accessed 10/9/15).

37 "U.S. ex rel. Payne v. Adventist Health System et al." Case no. 3:12cv856-W (W.D.N.C. February 13, 2013), Relator's Amended Complaint p. 9-10.

38 *Ibid*, 4-6.

39 *Ibid*, p. 56.

40 *Ibid*, p. 56.

41 *Ibid*, p. 56.

42 "U.S. ex rel. Drakeford v. Tuomey, Amended Order and Opinion," 3:05-2858-MBS (D. S.C. 2013), p. 3.

43 "U.S. ex rel. Parikh v. Citizens Medical Center" Case No. 6:10-cv-00064, (S.D. TX. September 20, 2013), Memorandum and Order, p. 27-28; "United States ex rel. Reilly v. North Broward Hospital District, et al.," Case No. 10-60590-CV (S.D.Fla. September 11, 2012), Relator's Third Amended Complaint Under Federal False Claims Act, p. 32, ¶ 80; "U.S. ex rel. Payne v. Adventist Health System et al." Case no. 3:12cv856-W (W.D.N.C. February 13, 2013), Relator's Amended Complaint p. 60, ¶ 164.

44 "Limitation on Certain Physician Referrals" 42 U.S.C. § 1395nn(a), (e) (2012); "Criminal Penalties for Acts Involving Federal Health Care Programs" 42 U.S.C. § 1320a-7b(b) (2012); "Exceptions" 42 C.F.R. 1001.952(e) (2015).

45 American Lithotripsy Society v. Thompson, 215 F.Supp. 2d 23, 27 (D.D.C. July 12, 2002), p. 4.

46 While the *Tuomey* decision is not on point with the PLP, the decision and case documents of *Tuomey* helps presage, and lay the foundation for, the PLP in later regulatory actions.

47 "Whistle-blower Worries: Hospitals Likely to See More False Claims Suits Tied to Doctor Compensation" By Lisa Schencker, Modern Healthcare, November 21, 2015, http://www.modernhealthcare.com/article/20151121/MAGAZINE/311219980 (Accessed 5/10/16).

48 "Why Hospital-Owned Medical Groups Lose Money" By David N. Gans, MSHA, FACMPE, MGMA Connexion, April 2012, http://www.mgma.com/Libraries/Assets/Practice%20Resources/Publications/MGMA%20Connexion/2012/Data-Mine-Why-hospital-owned-medical-groups-lose-money---MGMA-Connexion-magazine-April-2012.pdf (Accessed 3/29/2016), p. 20.

49 "Whistle-blower Worries: Hospitals Likely to See More False Claims Suits Tied to Doctor Compensation" By Lisa Schencker, Modern Healthcare, November 21, 2015, http://www.modernhealthcare.com/article/20151121/MAGAZINE/311219980 (Accessed 5/10/16).

50 "Fundamentals of the Stark Law and Anti-Kickback Statute" By Asha B. Scielzo, American Health Lawyers Association, Fundamentals of Health Law: Washington, DC, November 2014, https://www.healthlawyers.org/Events/Programs/Materials/Documents/FHL14/scielzo_slides.pdf (Accessed 12/9/2015), p. 9-13, 28-38, 42.

51 "Oxford Dictionary of Economics" By John Black, Oxford University Press: New York, NY, 2002, p. 495.

52 "Principles of Economics" By Alfred Marshall, Eighth Edition, London, England: Macmillan and Co., 1890, Book IV, Chapter XI, p. 232-233.

53 "The Dictionary of Health Economics" By Anthony J. Culyer, Second Edition, Northampton, MA: Edward Elgar Publishing, Inc., 2010 (originally published in 2005), p. 167.

54 "The Nature of the Firm" By R. H. Coase, Economica, New Series, Vol. 4, No. 16 (November 1937), p. 402.

55 "The Dictionary of Health Economics" By Anthony J. Culyer, Second Edition, Northampton, MA: Edward Elgar Publishing, Inc., 2010 (originally published in 2005), p. 168.

56 "Principles of Economics" By Alfred Marshall, Eighth Edition, London, England: Macmillan and Co., 1890, Book IV, Chapter XIII, p. 232-233, 265; "The Nature of the Firm" By R. H. Coase, Economica, New Series, Vol. 4, No. 16 (November 1937), p. 388, 392.

57 "The Value of Provider Integration" American Hospital Association, March 2014, http://www.aha.org/content/14/14mar-provintegration.pdf (Accessed 1/14/16) p. 2.

58 "Integration and Task Allocation: Evidence from Patient Care" By Guy David et al., National Bureau of Economic Research, September 2011, http://www.nber.org/papers/w17419.pdf (Accessed 3/29/2016), p. 2.

59 "Integration and coordination in healthcare: An operations management view" by Paul Lillrank, Journal of Integrated Care, February 2012, https://www.researchgate.net/publication/235297735_Integration_and_coordination_in_healthcare_An_operations_management_view (Accessed 4/28/2016) p. 11.

60 "The Value of Provider Integration" American Hospital Association, March 2014, http://www.aha.org/content/14/14mar-provintegration.pdf (Accessed 1/14/16) p. 2; "Integrated Health Care: Literature Review" Essential Hospitals Institute, May 2013, http://essentialhospitals.org/wp-content/uploads/2013/12/Integrated-Health-Care-Literature-Review-Webpost-8-22-13-CB.pdf (Accessed 3/14/16) p. 21; "Cost, Quality, and Value: The Changing Political Economy of Dialysis Care" By Jonathan Himmelfarb, et al., Journal of the American Society of Nephrology, Vol. 18, No. 7 (July 2007) p. 2023.

61 "Barriers to Health Care Access Among the Elderly and Who Perceives Them*"* By Annette L. Fitzpatrick, PhD, MA, Neil R. Powe, MD, MPH, MBA, Lawton S. Cooper, MD, MPH, Diane G Ives, MPH, and John A. Robbins, MD, American Journal of Public Health, Vol. 94, No. 10 (October 2004), p. 1790.

62 "The Effect of Hospital-Physician Integration on Health Information Technology Adoption" By Eric Lammers, Health Economics, Vol. 22, No. 12 (2013) p. 1226.

63 "Horizontal and Vertical Integration of Physicians: A Tale of Two Tails" By Lawton Robert Burns et al., Advances in Health Care Management, Vol. 15 (2013), https://council.brandeis.edu/pdfs/2015/Sessions/Panel I/BurnsGoldsmithSen.Horizontal and Vertical Integration of Physicians.Chapter and Appendix Combined.pdf (Accessed 3/29/2016), p. 67, 69.

64 "The Triple Aim: Care, Health, and Cost" By Donald M. Berwick, et al., Health Affairs, Vol. 27, No. 3 (2008) p. 763; "Integrated Delivery Systems: The Cure for Fragmentation" By Alain C. Enthoven, Ph.D., American Journal of Managed Care, Vol. 15, No. 10 (December 2009) p. S286.

65 "The Effect of Operational Slack, Diversification, and Vertical Relatedness on the Stock Market Reaction to Supply Chain Disruptions" By Kevin B. Hendricks, et al., Journal of Operations Management, Vol. 27, No. 3 (2009) p. 234.

66 "St. Elizabeth's Hospital – Project Description Review" Health Facilities and Services Review Board, State of Illinois, December 16, 2014, http://www.hfsrb.illinois.gov/Dec14sbr/11.%2014-043%20St%20%20Elizabeth's%20Hospital%20Belleville_2_.pdf (Accessed 3/15/16); "Special Memorandum - Certificate of Need Modernization: Core Principles" Cabinet for Health and Family Services, State of Kentucky, October 8, 2014, http://chfs.ky.gov/ohp/con/conmod.htm (Accessed 4/12/16).

67 "Valuation of Healthcare Intangible Assets in the Absence of Positive Net Cash Flows" By Robert James Cimasi, MHA, ASA, FRICS, MCBA, CVA, CM&AA, Todd A. Zigrang, MBA, MHA, ASA, FACHE, John R. Chwarzinski, MSF, MAE, and Jonathan T. Wixom, MBA, Business Valuation Review, Vol. 34, No. 3 (Fall 2015) p. 140.

68 "The Appraisal of Real Estate" Appraisal Institute, 10th Edition: Chicago, IL, 1992 (originally published in 1951), p. 24.

69 "The Vertical Integration of Production: Market Failure Considerations" By Oliver E. Williamson, The American Economic Review, Vol. 61, No. 2 (May 1971) p. 118-119.

70 "Acquisition by One Corporation of Stock of Another" 15 U.S.C. § 18 (2014).

71 "Saint Alphonsus Medical Center-Nampa Inc. v. St. Luke's Health System, Ltd." 778 F.3d 775 (9th Cir. 2015).

72 *Ibid*, p. 784 (9th Cir. 2015); "Saint Alphonsus Medical Center-Nampa, Inc. v. St. Luke's Health System, Ltd." Case No. 1:12-CV-00560-BLW (Dist. Ct. Idaho 2014), p. 7.

73 "Saint Alphonsus Medical Center-Nampa Inc. v. St. Luke's Health System, Ltd." 778 F.3d 775, 785 (9th Cir. 2015); "Saint Alphonsus Medical Center-Nampa, Inc. v. St. Luke's Health System, Ltd." Case No. 1:12-CV-00560-BLW (Dist. Ct. Idaho 2014), p. 7.

74 *Ibid*, p. 8.

75 "Saint Alphonsus Medical Center-Nampa Inc. v. St. Luke's Health System, Ltd." 778 F.3d 775, 791 (9th Cir. 2015).

76 "The Effect of Hospital-Physician Integration on Health Information Technology Adoption" By Eric Lammers, Health Economics, Vol. 22, No. 12 (2013) p. 1226.

77 "Saint Alphonsus Medical Center-Nampa Inc. v. St. Luke's Health System, Ltd." 778 F.3d 775, 791 (9th Cir. 2015); "Saint Alphonsus Medical Center-Nampa, Inc. v. St. Luke's Health System, Ltd." Case No. 1:12-CV-00560-BLW (Dist. Ct. Idaho 2014), p. 17.

78 "Saint Alphonsus Medical Center-Nampa Inc. v. St. Luke's Health System, Ltd." 778 F.3d 775, 791 (9th Cir. 2015).

79 "Horizontal and Vertical Integration of Physicians: A Tale of Two Tails" By Lawton Robert Burns et al., Advances in Health Care Management, Vol. 15 (2013), https://council.brandeis.edu/pdfs/2015/Sessions/Panel I/BurnsGoldsmithSen.Horizontal and Vertical Integration of Physicians.Chapter and Appendix Combined.pdf (Accessed 3/29/2016), p. 83.

80 "Understanding Health Care Financial Management: Text, Cases, and Models" By Louis C. Gapenski, 7th Edition, Chicago, IL: Health Administration Press, 2015, p. 45-46.

81 "Horizontal and Vertical Integration of Physicians: A Tale of Two Tails" By Lawton Robert Burns et al., Advances in Health Care Management, Vol. 15 (2013), https://council.brandeis.edu/pdfs/2015/Sessions/Panel I/BurnsGoldsmithSen.Horizontal and Vertical Integration of Physicians.Chapter and Appendix Combined.pdf (Accessed 3/29/2016), p. 84; "The Industrial Organization of Health Care Markets" By Martin Gaynor et al., National Bureau of Economic Research, January 2014, http://www.nber.org/papers/w19800 (Accessed 3/29/2016), p. 46, 48.
82 "Healthcare Valuation: The Financial Appraisal of Enterprises, Assets, and Services" By Robert James Cimasi, MHA, ASA, FRICS, MCBA, AVA, CM&AA, John Wiley & Sons: Hoboken, NJ, 2014, Volume 2, p. 18.
83 *Ibid*.
84 "Oxford Dictionary of Economics" By John Black, Oxford University Press: New York, NY, 2002, p. 495.
85 *Ibid*, p. 212.
86 "Integrated Health Care: Literature Review" Essential Hospitals Institute, May 2013, http://essentialhospitals.org/wp-content/uploads/2013/12/Integrated-Health-Care-Literature-Review-Webpost-8-22-13-CB.pdf (Accessed 3/14/16), p. 4.
87 "Vertical Integration" By Ovidijus Jurevicius, Strategic Management Insight, April 13, 2013, https://www.strategicmanagementinsight.com/topics/vertical-integration.html (Accessed 5/25/2016); "Horizontal Integration" By Ovidijus Jurevicius, Strategic Management Insight, March 24, 2013, https://www.strategicmanagementinsight.com/topics/horizontal-integration.html (Accessed 5/25/2016).
88 "CMS Finalizes Bundled Payment Initiative for Hip and Knee Replacements" U.S. Department of Health and Human Services, November 16, 2015, http://www.hhs.gov/about/news/2015/11/16/cms-finalizes-bundled-payment-initiative-hip-and-knee-replacements.html (Accessed 12/1/2015).
89 "Patient Protection and Affordable Care Act" Pub. L. No. 111-148, § 3022, 124 Stat. 119, 395 (March 23, 2010); "Market Power, Transaction Costs, and the Entry of Accountable Care Organizations in Health Care" By H. E. Frech III, et al., Review of Industrial Organization, Vol. 47, No. 2 (2015) p. 168.
90 "OIG Advisory Opinion No. 12-22" Office of Inspector General, U.S. Department of Health and Human Services, January 7, 2013, http://www.oig.hhs.gov/fraud/docs/advisoryopinions/2012/AdvOpn12-22.pdf (Accessed 3/15/2016) p. 13-14; "OIG Advisory Opinion No. 01-17" Office of Inspector General, U.S. Department of Health and Human Services, October 17, 2001, http://oig.hhs.gov/fraud/docs/advisoryopinions/2001/ao01-17.pdf (Accessed 3/15/2016) p. 8.
91 "St. Elizabeth's Hospital – Project Description Review" Health Facilities and Services Review Board, State of Illinois, December 16, 2014, http://www.hfsrb.illinois.gov/Dec14sbr/11.%2014-043%20St%20%20Elizabeth's%20Hospital%20Belleville_2_.pdf (Accessed 3/15/16); "Renovation-Replacement of Acute Care Facilities and Services" West Virginia Health Care Authority, June 2, 2010, http://www.hca.wv.gov/certificateofneed/Documents/CON_Standards/RenovAcute.pdf (Accessed 4/12/16); "Special Memorandum - Certificate of Need Modernization: Core Principles" Cabinet for Health and Family Services, State of Kentucky, October 8, 2014, http://chfs.ky.gov/ohp/con/conmod.htm (Accessed 4/12/16).
92 "A Guide to Physician Integration Models for Sustainable Success," American Hospital Association, September 2012, http://www.hpoe.org/Reports-HPOE/guide_to_physician_integration_models_for_sustainable_success.pdf (Accessed 5/19/2014), p 1-5; "Physician Compensation and Production Survey: 2005 Report Based on 2004 Data" Medical Group Management Association, 2005, p. 25; "2015 Physician Compensation and Production Report: Based on 2014 Data" Medical Group Management Association, 2015, p. 202.
93 "Physician Compensation and Production Survey: 2005 Report Based on 2004 Data" Medical Group Management Association, 2005, p. 25.
94 "2015 Physician Compensation and Production Report: Based on 2014 Data" Medical Group Management Association, 2015, p. 202.
95 "Physician Compensation and Production Survey: 2005 Report Based on 2004 Data" Medical Group Management Association, 2005, p. 25; "2015 Physician Compensation and Production Report: Based on 2014 Data" Medical Group Management Association, 2015, p. 202.
96 "Principles of Economics" By Alfred Marshall, Eighth Edition, New York, NY: Cosimo, Inc., 2009 (originally published in 1890), p. 25.
97 *Ibid*.
98 *Ibid*.
99 "U.S. ex rel. Parikh v. Citizens Medical Center" Case No. 6:10-cv-00064 (S.D. TX. September 20, 2013), Memorandum and Order, p. 28.
100 "United States ex rel. Reilly v. North Broward Hospital District, et al.," Case No. 10-60590-CV (S.D.Fla. September 11, 2012), Relator's Third Amended Complaint Under Federal False Claims Act, p. 31.
101 "U.S. ex rel. Payne v. Adventist Health System et al." Case no. 3:12cv856-W (W.D.N.C. February 13, 2013), Relator's Amended Complaint, p. 56.
102 "Economics is a Serious Subject: The Apologia of an Economist to the Mathematician, the Scientist and the Plain Man" By Joan Robinson, W. Heffer & Sons Ltd.: Cambridge, England, 1932, p. 6.
103 *Ibid*.
104 "The Dictionary of Health Economics" By Anthony J. Culyer, Second Edition, Northampton, MA: Edward Elgar Publishing, Inc., 2010 (originally published in 2005), p. 437.
105 *Ibid*.
106 "Healthcare Valuation: The Financial Appraisal of Enterprises, Assets, and Services" By Robert James Cimasi, MHA, ASA, FRICS, MCBA, AVA, CM&AA, John Wiley & Sons: Hoboken, NJ, 2014, Volume 2, p. 12.
107 "Microeconomics with Calculus" By Brian R. Binger and Elizabeth Hoffman, Second Edition, Reading, MA: Addison Wesley Longman, Inc., 1998, p. 107, 109; "The Expected Utility Model: Its Variants, Purposes, Evidence and Limitations" By Paul J. H. Schoemaker, Journal of Economic Literature, Vol. 20, No. 2 (June 1982), https://www.researchgate.net/profile/Paul_Schoemaker/publication/4721197_The_Expected_Utility_Model_Its_Variants_Purposes_Evidence_and_Limitations/links/0c9605325c1417b1e2000000.pdf (Accessed 5/16/2016), p. 529.
108 "The Expected Utility Model: Its Variants, Purposes, Evidence and Limitations" By Paul J. H. Schoemaker, Journal of Economic Literature, Vol. 20, No. 2 (June 1982), https://www.researchgate.net/profile/Paul_Schoemaker/publication/4721197_The_Expected_Utility_Model_Its_Variants_Purposes_Evidence_and_Limitations/links/0c9605325c1417b1e2000000.pdf (Accessed 5/16/2016), p. 529.
109 In this usage, "*tractable*" refers to an ***economic assumption*** that is "*manageable*" by economic analytical techniques. "Economics is a Serious Subject: The Apologia of an Economist to the Mathematician, the Scientist and the Plain Man" By Joan Robinson, W. Heffer & Sons Ltd.: Cambridge, England, 1932, p. 6.
110 *Ibid*.
111 "U.S. ex rel. Payne v. Adventist Health System et al." Case no. 3:12cv856-W (W.D.N.C. February 13, 2013), Relator's Amended Complaint, p. 56.
112 "Why Hospital-Owned Medical Groups Lose Money" By David N. Gans, MSHA, FACMPE, MGMA Connexion, April 2012, http://www.mgma.com/Libraries/Assets/Practice%20Resources/Publications/MGMA%20Connexion/2012/Data-Mine-Why-hospital-owned-medical-groups-lose-money---MGMA-Connexion-magazine-April-2012.pdf (Accessed 3/29/2016), p. 20.
113 *Ibid*.
114 "Economics is a Serious Subject: The Apologia of an Economist to the Mathematician, the Scientist and the Plain Man" By Joan Robinson, W. Heffer & Sons Ltd.: Cambridge, England, 1932, p. 6.
115 "Macroeconomic Models, Forecasting, and Policymaking" By Andrea Pescatori and Saeed Zaman, Federal Reserve Bank of Cleveland, October 5, 2011, https://www.clevelandfed.org/newsroom-and-events/publications/economic-commentary/2011-economic-commentaries/ec-201119-macroeconomic-models-forecasting-and-policymaking.aspx (Accessed 5/25/2016).
116 "Principles of Economics" By Alfred Marshall, Eighth Edition, New York, NY: Cosimo, Inc., 2009 (originally published in 1890), p. 25.
117 *Ibid*, p. 32.
118 "The Dictionary of Health Economics" By Anthony J. Culyer, Second Edition, Northampton, MA: Edward Elgar Publishing, Inc., 2010 (originally published in 2005), p. 462.
119 "The Appraisal of Real Estate" Appraisal Institute, 10th Edition: Chicago, IL, 1992 (originally published in 1951), p. 25, 34.
120 "The Complexities of Physician Supply and Demand: Projections from 2013-2025" IHS, Inc., Report for the Association of American Medical Colleges, March 2015, https://www.aamc.org/download/426242/data/ihsreportdownload.pdf?cm_mmc=AAMC-_-ScientificAffairs-_-PDF-_-ihsreport (Accessed 4/28/2015), p. v.
121 "A Guide to Physician Integration Models for Sustainable Success" Health Research & Educational Trust, American Hospital Association, September 2012, http://www.hpoe.org/Reports-HPOE/guide_to_physician_integration_models_for_sustainable_success.pdf (Accessed 5/27/2016), p. 3.
122 "The Tangled Hospital-Physician Relationship" By Jeff Goldsmith, Nathan Kaufman, and Lawton Burns, Health Affairs, May 9, 2016, http://healthaffairs.org/blog/2016/05/09/the-tangled-hospital-physician-relationship/ (Accessed 5/16/2016).
123 "Microeconomics with Calculus" By Brian R. Binger and Elizabeth Hoffman, Second Edition, Reading, MA: Addison Wesley Longman, Inc., 1998, p. 107, 109; "Health Care Economics" By Paul J. Feldstein, 6th Edition, Clifton Park, NY: Thomson Delmar Learning, 2005 (originally published in 1986), p. 116.
124 "The Appraisal of Real Estate" Appraisal Institute, 10th Edition: Chicago, IL, 1992 (originally published in 1951), p. 24.
125 *Ibid*.
126 "Healthcare Valuation: The Financial Appraisal of Enterprises, Assets, and Services" By Robert James Cimasi, MHA, ASA, FRICS, MCBA, AVA, CM&AA, John Wiley & Sons: Hoboken, NJ, 2014, Volume 2, p. 10.
127 "Principles of Economics" By Alfred Marshall, Eighth Edition, New York, NY: Cosimo, Inc., 2009 (originally published in 1890), p. 25.
128 *Ibid*, p. 200. Marshall notes that "*Writers on social science from the time of Plato downwards have delighted to dwell on the increased efficiency which labour derives from organization.*"
129 *Ibid*, p. 25, 200.
130 "Mathematical Psychics: An Essay on the Application of Mathematics to the Moral Sciences" By F.Y. Edgeworth, MA, C. Kegan Paul & Co.: London, England, 1881.
131 *Ibid*, p. vi.
132 *Ibid*, p. 20.
133 *Ibid*, p. 28-29.
134 *Ibid*, p. vi.
135 "The Nature of the Firm" By R. H. Coase, Economica, New Series, Vol. 4, No. 16 (November 1937).
136 *Ibid*, p. 389, 392.
137 *Ibid*, p. 390, 392.
138 *Ibid*, p. 392.
139 "The Valuation of Property: A Treatise on the Appraisal of Property for Different Legal Purposes" By James C. Bonbright, William s. Hein & Co., Inc.: Buffalo, NY, 1937.
140 *Ibid*, p. 71.
141 *Ibid*, p. 71-72; "Healthcare Valuation: The Financial Appraisal of Enterprises, Assets, and Services" By Robert James Cimasi, MHA, ASA, FRICS, MCBA, AVA, CM&AA, John Wiley & Sons: Hoboken, NJ, 2014, Volume 2, p. 8.
142 "The Nature of the Firm" By R. H. Coase, Economica, New Series, Vol. 4, No. 16 (November 1937), p. 390, 392.
143 "Competition in Health Care: It Takes Systems To Pursue Quality And Efficiency" By Alain C. Enthoven and Laura A. Tollen, Health Affairs, September 7, 2005, http://content.healthaffairs.org/content/early/2005/09/07/hlthaff.w5.420.short (Accessed 6/3/16).
144 *Ibid*.
145 "On Competition: Updated and Expanded Edition" By Michael E. Porter, Boston, MA: Harvard Business Review, 2008, p. 457.
146 *Ibid*, p. 454-455.
147 "Principles of Economics" By Alfred Marshall, Eighth Edition, New York, NY: Cosimo, Inc., 2009 (originally published in 1890), p. 25.
148 "Medicare and Medicaid Programs: Physicians' Referrals to Health Care Entities with which They Have Financial Relationships," Federal Register, Vol. 63, No 6 (January 9, 1998) p. 1700.
149 "Medicare Program: Physicians' Referrals to Healthcare Entities with which They Have Financial Relationships (Phase II)," Federal Register, Vol. 69, No. 59 (March 26, 2004) p. 16093.
150 "Valuation of Healthcare Intangible Assets in the Absence of Positive Net Cash Flows" By Robert James Cimasi, MHA, ASA, FRICS, MCBA, CVA, CM&AA, Todd A. Zigrang, MBA, MHA, ASA, FACHE, John R. Chwarzinski, MSF, MAE, and Jonathan T. Wixom, MBA, Business Valuation Review, Vol. 34, No. 3 (Fall 2015) p. 144.
151 "Healthcare Valuation: The Financial Appraisal of Enterprises, Assets, and Services" By Robert James Cimasi, MHA, ASA, FRICS, MCBA, AVA, CM&AA, John Wiley & Sons: Hoboken, NJ, 2014, Volume 2, p. 321, 946; "Antitrust Implications of Competition Between Physician-Owned Facilities and General Hospitals: Competition or Exclusion?" By William E. Berlin, Esq., The Health Lawyer, Volume 20, No. 5 (June 2008), p. 9; "Helping Patients Heal Through the Arts" By Amanda Gardner, CNN, July 5, 2013, http://www.cnn.com/2013/07/05/health/arts-in-medicine/ (Accessed 8/18/14) p. 1.
152 "OIG Supplemental Compliance Program Guidance for Hospitals" Federal Register, Vol. 70, No. 19 (January 31, 2005) p. 4866.
153 "Exemption Requirements – Section 501(c)(3) Organizations" Internal Revenue Service, 1/22/2014, http://www.irs.gov/Charities-%26-Non-Profits/Charitable-Organizations/Exemption-Requirements-Section-501(c)(3)-Organizations (Accessed 1/22/14).
154 "Exempt Purposes – Internal Revenue Code Section 501(c)(3)" Internal Revenue Service, 10/30/2013, http://www.irs.gov/Charities-%26-Non-Profits/Charitable-Organizations/Exempt-Purposes-Internal-Revenue-Code-Section-501(c)(3) (Accessed 1/22/14).
155 "IRS Revenue Ruling 69-545, 1969-2 C.B. 117" Internal Revenue Service, http://www.irs.gov/pub/irs-tege/rr69-545.pdf (Accessed 1/22/14).
156 "St. Elizabeth's Hospital – Project Description Review" Health Facilities and Services Review Board, State of Illinois, December 16, 2014, http://www.hfsrb.illinois.gov/Dec14sbr/11.%2014-043%20St%20%20Elizabeth's%20Hospital%20Belleville_2_.pdf (Accessed 3/15/16); "Special Memorandum - Certificate of Need Modernization: Core Principles" Cabinet for Health and Family Services, State of Kentucky, October 8, 2014, http://chfs.ky.gov/ohp/con/conmod.htm (Accessed 4/12/16).
157 "Economics is a Serious Subject: The Apologia of an Economist to the Mathematician, the Scientist and the Plain Man" By Joan Robinson, W. Heffer & Sons Ltd.: Cambridge, England, 1932, p. 13-14.
158 *Ibid*.
159 "U.S. Health Care Ranked Worst in the Developed World" By Melissa Hellmann, Time, June 17, 2014, http://time.com/2888403/u-s-health-care-ranked-worst-in-the-developed-world/ (Accessed 5/27/2016); "Mirror, Mirror on the Wall: How the Performance of the U.S. Health Care System Compares Internationally" By Karen Davis et al., The Commonwealth Fund, June 2014, http://www.commonwealthfund.org/~/media/files/publications/fund-report/2014/jun/1755_davis_mirror_mirror_2014.pdf (Accessed 5/27/2016).