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Introduction

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Sincerely,

The Editors

Remapping Global Business Through the Reshaping of Trade

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Abstract

The aim for this paper is to identify some of the forces reshaping trade and remapping global business. While the popular press focuses on traditional trade in finished goods, this article highlights changes in globalization due to the faster growing areas of trade in global value chains and trade in services. In addition, digitization and new technologies will continue to impact trade to transform the way we trade and what is traded. This is important to identify in order to prepare government and company strategists to prepare policies and business models for the opportunities and challenges associated with these changes to globalization.

In addition, the paper explores in more detail the reduction in transaction costs for trade due to digital and other technologies identifying best practice tools and measurements for streamlining customs and border management. With a focus on the air cargo mode of transportation, the paper concludes with an original case study on SkyBridge Arizona highlighting the US and Mexico working together to reduce transaction costs through simplifying customs procedures and improving transparency.

Introduction

The discussion of globalization and trade is often painted as a dichotomy between two ends of a debate spectrum centered on the flow of trade in finished goods between countries. One end of the debate proposes an end to globalization with articles questioning "Will Trump End Globalization?" (Pylas and Keaton, 2017) and "Will Brexit Mark the End of Globalization?" (Lee, 2016)? The other end of the spectrum counters this prediction that globalization will collapse instead pointing to a world that is more globalized than ever before through increased trade flows (Ghemawat and Altman, 2019) and arguing that globalization is not in retreat (Lund and Tyson, 2018).

However, this debate representing two ends of a spectrum presents a false dichotomy masking a fundamental and profound shift in globalization and trade. While one shift noted in the literature is the remapping of global business with a change in the geography of global demand of finished goods towards emerging markets (Gereffi and Sturgeon, 2013; Mancini et al., 2017), there is a greater and more significant shift as well. This shift is the reshaping of trade based on 1) trade in global value chains, 2) trade in services and 3) the impact of digital and next-generation technologies. Understanding the shift and reshaping of trade is important for government policy makers and businesses to prepare for the transformation in globalization.

One of the impacts of digital technologies is the ability to reduce transaction costs and facilitate more trade between countries especially in the area of border and customs administration. Instead of bottlenecks at the border with customs, digital customs declaration processing can reduce time in customs by 70 percent. Digital tools allow for much greater efficiency and transparency at the border and new measurements are developed to gauge progress in trade facilitation. Particular attention for measuring trade facilitation is given to the transport mode of air cargo due to the strong association with global value chains. SkyBridge Arizona provides an example of the first air cargo hub in the US housing joint customs with both US and Mexican customs agents working together to reduce transaction costs through simplifying customs procedures and improving transparency.

Reshaping of Trade

Global Value Chains

Much of the current focus in the trade discussion is on tariffs and historical trade in finished goods. However, overall trade has shifted from finished goods to where approximately two-thirds of world trade now is involved in intermediary goods as part of a value chain that cross borders during the production process (Dollar, 2017). These intermediary goods that are part of the production process are referred to as global value chains (GVCs) and include all the myriad of activities and inputs used to create a final good or service. GVCs allow countries to specialize in specific tasks as part of the various stages of the production process (such as component production or assembly) in the flow of producing finished goods such as automobiles, smartphones and aircraft.

GVC trade is the fastest growing type of trade over the last two decades and the share of developing and emerging markets as a percentage of the GVCs is increasing leading to the conclusion by Banga (2014) that better connectivity leads to direct development outcomes. From a transportation perspective, the speed, reliability, and security of air cargo plays a particularly

important role allowing the cross-border movement of component parts that are key to GVCs and their supply chains. While component parts are relatively small, they carry higher value attributing to air cargo representing less than 1% of world trade by volume, but more than 35% by value (Shephard et al., 2016). With the shift of trade in value chains, new statistics on "value added in trade" were created to capture this shift in trade (Dollar, 2017; Shepherd et al., 2016).

Servicification of Trade

Like the discussion on finished goods versus goods as part of a value chain, the discussion on trade usually only focuses on trade in goods. However, the "servicification" of trade through the flow of services across borders now plays a much bigger role in tying the global economy together. Not only is trade in services growing upwards to 60 percent faster than trade in goods, but services are creating value far beyond what national accounts measure at 23 percent. Traditional trade statistics do not capture the full scope of services in global trade by not measuring the intracompany transfers of intangibles or free digital services offered globally (McKinsey, 2019). With these activities included, some estimates put trade in services as equal or more than trade in goods.

In addition, trade in goods and services are blurring as they are increasing bundled together with the "everything as a service" business model as companies try to strategically capture more global value through services (Miroudot and Cadestin, 2017). Across different global value chains including manufacturing, more of the percentage of value in trade is coming from services as this shift offers advantages such as: "smoothing cyclicality in sales, providing higher-margin revenue streams, and enabling new sales or design ideas due to closer interaction with customers" (McKinsey, 2019). As more business models shift to offering services, companies will continue to look at performance-based service contracts across their supply chain.

Digital Globalization and New Technologies

The trend for growth of trade in services is expected to continue as digital and virtual technologies help increase the global reach and range for these services into the future. For example, the 5G network will increase speeds by 20-25 times the current connection speed allowing for greater services to be delivered across borders especially in the healthcare industry. These digital technologies have contributed to the term "digital globalization" and the flow of information measured at an increase of upwards to 300 percent in 2017 (Ghemawat and Altman, 2019; McKinsey, 2016).

Due to the exponential rise in digital information and bandwidth, new digital technologies such as artificial intelligence, the internet of things (IoT), robotics and additive manufacturing (3D printing) are now possible and have started to impact global value chains. They have the potential to transform the way we trade and what is traded as well as the location and organization within global value chains (World Trade Report, 2018; Strange and Zucchella, 2017). As these technologies become more prevalent in GVCs, their net impact is unclear as they will create new opportunities and shift production networks significantly around the globe.

One estimate is these technologies will further dampen trade in goods while boosting trade in services over the next decade (World Trade Report, 2018), while another author forecasts that 3D printing alone could cut overall world trade by between 25-40 percent over the next 20 years (Leering, 2017). McKinsey (2019) categorizes the impact digitization and new technologies have

on the reshaping of trade by placing their impact into three categories: 1) reducing transaction cost, 2) altering production processes with production closer to the consumer and 3) creating and transforming products and services. The impact with the most research in the literature is on the impact to trade with digitization and technology to reduce transaction costs.

Reducing Transaction Costs and Trade Facilitation

The lowering of trade transaction costs is if often referred to as trade facilitation and refers to any measure that contributes to lowering trade transaction costs and creating standard efficiencies (Global Enabling Trade Report, 2016). Studies show the positive impact on reshaping trade with a reduction in transactions costs. For every 1 percent reduction in trade costs, Djankov et al. (2010) points to a 0.4 percent increase in trade flows, while Hummels (2001) revealed a reduction in international shipping times by one day was associated with an increase in trade by 0.8 percent. Research by the Organization for Economic Cooperation and Development (OECD) also indicates that a 1 percent reduction in trade transaction costs, measured as a proportion of the value of world trade, could lead to an increase in world income of around US$40 billion. (Smith et al., 2009).

Yet, according to WTO estimates, transaction costs from trade still add up to more than $2 trillion annually with two-thirds of that amount a result of border and customs procedures (Lee, 2014; UNCTAD, 2013). A study by the World Economic Forum found that if countries improved performance in terms of border administration and services to half of the global best practice, the result would yield an increase of approximately US$ 1.6 trillion (14.5%) in global exports and of approximately US$ 2.6 trillion (4.7%) in global GDP (Global Enabling Trade Report, 2016). In fact, several empirical studies show that the gains in global trade from smoother border procedures could be significantly higher than the gains from tariff reduction (Anderson et al., 2004; Lee, 2014).

The OECD finds trade facilitation activities with the largest impact on trade include a focus on border procedures with expediting border documentation, process simplification (including automation) and enhanced customs transparency (World Trade Report, 2018). The decline in trade costs can be especially beneficial for small and medium size firms (SMEs) from developing countries to increase their global trade, yet "cumbersersome customs procedures" impact and weight most heavily on [SMEs] from developing countries (World Trade Report, 2018).

For example, Volpe Martinicus et al. (2015) found that a 10 percent increase in customs delays in Uruguay resulted in a 3.8 percent decline in exports, while Djankov et al. (2010) showed an additional day's delay was equivalent to moving it away from its trading partners by about 70 kilometres (43 miles). Table A shows the time and costs spent in customs compliance for both exports and imports across regions with the highest bottlenecks and subsequent time and cost at the border in the poorest regions of the world (World Trade Report, 2018).
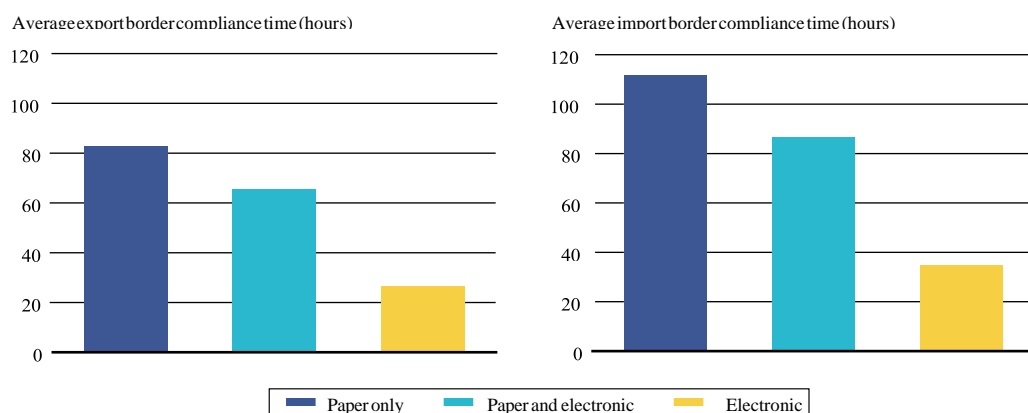
Table A: Border bottlenecks according to region				
	Exports		**Imports**	
Region	**Time spent in compliance (hours)**	**Cost of compliance (US$)**	**Time spent in compliance (hours)**	**Cost of compliance (US$)**
East Asia and the Pacific	124.1	499.6	136.1	542.4
Europe and Central Asia	55.9	305.2	53.2	279.8
Latin America and Caribbean	115.8	636.9	144.3	803.5
Middle East and North Africa	136.9	708	206.8	806.9
(OECD) high-income countries	15.1	185.3	12.2	137.2
South Asia	136.4	549.3	218.5	979.6
Sub-Saharan Africa	187.9	807.2	239.4	986.9

Table A: Border and Customs Bottlenecks

While AI applications could help to reduce errors rates in customs processing and overcome language barriers and blockchain promises further reductions in barriers (McKinsey, 2019; World Trade Report, 2018), basic digital systems can dramatically reduce the time spent on customs compliance. Time spent in border compliance falls by more than 70 percent for both imports and exports when customs declarations can be submitted and processed digitally as shown in Figure 1.

Figure 1: Gains from the digitalization of customs documentation

Average export border compliance time (hours)

Average import border compliance time (hours)

Paper only   Paper and electronic   Electronic

Source: World Bank (2017).

Figure 1: Digitization Gains in Customs

This suggests that even the use of simple digital technologies can go a long way to reducing transaction costs in trade and facilitating trade. Two of the main digital tools are the Electronic Data Interchange (EDI) system and the Electronic Single Window (ESW). The EDI simply allows trade-related documents to be transferred electronically, while the ESW lets trade stakeholders submit documentation through a single point of entry (or window) to complete customs procedures. While many countries now use EDI systems, the use of ESW lags behind across regions based often on economic development of the region (World Trade Report, 2018).

Measuring Trade Facilitation

The World Trade Organization has proposed for countries to adopt a Trade Facilitation Agreement (TFA) defining the scope of trade facilitation as expediting the movement, release and clearance of goods, including goods in transit. The TFA aims to streamline and modernize import and export processes further by removing inefficiencies and encouraging the adoption of ESW or the single window system. Studies have estimated the TFA could reduce world trade costs by half globally and provide more than a $1 trillion boost to the world economy (Global Enabling Trade Report, 2016). An important part of TFA is a focus on how to measure the facilitation of trade and the reduction in trade transaction costs.

One proposed method to measure the TFA is through the Enabling Trade Index (ETI). The ETI assesses the level and type of institutions, policies, infrastructures and services within countries facilitating the cross-border free flow of goods and Figure 2 below highlight the ETI framework (Global Enabling Trade Report, 2016):
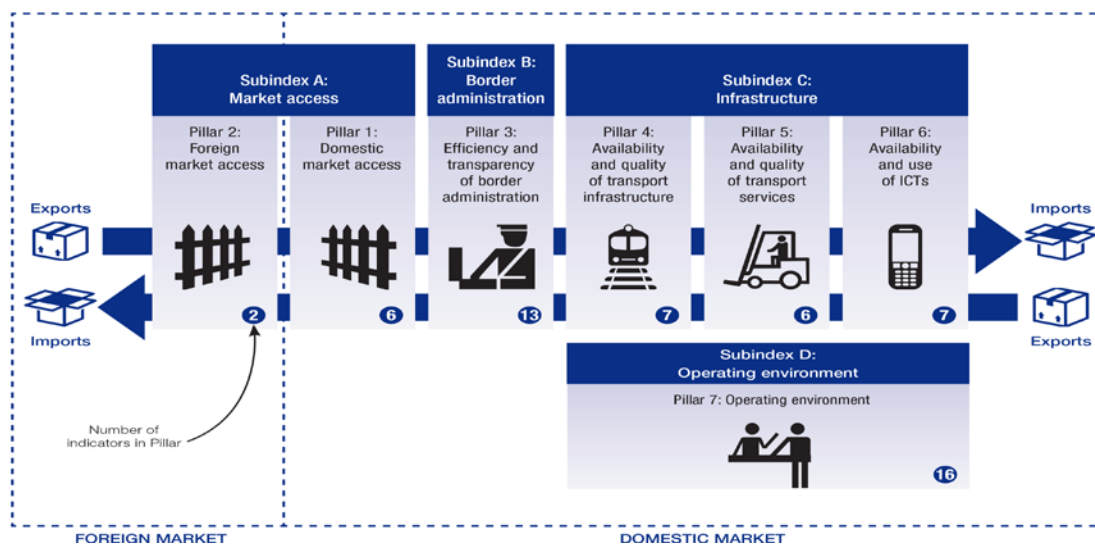

Figure 2: ETI Framework

The part of the ETI framework focused on customs and border procedures is pillar 3 with the efficiency and transparency of border administration. This pillar measures the efficiency in the use of time, number of documents and the transparency of the process. Focusing on the border

administration is recommended as a first step in facilitating trade between countries as the impact is potentially very large in respect to time and cost while it is relatively quicker and at a lower cost than other changes.

Measuring Air Cargo Facilitation

While the ETI is a useful tool to analyze general trade facilitation, customs and border processes can vary depending on the mode of transport and more specific measurements based on mode of transport are needed. Countries that do better on general indicators of trade facilitation have been shown to engage in more trade in intermediate inputs (Saslavsky and Shepherd, 2014), which is a core part of GVC participation. The speed, reliability and security of the air cargo mode of transport is key for GVC participation with a focus on high value and time sensitive goods flows such as global value chain (GVC)-related trade or perishable products.

Air cargo was the mode of transport used in designing the ETI and two other more specific air cargo indices were recently developed to measure air cargo performance: Air Trade Facilitation Index (ATFI) and eFreight Friendliness Index (EFFI). Both ATFI and EFFI were developed to assess the effectiveness of smart border regulation and customs services specifically for the air cargo industry. Both the ATFI and EFFI showed a one percentage point increase resulted in almost a 2.5 percent increase in trade and analysis shows that both indices are strongly associated with increased GVC integration (Shepherd et al., 2016).

The EFFI specifically focuses on the digital processing of cargo and the reduction in transportation costs due to e-freight. In addition to reducing transaction costs, customs authorities will benefit from e-freight because more targeted screening is now possible as well as more focused risk management due to the submission of customs information digitally in advance of goods arriving. Cost savings from e-freight alone could represent an almost 2 percent reduction in the overall cost of moving goods from shipper to consignee via the air cargo supply chain (Smith et al., 2009).

Air Cargo Hub: SkyBridge Arizona

In addition to savings from e-freight, countries are looking at more initiatives to facilitate trade by reducing transaction costs at the border with customs. Figure 3 indicates the traditional air cargo supply chain network (Smith et al., 2009):
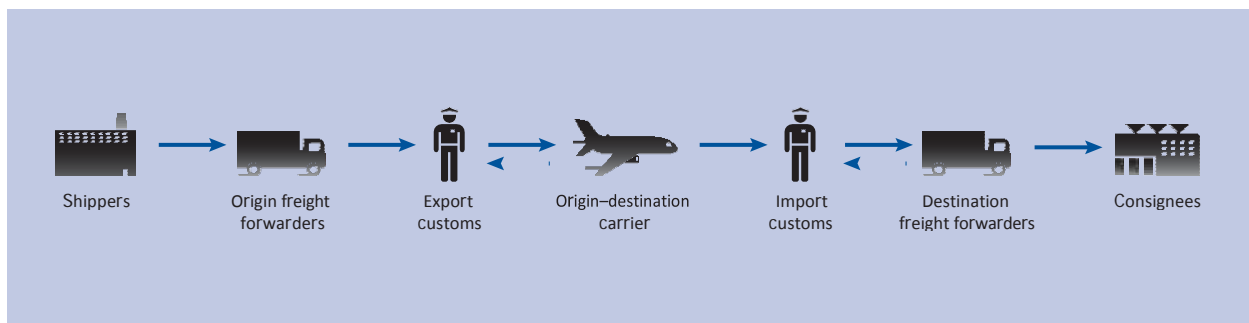

Figure 3: Air Cargo Supply Chain

In an effort for more efficiency and reduction of transaction costs, SkyBridge Arizona combines the export and import customs together providing the first air cargo hub in the United States housing both US and Mexican customs officials. Based at the Phoenix-Mesa Gateway Airport, it is marketed as a "first-of-its-kind" inland port with the ability to ship throughout Mexico (the largest trading partner of the US). In the past, air cargo from the US to Mexico could have bottlenecks for delivery waiting up to 14 days to clear customs. SkyBridge Arizona allows the process to happen almost same day revolutionizing the transport of products between the two countries.

Key in the process is the Unified Cargo Processing (UCP) designed by the US Customs Border Patrol and Mexican customs control. The UCP process has already had several successful test flights as the first inland air program. It facilitates the import and export processing in one location through digital document processing and joint inspection saving on transaction costs by reducing time and creating a more transparent process. Once cleared through the UCP, the air cargo is then allowed to fly to 130 airports throughout Mexico increasing the reach of the air cargo. Previous to SkyBridge, all air cargo into Mexico had to go to one of only 8 airports within Mexico with designated customs officials.

It is expected that the growth of air cargo between Arizona and Mexico will continue to grow rapidly with these efforts for trade facilitation. We can look at the current ATFI and EFFI percentages for both the US and Mexico (Table B and C). We can expect these percentages to increase over the next couple of years (and actually measure the change) with initiatives like SkyBridge Arizona and increased border and customs efficiency.

Austria	98.21%	1
Slovenia	97.09%	2
Korea, Republic of	97.07%	3
Italy	96.70%	4
United States	**91.24%**	**15**
Mexico	**59.96%**	**74**

Table B: ATFI

United Arab Emirates	47.37%	1
Denmark	41.60%	2
Hong Kong	41.59%	3
Singapore	40.18%	4
United States	**37.70%**	**10**
Mexico	**4.56%**	**69**

Table C: EFFI

Conclusion

The aim of this paper was to identify some of the forces reshaping trade and remapping global business. While the popular press focuses on traditional trade in finished goods, this article

highlights the faster growing areas of trade in global value chains and trade in services. New measures have been developed to try and capture these changes in trade. In addition, digitization and new technologies will continue to impact trade to transform the way we trade and what is traded. It will also impact the location and organization of trade within global value chains and government and company strategists need to prepare policies and business models for the opportunities and challenges associated with these changes to globalization.

The paper explored in more detail the reduction in trade costs due to digital and other technologies identifying best practice tools and measurements for the future. It is clear from the literature that every country can benefit from streamlining customs operations through digital customs administration. Digital technologies give rise to opportunities and challenges requiring governments to consider physical and digital infrastructure and the use of resources to facilitate and increase trade for the future. And finally, the paper included an original case study of SkyBridge Arizona showing two countries working together to reduce transaction costs through simplifying customs procedures and improving transparency.

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Algorithms and Pretrial Risk Assessment:
Promoting Justice or Reinforcing Bias?

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Abstract

This paper explores the challenges associated with the growing utilization of algorithms for pretrial risk assessment in the criminal justice system in the U.S. After a literature review that considers the general use of algorithmic risk assessment and the specific challenges associated with employing algorithms in the criminal justice system, this paper provides an overview of the primary policy considerations associated with the use of pretrial risk assessment algorithms.

Introduction

Throughout the United States of America, judges across federal and state jurisdictions wrestle with difficult pretrial determinations when faced with criminal defendants. The most impactful of these decisions is the bail determination. More specifically, whether to release a criminal defendant on personal recognizance, release with pretrial probation requirements (electronic monitoring bracelet, house arrest, etc.), or require incarceration with or without bail while the criminal defendant awaits trial. This determination is most commonly encountered at the arraignment stage of the criminal justice process. It is the arraignment where the defendant – presumed innocent – is formally charged, enters their plea, and is afforded protection from "excessive bail" by the 8th Amendment of the U.S. Constitution. However, for the purposes of interpreting potential impact of the analysis below, note this bail determination – and the associated risk assessment – may arise in subsequent pretrial proceedings when additional criminal charges have accrued. It may also occur when a criminal defendant fails to satisfy pretrial probation requirements. In either of these circumstances, a violation of probation hearing may be conducted allowing for reconsideration of the bail question, risk assessment, and potential pretrial confinement.

Historically, the central purpose of the bail determination is to ensure the appearance of the criminal defendant at future court proceedings. Therefore, "risk of flight" has long been the basis for determining best approach. This question regarding flight risk results in considerations of various factors including ties to the community, financial resources, etc. When considering bail, judges also consider the severity of the alleged offenses. Logically, the more serious the crime, the greater potential for more serious punishment if found guilty; thereby incentivizing a criminal defendant facing harsh consequences to consider fleeing upon pretrial release. In addition to flight risk and seriousness of offense, "preventative detention" based on dangerousness also impact this bail determination. This dangerousness determination is a risk assessment being made prior to conviction when the criminal defendant enjoys the aforementioned presumption of innocence and 8th Amendment protections, in addition to a panoply of other defense-centric, negative rights emanating from the Bill of Rights, statutory authority, relevant caselaw, and judicial time standards. Preventative detention, considered a controversial practice by many scholars and civil rights advocates, resulted in legal challenges. These challenges led to the U.S. Supreme Court upholding the practice in the mid-1980s (United States v. Salerno, 1987). The Supreme Court having previously deemed the practice constitutional in the juvenile justice system. (Schall v. Martin, 1984). *Schall* and *Salerno* now placed a greater emphasis on the practice of preventative detention and raised additional questions on how to reasonably determine dangerousness by assessment of risk.

This ability to detain pretrial places judges in the difficult situation of predicting future behaviors. This also places criminal defendants in an unenviable position of facing deprivation of their personal freedom with limited objective, transparent criteria available to gear defense arguments toward. In addition, evidentiary standards regarding admissibility and probative value as weighed against unfair prejudice or confusion of issues are not applied in the same manner at bail (pretrial) and sentencing (posttrial) phases (Fed. R. Evid. 401, 403). Therefore, judges are afforded greater freedom in weighing factors, such as prior criminal history, at these stages as opposed to the actual trial stage where such information may be deemed inadmissible (Old Chief v. United States, 1997). Practically, this tends to end with the judge weighing several highly subjective factors – a probation recommendation, prosecutorial bail arguments, defense counsel

arguments, and prior criminal history. Therefore, the need for more objective measures for pretrial detention, as well as post-conviction sentencing, has long been recognized by members of the bar and academicians alike. Concurrent with the *Schall* and *Salerno* decisions, criminological analysis began to receive greater treatment in the academic community and respect by courts. The most notable example being the U.S. Supreme Court consideration of the Baldus Study, regarding racial disparity in sentencing, in the 1987. (McCleskey v. Kemp, 1987). The *McCleskey* decision occurring the same year as the previously referenced *Salerno* decision.

More recently, based on technological innovation in the courtroom and increasing emphasis on criminal justice reform, risk assessments are becoming more common in presentencing reports drafted by probation officers (Casey, 2011). These reports have emphasized data analysis including employment of algorithms to gauge potential risk of recidivism. Regardless of how employed in the courtroom, issues exist regarding potential procedural due process and substantive due process violations. The former was addressed four years ago by the Wisconsin Supreme Court where they held algorithms do not violate due process rights of a criminal defendant (State v. Loomis, 2016). The use of algorithms were upheld in this instance despite lack of transparency to both the court and defendant regarding the methodology of the assessment.

The historical and legal analysis above sets the stage for continued scrutiny of use of data and algorithms for risk assessment in pretrial detention decisions. Proceeding forward, this paper will discuss in greater detail the current use of said algorithms in the criminal justice system, impact of their use, and related policy considerations.

Current Use of Algorithms in the Criminal Justice System

Effective algorithms that accurately predict future outcomes allow businesses, individuals, and policymakers to make ex-ante decisions and choices that might save time, money, or lives. Alternatively, one may look at horoscopes, palm readers, or the opinions of influential individuals for an interpretation of the future. The future is unknown, but with some degree of confidence, mathematicians, actuaries, meteorologists, and economists attempt to predict future outcomes based on a variety of factors.

In the early 1900's, meteorologists could not use data or information from sophisticated radar systems and satellites to forecast the weather, since that technology was not available. Technological improvements in this field now allow for more accurate forecasting of weather events. Accurately predicting the path of hurricanes or tornados saves lives by giving advance notice to those who are in the path. If it is possible to predict whether a criminal will reoffend – that advanced notice could also save lives. Roman and Farrell (2002) illustrate how the benefits from preventing a crime (that might have been committed otherwise) provides society with enormous benefits and could even save lives from violent murderers. Predicting future crimes, however, is neither a simple nor necessarily accurate task.

Mehozay and Fisher (2019) provide a nice summary of how our penal system has evolved from a simple matrix that explains why criminals might commit crimes to complex algorithms, beginning primarily in the 1970's. They point out that societal preferences for prevention have evolved, resulting in the increased importance for predicting and preventing future crimes, rather than trying to understand why particular criminals commit crimes and rehabilitate them.

The paradigm shift in society's perspective on crime resulted in judges and clinical professionals gaining more discretion in their interpretation of a criminal's likelihood of recidivism. This movement in the 1980's, referred to as "selective incapacitation," was widely

viewed as appropriate – since society places its trust in our elected judges and clinical professionals. However, not all judges are elected (some are appointed by elected officials), and there was strong evidence that minorities were being sentenced disproportionately harsher than Caucasians (Sentencing Reform Act of 1984). The injection of this systemic bias pushed the envelope to develop evidence-based risk assessments.

It is in our human nature, and many would argue a function of natural law, to protect ourselves and our family from harm. In our home, we use fire detectors to alert us to a fire, alarm systems to alert us about intruders, and carbon monoxide detectors to warn us of a deadly gas that we cannot smell, see, feel, nor hear. Outside our homes we rely upon other forms of prevention and detection, such as motion lights, gates, security guards, and police. The value we place on prevention is generally proportional to potential harm we are trying to prevent. A video camera system outside your house might catch someone stealing your packages, but more importantly – it might deter a criminal from entering your home. Preventing serious and deadly crimes from happening before they occur adds value to society and represents the shift of preferences in society over the past 40-50 years (Mehozay and Fisher, 2019). How best to predict those future crimes – before they occur – remains a valid question.

Evidence-based risk assessments gained traction during the 1990's and culminated in the creation of the COMPAS (Correctional Offender Management Profiling for Alternative Sanctions) algorithmic risk assessment tool in 1999 by Northpointe. Algorithms use sophisticated mathematical equations to predict the likelihood that a criminal offender may reoffend. Arming judges with this information allows them to inflict stricter sentences, higher bail, or denying parole for those criminals that are "likely" to reoffend. This could prevent crimes from happening in the future, adding value to society by keeping these likely reoffenders incarcerated.

These mathematical equations do have a certain probability of accurately determining a repeat offender. Unfortunately, they also make mistakes. The intention of an algorithm's blind eye, which may seem fair on the face, has resulted in studies demonstrating there are biases inherent in the socio-economic factors chosen by the developers, as well as the opinions of those who create and assign the weights to those factors in the algorithm (ProPublica, 2016). Henry (2019) points out that recidivism is typically measured by an individual being released and re-arrested within 2-3 years of the release. Since, low-income communities of color are disproportionately targeted by potentially biased policing practices – this perpetuates the bias in the algorithms. Biased-based profiling exists in areas of our law enforcement system and algorithms are not correcting for this problem. In addition, being arrested does not mean that the individual has indeed committed another crime. A tenet fundamental to the presumption of innocence and embedded within the negative rights theory which the Bill of Rights propounds.

Northpointe's pilot tests in New York and Michigan were reporting approximately 70% predictive accuracy (Northpointe, 2015). While this seems significantly better than flipping a coin – it indicates that the risk assessments are incorrect for 30% of those receiving COMPAS risk assessment – which could lead to longer sentences, denial of parole, or release on bail (pre-trial) for those individuals. The data also suggests that the COMPAS algorithm accurately predicted only 20% of those committing violent crimes after release.

The accuracy and bias in algorithm assessments should not be ignored. Regardless of known issues, some argue that algorithms are superior to individual discretion of judges or clinical assessments (Grove et al., 2000; Bonta, 2007). Perhaps, the usage of algorithms is appealing to judges and clinical professionals because it can provide a layer of protection against public criticism when an offender (labeled at low risk) is released early and reoffends.

The next section of this paper looks more closely at the fairness and accuracy of algorithms used in the criminal justice system, possible ways that biases could be removed. The PSA (Public Safety Assessment) is commonly used by judges in many jurisdictions for predicting the probability of whether a defendant will "fail to appear" when determining a potential pretrial release. Other states implement their own systems for sentencing guidelines (Ohio and Pennsylvania) while some others utilize the COMPAS assessment. Regardless of the risk assessment being utilized, improvements are necessary to ensure fairness, accountability, and transparency.

The penultimate section discusses some of our policy recommendations regarding the usage of algorithmic risk assessment tools in the United States criminal justice system. Reducing mass incarceration by identifying those individuals who are identified as "low risk" of recidivism through a sophisticated algorithm and releasing them has the best intent. However, we need to ensure to the public that they are not being utilized in an inappropriate way that perpetuates discrimination and biases towards low-income and minority neighborhoods throughout the country. Finally, the last section presents our conclusions.

Impact of Algorithms

Algorithms are used as predictive models in almost every field including politics, agriculture, pharmaceuticals, insurance, marketing, banking, customer support, and as we are discussing in this article, criminal law and justice. However, the intended use of the algorithms, their fairness, and the stakes can vary drastically. One of the highest stake areas for our society is the use of algorithms and machine learning in our criminal justice system. It would be unfair for an algorithm to incorrectly predict that someone is more likely to get into a car accident and thereby must pay an increased insurance premium. However, this injustice pales is comparative impact to the application of an unfair algorithm resulting in the deprivation of constitutional rights and unjust incarceration. As Mayson (2018) states, "[n]owhere is the concern with algorithmic bias more acute than in criminal justice" (p. 2221).

The use of the term "unfair" may conjure up multiple images. "Fairness" from a philosophical perspective rests in the concept of proportionality. In the western philosophical context, this proportionality may be determined in different ways. Aristotelian ethical proportionality is rooted in either a geometric or arithmetic determination. The geometric proportionality allowing for disparate treatment of individuals based on their relative merits or just desserts. The arithmetic proportionality based largely on the valuation of harm caused in order to allow for rectification and re-establishment of equilibrium (Aristotle, ca. 350 B.C.E./1925). More germane when discussing algorithms is to remember "fairness" is also a mathematical term used mainly in statistics. In its simplest form, we can define something as fair if in a given situation all possibilities are equally likely. For example, we call a coin fair if it is equally likely to flip heads or tails, or a die fair if it is just as likely to roll a 1, 2, 3, 4, 5, or 6. Determining fairness in predictive algorithms and machine learning is not as straightforward. This is particularly true with those used in criminal justice systems because racial disparities are likely to exist (Wisser, 2019).

It is widely accepted that algorithms trained with bias data and no adjustments will produce bias results. However, solutions to this problem vary. Some have taken the stance that fairness in predictive algorithms and machine learning can be solved by removing biases in the training or historical data sets. In relation to the use of algorithms in the criminal justice system, this would include recommendations about excluding "input factors that correlate closely with race" and

adjusting algorithms to "equalize predictions across racial lines" (Mayson, 2018, p. 2218). Mayson (2018) argues, however, that removing bias from data sets will not be enough because it ignores the bigger issue of predictions themselves,

> All prediction looks to the past to make guesses about the future. In a racially stratified world, any method of prediction will project the inequalities of the past into the future. This is true of the subjective prediction that has long pervaded criminal justice as it is of the algorithmic tool now replacing it. (p. 2218)

Mayson (2018) later outlines important metrics related to intergroup equality including, but not limited to: statistical parity, predictive parity, equal false-positive rates, and equal false-negative rates. Although we will not discuss these in detail here, we suggest a closer look at these metrics for those interested.

Recognizing that "simply excluding protected variables is insufficient to avoid discriminatory predictions… (pg. 1)", Lum and Johndrow (2016) present a statistical framework that "allows for an arbitrary number of variables to be adjusted and for each of these variables the protected variable to be continuous or discrete" (pp. 1-2). Utilizing their framework and the ProPublica dataset from the criminal justice system in Broward County, Florida, the authors found that when predictive algorithm are "trained on unadjusted data, large differences by race exist" and when trained on "data adjusted using [their] procedure eliminate almost all racial disparities" (p. 4). The authors conclude that using a statistical modeling approach, their framework demonstrated a way to remove information about protected variables and successfully create predictions.

Others argue this still may not be enough because it ignores the fact that "concepts of 'fair' and 'just' are no longer static" and are determined in context by particular communities (Skirpan and Gorelick, 2017, p. 1). Based on philosophy and ethics, Skirpan and Gorelick (2017) suggest a more normative approach that, "[a] machine learning system can only be fair with a contextual justification for the choice of a fairness construct and offering a channel for affected parties to actively assent or dissent to the fairness of the system" (p. 1). The authors make an important distinction between normal and abnormal objectives with machine learning systems. A normal objective "has very clear grounds for consensus," such as "the case of classifying radiology images by whether a cancerous tumor is observed" where the clear goal "is to be as accurate as possible at identifying cancer" (p. 3). An abnormal objective is one that is "highly disputable," such as "determining whether an individual convicted of a crime might be a repeat offender" (p. 3).

Machine learning and predictive algorithms are already being used for this abnormal objective in almost every state as well as the federal justice system. Based on a survey of state practices by the Electronic Privacy Information Center (n.d.) performed in September 2019 every state except for Massachusetts and North Dakota are using a criminal justice system risk assessment tool in at least one county, and Massachusetts is currently debating the issue. As for the federal justice system, the FIRST STEP Act was signed into law in December 2018, which "mandates the Department of Justice to establish a 'risk assessment system' to classify the recidivism risk of prisoners" (Kohli, 2019, p. 39). The issues are even more conflated by the fact that these, "algorithms are often protected intellectual property or are kept secret due to their proprietary nature" (Kohli, 2019, p. 41). Therefore, as Kohli (2019) states, "the US justice system seems to be at a constitutional, ethical, and technological crossroads" (p. 41).

If we think of a predictive model as a structure filled with an algorithm or multiple algorithms that data is put into and a prediction is given back, it should be important to know what is happening inside that structure. Wisser (2019) refers to this structure as a black box and explains that its "impenetrability is mainly what gives raise to concerns over its use" (p. 1816). If those using COMPAS and other predictive models in the criminal justice system, cannot see what is in the black box or understand how the black box works, how can they determine its fairness? Furthermore, based on the work done by Dressel and Farid (2018), Wisser (2019) points out that "credibility and fairness of COMPAS is severely undermined when a group of random, non-expects with limited information can achieve the same level of accuracy as is achieved by the algorithm" (p. 1821).

Dressel and Farid (2018) conducted a study comparing the accuracy of COMPAS predictions on 1,000 defendants and the accuracy of predictions made by people with little to no criminal justice expertise. COMPAS uses 137 features as inputs for their black box. The participants in the study were only given the defendant's age, sex, and previous criminal history. Note that the defendant's race or other protected variables were not included in the data given to the participants. The authors found the mean accuracy for recidivism by the participants was 62.1%. Comparing that to the COMAPS accuracy of 65.2%, this study showed that a simple linear classifier can be just as accurate as the black box we cannot see inside of. As the authors explain, "it would appear that a linear classifier based on only 2 features – age and total number of previous convictions – is all that is required to yield the same prediction accuracy as COMPAS" (p. 3).

Without understanding what is in the black box and all of the uncertainties around the fairness of machine learning and predictive algorithms in the criminal justice system, and because this is both a political and an ethical issue, it would benefit society to consider three questions based on those laid out by Skirpan and Gorelick (2017) to help determine fairness in machine learning. Is it fair to make a machine learning system or predictive algorithm in the criminal justice system? I want to make a machine learning system or predictive algorithm in the criminal justice system, is there a fair technical approach? And lastly, I made a machine learning system or predictive algorithm in the criminal justice system, are the results fair? Although it may seem late to be asking these questions, with the wide and growing use of machine learning and predictive algorithms within our criminal justice system, along with the mounting attention to the debates surrounding this issue and equality issues across the nation, now is the time to step back and ensure we are doing the right thing for our citizenry.

Policy Considerations

Given the challenges associated with the use of algorithms in the criminal justice system described in detail in the previous sections, rethinking the use of pretrial risk assessment tools has the potential to improve outcomes in the criminal justice system and mitigate the bias perpetuated by the current use of risk assessment instruments. The ProPublica analysis (Angwin et al., 2016), which found that black defendants were more likely than white defendants to be classified as high-risk but not be rearrested, ignited a great deal of debate on the use of algorithms and risk assessment in the criminal justice system. While the ProPublica methodology and analysis has been criticized by Northpointe Inc. (Dieterich, Mendoza, and Brennan, 2016) and other researchers (Flores, Bechtel, and Lowenkamp, 2016), the findings nonetheless alerted academics and the public to racial disparities in the predictions of risk assessment instruments and generated interest from researchers in criminal justice, law, and data science.

Although rearrest rates across black and white defendants classified as high-risk by the COMPAS risk assessment in Florida were relatively equal, the data utilized in the algorithm nonetheless reflect historical differences in the arrest rates of black and white individuals (Mayson, 2019). Numerous existing studies identify evidence of racial bias and disparate racial outcomes in the criminal justice system (Balko, 2020), which is reflected in historical data. For example, Stevenson and Mayson (2018) find that black individuals are arrested at a substantially higher rate than white individuals for most misdemeanors. The arrest rate differential across races persists even though the rate at which individuals of different races commit certain offenses like possession of marijuana is similar (Mitchell and Caudy, 2015). Kehl, Guo, and Kessler (2017) note that algorithms can amplify bias in the criminal justice system, citing O'Neil's (2016, p. 91) argument that the data utilized in algorithms reflects biased arrest rates as police are more likely to stop minorities and lower-income individuals. More frequent interactions with police can result in higher arrests relative to actual crimes committed when compared to other groups.

While many researchers recognize the challenges associated with employing algorithms that rely on historical data that reflect racial disparities, there appears to be little agreement on precisely how algorithms and their use in the criminal justice system should be adjusted to improve outcomes and fairness. Further, Corbett-Davies, Pierson, Feller, and Goel (2016) highlight the problem in defining fairness as it relates to algorithms in the criminal justice system and Mayson (2019) provides a detailed example to highlight tradeoffs in equality. Is an algorithm fair if it achieves positive predictive parity, where defendants who are classified at the same risk level reoffend at similar rates irrespective of race? Alternatively, should an algorithm achieve predictive equality (for example, parity regarding false-positive rates), where defendants who are classified at the same risk level do not reoffend at similar rates regardless of race? While both predictive parity and parity in terms of the rate of false-positives may both sound like components of a fair algorithm, Corbett-Davies, et al. (2016) note that an algorithm that is trained on data that reflect unequal arrest rates across races cannot satisfy both fairness criteria simultaneously.

Due to numerous issues related to fairness in the construction and use of algorithms, some have questioned the value of employing algorithms and ultimately argued for the discontinuation of their use in the criminal justice system. The challenges regarding actuarial pretrial risk assessments resulted in an open statement of concern from twenty-seven researchers that calls for an end to the use of pretrial risk assessment instruments and recommends a focus on alternative reforms (Minow, Zittrain, and Bowers, 2019). For an example of alternative reforms, Koepke and Robinson (2018) recommend broad categories of defendants be released pretrial automatically, high procedural burdens that must be met before defendants are detained pretrial or supervisory conditions are imposed, the use of pretrial services that offer support including text message reminders, and other reforms related to policing to address racial disparities in the criminal justice system. Additionally, community-based groups have serious apprehensions regarding the use of algorithms in the criminal justice system, as evidenced by a shared statement of concern signed and issued by more than 100 organizations (Justice Reform News, 2018). The statement suggests ending the use of risk assessment strategies and stopping the use of cash bail systems, but also offers a set of principles aimed at addressing the challenges and potential harms associated with the current use of pretrial risk assessments. Further, some organizations have expressed concern that the efforts focused on addressing and implementing risk assessment instruments will diminish time and energy that could be directed toward other criminal justice reforms that have greater potential to address racial equity and improve outcomes (Robinson and Koepke, 2019).

Despite the legitimate concerns of researchers and other members of the community, there appears to be value in continuing to debate the appropriate design and use of risk assessment instruments in the criminal justice system and considering policies that can improve criminal justice outcomes with the use of algorithms. Nearly every state in the U.S. now employs risk assessment tools, although the use varies considerably across states (Electronic Privacy Information Center, n.d.). Algorithms are also being used at the federal level as well. While the status quo should not prevent the exploration of alternatives, it seems extremely challenging to completely reverse course regarding the use of risk assessment instruments. Additionally, while alternatives to the use of the cash bail system and the use of risk assessment instruments have been proposed, judges will likely need to make pretrial determinations regarding individuals who are accused of crimes in any pretrial administration system. Stevenson and Doleac (2019) note that numerous studies find that judges are susceptible to making biased decisions and committing errors in the prediction of recidivism (Berk, Sorenson, and Barnes, 2016; Kleinberg et. al, 2018; Arnold, Dobbie, and Yang, 2019). Further, Mayson (2019) identifies numerous studies that show that subjective risk assessment is less accurate and reliable than structured risk assessments that rely on algorithms. Additionally, judges ultimately use similar data to the algorithms when making determinations regarding risk assessment and exhibit cognitive biases that arise in decisions made by humans. Given these findings, there appears to be value in determining whether algorithms can improve efficiency and reduce the existing bias in the criminal justice system.

In order to potentially improve the use of algorithms to achieve more efficient outcomes and mitigate bias in the criminal justice system, a detailed review of the literature regarding the design and use of pretrial risk assessment instruments offers insight for policymakers and the courts. While researchers are far from a consensus regarding pretrial risk assessment instruments, several key themes have emerged in the wake of the ProPublica (2016) article. The primary recommendations aimed at improving outcomes in the criminal justice system include guidelines related to the use of risk assessment instruments, procedures regarding the judicial application of risk assessment instruments in pretrial administration, and the need for a better understanding of the actual impact of the use of risk assessment tools on outcomes in the criminal justice system. While algorithms cannot perfectly predict future risks or completely avoid the use of potentially biased historical data, the following discussion offers opportunities for policymakers to improve the use of pretrial risk assessment in practice. The remainder of this section discusses key themes in the recent research that can assist policymakers in improving the use of algorithms assuming that risk assessment continues to remain part of the pretrial administration process.

Considerations Regarding the Use of Risk Assessment Instruments

A great deal of research in recent years has examined the potential to improve the current instruments employed in pretrial risk assessment. Kehl et al. (2017) provide summary recommendations regarding risk assessment algorithms based on a review of the literature. Their primary suggestions broadly include transparency, accountability, and fairness as key areas of focus. These themes provide an understandable framework to consider potential improvements to the use risk assessment tools.

As discussed earlier, the black box nature of some of the algorithms employed in pretrial risk assessment is a major concern for scholars. In terms of transparency, Kehl et al. (2017) note that allowing participants in the legal system to understand algorithm design, assumptions, inclusion of factors with factor weights, and the frequency of updates and assessment is vital to

research efforts to verify the integrity of risk assessments and provide an opportunity for participants in the decision-making process to weigh the tradeoffs involved in the use of algorithms. Following Citron and Pasquale (2014), Kehl et al. reason that defendants have the right to understand and dispute risk assessment scores. While transparency cannot completely resolve issues related to bias or mismeasurement, they maintain that a transparent risk assessment instrument provides an opportunity to examine algorithms for problematic classifications and make sure that public values are considered. Kehl et al. note that it could be challenging to reconcile the interests of for-profit companies in protecting proprietary software with the need for transparency. While they do not necessarily explicitly call for a stop to the use of proprietary software, a transparent approach would seem to exclude the use of algorithms that do not disclose the details of the design and computation. However, Koepke and Robinson (2018) note that even more readily accessible options like the Public Safety Assessment designed by the Arnold Foundation are not entirely understood in terms of their design and rationale for the inclusion of specific data. A better understanding of the risk assessment instruments should offer additional clarity for decisionmakers. Further, there has been a general call for more simplicity in the design of algorithms. Rudin (2019) argues for the adoption of interpretable models for decisions with high stakes rather than utilizing complicated or proprietary models. Individuals often try to explain complicated models in simple terms, which can exacerbate human errors in the decision-making process. Rudin shows that a simple model relying on age and prior arrests achieves similar results to the COMPAS model discussed earlier in this paper.

In line with recommendations from other researchers, Kehl et al. (2017) suggest that validity testing based on the needs of the specific geographic location in which the risk assessment instrument is applied combined with auditing completed by outside researchers is critical to ensure accountability. Given numerous demographic differences and other community variation across the country, it is important to verify that algorithms are assessed for accuracy based on the objective of the risk assessment instrument and the suitability for use in the specific location. Hamilton (2020) examines the auditing of risk assessment instruments for scientific validity, noting that validation methods are often missing or insufficient for current tools. While some instruments may not be validated in any way, even those that are declared to be validated often lack sufficient examination. For example, Hamilton notes that risk assessment instruments may be examined one time or using one specific metric rather than continuously evaluated based on the fitness, accuracy, and reliability of the instrument across different populations, based on different factors, and over time as factors change. Continuous and open validation of risk assessment tools is required to ensure that the instrument is the right fit to address the task in the community, sufficiently accurate in its discriminative ability and calibration, and reliable in in terms of consistency in the categorization of individual cases.

An additional consideration specific to the risk assessment instrument involves fairness, which is perhaps the most difficult concern given the disparate racial results observed in the criminal justice system and the challenges discussed previously regarding the meaning of the term "fair". Mayson (2019) analyzes suggested adjustments to improve fairness in the use of risk assessment instruments from a legal perspective while Corbett-Davies and Goel (2018) consider proposed fairness in terms of machine learning. Mayson and Corbett-Davies and Goel note that the primary suggestions to improve fairness involve the exclusion of data that are highly correlated with race from algorithms or the equalization of algorithm outcomes by race using mathematical adjustments. However, both papers note that these types of adjustments can harm black defendants despite the intent of the proposals. The fundamental problem is that risk assessment instruments

focus on predicting arrests, which are correlated with race. Given the arrest differential between black and white defendants, many variables that predict arrests are also correlated with race. The removal of variables correlated with race or the adjustment of outcomes can both reduce the accuracy of the algorithm outcomes and mask the racial disparities in arrests. Risk assessment instruments already incorrectly identify black defendants as risky at a higher rate than white defendants, so a reduction in the accuracy could fall disproportionally on black defendants. If decision makers utilize results from an algorithm that they believe adjusts for racial disparities, they may fail to consider the impact of policing patterns on black individuals. Mayson notes that the use of an algorithm that excludes race would remove context from the decision-making process, which has the potential to further overestimate the relative risk of black individuals. However, it is also important to consider the decision-making process and how judges utilize risk assessment instruments before proceeding with algorithms that are based on historical data that reflect disparate outcomes in the criminal justice system. This is the subject of the subsequent section of this paper.

Considerations Regarding Judicial Application of Risk Assessment in Pretrial Administration

While a great deal of research has considered potential adjustments to risk assessment instruments, less attention has been visited on the decision-making process in the courts and the application of risk assessment tools in decisions. It is important to consider how judges and other participants in the pretrial administration process view and utilize risk assessment instruments. DeMichele et al. (2019) provide some insight into the views of participants in the pretrial administration process regarding risk assessment instruments through a survey of judges, prosecutors, public defenders, and pretrial agency staff across 30 jurisdictions that utilize the Public Safety Assessment (PSA). 63% of judges surveyed stated that they often agreed with and use the PSA results while 37% agreed with the results sometimes. 31% of judges said that the PSA always informs their decisions regarding bail, 48% stated that the PSA often assists in their bail determination, and 19% stated that the PSA sometimes influences their decisions. Just 17% of judges agreed that they believe that the PSA contributes to racial disparities in the criminal justice system. The survey also asked judges to rate strengths and weaknesses of the PSA. While this survey data provides some insight, the views of judges and application or risk assessment instruments in practice is still unclear as risk assessment is applied by many judges in numerous jurisdictions around the country.

Scholars have nonetheless developed recommendations that have the potential to both improve the response to risk and mitigate bias associated with risk assessment instruments. Koepke and Robinson (2018) argue that the judicial decision-making framework should be the result of input and debate regarding risk tolerance from the community in which decisions are being made. The authors suggest that a presumptive decision-making framework for judges could assist in encouraging judges to adhere to community preferences in pretrial decisions. For an example, they discuss a requirement that judges explain any deviation from the prescribed pretrial decision-making process that results in a more severe determination for a defendant than recommended by the criteria.

Additionally, Mayson (2019) provides a framework for judges to consider a supportive response to risk in pretrial administration as opposed to restraint, arguing that potential risk cannot be used to apply punishment and citing a lack of evidence regarding the success of various alternatives available to manage individual defendant risks. A supportive approach would involve

the identification of resources and opportunities that could meet the needs of specific defendants in improving conditions that contribute to crime and arrest. While this approach does not preclude the use of pretrial detention in the minority of cases when absolutely necessary, it offers potential to improve the likelihood of success for the most disadvantaged and members of high-risk demographic groups. Mayson cites the Supervision to Aid Reentry program in Philadelphia, Pennsylvania where participants meet with a judge to discuss their progress as an example. This is a voluntary program available to medium and high-risk offenders that focuses on needs including employment and training (United States Probation Office Eastern District of Pennsylvania, n.d.).

Recommended Additional Research Regarding the Impact of Pretrial Risk Assessment on Outcomes

While various mechanisms aimed at reducing individual crime risk have been employed historically and modern risk assessment instruments are now widely utilized to assist in mitigating crime risk, the impact of crime reduction strategies and risk assessment instruments on outcomes remains a somewhat open question. Mayson (2019) notes that detention is a costly mechanism to deterring crime that fails to stop crime within corrections institutions and could be associated with increasing subsequent offenses upon release. Evidence regarding the success of other crime prevention mechanisms is relatively weak as well. A better understanding of the relative rate of success of various methods available to reduce recidivism, including the consideration of supportive mechanisms, would be beneficial.

Similarly, the impact of the recent influx of risk assessment instruments in the criminal justice system is not well understood. Stevenson (2018) notes that while numerous studies show that the successful implementation of risk assessment instruments should reduce rates of incarceration without harming public safety and critics contend that the use of algorithms compounds racial inequalities, the actual impact of the use of risk assessment instruments remains empirically unexamined. Using data from Kentucky, which mandated the use of pretrial risk assessment and the release of low and medium risk defendants with no monetary conditions, Stevenson finds that the implementation of risk assessment instruments had a minor impact on pretrial release and the state saw a small increase in pretrial crime and rates of failure to appear in court. The rate at which lower-risk defendants were released increased by 63% while higher-risk defendants were more likely to be held in the years immediately following the implementation of the risk assessment and release requirements. However, over time, the pretrial release rate climbed above the rate at which defendants were released prior to 2011. The impact of the changes in Kentucky was less clear in terms of racial disparities. Black and white defendants experienced similar changes in release rates within counties, but judges in rural areas where the majority of residents are white appeared to increase the rate of pretrial release to a greater extent than judges in more diverse counties. While this research provides some initial insight into the impact of risk assessment instruments and other policy changes, the results may vary substantially across the country given the different risk assessment tools employed, variability in judicial application, and the variation in state and local populations. Additional research on the impact of algorithms and other policy changes aimed at reforming pretrial administration are necessary to provide guidance going forward.

Conclusion

In conclusion, the *Schall* and *Salerno* decisions by the U.S. Supreme Court in the mid-1980s afforded federal and state criminal courts greater ability to preventatively detain adult and juvenile defendants pretrial based on dangerousness. These court decisions were coupled with a growth in criminological research by academicians. These studies – and accompanying statistics – began to gain more acceptance and become more integrated within legal inquiry and the criminal justice system writ large. In turn, courts began to consider various risk assessment measures to determine dangerousness and potential recidivism.

Currently, the use of algorithms to predict likelihood of recidivism for pretrial detention have become more accepted and common throughout the country. However, serious questions arise regarding constitutionality, methodology, potential for bias, and appropriate safeguards to ensure the integrity of the judicial process and system. This paper has addressed various impacts and policy considerations requiring thought and continued study in the upcoming months and years to guarantee procedural and substantive due process rights of criminal defendants are not violated. Given the current climate of reform, now is the time to study more closely these and other practices to determine whether they serve to promote justice or simply reinforce existing bias.

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The Value of a Division I Men's Basketball Player:
Is the Student-Athlete Scholarship Fair Value for Athletic Participation at the Highest Level?

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Abstract

On April 22, 2010, the National Collegiate Athletic Association (NCAA) reached a fourteen-year agreement, worth $10.8 billion (approximately $770 million annually), with CBS and Turner Broadcasting System wherein the two media companies received joint broadcasting rights to the NCAA Division I Men's Basketball Tournament known as March Madness. In April of 2016, the NCAA and CBS/Turner extended their agreement for an additional eight years, through 2032, while increasing the payment from CBS/Turner to the NCAA by an additional $8.8 billion, averaging now more than one billion dollars per year.

While the NCAA collects its annual billion-dollar broadcasting rights fee, its member institutions, approximately 1,115 colleges and universities located throughout the United States, separately and individually award nearly $2.55 billion in Division I athletic scholarships. Of the 1,115 member institutions, 351 support a Division I men's basketball program. These programs grant over $174.5 million in annual scholarships, with the typical Division I men's basketball player receiving, on average, a scholarship valued at approximately $38,250.00 per year.

Since the NCAA receives roughly one billion dollars per year from CBS/Turner solely for the broadcasting rights to March Madness, (this dollar figure does not include ticketing, merchandising and branding, sponsorship, and other revenue generators associated with the event), how much and through which means does it distribute said monies to its member institutions? Should the NCAA be responsible for the cost of a Division I men's basketball scholarship and relieve its member institutions from the financial burden? Are the approximately 4,500 young men who receive Division I men's basketball scholarships receiving a fair value for their skills to participate at the highest level of college sports? If not, what would be a fair value for the student-athlete?

This article will explore and attempt to answer these questions.

Introduction

Intercollegiate athletic programs are a significant and central feature on many college and university campuses throughout the United States. These programs have become, over time, an important and identified component at many institutions and are centrally connected to the school's branding, reputation, and countless other benefits that have far-reaching implications for students, faculty, and the community at large. For many colleges and universities, athletic programs bring in large sums of money through broadcasting rights fees, ticket sales, appearance and conference sharing fees, merchandising and branding, donations, and other various revenue sources, that combined can total millions, if not hundreds of millions of dollars.

The National Collegiate Athletic Association (NCAA) is the governing body responsible for regulating intercollegiate sport.[1] Its control over college athletics, although limited at first, has expanded over the last one hundred years to where it is virtually impossible for colleges and universities to engage in high quality interscholastic competition without complying with the myriad of requirements it promulgates (Lazaroff, 2007, p. 329). Today, some view the NCAA as the guardian of amateur competition in the purest of forms. Others, however, view the Association as a cartel and the facilitator of anticompetitive practices bent on deriving as much revenue off the backs of college athletics as possible. No matter what your point of view, it has come to be understood that the NCAA rules and regulatory power fall into two general categories: 1) those designed to promote and preserve the eligibility and amateur status of student-athletes; and 2) those with a more economic purpose (Justice v. NCAA, 1983).[2]

In the 1950s, the NCAA significantly increased its scope as both a regulatory and as a commercial enterprise (Smith, 2000, p. 14). Newly appointed NCAA Executive Director Walter Byers established the NCAA Committee on Infractions, which granted itself, the NCAA, broad sanctioning authority (Smith, 2000, p. 14; Brown, 1999, p. A1). During the same era, Byers also signed the NCAA's first million-dollar television contract, which signified a shift in the NCAA's role from that of just a regulatory body, to that of a regulatory body and a commercial entity (Edelman, p. 867).

Since then, the commercialization of the NCAA has grown, in large part, because of the NCAA's selling of the broadcasting rights to the Division I Men's Basketball Tournament. These rights have increased from a one-season, $271 million agreement for the year academic 2001-2002 (Edelman, p. 863), to a fourteen-year agreement signed on April 22, 2010, wherein the NCAA was guaranteed to receive $10.8 billion (approximately $770 million annually) from CBS/Turner Broadcasting System in exchange for the two media companies receiving joint broadcasting rights to the tournament (Tracy, 2016). That fourteen-year agreement was extended in 2016 for an additional eight years, through 2032, and increased the payments from CBS/Turner to the NCAA by $8.8 billion, equaling now an average of more than one billion dollars per year (Tracy, 2016).[3]

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[1] The NCAA is the largest and most recognized but other governing bodies exist including the National Association of Intercollegiate Athletics (NAIA), the United State Collegiate Athletic Association (USCAA), the National Christian College Athletic Association (NCCAA), the Association of Christian College Athletics (ACCA), and the National Junior College Athletic Association (NJCAA).

[2] Noting the NCAA engages in "two distinct kinds of rulemaking activity"- one rooted in concern for amateurism and the other "increasingly accompanied by a discernible economic purpose."

[3] $313,297 in 2014 dollars as determined by the GDP deflator. In spite of the revenue received from selling the broadcasting rights to *March Madness*, the NCAA is legally a nonprofit organization.

The NCAA negotiated and entered into these agreements on behalf of and for the benefit of its member institutions. These member institutions, approximately 1,115 colleges and universities spread throughout the United States, presumably give such authority to the NCAA when they voluntarily join the Association. Of the member institutions, 351 support a Division I men's basketball program (NCSA Member Schools). These 351 colleges and universities, and not the NCAA, are responsible for funding and granting approximately $174.5 million in annual scholarship to over 4,500 student-athletes who play Division I men's basketball (Average Per Athlete). The cost to the college or university's athletic department for each individual scholarship provided to a Division I men's basketball player is approximately, on average, $38,250.00 a year (Average Per Athlete).

In light of the fact that the NCAA receives over one billion dollars annually solely from CBS/Turner for the media rights associated with *March Madness*, how much and through which means does it distribute these funds to its member institutions? Should the NCAA be responsible for the cost of the Division I men's basketball scholarship and relieve colleges and universities (some of them public institutions supported by the local and state taxpayers) from such a financial burden? Are the approximately 4,500 young men who receive Division I basketball scholarships receiving a fair and adequate value for their skills to participate at the highest level of college sports? And if not, what would be a fair value for the student-athlete? These are the questions this paper will explore and attempt to answer.

The NCAA and the NCAA Men's Basketball Tournament

The Formation of the NCAA

There is an inclination to believe that the commercialization of sport at the college and university level is a twenty-first century phenomenon. The fact is that the commercialization and need to regulate intercollegiate athletics began with the earliest known interschool athletic event that occurred between Harvard and Yale in 1852. At this rowing regatta, which was commercially sponsored by Elkins Railroad Line, Harvard sought to gain an advantage over Yale by employing the services of a professional coxswain (Masteralixis et al., 2012). It seems as if since its inception, commercialization and the desire to seek unfair advantages existed in organized intercollegiate athletics.

This issue of commercialization continued through the early stages of intercollegiate sport but in no way went unnoticed. This is evidenced by the fact that the 1893 Thanksgiving Day football game between Princeton and Yale attracted over 40,000 paying spectators (Zimbalist, 1999, quoting Fleisher, 1992), generating $26,000.00 in revenue (Davidson, 2015),[4] with the Harvard and Yale game a year later, generating over $119,000.00 (Gregory, 2013, pp. 36-42).

By the end of the nineteenth century, a rising concern grew in academia for the need to control the economic excesses of intercollegiate athletics. President Charles Eliot of Harvard University, concerned about the impact commercialization was having on intercollegiate athletics stated, "lofty gate receipts from college athletics has turned amateur contests into major commercial spectacles" (Smith, 1987). The same year, President Francis Walker of MIT bemoaned the fact that intercollegiate athletics had lost its academic mooring and opined that "[i]f the

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[4] See generally Samuel H. Williamson, *Seven Ways to Compute the Relative Value of a U.S. Dollar Amount – 1774 to Present,* Measuring Worth.

movement shall continue at the same rate, it will soon be fairly a question whether the letters B.A. stand more for Bachelor of Arts or Bachelor of Athletics" (Smith, 1991). The concerns regarding commercialization was compounded by the concerns regarding the safety of student athletes when in 1905 alone, there were eighteen deaths and over one hundred major injuries in intercollegiate football (Masteralixis, 2012, p. 175).

With this converge of attention now being placed on intercollegiate athletics, President Theodore Roosevelt called on university leaders to review interschool athletic rules and regulations. In December 1905, the Chancellor of New York University, Henry MacCracken, heeding the call of the President, organized a meeting of thirteen institutions to discuss the issues of commercialization and the growing number of serious injuries and deaths occurring during interschool competitions. This, and a series of other meetings, led to a reform of intercollegiate athletics and the formation of the Intercollegiate Athletic Association of the United States (IAAUS) (History of the NCAA). The IAAUS was "officially constituted" on March 31, 1906 (History of the NCAA), eventually being renamed the National Collegiate Athletic Association (NCAA) in 1910 (Smith, 1987, p. 990).

At its inception, the NCAA did not have the enforcement and revenue-producing responsibilities that it currently has control over (Depken and Wilson, 2004, pp. 203-205). Its primary function was that of a regulatory body whose purpose was to develop and standardize the rules of the various intercollegiate sports. Its influence over college athletic departments did not involve issues of commercialization, eligibility, or scholarships for college athletes. This began to change, however, with the inauguration of the NCAA Men's Basketball Tournament.

The NCAA Division I Men's Basketball Tournament

The NCAA Men's Basketball Tournament began in the spring of 1939 (March Madness is Born). Since its origins as a rather modest eight-team event, the NCAA has increased the number of participants on various occasions. The initial expansion came in 1953 when twenty-three teams were invited to play, including fourteen automatically qualifying conference champions and nine independent schools chosen by an NCAA selection committee (Walker).

By the 1970's, changes were again needed and two recommendations were put forward: a) the tournament field to be expanded to thirty-two teams, and b) conference runners-up to be eligible for tournament play (Walker). Expansion of the field was needed because the total number of member institutions had grown, therefore the theory being, so should the number of automatic bids. Including qualified second-place conference finishers was to ensure that the best teams would be competing for the national title.[5]

By 1975, after some initial resistance, the NCAA increased the tournament field to thirty-two, while also accepting at-large bids by allowing two teams per conference to play in the

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[5] The Atlantic Coast Conference (ACC) was one of the major conferences that held its own conference tournament to determine its champion. In 1974, an outstanding Maryland team lost in overtime in the finals to a North Carolina State squad that eventually captured the national championship. The quality of play was so exquisite that some experts consider it the greatest game in college basketball history. To many informed observers, it illustrated the folly of denying highly-ranked teams that fell short of their conference title a trip to the NCAA tournament while including conference champions with losing records or weak schedules. The poster child for critics was the University of Texas, which represented the Southwest Conference in the 1974 tournament despite its ungainly 10–12 record.

tournament, the second not necessarily being the runner-up.[6] The field was again expanded, first in 1985 to sixty-four teams; and most recently in 2011, when the tournament was modified to include sixty-eight teams, with the four additional teams competing in *play-in games* occurring "before the first round" (March Madness History Ultimate Guide). Of the sixty-eight teams that can currently qualify, thirty-one can earn automatic bids by winning their respective conferences, with the remaining thirty-seven teams given at-large bids by the NCAA's selection committee.[7]

Once the field is decided, the tournament is single elimination, played over three weekends in March and April. During the first two weekends, four regions of sixteen teams are separated from each other, and four regional champions emerge after four rounds of play. These four teams proceed to the third weekend, branded the "Final Four," playing in rounds five and six to ultimately determine a single national champion.

Figure 1 represents the layout for the 2019 Men's Basketball Tournament:

Figure 1: The NCAA Men's Basketball Tournament and Broadcasting Rights Fees

The total number of spectators at the inaugural NCAA Men's Basketball Tournament, which culminated with the University of Oregon defeating Ohio State University 46–33 (March Madness is Born), was a mere fifteen thousand, resulting in a financial loss of approximately $2,500.00 (Walker). The following year the championship game alone was played in front of an audience of almost ten thousand spectators. Both Indiana University and the NCAA being winners; Indiana a winner by defeating the University of Kansas and the NCAA a winner by recording a profit of over $9,500.00 (Walker). (Indiana and Kansas each received $752.40 for making the finals.)

With the popularity of the tournament growing steadily, in 1954, a "syndicator" paid the

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[6] "At-large teams" are teams that did not automatically qualify for the tournament by winning their conference tournament, but were invited by the selection committee based on their merit.

[7] The Committee is also responsible for dividing the field into four regions with 16 teams each and assigning seeding within each region. The Committee is responsible for making each region as close as possible in terms of overall quality of teams. The names of the regions vary each year, and are typically based on the general geographic location of the host site of each region's semifinal and final matchups.

NCAA, as the "rights holder," $7,500.00 to broadcast the final game on a series of local television stations.[8] By1963, the value of the event increased significantly, evidenced by Sports Network Incorporated (SNI) paying the NCAA $150,000 over six years for the rights to broadcast the tournament ($25,000 per year) (Walker). That first year SNI aired the championship game live during prime-time on national television and "viewers were treated to a thrilling, overtime victory for Chicago of Loyola over the University of Cincinnati" (Walker).

Not wanting to be outdone by small, sports broadcasting syndicates, in 1972, a major television network, the National Broadcasting Company (NBC), agreed to pay the NCAA one million dollars for two years of broadcasting rights ($500,000 per year) to the tournament. Fortunately for NBC, it received a substantial return on its investment as the 1973 national championship game between UCLA and Memphis State, shown for the first time on a Monday night during prime time, attracted a record number thirty-nine million viewers (Chronology of NCAA Tournament TV). In 1983, seeing the benefit the tournament had on NBC as a whole, a rival network, the Columbia Broadcasting System (CBS), under the leadership of Neal Pilson, upped the ante and agreed to pay the NCAA $48 million for three years of exclusive broadcasting rights ($16 million per year) (White, 1981).

With the ever-increasing popularity of the tournament, the television money the NCAA commanded to broadcast *March Madness* continued to rise dramatically. As a result, by 2010, it took two television networks, CBS and Turner Broadcasting System, to come together and pool their resources before jointly agreeing to pay $10.8 billion over fourteen years (approximately $770 million annually) to the NCAA for broadcasting rights to the event. This initial agreement was extended in 2016 for an additional eight years, through 2032, for an agreed amount of $8.8 billion, now paying the NCAA an average of more than one billion dollars per year.

With the substantial revenue generated from the NCAA Division I Men's Basketball Tournament, an obvious question is, how are the athletes who play in the event compensated for both their involvement and their basketball skills? How are these talented athletes, those the audience come to watch, paid for their services? It is without question that workers in the United States cannot legally be paid less than that of minimum wage, so what is the pay received by student-athletes for their participation in college athletics at the highest level?

To answer these questions, we must look back to the early part of the twentieth century when the NCAA's sole purpose was that of developing and standardizing the rules of the various intercollegiate sports. Accompanying this purpose was the now familiar-sounding principle, as declared by President Theodore Roosevelt himself, that "no student shall represent a college or university in any intercollegiate game who has at any time received money, or any other consideration" (Byers, 1997).

Amateurism

At its inception, the NCAA lacked significant enforcement power and the matter of revenue-generation was left up to the individual colleges and universities. As a result, in the first half of the twentieth century, schools carried out whatever measures necessary to monetize their individual athletic departments with the objective of attracting potential athletes to their campuses. These measures were transformed after the end of World War II when thousands upon thousands of soldiers, sailors, and Marines returned from overseas. These veterans represented potential

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[8] This marked the first time the NCAA and not the individual colleges and universities sold the event as the event's "rights holder."

college athletes and what followed was a "recruiting 'free-for-all', as athletic programs looking to insert themselves into the scene of top-flight college athletics began offering whatever financial inducements they could to incorporate this new talent into their programs" (Gibson, 2012).

As a result, a concept known as "grant-in-aid" developed in the late 1940's among schools lacking the facilities and prestige to compete for recruits against the established powerhouses in the Ivy League and Big Ten Conference (Byers, p. 68). Lower-tiered, primarily southern schools, that could not attract athletes based upon its academic reputation, would offer recruits a 'free education' in return for their participation in athletics at their institution (Byers). In doing so, these schools began to slowly out compete better-known institutions for talented athletes.

By 1956, the NCAA responded to these "illegal recruiting tactics" by creating what was a previously unknown concept; the four-year athletic scholarship. This four-year athletic scholarship covered the cost of room and board, tuition, fees, books, and $15 a month cash allotment during the academic year (Byers, p. 69). The NCAA conceded that this was a form of payment but continued to call college athletes amateurs by reasoning "if a player received only expenses, even though it was more than what other students received, he or she was not being paid to perform."

The life span of the four-year athletic scholarship was short and a plan to end the practice began in the early 1960's. Initially, the reason to end the practice was based upon reducing costs and not about a student-athlete who quit a team but continued to retain his or her guaranteed four-year scholarship. Sentiment began to shift as the University of Oklahoma's Earl Sneed publicly expressed his frustration with players who quit athletics but kept their scholarships (Yasser, 2012). Sneed contended that the four-year athletic scholarship made it difficult for coaches because they were only allotted a certain number of scholarships per year. If players who quit took a percentage of a team's allotted scholarships, it made it difficult for a coach to field a competitive team. The NCAA initially resisted pressures from college coaches and athletic directors and maintained its position that a scholarship was for a "scholar," a student first, and not for athletic performance (Yasser, p. 996).

It did not take long, however, for the NCAA to cave to the will of the membership, and in 1973, the NCAA eliminated the four-year athletic scholarships altogether, mandating that schools could now only give scholarships on a one-year renewable basis (Kock and Leonard, 1997). The NCAA explained the move as a response to the costs associated with athletes who would accept scholarships but fail to compete. "Member schools were uninterested in spending money on athletes in the form of multi-year scholarships, only to have those athletes quit their teams but keep the guaranteed education" (Kock and Leonard, p. 228). In 2012, the NCAA modified its position on the one-year scholarships and now allows for, but did not mandate, members to offer multi-year scholarships to student-athletes (Associated Press, 2011).

From the 1970's forward, the NCAA, with the support of its member institutions, has initiated and enacted a series of rules to further solidify its position regarding the concept of 'amateurism' and that a "student-athlete" is not entitled to compensation for his or her athletic skills above that of an athletic scholarship.[9]

Specifically, NCAA rule Section 2.9 *"The Principle of Amateurism"* states,

> Student-athletes shall be amateurs in an intercollegiate sport, and their participation
> should be motivated primarily by education and by the physical, mental and social

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[9] The word 'amateur' tends to have a very circular definition when applied by the NCAA. As Patrick Hruby (2013) has noted, *"College sports are amateur because otherwise they wouldn't be college sports, which are amateur."*

benefits to be derived. Student participation in intercollegiate athletics is an avocation, and student-athletes should be protected from exploitation by professional and commercial enterprises. (NCAA Division I Manual, Constitution Art. 2.9)

Article 12 of the NCAA Division I manual governs rules related to athletic eligibility and amateurism.[10] Section 12.1.2 outlines how a student-athlete would lose his or her "amateur status":

An individual loses amateur status and thus shall not be eligible for intercollegiate competition in a particular sport if the individual: (a) uses his or her athletic skill (directly or indirectly) for pay in any form in that sport; (b) accepts a promise of pay even if such pay is to be received following completion of intercollegiate athletics participation; (c) signs a contract or commitment of any kind to play professional athletics, regardless of its legal enforceability or any consideration received, except as permitted in Bylaw 12.2.5.1; (d) receives, directly or indirectly, a salary, reimbursement of expenses or any other form of financial assistance from a professional sports organization based on athletic skill or participation, except as permitted by NCAA rules and regulations; (e) competes on any professional athletics team per Bylaw 12.02.12, even if no pay or remuneration for expenses was received, except as permitted in Bylaw 12.2.3.2.1; (f) after initial full-time collegiate enrollment, enters into a professional draft (see Bylaw 12.2.4); or (g) enters into an agreement with an agent. (NCAA Division I Manual, Constitution Art. 12.1.2)

Since according to Section 12.1.2, an athlete will lose "amateur status" if he or she uses his or her athletic skill for *pay in any form* and the fact that an athletic scholarship is a form of payment, the NCAA implemented, for the benefit of its member institutions, Section 12.01.4. This section provides an exception for payments provided by member schools, reasoning that "grant-in-aid administered by an educational institution *is not considered to be pay* or the promise of pay for athletic skill, provided it does not exceed the financial aid limitations set by the association's membership" (NCAA Division I Manual, Constitution Art. 12.01.4).

The NCAA, through the promulgation (and manipulation) of various rules and by-laws, together with the utilization and promotion of terms such as "amateur" and "student-athlete," has unilaterally decreed that anyone who participates in athletics at the college level is not entitled to compensation above that of a student-athlete scholarship offered by their institution. The NCAA sells this to the public by proclaiming that amateur competition is a bedrock principle of college athletics and that maintaining the concept of "amateurism" is crucial in preserving an academic environment in which acquiring a quality education is the first priority (NCAA Website). The NCAA also maintains that through this college model, the young men and women competing are students first, athletes second (NCAA Website) and that although "amateurism" prevents athletes from claiming a salary, they still may receive a full scholarship for their abilities (NCAA Website).

Therefore, the NCAA has singularly determined that the fair value paid to the

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[10] The NCAA Manual is 420 pages in length and a student-athlete, upon accepting a Division I scholarship, certifies that he/she has read and understands the content of said manual. Albeit, an athlete cannot retain the services of an attorney to assist him/her with review or understanding the content of said manual – to do so would be considered an NCAA violation.

approximately 4,500 Division I men's basketball players for their skills to play and participate at the highest level of college athletics, including playing in the annual NCAA Division I Men's Basketball Tournament that generates approximately one-billion dollars per year, is that of a Division I men's basketball scholarship.

Distribution of the Broadcasting Rights Fee

Broadcasting Right Fee

In determining whether or not the amount and methods used by the NCAA to distribute the annual broadcasting rights fee from CBS/Turner to its member institutions are fair and impartial, and subsequently whether or not the average athletic scholarship is a fair value for a Division I men's basketball player, one must first determine the actual annual dollar amount realized by the NCAA from its agreement with the two broadcasting companies.[11]

As stated, in 2010, the NCAA entered into a multimedia contract with CBS and Turner Broadcasting System wherein the two broadcasting companies received exclusive broadcasting rights, which includes television, Internet, and multimedia, for fourteen years in connection with the NCAA Division I Men's Basketball Championship. The agreement began in fiscal year 2011 and provided for payments to the NCAA totaling $10,800,000.00. In 2016, the NCAA extended the agreement through 2032, with additional payments to the NCAA equaling $8.8 billion. Under the terms of the 2016 agreement, $425 million is to be prepaid by CBS/Turner over seven years beginning in 2018 ("*Pre-Term Payments*"), a percentage of which is to be deposited in an escrow account and a percentage paid directly to the NCAA (NCAA Subsidiaries Consolidated Financial Statements and Independent Auditors' Report, 2017 and 2018, p. 20).[12] The remaining balance of $8,375 billion is to be paid in unequal installments from years 2025 to 2032 (Independent Auditors, p. 20).

As the escrowed *Pre-Term Payments* represent an advance on future contract years and are refundable to CBS/Turner should certain events occur, the escrowed *Pre-Term Payments* can only be recognized as realized revenue in years 2025 through 2032 when no longer considered refundable in accordance with the terms of the contract.

The NCAA will receive its annual broadcast fee from CBS/Turner as per Table 1 (Independent Auditors, p. 21):

TABLE 1	Fiscal Year Ending August 31
2017	$761,000,000
2018	$782,000,000
2019	$804,000,000
2020	$827,000,000

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[11] NOTE: This article will not evaluate how much in **total revenue** the NCAA generates each year through various revenue sources such as sponsorships, ticketing, merchandise and branding sales, additional broadcasting fees, association fees, etc. nor how much each individual member college or university generates through its various revenue sources, it will strictly focus on the annual revenue received for broadcasting rights to the NCAA Division I Men's Basketball Tournament.

[12] Amounts paid by CBS/Turner and held in escrow are not recognized in the consolidated financial statements as the NCAA does not have the right to control the escrow. Amounts received directly by the NCAA are deferred and included in the balance of deferred revenue and deposits

2021	$850,000,000
2022	$870,000,000
2023	$873,000,000
Thereafter	$9,673,000,000
TOTAL	**$15,530,000,000**

The NCAA will receive *Pre-Term Payments* from CBS/Turner in installments as per Table 2 (Independent Auditors, p. 21):

TABLE 2	**Fiscal Year Ending August 31**		
	Escrowed	**Advanced to NCAA**	**Total**
2018	$71,250,000	$3,750,000	$75,000,000
2019	$67,500,000	$7,500,000	$75,000,000
2020	$66,000,000	$9,000,000	$75,000,000
2021	$41,250,000	$8,750,000	$50,000,000
2022	$40,000,000	$10,000,000	$50,000,000
2023	$25,000,000	$25,000,000	$50,000,000
2024	$5,000,000	$45,000,000	$50,000,000
TOTAL	**$316,000,000**	**$109,000,000**	**$425,000,000**

For purposes of this article, focus will be on the revenues received by the NCAA from CBS/Turner for the fiscal year 2019 since it is the most recent tournament year, with the University of Virginia beating Texas Tech by the score of 85-77 on April 8, 2019 (NCAA Championship Final 2019).

Based upon the amounts denoted in both Table 1 and Table 2, the total amount the NCAA will receive in fiscal year 2019 from broadcasting rights with CBS/Turner, equals the 2019 installment amount of $804,000,000, together with the 'Advance to NCAA' amount of $7,500,000, for a total realized gain of **$811,500,000.** ($67,500,000 is due, but is not realized, being held in escrow until 2025).

The NCAA's Redistribution Plan and the "Basketball Fund"

The NCAA, a non-profit organization, is required by federal and state tax law to reinvest and/or distribute a substantial portion of revenues generated per tax year (501(c)(3)).[13] The NCAA, per its 2019 Division I Revenue Distribution Plan, offers eight areas, or what have been termed *"returned revenue"* funds, wherein the NCAA distributes revenue generated from *March Madness*.[14] These funds include: *Equal Conference Fund, Basketball Fund* (also called *Basketball Performance Fund), Sports Sponsorship Fund, Grant-in-Aid Fund, Academic Enhancement Fund, Conference Grants Fund, Special Assistance Fund,* and *the Student Athlete Opportunity Fund* (Revenue Distribution Fund, 2019, p. 2).

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[13] The NCAA is allowed to keep some money for salaries and overhead.

[14] Beginning in 2019-2020 academic year, the NCAA has implemented an additional fund based upon academic distribution units, similar to the units earned by conferences based on team performance in the NCAA Division I men's basketball tournament and distribute these units to member schools as a reward for academic performance by athletes. See "NCAA to Distribute Millions."

As part of the Revenue Distribution Plan, the NCAA describes the specific purpose for each fund. The *Academic Enhancement Fund* is intended to enhance academic support programs for Division I athletes (Revenue Distribution Fund, p. 4), while the *Conference Grants Fund* is distributed to Division I men's and women's basketball-playing conferences, that employ a full-time administrator, to enhance or implement programs and services in a variety of areas including diversity and safety (Revenue Distribution Fund, p. 10). The *Special Assistance Fund* is only available to athletes whose sport holds a championship competition conducted by the NCAA or involves an emerging sport for women. Notably, seventy percent of the *Special Assistance Fund* is furnished by the federal Pell Grant system (Revenue Distribution Fund, p. 15). So, in essence, the NCAA is taking credit for and counting as a distribution to one of its *Funds,* a line item that is seventy percent subsidized by the federal government.[15]

The NCAA has established two funds that deal directly with the sport of basketball: the *Basketball Fund* and *Equal Conference Fund.* The *Basketball Fund,* which is divided between Division I conferences, and not the individual member institutions, is based on a conference's individual team tournament performance over a six-year period. Per the 2019 Revenue Distribution Plan, on April 17, the NCAA contributed $168,500,833 to the *Basketball Fund* for the 2018-2019 academic year. (Table 3 – 2019 Revenue Distributions) (Revenue Distribution Fund, p. 2). The *Equal Conference Fund,* similarly to the *Basketball Fund*, is divided between Division I conferences and not the individual member institutions, based on a conference's individual team tournament performance over a six-year period. Per the 2019 Revenue Distribution Plan, on April 17, the NCAA contributed $53,550,181 to the *Equal Conference Fund* for the 2018-2019 academic year.

The combined sum of the eight "*returned revenue*" funds for 2019 equates to $589,875,809, or seventy-three percent of the amount realized by the NCAA from the broadcasting rights fee received for the same year as per its agreement with CBS/Turner, ($811,500,000). The *Basketball Fund* of $168,500,833, is twenty-nine percent of the NCAA's "*returned revenue*" and twenty-one percent of the total amount realized by the NCAA. Additionally, the *Equal Conference Fund* amount of $53,550,818 is only nine percent of the NCAA's "*returned revenue*" of $589,875,809, and six and a half percent of the total amount realized by the NCAA. The two basketball – related funds, *Basketball Fund* and *Equal Conference Fund*, total $222,051,014, thirty-eight percent of the "*returned revenue*" or twenty-seven percent of the amount realized by the NCAA as the rights holder for the 2019 Men's Basketball Tournament.

Therefore, in 2019, the NCAA was paid over $811 million for three weeks of broadcasted college basketball, but only returned a little over a quarter of that amount directly back to the sport of basketball through both the *Basketball Fund* and the *Equal Conference Fund*.

TABLE 3		2019 REVENUE DISTRIBUTION
FUND	DISTRIBUTION DATE	AMOUNT
Equal Conference Fund	April 17	$53,550,181
Basketball Fund	April 17	$168,500,833
Sports Sponsorship Fund	May 8	$75,118,234
Grants-in-Aid Fund	May 22	$146,932,780
Academic Enhancement Fund	June 12	$49,219,502

[15] The 2019 distribution is $18,630.621.

Conference Grants	June 12	$9,965,217
Special Assistance Fund	June 12	$18,630,621
Student Athlete Opportunity Fund	June 12	$67,958.441
2019 Revenue Distribution Total		**$589,875,809**

Units Earned

How the NCAA distributes the *Basketball Fund* and the *Equal Conference Fund* is through an elaborate and layered formula. First, money from the two *Funds* is distributed to the conferences based on the entire conference's performance in the tournament over a rolling six-year period (How Much Money). Independent or non-conference institutions receive a full unit share based on its tournament participation over the same rolling six-year period.[16] Second, one unit is awarded to each member institution participating in a tournament game, except for the *play-in* game played by automatic qualifiers and the championship game. In 2019, there were 132 units awarded, with each unit representing a payment from the NCAA to the conference of $1.68 million (NCAA Money). This $1.68 million is paid out over a six-year period. Third, once unit calculations are finalized, payments to the conferences and independent institutions are provided in April, with a 2019 basketball performance unit being worth $280,300 based on units earned from 2013 through 2018 (Russo, 2019).[17] ($1.68 million divided by six year). Conferences are encouraged, but there is no NCAA rule or by-law requirement to distribute the units equally among all of the conference's member institutions. Interestingly, there are no mandatory reporting requirements for either the NCAA or conferences regarding either the *Basketball Fund* or the *Equal Conference Fund.*

To determine how much of the $280,300 is realized by a college or university, we will look to the Big East Conference as an example. The Big East grossed approximately $6.7 million from units earned by conference teams playing in the tournament. The Big East consists of ten colleges and universities so a fair, but not required, distribution would be $670,000 per school (Bigeast.com). That distribution amount, however, is paid out over a six-year period. Spreading the distribution amount of $670,000 over six years, results in Big East teams earning $111,667 a year over the next six years. Is the resulting amount and distribution method used by the NCAA fair to its member institution? The answer to this question depends on your point of view.

Over the last twenty-five years the NCAA has followed a model of rewarding the bigger, more successful conferences. The Big Ten Conference, for example, has earned over $340 million, with the Big 12 earning over $307 million from the *Basketball Fund* and the *Equal Conference Fund* since 1997 (Table 4) (March Madness Money, 2019). In addition, the Big 12 Conference has its own broadcasting rights deal with ESPN, which nets each of its schools approximately $40 million a year (Big Ten's Rights Deal, 2018). As a result, money received from the *Basketball Fund* and the *Equal Conference Fund* represents only ten percent of a Big 12 Conference teams' annual income (New Rights Deal). For smaller conferences the money received from these *Funds* appears less equitable since traditionally their colleges have earned less units, and the money received constitutes nearly seventy percent of annual revenue (New Rights Deal).

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[16] If a newly active Division I member participates in the Division I Men's Basketball Championship in March-April 2018, the units will be included in the 2019 basketball performance distribution.

[17] 2020 units are anticipated to reach $282,100.00 each.

TABLE 4	
Conference	**Paid (1997 through 2018)**
Big Ten Conference	$340,405,000
Atlantic Coast Conference (ACC)	$316,252,000
Big 12 Conference	$307,303,000
Big East Conference	$285,964,000
Southeastern Conference	$266,413,000
Pacific 10	$141,476,000
Atlantic 10 Conference	$139,992,000
American Athletic Conference	$106,379,000
Pacific 12 Conference	$106,249,000
Conference USA	$101,021,000

Seven important concepts are critical when determining whether or not the NCAA's distribution amount and method are fair and equitable: 1) only teams who play in the tournament can earn units, 2) units are distributed only to conferences with a team in the tournament, conferences without a team in the tournament do not receive a distribution unless earned in a previous year of a rolling six-year period, 3) there is no NCAA rule that requires conferences to distribute the units among its schools, 4) there is no NCAA rule that requires conferences to distribute the units equally among its schools, 5) all conference teams are eligible to a distribution award whether or not they make the tournament, 6) the *Basketball Fund* and the *Equal Conference Fund* total $222,051,014, or twenty-seven percent of the amount realized by the NCAA for the year 2019 and 7) the combined sum of all eight *'returned revenue'* funds for 2019 is $589,875,809, seventy-three percent of the amount realized by the NCAA from its broadcasting rights fee of $811,500.000. (Begs the question, where does the other twenty-seven percent or approximately $221,624,191 million end up?)

Should the NCAA be responsible for the cost associated with a Division I men's basketball scholarship?

As stated, the total amount that the NCAA receives in 2019 from the broadcasting rights with CBS/Turner, equals the 2019 installment amount of $804,000,000, together with the "Advance to NCAA" amount of $7,500,000, for a total realized gain of **$811,500,000.** ($67,500,000 is due, but is not realized, being held in escrow until 2025). Per the 2019 Revenue Distribution Plan, the NCAA deposited twenty-one percent or $168,500,833, into the *Basketball Fund* and six and one-half percent or $53,550.181 into the *Equal Conference Fund* of the total realized gain. Additionally, $221,624,191 million was not reinvested nor redistributed by the NCAA.

There are 351 colleges and universities that support a Division I men's basketball program. Each school is allowed to offer up to thirteen men's basketball scholarships (Average Per Athlete), with the total number of scholarships granted by Division I schools for the academic year 2018-2019, totaling 4,511. With the average cost of a Division I men's basketball scholarship being around $38,250 per year (Table 5) (Average Per Athlete), the member institutions, separate and apart from the NCAA, individually paid out, on average, over $497,250, and collectively, over

$174.5 million, to student-athletes to have them play basketball at their college or university for the 2018-2019 academic year.

TABLE 5 Athletic Scholarships	Average Scholarship Value Per Team			
Teams	Teams	Average	Low	High
Baseball	299	$ 13,220	$ 6,298	$ 25,934
Basketball	**351**	**$ 38,246**	**$ 26,896**	**$ 53,075**
Football - FBS	129	$ 36,070	$ 25,237	$ 42,443
Football - FCS	125	$ 20,706	$ 14,474	$ 30,505
Golf	301	$ 12,066	$ 4,050	$ 24,018
Gymnastics	15	$ 18,190	$ 12,882	$ 31,573
Ice Hockey	60	$ 31,756	$ 19,934	$ 35,986
Lacrosse	70	$ 12,303	$ 8,078	$ 17,483
Skiing	11	$ 20,275	$ 15,478	$ 24,636
Soccer	205	$ 15,008	$ 5,809	$ 31,062
Swim & Dive	135	$ 16,695	$ 3,112	$ 28,651
Tennis	263	$ 18,379	$ 6,104	$ 42,373
Track & Field /CC	316	$ 11,260	$ 2,957	$ 24,059
Wrestling	77	$ 12,551	$ 5,249	$ 33,596

It is the individual member institutions, specifically the college and university athletic departments, that provide scholarships to young student-athletes and **not** the NCAA. This fact alone raises questions about the amount and method used by the NCAA in distributing the revenue from the CBS/Turner agreement. Instead of the current elaborate system wherein units are generated based upon tournament performance and a redistribution method that may or may not result in a conference team receiving an award, all money from broadcasting rights should be directed towards supporting the student-athlete. One way of doing this would be by taking the cost of granting Division I men's basketball scholarships off of colleges and universities and shifting it to and making it the responsibility and obligation of the NCAA. The NCAA generates sufficient capital to cover this cost. The $221,624,191 that is not redistributed by the NCAA is sufficient to cover the $174.5 million paid out by all Division I athletic departments that support a basketball program. Shifting scholarship costs to the NCAA would benefit the schools since they would be able to spend the saved money elsewhere. These savings could be reallocated to support worthy causes such as an athlete post-graduation fund, to promote women's sports and gender equity issues, or other forms of student enhancement. Combined with concerns about the cost of college tuition and the amount of debt students are burdened with, it is this author's opinion that the NCAA has focused too much of its attention on commercializing college sports and in so doing has failed in its primary obligation of supporting the student-athlete.

Is a Division I men's basketball scholarship a fair value for an athlete to participate at the highest level of college sports?

In order for a student-athlete to be eligible to compete at the college or university level, he or she must be deemed an "amateur" in accordance with how the term is defined by the NCAA. A

student-athlete will lose his or her amateur status and will not be eligibility for participation if any of the following occur:

(a) uses his/her athletic skill for pay in any form in that sport;

(b) accepts a promise of pay even if such pay is to be received following completion of intercollegiate athletics participation;

(c) signs a contract or commitment of any kind to play professional athletics;

(d) receives a salary, reimbursement of expenses, or any other form of financial assistance from a professional sports organization based on athletic skill or participation, except as permitted by NCAA rules and regulations;

(e) competes on any professional athletics team even if no pay or remuneration for expenses was received, except as permitted by the NCAA;

(f) after initial full-time collegiate enrollment, enters into a professional draft; or

(g) enters into an agreement with an agent" (NCAA Division I Manual, Constitution Art. 12.1.2).

Article 15 of the NCAA Division I manual, in lieu of the above, permits a member institution to offer a student-athlete financial aid in the form of a scholarship so long as the scholarship terms comply with By-law 15.01.6 *Maximum Institutional Financial Aid to Individual*: "[A]n institution shall not award financial aid to a student-athlete that exceeds the cost of attendance that normally is incurred by students enrolled in a comparable program at the institution" (NCAA Division I Manual, Constitution Art. 15.01.6). Additionally, any financial aid offered by a member institution will not violate By-law 12.2.1, supra, because 12.01.4 provides an exception for member schools: "A grant-in-aid administered by an educational institution *is not considered to be pay* or the promise of pay for athletic skill, provided it does not exceed the financial aid limitations set by the Association's membership" (NCAA Division I Manual, Constitution Art. 12.01.4).

Therefore, in accordance with the myriad of rules and by-laws implemented by the NCAA, the most a student-athlete can receive in exchange for his or her athletic talent is that of a student-athlete scholarship. For a Division I men's basketball player, that scholarship is worth, on average, $38,250 per year (Average Per Athlete). But is this amount reasonable? Is it enough to fairly compensate a Division I basketball player for his skills and talents, because in actuality, it is the talented student-athlete for whom the audience pays to watch? And most importantly, is it fair compensation based upon the revenue generated by the NCAA from its broadcasting agreement with CBS/Turner?

The NCAA maintains that it is and that (all) student-athletes are amateurs who should not be paid more than the worth of an athletic scholarship. NCAA president Mark Emmert has held firm that an education is well worth the efforts asked of student-athletes, calling a funded education a "game changer." Mark Emmert was quoted saying, "[T]he game changer for a young person in life is that they get an education. We know that means they'll make a million dollars more than they would have otherwise" (Is a Scholarship Fair Compensation, 2019).

However, Mark Emmert and the NCAA's position may be coming to an end. In March 2019, a federal district court found that the NCAA's position regarding "amateurism" is fundamentally flawed and its rules regarding student-athlete compensation violate federal antitrust law. In the case of *Alston v. NCAA* (2019), the district court found that the NCAA can no longer limit the scholarship packages offered to student-athletes and it must allow its member institutions

the opportunity to offer their students education-related items. Educational-related items above the cost of a typical student-athlete scholarship, the district court found, include "computers, science equipment, musical instruments, art supplies, expenses for study-abroad programs, tutors, and other items not included in the cost of attendance but nonetheless related to the pursuit of academic studies" (*Alston v. NCAA*). Most importantly for antitrust reasons, the district court found that the defendant (NCAA) "did restrain trade in the relevant market" and its limitations on scholarships "produced significant anticompetitive effects" (*Alston v. NCAA*).

The federal district court's ruling does not force member institutions to change their student-athlete scholarship packages, nor direct them to pay traditional salaries; it holds that the NCAA may not be able to stop them from doing so. Interestingly, however, a reading of the district court's ruling does support the proposition that the student-athlete scholarship, $38,250 per year to a Division I men's basketball player, is not adequate compensation for those who compete at the college level.

Then what is the value of a Division I men's basketball player?

The Value for a Division I Men's Basketball Player.

As a result of the court's ruling in *Alston*, what if the NCAA concedes that its concept of amateurism is "fundamentally flawed" and its rules regarding student-athlete compensation violate federal antitrust law? What if a college or university decides to change its scholarship package, and how would it decide what is fair to a perspective student-athlete?

Member institutions may want to look to the professional sports leagues for assistance since within the various leagues there is a balance of equities as a result of collective bargaining. In the professional leagues there are two important concepts regarding player compensation that may lend guidance: 1) minimum salaries, and 2) equitable distribution of revenue. Each of the major U.S. sports properties has a set minimum salary that escalates for a player the longer he is part of the league. They also have a revenue-sharing structure, wherein league revenue is divided between the owners and the players, with the divide being on average around fifty percent.

In the National Football League (NFL), as agreed upon by the NFL Players' Association through collective bargaining, an incoming rookie receives a salary of no less than $495,000 (NFL/NFLPA Collective Bargaining Agreement, 2011). Additionally, league revenue, which includes broadcasting rights fees, is divided and the players must share an average of no less than forty-seven percent (NFL/NFLPA Collective Bargaining Agreement, 2011). The percentage does fluctuate, but has averaged around forty-eight and one-half percent. In dollar figures, NFL owners share has been approximately $8 billion annually, with the players' share just under $8 billion annually.

In the National Basketball Association, per its Collective Bargaining Agreement with the Players' Association, its minimum rookie salary is $838,000 and a majority of revenue generated is classified as Basketball Related Income (BRI) (NBA/NBPA Collective Bargaining Agreement, 2017). The BRI includes ticket purchases and concessions, broadcasting rights fees, and merchandising rights from jersey and apparel sales. In the NBA, as per their agreement with the owners, the players receive fifty-one percent of Basketball-Related Income (NBA/NBPA Collective Bargaining Agreement, 2017).

Using the professional model in determining a fair value for Division I men's basketball players, revenue received from the NCAA's agreement with CBS/Turner should be divided

equitably with the student-athletes. The question becomes, however, what is the appropriate amount or fund to divide?

TABLE 6	Amount	Scholarships	Total to SA
Equal Conference Fund	$53,550,181	4511	**$11,871**
Basketball Fund	$168,600,833	4511	**$37,375**
Equal Conference & Basketball Fund	$222,051,014	4511	**$49,224**
Non-Distribution Amount	$221,624,191	4511	**$49,130**
NDA & Equal & Basketball	$443,675,205	4511	**$98,354**
Total 2019 Revenue Distributions	$589,875,809	4511	**$130,764**
Amount NCAA Realized 2019	$811,500,000	4511	**$179,894**
Amount NCAA Realized at 50%	$405,750,000	4511	**$89,947**
Including Escrow	$879,000,000	4511	**$194,857**
Including Escrow at 50%	**$439,500,000**	**4511**	**$97,429**

It is the author's position that the total amount that the NCAA receives annually from the broadcasting rights with CBS/Turner for *March Madness*, including the 2019 installment amount of $804,000,000, the "Advance to NCAA" amount of $7,500,000, and the escrowed amount of $67,500,000, even though not realized until 2025, (why should the current students be penalized and future students be rewarded), in following the model established by the professional sports leagues, should be equally divided between the NCAA and the 4,511 Division I men's basketball players. In light of such, the author proposes the following:

1) The NCAA will be responsible for the full cost of covering all Division I men's basketball scholarships and to relieve its member institutions of this obligation.

2) Each member institution will retain control and decision – making power when deciding to whom it will offer a Division I men's basketball scholarship.

3) The NCAA will follow the professional sports league model and will share the entire amount received from the rights fees with CBS/Turner per fiscal year including the installment amount, "Advance to NCAA" amount, and the escrow amount. For the fiscal year 2019, the total amount of $879,000,000 will be divided equally, with the NCAA retaining $439,500,000 and the Division I men's basketball players retaining the balance of $439,500.000.

4) The NCAA will divide the balance of $439,500,00 equally to all 4,511 Division I men's basketball players, with each player's share being $97,429.

5) From the $97,429 share, the NCAA shall be responsible for covering the cost of the student-athlete scholarships, an average of $38,250 per year (or the scholarship amount at each individual player's college or university). The balance, ($97,429 - $38,250 = **$59,179**) will be held in trust/escrow for the benefit of the student-athlete and will become available to the student-athlete upon graduation or within one-year from the time the student-athlete leaves his college or university.

6) If the student-athlete decides to continue with his education, either to earn a bachelor degree or by enrolling in medical school, law school or other graduate program, the vested/escrowed amount will remain in trust, with proceeds being used to fund the student-athlete's continued education.

7) If a balance remains after graduation from a post-graduate program, the balance will become available to the student-athlete upon graduation or within one year from the time the student-athlete leaves his post-graduate program.

8) All amounts will increase annually at the same rate as the value of the NCAA's agreement with CBS/Turner.

9) For a Division I men's basketball player whose value to a team is considerably more than the $97,429 share, (Zion Williamson type of players), that athlete is entitled to additional compensation paid from other revenue-generating sources such as ticketing, merchandising, and/or in-season broadcasting rights fees.

10) All other intercollegiate sports shall follow this model. Example, money received from broadcasting rights to all FBS games and bowl games shall be pooled and distributed equally to all 11,350 Division I football players.

Therefore, the value of a Division I men's basketball player is **$97,429** per year.

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Banking Reputation: Past and Present

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Good reputation is a necessary condition that assures business continuity. While this applies to all businesses, the history of banking suggests that maintaining a good reputation required knowledge regarding risk and maintenance of sufficient reserves. This knowledge was not always there and the many temptations of quick gains distracted many bankers from rational behavior. Therefore, the early years of banking were trials and errors and it took a long time for the knowledge of risk, reserves, central banking, and regulation, to stabilize the banking system and with it increase the reputation of banks.

Early Banking

Lending money at interest was not allowed in most ancient cultures. Aristotle would argue that something barren has no right to multiply and early Christians suspected that the wealthy would take more advantage of the poor if lending was allowed. And of course anyone who may engage in such activities would not only violate the current rules but it would be regarded as an undesirable person.

The above attitude forms a puzzle: lending is not allowed, but there are times when borrowing is needed. Armies need to be raise and fed, structures need to be built even when tax revenues are low, so how did it all work out? Borrowing by the powerful from some other wealthier person would take place in repayment for some other service or monopoly rights, or a combination of cash and service. However, the risk of not getting repaid was always there; how can one force a king to repay? Most regular folks did not have money, living from the land and praying that taxation does not increase so that they could survive another year.

Lending items without use of money also had issues leading to an infinite number of lawsuits: I loaned him my strong horse that died in his possession, and he repaid me with a wretched mule – I should be compensated!

While borrowing and lending took place to some degree, we cannot speak of regular banking activities until the middle ages. But surpassingly one group distinguished itself in this field, although to most people they are not know as bankers. The early example of solid banking reputation comes from a society named "the Poor Fellow-Soldiers of Christ and of the Temple of Solomon," better known today as the Knights Templar. In the 12th and 13th century they became the most organized global bankers and were pathbreakers in banking service and bank reputation.

Templars held a respectable position is society and they could move freely across borders, had access to practically anyone, from kings to merchants. Above all, they earned the highest reputation for honesty, accuracy, and security of funds as their solid fortifications were always guarded. In addition, they provided a variety of services: Sums of money could be advanced between two cities without the movement of cash; you could make a deposit in London and withdraw it in Jerusalem, using a letter of credit (Buckley and Nixon, 2009). All this would not be possible without a strong reputation; it is because of it that they did more than anyone before the 12 century. Throughout the later Middle Ages, after the Temples were disbanded, they served as an example to those in banking with respect to trust and reputation.

Jewelers (goldsmiths) had to organize security to protect their stock, and they kept their clients' money safely for a fee. Learning that not all clients withdrew their money quickly, the temptation for the jeweler was to lend some of this money for a fee – as it was just sitting there. This activity became so common in England that by the middle of the 1600, depositing money and lending money at interest became legal.

These new early banker face two new challenges: 1) The early organized banking groups promised to keep all the deposits (and charge for safe keeping) but at times broke this promise by lending some of the deposits. That meant that one should keep enough in reserve in case some current clients want to withdraw their funds. Those who did not keep enough reserves would in time face bankruptcy. During the colonial expansion it was very profitable to lend money to foreign ventures as the potential returns on spices and other products were high, so the temptation to lend was there. 2) At the same time, since the foreign adventures always contained high risk, a failure of one adventure would certainly be the end of the banking institution.

Banking over time expended from individuals landing to larger organized groups who may also lend internationally. Early Banks from Norther Italy frequently offered services in London, no wonder a busy business street there was named "Lombard Street." Double entry accounting facilitate record keeping, and banking expanded to many countries.

In the early history of banking activities, bank's reputation depended much on the reputation of their owners, their conduct, and ability to deliver on promises made. Since there was no central banking authority, there was no way of coordinating or standardizing reserves and risk evaluation; it was not possible to increase the level of stability for all banks. In sum, the reputation of bankers, could not be near the level that the Knights Templar established.

20th Century

Starting in the 20th century banks' reputation became a function of two items: A strong internal policies that assure care of customers, and that certainly consists of having professional people, processes, and systems. The other item, equally important, consists of regulatory rules that promote viability and safety of banks. Despite all this, banks' reputation in the 20th century had a challenging history, and not all of it is due to the internal management of a bank but also of governmental policies and ever-changing economic circumstances.

As the century began, stories of people losing a farm or business due their inability to make a loan payment contributed to the negative attitude toward banks. This was further amplified by similar newspaper reports and associated banks as partners of the large trusts which contributed to a steady negative reputation for banks. While banks loans made many business prosper, the negative images had a more powerful effect than a content fat banker smoking a cigar; a caricature shown often in the daily press from 1900 through the early 1930's. This troubled reputation was reinforced, although not due to the fault of bankers, with a fact that a false rumor could start a run on a healthy bank and even affect other banks in the area, as seen in the Great Depression. The lack of trust in banks meant that many people chose not to depend on banking services, thus banks had fewer depositors, and that limited banks' lending activity and economic growth.

The first salvation of bank's reputation on the regulatory side came from the fact that in the 1930's in the US the FDIC provided insurance on banking deposits, meaning that deposits (up to a limited amount) were totally protected in case bank management became reckless. The public assurance of safety of their deposits eliminated bank runs and overall increased the

stability of the banking system to a high degree; adding to an increase in trust in banking institutions. As more people started using banks, the increase in deposits stimulated lending thus supporting the economic growth after WW II. As other countries adopted the insurance on deposit policy, it help banks almost everywhere to increase the usage of bank services. This, combined with rare bank failures improved banks' reputation.

Since WW II some individual banks faced challenges from time to time, and several countries experienced high inflation, trade issues, and contagion, but there was no major global banking crisis: In the 1980's in the US, a smaller banking sector (Savings and Loans) faced many bankruptcies and new regulation stabilized this sector by 1991. It seemed that regulators and policy makers can address difficulties when they arise, and therefore improved regulation served to ameliorate banks' reputation. In addition, investment in the community and good relation with local business were enough to fortify banks' reputation. The reputation was enhanced by cultivating face-to-face customer relations (Palm, 2012).

By 2008, the economy overheated and both corporate and banking sectors contributed to it. The US economy was under stress as excessive leverage (allowed by regulators), very relaxed mortgage condition with improper documentation, large increase in derivatives structured carelessly while approved by rating agencies, and combined with other events, formed a perfect storm that engulfed much of the world as it culminated in what we refer today as the Great Recession.

The Great Recession's severity surpassed forecaster expectations as at least 4 million lost their homes in the US and many globally. The US public blamed the recession on actions of banks and financial institutions and on policymakers as well. With respect to banks and financial institutions, the public anger resulted from sub-prime loans that were difficult to repay, banks' improper documentation that prevented loans' resolution, compensation of executives whose bonuses and golden parachutes were unrelated to solid performance. The recovery from that recession added to the public anger as massive infusion of public funds were used to aid bankers, while distressed households were left to pay the price (Bloom, 2013). In tense times policy makers were too timid when it came to communicating that the banks rescue is important if there is going to be an economic recovery – no wonder that the public saw a bias in rescue policy.

Researchers brought up issues that suggested that monetary policy that had been used to expand or contract economic activity via interest rates, did not do enough to assure financial stability (Tomic and Angelidis, 2018). Thus the new regulation imposed by Basel III and Dodd-Frank laws brought new regulatory tools to strengthen the stability of banks and large financial institutions: The new rules impacted managerial behavior, raised capital adequacy, 'stress tested' large financial holding companies to check on their survivability during potential economic shocks. By creating tools to assure banks' stability under times of economic stress, the trust in banks and their financial affiliates was lifted.

Banks' Reputation at Present

Globally it seems that the banks reputation has improved since the Great Recession. The Financial Services Reputation Index (2018) reported that in the last decade an increase in trustworthiness of banks in a variety of countries occurred. Furthermore, the surveys indicate that the clients believe that bank reputation could increase further if improvements in transparency, quality of services and consistency, take place. While banks traditionally focused on products, it seems that even at present the higher focus should be placed on customer needs.

In 2018 for example, it was rather surprising that the factors such as data breaches or system failures restricting access to funds, seemed less important compared to interaction with customers and employee treatment. It seems that in the public's eye bank reputation would increase if there is more equality in salaries by gender, more equal opportunities based on race and gender, no punishment of whistleblowers, and less sexual harassment by management. (Garver, 2018).

According to a most recent survey (2019), consumers trust banks most. The nCipher survey results show that people trust the financial sector in general and their banks in particular more than any other industry vertical or organizations that touch their data. A third of those surveyed said they trust financial services organizations most to protect their personal data. More than half (52%) said they trust their banks specifically to protect their data. This indicates that people place much higher trust in banks and other financial institutions than they do in other business verticals and the public sector. Less than a quarter (23%) of those surveyed trust organizations in the legal profession to handle their data. And only about 20% of nCipher survey participants said they trust their cellular provider or the government to secure their personal data.

While the nCipher survey results indicate people have relatively high trust in banks, the research also illustrates that trust can be fleeting. It's easy for trust to be eroded or disappear completely. For example, recently (February 2018), India has been gripped by the scandal involving billionaire jewelers and the state-owned Punjab National Bank. Just four days after Punjab National Bank's stunning $1.77bn fraud announcement, its peer Bank of Baroda approached state investigators with another alleged scam relating to trade finance — reinforcing fears about Indian state-owned banks' monitoring of client risk. Following the scandals and the street protests, Punjab National Bank on May 6 2018, announced its plans to rely on Artificial intelligence (AI) for reconciliation of accounts and incorporate analytics for improving the audit systems as it seeks to clean up the process and counter fraud in the near future. PNB managing director Sunil Mehta said in a statement that, "The 'business remodeling' brought alive by changes at PNB is essential to ensure that the bank continues to grow and compete with its peers better," and elaborated on several steps that would reduce human intervention.
In the US and abroad banks' reputation may further improve with more inclusion. In the US families earning below $30,000 are financially marginalized, meaning that many in this group barely use any banking service. The primary reason was a dislike for dealing with financial institutions (Bloom, 2012). To reduce poverty, it is rather important to expand the inclusion, but that requires a new way of relating to this segment of customers – not an impossible task.

Conclusion

As there was a need to borrow, some money landing likely always took place through time, although in its early history it was not permitted by law or custom. As the rules of money lending became more relaxed after the 1600, banking services expanded but the difficulties to discover who to lend to (that would repay) and how much one can lend safely while keeping reserves at hand for other customers, were challenging questions that took a long time to resolve. Therefore, errors in judgement by those involved in banking services often led to bankruptcy. Later, colonial ventures and promises of riches increase the risk in the lending activity and further increased the chance of bank failures.

The formation of central banks that manage the money supply to stabilize the economy, and deposit insurance, added to banking stability and reputation by the end of the 1930's and

after WW II in many other countries. After WW II much more regulation was focused on the expanding financial markets and by the end of the 20th century, inflation in most countries was tamed and the regulators managed smaller crisis.

The Great recession pointed to the fact that not enough attention was paid to financial stability and new regulations were devised to address this issue more firmly. They stabilized the banking system, which increase banks reputation who now have a high reputation when compared to other industry sectors.

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