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WHITE PAPER: EDUCATION – A BASIC HUMAN RIGHT THAT NEEDS INNOVATION

LUKE ROUSH co-founded Sovereign's Capital in 2012, and is a Managing Partner for the firm. While living in Kuala Lumpur and Jakarta from 2013 to 2016, he opened the fund's operations in Southeast Asia. Prior to Sovereign's Capital, Luke had twelve years of experience in global commercialization and business development at venture-backed and Fortune 500 companies. He was Vice President for Sales, Marketing, and Business Development at TransEnterix (NYSE:TRXC), a medical device company that developed and commercialized a minimally invasive surgical system in the US, Europe, and Asia. Previously, he served as Chief Operating Officer at Liquidia Technologies (NSDQ:LQDA), a nanotechnology company focused on biopharmaceutical applications. Earlier in his career, Luke held sales and marketing roles of increasing responsibility at Boston Scientific and Newell Brands. He also co-founded 410 Medical, a medical

device company focused on pediatric emergency care. Luke currently serves on the board of directors for Bandwidth (NSDQ:BAND) as well as a number of privately held companies. He graduated summa cum laude from Duke University, and later earned his MBA from The Fuqua School of Business. Luke resides in San Jose, California with his wife, Brooke, and their three children.

THE 321

3 Activities that Bring You Peace:

- Reading Scripture
- Time with Family
- Fishing with Friends

2 Problem Solvers You Admire:

- Henry Kaestner
- David Morken

1 Trait You Value Most in a Friend:

- Candor



EDUCATION – A BASIC HUMAN RIGHT THAT NEEDS INNOVATION

BY LUKE ROUSH

The fear of the Lord is the beginning of knowledge,
but fools despise wisdom and instruction.

Proverbs 1:7 (NIV)

There are few topics that unite global citizens more than the idea of education as a basic human right. Education allows us to establish a common foundation for communication, and enables expansion of our shared knowledge base over time. Education acts as a “playing field leveler” to create mobility for talented individuals willing to study and apply themselves. Advances in communication and data management, in particular, have enabled an accelerated pace of collective learning. While inequalities persist, our focus on education has undoubtedly raised ALL boats. Our world now sustains more than 8 billion inhabitants. Global life expectancy has increased from around 45 years to nearly 75 years. We have harnessed the atom. We have mapped the human genome. Our reach extends well beyond Earth. We have moved from the Stone Age to the Modern Age in terms of communication. And, remarkably, all of this has occurred in less than 100 years. Perhaps most importantly, thanks to education and technology, God has given us the tools to fulfill the Great Commission within our lifetime. What an age into which God has placed us!

While challenges exist, our focus on education has facilitated immense individual and communal advancement. And yet, why is it that so many of us sense a level of brokenness in the current system?¹ It’s important to note a few facts before proceeding:

1. My perspectives are primarily from a U.S. point of view, even though I have some exposure to non-U.S. systems.
2. I believe my views are directionally accurate even though there are clear exceptions.
3. While I’ve been a consumer of education, I’m not an educator myself.

With no further ado, here are some perspectives on “What’s wrong?” with today’s system:

The Cost of Education – “Toto, we’re not in Kansas anymore.”

Student debt has ballooned 250% in the last ten years, and repayment delinquency has more than doubled to 11%.² As of 2018, the collective tab of about 44 million American students exceeded \$1.5 trillion USD.³ This should come as no surprise, since the cost of attending a four-year U.S.-based university has increased by 1.6% annually in excess of inflation for the two decades prior to 2012. During this same period, government funding fell by 27%, and student enrollment increased by more than 30%. There is the additional reality that many students are taking five or more years to finish their degrees (many colleges and universities have shifted to reporting a six-year graduation rate), which makes total cost acceleration even more dramatic.

What’s driving these increases in cost? As you’d expect, there are a number of variables. Educator compensation has increased, and the total cost of employing staff has shifted dramatically due to benefit programs (mainly healthcare). Additionally, professors at graduate research institutions are teaching less, and being pushed to research more. The very nature of how most college professors working within research institutions are trained, hired, incentivized, and retained leads them away from the job of educating undergraduate students. This has driven the faculty:student ratio in the wrong direction. Institutions, unable to modify their ranks of tenured faculty, are hamstrung in their ability to do anything other than pass costs along to students.

Even more dramatically than direct staffing costs, the overhead burden of operating a university has skyrocketed. As a parent of teenagers looking at college, I have observed an “arms race” amongst institutions seeking to create exceptionally comfortable, concierge-type environments for their students. What was once the campus salad bar or pizza-by-the-slice kiosk is now an organic, farm-to-table, Keto-informed boutique restaurant serving up Whole Foods-inspired sandwiches, immunity-booster almond milk smoothies, and oat-milk single-origin espresso lattes. :-) Somewhere in the last 20 years, my old bowl of Quaker Oats became the feedstock to a \$12 oat milk smoothie! How about the old on-campus gym that had a few treadmills, some dumbbells, and a pickup basketball court? That was leveled for new recreational facilities, some of which would make Club Med look like a dump. As my son once said on a tour, “This place is lit, Dad.” He never says that. How about the Student Health Center, which used to be responsible for distributing basic over-the-counter meds and occasionally referring more serious conditions? Those days are gone. Student diversity affairs? I recall that we had a staff person or two responsible for diversity education and advancement across

the university during my undergrad years. That same remit now falls to a much larger department of individuals. In some cases, entire fields of study have been created. These departments are focused on a broad set of variables to understand, measure, and affect within the student body.

Similar staffing increases for other university departments not at the ‘center’ of the educational process have occurred, and the collective result has affected the price tag borne by students and their parents. Are these cost increases all negative? Of course not. Some of these changes have borne meaningful fruit in the form of healthier and happier students. Graduates today are far more conscious about the underlying mission of the company or organization where they work post-graduation. This is a good thing. Yet, the fact remains that these changes have produced a very different price tag for a product that is not meaningfully changed from its former self.

Old Habits Die Hard – “The halls of Academia are partially populated with buggy whip experts, even as SpaceX rockets are lifting off from the neighboring quad.”

While God’s truth and grace do not change, the specific work we do in this world, and the skills required to do it, are constantly evolving. What used to take a generation to shift is now changing within a few years. The need for a rinse-and-repeat process of education and training has never been clearer. As consumers of education, we don’t want to buy the “database”. We want to buy the “central processing unit” that is capable of understanding how to take a constantly changing set of inputs and draw conclusions. In both white-collar and blue-collar professions (a distinction that I reject, by the way), we are in the business of learning how to learn continually. Retooling is no longer an episodic need required by some; it is a continual need felt by all workers. Education must teach individuals HOW to think critically and learn. That ability to learn, apply, modify, and then repeat is a skill that is required every few years.

According to a recent survey of Chief Technology Officers, 58% are actively re-training and retooling their talent base. Additionally, nearly 75% expect to access talent using “gig” workers in the future. These statistics within the tech sector are a sign of things to come in other sectors as well, and we see this same trend in our work as a private equity partner to the leaders who are directing the companies in which we invest. When asked whether they planned to retrain current staff, 89% of these executives said yes. To use an athletic recruiting analogy, employers will be increasingly looking for ‘athletes’ who have the capacity to play multiple positions in multiple sports. The best leaders in business will understand how to retrain, reskill, and support their existing staff through each successive evolution.⁴

At some risk of offending others, let me highlight a few of the disconnects I perceive in primary and secondary education:

- Language Study – Anyone who has studied a foreign language or lived abroad knows that the only way to become fluent is immersion. Why is it that most high school students are pushed to take four years (or more) of a foreign language? Requiring a trip overseas or an inter-cultural engagement of some sort would be a wonderful idea, but the active encouragement / mandate of classroom-based language education (usually by non-native speakers in that language) feels misdirected.
- Advanced Mathematics – For certain careers, it's critically important that students learn trigonometry and calculus. But, for most students, that is wasted effort. Is it important to understand what those disciplines can measure and evaluate? Absolutely. However, spending years trying to master these topics at the expense of learning more universal skills like basic financial literacy is a misstep. All high school graduates should have a clear grasp of how compound interest functions, how to assess personal debt, what it means to 'deficit spend' at the federal level, and how different career choices either enable or don't enable repayment of educational loans. With this said, I'm encouraged that twenty-one states now require high school students to take a personal finance course to graduate, an increase from 17 in 2018.⁵
- Scope Creep – It's been said that most books should be white papers, most white papers should be essays, and most essays should be a series of bullets in an email. There are analogies to this within the structure of higher education. What started as a series of classes on a particular topic has now expanded to become an entire department. In my view, there are quite a few majors that should really be minors, minors that should be certificates, certificates that should be classes, and classes that should not exist at all. Is all this bad? No, but it's a bit concerning in terms of the opportunity cost of focus in these areas vs. other inter-disciplinary areas of study that might develop lifelong learning skills. Skills which will be required of graduates upon their arrival into the workforce. As we add new areas of study, we need to ask whether they warrant saddling graduates and taxpayers with inappropriate levels of public / private debt.⁶
- Intellectual Diversity – A great many institutions of higher education have become fully embroiled in the culture wars of today. This is not a new phenomenon, though the one-sided nature of the public discourse seems to have accelerated via a less intellectually diverse faculty base. This has stifled institutional capacity amongst all stakeholders for spirited debate. While a few institutions have bucked this trend and even moved in the opposite direction, most have become far less tolerant of ideological dissent. As CEF members engage with these institutions, many of which are our alma

maters, I believe it is important for us to speak out on the importance of intellectual diversity. For the knowledge workers of tomorrow, the ability to engage in merit-based dialogue and debate is a critical skill. Tom Darden's white paper from a few years ago – "[The Economic Dangers of Independent Thinking](#)" – spoke in part to this trend.

Solutions for Consideration

As part of our work with Sovereign's Capital, an axiom we repeat regularly is "Don't present problems without solutions!" So, I'll attempt to outline some thoughts my partners and I have about how to change the system and create value in the process.

First, we believe there is brokenness in how young adults and their parents view the importance of a four-year degree. The old nomenclature of 'white collar' and 'blue collar' created a perspective in the minds of most Americans that there is a social pecking order tied to obtaining a college degree. A longer topic of conversation would be the psychology that pushes students and parents towards this end. There are good reasons embedded in some of these decisions, but there is also a hefty dose of Girardian Mimetic Theory⁷ in play in that we determine our desires by looking externally to what others desire, and follow suit.

While a college degree is appropriate for many (and perhaps a majority of) young adults, skilled trades are an option that are too often brushed aside. The reality is that career prospects for skilled labor have never been more stable and lucrative. An example from our own portfolio at Sovereign's Capital is a company called Southeastern Lineman Training Center (SLTC). This business is the premier trade school in the U.S. for electrical line workers. As we continue to develop our cities and maintain the vast network of grid we have constructed over the last century, there is a constant need for competent and safe workers. Recent storms on the east coast and wildfires in the west have highlighted the need for skilled workers who can respond safely and urgently in the face of disaster. SLTC currently graduates approximately 800 students per year, and we believe that number will more than double in the coming years. Additionally, leadership at the school has identified adjacent skilled trades for platform extension as well as continuing education for prior program graduates. As we've established above, learning is a lifelong skill, not an episodic experience.

What are the prospects for these graduates? The entrants to SLTC have a high school diploma, and are arriving via the military or early career transition from unskilled labor pools. The program is 15 weeks long and costs US\$15,000. The placement rate is near 100% and the average starting salary (without overtime) is >US\$70,000. For most of these line workers, substantial overtime opportunities exist, and graduates can earn well over US\$100,000 annually. With experience, these skilled tradespeople can define their

own path in terms of geography and lifestyle. The same is true for other skilled trades such as machinists, pipe fitters, plumbers, electricians, telecommunications specialists, healthcare technicians, and many others. Contrast those prospects with a college student who incurs >US\$100,000 in total cost over a 4-5 year period, and then struggles to have that degree translate into stable employment which can support repayment of loans.

In addition to skilled trades, there are other alternatives to a traditional residential four-year degree, which have gained momentum in recent years:

- Massive Online Open-Enrollment Courses (MOOC) – This approach, originally developed for distance education, offers a free and scalable approach to delivery of education. This mode of delivery became popular in 2012, though low completion rates have led to derivatives, including DOCC's (Distributed Online Collaborative Courses) and SPOC's (Self-Paced Online Courses). Additional development, led by both public and private parties, continues.
- Community Colleges – A number of community colleges have outstanding transfer-in programs to state schools. For example, high school students in California can enroll in local community colleges at very low tuition rates, and then transfer to San Jose State University or UC Berkeley or UCLA after their sophomore year. So, students are able to get a degree from top-ranked state schools, but only pay for two years of that higher tuition rate.
- Timing and Location – There are also wonderful options for students who choose to work a year (or more) before pursuing a college degree. This 'gap year' concept has become increasingly popular, as it allows young people to better assess their desires and commitment to completing a college degree. The in-state vs. private college decision is also an important consideration that more families are paying attention to as the cost differential has increased.
- Boot Camp 2.0 (and other office-based skilled trades) – The prevalence of specialized computer science and engineering schools (often called 'boot camps', as a nod to basic military training) has increased in recent years. General Assembly⁸ is one such school, with 20 campuses and 250 instructors worldwide. Since 2011, this one school has produced 40,000+ full- and part-time alumni. More than 2,500 hiring partners stand ready to onboard graduates, at attractive pay scales. With just a few minutes searching online, it's easy to identify several dozen institutions with similar missions and varying degrees of scale. Not many of these institutions are of high caliber, yet it's reasonable to expect that those who do solve for the unique challenges of educating students in this format are likely to scale, prosper, and provide increasingly legitimate alternatives to a number of institutions which are struggling to hit enrollment targets in an increasingly diverse and competitive landscape.

While our current system is fraught with challenges, I am optimistic on new educational modalities that are being prototyped, refined, and commercialized at scale. Just as the forces of creative destruction (Schumpeter's Gale)⁹ are causing disruptive change in a wide array of professions, the same trend is occurring in education. My prayer is that Christ-followers the world over will help to shape this transformation in ways that are creative, redemptive, and restorative. Let us look to Scripture and seek direction through prayer and fellowship, and speak truth with grace into this transition. It will be a difficult one for many, including educators, students, alumni, and employers. May we help ease the pains of this transformation, even as we lean into the redemptive and restorative changes that must occur as we adapt for the next century!

¹ <https://www.economist.com/leaders/2014/06/28/creative-destruction>

² <https://www.minneapolisfed.org/publications/fedgazette/a-rising-mountain-of-student-debt>

³ <https://www.forbes.com/sites/zackfriedman/2018/06/13/student-loan-debt-statistics-2018/#50a5ed8d7310>

⁴ <https://www2.deloitte.com/us/en/insights/focus/technology-and-the-future-of-work/tech-leaders-reimagining-work-workforce-workplace.html?id=us:2pm:3ad:ospfy20:eng:greendot:em:fow:dn:fowtech:1x1:ax:021220:1079486183>

⁵ https://apple.news/Aq5_7HAYVRE6L08_gHEOMqw

⁶ <https://www.theguardian.com/commentisfree/2017/aug/21/universities-broke-cut-pointless-admin-teaching>

⁷ https://en.wikipedia.org/wiki/Ren%C3%A9_Girard

⁸ <https://generalassemb.ly>

⁹ https://en.wikipedia.org/wiki/Creative_destruction