Promises and profit in 'debt-free' higher education: The geographies of Income Share Agreements in the United States

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Abstract: As student debt in the United States rose to $1.7 trillion USD in 2021, the value and accessibility of higher education has been a subject of fierce public debate. In this context, Income Share Agreements (ISAs) are framed as an alternative to conventional student loans. ISAs entail investors paying a student's tuition in exchange for a share of the student's future income. As the use of ISAs increases, especially within US vocational schools, there is evidence that ISAs have used predatory financial practices aimed at marginalized students. Motivated by the rapid growth of ISAs in the United States, and the relative absence of geographic attention to them, this paper discusses their nature and broader significance to geographic debates. Informed by grey literature, news articles, industry documents, and the scant academic writing on ISAs, we discuss the characteristics, histories, and geographies of ISAs before examining the roles and motivations of three involved constituencies: students, higher education institutions, and investment intermediaries. In doing so, we highlight how ISAs reorient who pays for education and when, what sort of education is paid for, and how private markets profit from higher education. We then highlight the broader significance of ISAs to geographical understandings of: (1) the financialization of social reproduction; (2) geographies of education; and (3) digital capitalism. We argue that ISAs' individuating logics and broader context of social reproductive crises are revealing of a wider trend towards private profit via predatory inclusion, accelerated by financial technologies.

Keywords: student debt, higher education, social reproduction, income share agreements, FinTech

Introduction

In the tech hotbed of Silicon Valley, the Holberton School promises a risk-free way for anyone to become a well-paid technology worker. Holberton offers a tuitionless path to becoming a software engineer through an Income Share Agreement (ISA) between the school, student, and private investors, in which investors pay a student's tuition in exchange for a share of the student's future income.[1] Holberton's advertisements on local public transit (Figure 1) promise an "inclusive admissions process" and training that will land students high-paying jobs in two years or less. In marketing to people excluded from other pathways into higher education ─ including those whose identities place them at the intersection of class, race and gender-based disadvantage, as the advertisement shown in Figure 1 alludes ─ the company describes itself as "pioneering the democratization of debt-free education" (Peyret, 2019) through a "peer learning model" (Holberton School, 2021), eschewing the expensive and time-consuming process of obtaining a four-year degree.

The California Bureau for Private Postsecondary Education (CBPPE), however, recently reported that Holberton is "harming [students] financially" by fraudulently enrolling and graduating students while claiming 17% of their future income through ISAs (CBPPE, 2020; see also Hayes and Milton, 2020). Many ISA-funded programs are ruthless about collecting payments: the software development training program Microverse, for example, requires students to repay 15% of their monthly income as long as they make at least USD $1000 per month (Suarez, 2019). The income-based repayment system of ISAs can also result in students paying overall amounts that can far exceed that of a traditional student loan (Aguocha et al., v. Make School Inc; Hayes and Milton, 2020). Beneath the promise of 'debt free' education, then,

[1] The technical details of ISAs are further described in the following section.

schools like Holberton are enrolling people in an often-exploitative alternative system of credentialing. By pushing ISAs as an alternative to conventional student loans, and attempting to claim that ISAs are not debt,[2] these actors are making a bold play for remaking higher education.

[FIGURE 1 AROUND HERE]

Figure 1: Holberton advertisement on the Bay Area Rapid Transit system in California, 2019 (image by Chloe Condon, used with permission)

The emergence of ISA offerings like those at Holberton are built on an unfolding crisis of higher education debt. In the United States (US), the total outstanding student debt balance has soared to over $1.7 trillion (Board of Governors of the Federal Reserve System, 2021) ─ an increase of nearly 4% since the third quarter of 2019. At 7.6% of GDP, student debt in the US is the second highest category of consumer debt behind mortgage debt (Ingraham, 2019), with 11.4% of borrowers either in default or 90+ days delinquent when the federal government paused student loan payments due to the pandemic (Friedman, 2019). While student debt currently clouds the future economic prospects of an entire generation (Goerisch, 2021; Zaloom, 2019), low-income, women, first generation, and racialized borrowers ─ Hispanic and Black people in particular ─ disproportionately bear its impacts (Seamster and Charron-Chénier, 2017). And with education central to the production of identities, labor market advantages, and, ultimately, class position in US society (Cockayne, 2020; Mitchell, 2018; Nguyen et al., 2017), the lure of finding alternative ways to finance higher education has continued to push students into harmful financial situations and predatory arrangements.

[2] In September 2021, the federal Consumer Financial Protection Bureau found that ISA provider Better Future Forward was falsely claiming that its products are not loans and ordered the company to end such claims (CFPB, 2021).

Even against the 2020-21 political backdrop of possible US federal action to cancel student debt, ISAs have remained an increasingly popular alternative to conventional student loans as students pursue higher education as the promised path to social mobility. ISAs are also gaining popularity across the globe (Hayes and Milton, 2020; Kreighbaum, 2019). Yet as CBPPE's findings highlight, ISAs' promise of expanding access to higher education financing can mask practices of 'predatory inclusion', described by Seamster and Charron-Chénier (2017, 199) as financial products "whereby members of a marginalized group are provided with access to a good, service, or opportunity from which they have historically been excluded but under conditions that jeopardize the benefits." This mirrors Hayes and Milton's (2020, 8) description of reverse redlining, in which debt products are targeted at a marginalized population with "relatively complicated financial transaction[s] designed to take advantage of vulnerable consumers' misunderstanding and, often, misplaced trust of access." ISAs thus reveal how new financial instruments (often mediated through technology) are altering geographies of labour and education as they interact with new debt relations.

Motivated by the growth of ISAs, and the relative absence of geographic attention to them, this paper examines how ISAs have emerged in the US and illuminates their characteristics and significance to geographic debates. This analysis is informed by grey literature, news articles, industry documents, and the scant academic writing on ISAs. These materials were collected over the course of three years (from March, 2018 to March, 2021) using a Google Alert that collected all news articles containing the words 'Income Share Agreements'. This information served as a guide for the subsequent identification of Income Share Agreement products as well as supplementary document collection and analysis through attendance at webinars and the analysis of advertisements, court documents, and industry publications.

We begin the rest of the paper by introducing ISAs through a discussion of their characteristics, histories and geographies. Following that, we focus in more depth on the motivations and roles of three important parties to ISAs: students, higher education institutions, and investment intermediaries. With these accumulated insights into the nature of ISAs in mind, we connect our discussion of ISAs with critical literatures on (i) the financialization of social reproduction, (ii) emerging new geographies of education and (iii) the growth of digital capitalism.

In doing so we draw out what ISAs help us understand about these processes and, in turn, how associated literatures could shed light on their significance and implications. First, we argue that ISAs both reflect and capitalize on a crisis of social reproduction, revealing an associated trend of investor speculation built upon efforts to link financial investments to 'moral' investments in an individual's future. Second, we argue that ISAs are part of a trend that has been neglected in literature on the geographies of education: the growth of for-profit, trade-oriented schools that function as sites of predatory inclusion. Third, we conceptualize ISA platforms that connect investors to students and schools as a reformatting of higher education in line with the imperatives of a specifically digital form of financialized capital (which we term EdFinTech) that has received little critical attention in geography. In sum, ISAs crystalize how shifting geographies of career training and funding are being remade alongside student subjectivities, financial logics, digital technologies, and the desires of investors.

What are Income Share Agreements? Characteristics, histories, and geographies

An ISA is a contract between a student and either a higher education institution (HEI) or a private investor. The HEI or private investor waives or pays a student's tuition in exchange for a share of the student's future income, so long as the income amount reaches a pre-agreed

threshold. ISA repayments are based on a contracted percentage of future income, over a set period; these vary depending on degree, institution, and investor platform. The ISA market in the United States has mostly developed since 2014 (Gallagher, 2019), with approximately $250 million in ISAs originated in 2020 (Israel, 2020). In 2019, 40 educational programs in the US had ISA programs, with many more in the works; contracts range from two to 10 years of repayment, with the most common being five years (Gallagher, 2019).

US institutions that offer ISAs include four-year programs such as Purdue University and the University of Utah (which offer longer-term, lower rate ISAs) but are more commonly coding schools, industrial schools (e.g., welding and HVAC), and healthcare training programs that are not accredited[3] by the US Department of Education. Schools in the latter category generally offer short-term ISAs in which students must pay a larger share of their income. This structure is often matched with marketing campaigns that promote ISAs to both investors and students as *the* solution to the student debt crisis. This may include framing ISAs as a social contract between a student and investors: both Purdue University and the San Diego Workforce Partnership (which provides ISAs to low-income San Diego residents), for example, promote ISAs under the tag line "It's not a loan, and you're not alone."

While many ISA providers assiduously avoid the terminology of 'loans', education scholars would recognise them as a type of an income-contingent loan (Bryant and Spies-Butcher, 2020). Meanwhile, recent US regulatory actions against ISA providers have ruled that ISAs are engaging in false representation when describing their offerings as something other than loans (Consumer Finance Protection Bureau, 2021). ISA industry claims to be offering

[3] Accreditation is a third-party review process overseen by the US Department of Education and the Council for Higher Education Accreditation, with reviews conducted by private, non-profit accrediting bodies. Students that attend unaccredited institutions are not eligible for federal student grants and loans.

accessible and social-oriented education have also been contested by the Student Borrower Protection Center, a non-profit organization focused on alleviating student debt, which has called ISAs "deceptive and predatory" due to documented practices of ISA intermediaries requiring complete access to student's bank accounts to enforce contract terms, among other issues (Habash and Kaufman, 2020). Despite these controversies, promises of debt-free education through ISAs accelerated during the COVID-19 pandemic, with the Lambda School for example, telling students in April 2020 that ISAs make education "more accessible" and "lower risk" during times of economic instability.[4]

The intellectual origins of ISAs lie in the work of economists Milton Friedman and Simon Kuznets (1945, 90), who proposed resolving a perceived market underutilization of human capital by selling "stock" in people's future income. Friedman later elaborated that investors should be allowed to:

> "buy" a share in an individual's earning prospects; to advance him the funds needed to finance his training on condition that he agree to pay the lender a specified fraction of his future earnings (Friedman and Friedman, 1982: 103).

The first ISA schemes began during the 1970s, established by prestigious private universities including Yale, Harvard, and Duke but these programs had difficulty competing with state financial aid and lower interest rates on loans (Lleras, 2007; Shireman, 2017). Most notable was the 1971 Yale Tuition Postponement Program (TPP), which gave students the option to defer tuition fees until after graduation and was administered in the form of group loans. Each student was required to pay until the whole borrowing cohort was no longer indebted (Shireman, 2017; West, 1976). Income disparity among cohort borrowers, coupled with increasing federal student aid, set the conditions for this scheme's failure, leading to the program's termination in 1978

[4] https://twitter.com/bloomtech/status/1255995414794440705 (accessed November 16, 2021)

(Ladine, 2001). The collapse of this ISA experiment set an adverse precedent, discouraging the development of similar, privately-run schemes for decades to come yet also likely playing a role—at least atmospherically—in fostering a wave of *public* income-contingent loan programs across Australia, New Zealand, Ghana, Sweden, Chile, and the United Kingdom (Lleras, 2007; Bryant and Spies-Butcher, 2020).

ISAs reappeared in Latin America in 2002 and in the US in 2009, when the Chilean company Lumni began offering private sector ISA financing (Coren, 2018).[5] The acquisition of US-based ISA companies Paytronage and Base Capital in 2018 accelerated Lumni's expansion into the US. Since Lumni's entrance into the education market in 2009, the number of US ISA firms has soared including FinTech firms that serve as digital platforms connecting students and investors. The contractual terms of Lumni and other ISA providers are individually calculated based on the 'risk' associated with each student. Most companies and institutions do not provide information on what factors are considered when determining the terms of individual contracts – there is no legal obligation to do so. One ISA scheme is, however, more transparent about how repayment rates are calculated: the Purdue University's *Back a Boiler* ISA program, established in 2016 (Purdue University, 2019). Purdue's program, funded by prominent ISA firm Vemo Education, determines ISA repayment rates based on (1) the student's major area of study (sciences generally receive better rates than humanities), (2) current year of program, and (3) amount borrowed. This produces significant variation in rates: a difference of over three times between the lowest (1.74%) and highest (4.97%) amounts of income that students must repay over a standard 10-year term. Since the majority of private providers are less transparent than

[5] ISAs have also grown outside of the US. Beyond Lumni's offerings in Latin America, in Europe start-up StudentFinance has raised millions in capital and is active in Spain, Germany, Finland, and the UK. ISAs have also been promoted in international development circles. For example, German non-profit CHANCEN International funds ISAs for women in Rwanda.

Purdue about the method of individual assessments, the variation across different providers' contracts remains unknown. As described further below, the individualized nature of ISAs, and the associated variations in rates of repayment, has only expanded as new technologies enable advanced collection mechanisms and new forms of algorithmic risk calculation.

A number of recent attempts to create legal parameters for the provision of ISAs have failed (Cooper, 2018). In 2013, for instance, Oregon became the first state to pass legislation to permit and fund a state-administered ISA pilot program (Bidwell, 2015) but the state's higher education board dismissed the plan due to budget cutbacks (Oregon Live, 2019). Since then several bills have been considered in the US, including six states in 2018 (Kim, 2019). At the Federal level, a bipartisan group of US Senators unsuccessfully attempted to pass the *ISA Student Protection Act of 2019* (Kreighbaum, 2019). Lobbying efforts in favour of ISAs, however, have also been met with resistance. In 2020, a complaint was lodged to the *Federal Trade Commission* about predatory practices among ISA lenders (Douglas-Gabriel, 2020). Additionally, citations from the California Bureau for Private Postsecondary Education for HEIs (including the Holberton School) exposed unapproved ISA operations (Wan, 2020), a group of Democratic Party legislators demanded to see the terms of ISA contracts as part of an investigation (Kreighbaum, 2019), and the Consumer Finance Protection Bureau (CFPB) has ruled that ISA providers must comply with regulations placed on lenders by providing accurate information to borrowers and eliminating penalties for those who repay ISAs early (CFPB, 2021). Due to the individuating logic and protective clauses in ISA agreements however, resistance has tended to come from institutional actors rather than directly from students enrolled in ISAs.

Given this regulatory uncertainty, recent issuances of ISAs have occurred largely among vocationally-oriented private-sector schools, rather than four-year universities (Habash and Kaufman, 2020). Even within four-year degree programs, ISAs alone are usually insufficient; the Purdue University *Back a Boiler* program, for instance, is often stacked on top of traditional student loans after students have reached their maximum federal student loan eligibility (Morgan, Farr and Hornung, 2019). This has led vocational schools with comparatively lower tuition and shorter programs to dominate the ISA market. Students at such schools are also not eligible for US federal student grants or loans, meaning that ISAs are operating largely in a segment of the education market that is excluded from public support, a situation that disproportionately affects Hispanic and Black populations (Kreighbaum, 2019). These schools, which often work withs intermediary firms that provide the infrastructure for managing ISAs, advertise ISAs as a funding model that requires no up-front payment. ISAs are then plugged into existing financial circuits, with some intermediaries like Edly repackaging student's ISA obligations as collateralized securities to be sold to investors.

This brief history has revealed some of the main economic, ideological, and geographical drivers of ISAs. Rising tuition costs, the expansion of unaccredited educational programs, and waning financial support for education from the public sector have underwritten ISAs' contemporary (re)emergence in the United States. This has occurred unevenly across the educational landscape, concentrated in for-profit schools where ISAs operate without competition from traditional and public sources of funding, and with less regulation. For this reason, and as explored in more detail below, the increased popularity of ISAs must be understood in the context of shifts in the funding of social goods, uneven geographies of

financial risk, intensification of credentialing as a prerequisite to stable work, and the corresponding emergence of new modes of speculation facilitated by financial technologies.

The parties to an income share agreement: who, how, and why?

Students

The 21st century growth of ISAs takes place amidst multiple shifts in the 'place' of higher education in society, including shifts in labour markets, changes in what is considered a skilled trade, and innovations in how workers are trained and their educations paid for. These new educational geographies are undergirded by the production of novel student subjectivities, in which a different sort of student becomes the subject of investor speculation. ISA investors seek students who appear to be a low-risk investment: those who will easily transition into in-demand careers with stable salaries. Weighing the relative probability of career success is built into some ISA arrangements: a Purdue University student studying economics in 2019, for example, would pay back a lower percentage of their income over a shorter time period than a student studying English (Gallagher, 2019).

These shifts occur alongside the ballooning amount of student debt in the US, where prospective university students are increasingly questioning the value of a four-year degree—on average an "investment" of $17,797 at public institutions, $46,014 at private non-profit institutions, and $26,261 at private for-profit institutions (National Center for Education Statistics, 2019). Racialized students hold a disproportionate amount of student debt, are more likely to attend for-profit colleges that make them ineligible for subsidized federal loans, and pay off less debt per year due to lower wages—paying thousands of dollars more in interest on average than white borrowers (Hayes and Milton, 2020; Nova, 2018). ISAs, particularly for trade

and vocational schools, speak to student desires to finance an education without excessive debt and to satisfy the credentialization of work in trades that used to be learned more informally. In the context of repeated cycles of economic upheaval, from the 2008 financial crisis to the coronavirus pandemic, prospective students are increasingly on the hunt for educational programs that will give them access to recession-proof jobs while minimizing debt burdens (Zaloom, 2019).

ISA providers also present ISAs as a bet made on a deserving subject—a practical student who is not wasting time with the liberal arts or knowledge for knowledge's sake—and instead sets their sights on training for a practical and well-paid job. From both the student and investor perspective, ISAs rely on certain "assumptions about identity and value" (Mitchell, 2018) that undergird higher education in the knowledge economy. Making a good investment in oneself, so the cultural narrative goes, yields a future of increased income premised on the acquisition of skills (Sayer, 2016). Platforms that sell ISAs to investors *also* market this as a good investment. ISA providers often make a show of minimizing investors' risk by selecting only the most promising, pragmatic students enrolled in career-ready training programs. Marketing ISAs as good for both students and investors encourages students to view their own potential to provide profits to investors as a signal of the value of their education. As a senior fellow at the Manhattan Institute, a conservative US think tank, put it, ISA pricing should "convey information to the student about how lucrative a different major's going to be" (quoted in Akers and Strossel, 2019).

Students are also encouraged to conceptualize ISAs as a relationship between themselves and benevolent investors. This "win-win situation" is marketed as a rare case of sympathetic motivations between investor profiteering and "care" for the next crop of workers (Akers and

Strossel, 2019), and some students are responding in kind: one Purdue University ISA recipient interviewed about his tuition payments enthused that "we don't know who the investor is, but I'd love to give him a hug, or buy him a beer or something" (quoted in Akers and Strossel, 2019). Yet this supposedly caring relationship is still backstopped by financial risk management. ISA contracts typically allow heavy-handed payment collection practices, including recouping money from students' tax refunds and adding punitive terms for failure to pay. To guarantee that students do not shirk their repayment commitments, intermediaries are granted access to students' personal financial data, including bank account transactions (Habash and Kaufman, 2020; Hayes and Milton, 2020).

In our survey of available grey literature and media coverage, students are ubiquitous figures, either being spoken about by others or offering brief testimonials about their apparently positive experiences of ISAs. Yet fulsome, first-hand accounts from students are exceedingly rare (although see Asher-Schapiro, [2020]) and, on occasion, actively censored, as was the case with negative testimonies by Lambda students on the online forum Reddit.[6] While two recent court cases have gone some way to providing a more nuanced picture of student experiences, there is a need for researchers and regulators to conduct in-depth investigations of student experience beyond that provided by those with an interest in increasing the popularity of ISAs. Nevertheless, through marketing strategies and existing testimonials, the connection between the figure of the deserving, career-oriented student and the ISA funding model is a clear signal to both students and investors.

[6] These removals are well documented: https://www.reddit.com/r/LambdaSchoolReviews/comments/o9aslw/lambda_school_reviews_compilation_what_they_dont/

Higher education institutions

HEIs' interest in ISAs has been stoked by increased public scrutiny over the value of higher education, reduced alumni giving, more difficulty attracting racialized students, and resulting negative impacts on overall enrolments (Schachar, 2019). When combined with long-running trends toward the consumerization of higher education (Williams, 2013) and the rising cost of publicly-funded universities, ISAs present HEIs with an opportunity to demonstrate a commitment to and accountability for the 'success' of their students by linking tuition payments to graduates' earnings. To use a phrase widely repeated in ISA discourse: this means HEIs have more direct "skin in the game" with ISAs than with standard public/private student loans and financial aid. This goes beyond the typical accreditation process of ensuring quality education— instead, it links HEIs' tuition revenues directly to their students' labor market outcomes and accelerates a trend towards profit-driven HEIs and market-oriented strategies for growth.

The programmatic features of ISAs range widely by HEI's funding source (operating capital, endowments, external investment, etc.), repayment terms (including minimum income threshold, repayment rates, caps, duration, and redress), and students they are offered to (making distinctions based on earning potential and/or particular majors/degrees or offered to any/all students). Institutional context also varies. While some four-year HEIs look to ISAs as way to stretch their student aid budgets, or as an addition to an established suite of student funding schemes, it is notable that non-elite, vocationally-oriented education providers that educate marginalized students (many of whom are racialized) have been particularly vigorous in their experiments with ISAs, often opting for full-fee coverage (Gallagher, 2019). Among vocationally-oriented HEIs, industry figures anticipate ISAs becoming the norm—or perhaps are

willing ISAs to be so. Ryan Craig, the co-founder of University Ventures and an ISA investor, predicted in 2018 that:

> I'd go as far as to say that in five years, any postsecondary education or training program that's two years of length or less and that's attempting to charge tuition will be seen as an anachronism […] It will be a negative market signal to prospective students, who will wonder why they're demanding tuition upfront rather than taking an income share (i.e., is this a scam?) (quoted in Coren 2018: n.p.)

Using ISAs to signal that a school is closely aligned with labour market success builds on a process relatively understudied in geography: the targeting of low-income, often-racialized students by for-profit HEIs that promote their supposed labour market credentials. ISAs are part of a restructuring of education where, as Cottom (2017, x) writes, for-profit HEIs promote models that "leverages our faith in education [to advance social mobility] without challenging its market imperatives and that preserves the status quo of race, class, and gender inequalities in education and work." These schools' revenue models clash with their rhetoric of social mobility through education. A review of racial discrimination lawsuits associated with for-profit schools, for example, highlights sector-wide "unfair and deceptive practices, including misrepresenting student outcomes, misleading prospects regarding loan terms, and using abusive collections tactics" (Hayes and Milton, 2020, 10).

There are significant pragmatic and normative concerns about the implementation and impact of institution-specific ISAs that exist in both vocational and non-vocational HEIs. Maintaining the solvency of the ISA student pool has been an enduring concern. Yale's pioneering program was undone by an inability to counterweight students who ultimately pay less (or do not repay at all) against those who pay more. Precisely how this is calibrated remains a quandary that many industry actors hope will be resolved over time (Schachar, 2019). Risk-

shifting is another concern. Although ISAs are often framed as a way for students to 'de-risk' the costs of the education, HEIs (and investors) minimise their own risks by transferring it onto students (Hayes and Milton, 2020). It is commonplace for students to be required, as a condition of the ISA contract, to waive their rights to jury trials and class actions, instead agreeing to binding arbitration. Such clauses also serve to dissuade students from contesting the predatory aspects of their ISA contract.

Finally, from a more normative angle, ISAs accelerate the demise of higher education's civic mission (Cottom, 2017). As the provision and impetus for higher education becomes atomized and instrumentalized via ISAs, higher education providers are further beholden to the particular and often capricious demands of capitalist economy. Now, in addition to servicing the demands of the labour market, as has become commonplace over the last several decades (Mitchell, 2018; Rizvi and Lingard, 2009), HEIs' use of ISAs also have to meet the demands of the *financial* market. Not only are student enrollments dictated by investor willingness to provide finance for particular degree programs—the precipitous rise of coding schools is one manifestation—but education providers are partnering with private ISA intermediaries that advertise themselves to HEIs. By effectively selling a share in their educational services, these HEIs sacrifice an independent, publicly-minded agenda for one that aligns with investor priorities.

Investors and investment intermediaries

Information on ISA investors is relatively scarce. As an emergent sector without large-scale, semi-transparent institutions (e.g., municipal bond markets), there is little wide-scale data produced on investors or returns. Similarly, the lack of regulatory oversight described earlier has

meant that ISA investments operate in a grey zone. Nevertheless, intermediaries that package ISAs for sale to investors are a prominent part of the ISA industry and their marketing of ISAs provide insights into how investors view the sector and what constitutes a 'good' ISA in which to invest. This packaging may be based on educational sub-sector (e.g., ISAs from students in healthcare programs), by individual schools, or by pooling together ISAs from different educational sub-sectors and schools. These intermediaries use a variety of mechanisms and branding strategies to distinguish their products: most notably, by marketing vocational training and non-elite forms of education as pragmatic investments for both students and investors. At a broader level, ISA intermediaries can be grouped into two categories: pool/sector-based and individualized.

Pool and sector-based ISA intermediaries

An example of sector-based ISA intermediaries is Edly, a company that works with US-based educational programs to offer students ISA financing by using investor capital to front student tuition in exchange for a percentage of students' future earnings in ways that minimize investor risk. Edly enrolls students from a variety of sectors and then assembles either sector-specific or "diversified portfolios" of ISAs from different schools, geographies, and industries. As students find work, they begin to repay Edly, which then repays investors. Edly bulk-negotiates student tuition with different schools and does not pay schools the full amount until ISA graduates have repaid Edly's investors. For investors, this is supposed to ensure that the school has an interest in producing employable graduates.

Other ways that Edly attempts to minimize investor risk is by selling ISAs from students training in industries marketed as practical and recession-proof; promotional material for an ISA

for diesel and power generation technicians, for example, attempts to lure investors with access to the promise of a "previously untapped demographic of millions of Americans" working in "low skills, low wage, high effort jobs," which quickly transition to "high skill, high wage trajectory, and safe high effort jobs" (Edly, 2020). Edly uses data on average earnings of graduates of each school to project future repayments to investors. For one portfolio of students enrolled in the diesel and power generation technician program, Edly collects 10% of students' monthly income after they find jobs. The median salary that Edly projects for graduates in this industry is $35,000 per year; ISA payments are due to Edly's investors so long as students' yearly incomes clear $30,000.

As noted above, Edly and similar pool-based ISA providers pin their brands to educational industries and programs that are typically eschewed by US federal student loans and are offered to otherwise educationally- underserved geographies: vocational training and other forms of "essential" work that draw from working-class and often racialized populations in communities left out of economic growth. These 'marginal' industries, and the populations they tend to employ, have been particularly visible in the context of essential workers highlighted by the coronavirus pandemic and include highly gendered occupations such as nursing and truck driving. Edly has used these connections strategically to market its ISAs as a prudent investment because they serve industries resilient to economic recessions. While four-year programs and liberal arts education are facing sector-wide crises of finances and public confidence, ISA providers are strategically reframing their products as pragmatic forms of education that link graduates directly to in-demand jobs.

Individualized platform intermediaries

As the ISA sector grows, there has been increased interest from financial technology (FinTech) start-ups seeking to establish themselves as intermediaries ready to capitalize on further growth. Rather than market themselves to specific institutions or sectors, many of these start-up firms have followed the lead of other technology companies and built prototype digital platforms where supply (students) and demand (investors) meet. While some of these start-up platforms service the institutional ISAs described above, more recently there has been a growth of highly individualized platforms which interact directly with both students and investors. Platforms like Avenify, Blair, Defynance, Stride, and nuntiux have raised millions in venture capital to bypass HEIs and act as both the originators and servicers of ISAs.

Such individualized platforms market investments in specific students, rather than a pool of students based in a specific HEI or sector. Different firms have sought to develop their own niche by offering specialized services for students/investors. These range from machine-learning algorithms that set ideal ISA rates (Avenify, Defynance, Stride) to mentorship programs (Blair, MentorWorks, SharpestMinds) and crowdfunding platforms (nuntiux). Some of these firms market ISAs as 'impact' investments that combine profit with the social benefit of supporting education for marginalized students, while others highlight the efficiency algorithms in matching students and investors and setting optimal rates.

Core to Avenify's model and positioning with investors, for example, is a combination of technology and individualization; as they tell investors "[you] can view information on each student including their GPA, major, degree, and graduation date... [soon] investors will be able to view a more comprehensive student profile, including short-answer questions and career plans." nuntiux has an even more individualized approach, allowing students to set their own ISA terms and posting profiles that include a video message from each student, their personal story, and

highly stylized ‘personal skills and talents’ listed along the sidebar of their profiles. SharpestMinds connects students with industry mentors who receive 3-8% of their mentee’s first year salary as payment. This jockeying for position has led to a competitive space where, as with other emerging FinTech areas, the contest to become the dominant ISA platform has resulted in a wave of venture capital investments.

That ISAs are emerging to fund training in industries often served by for-profit educational programs that disproportionately enroll racially minoritized students in increasingly feminized occupations (Cottom, 2017; Hayes and Milton, 2020) is reframed, in the case of sector-based and individualized ISAs, to be a strength of the industry. That is, several providers claim that investors are making a “social impact” by reaching underserved groups, such as women in coding schools. In doing so, these providers use the US student debt crisis to distinguish their products as practical, responsible, and ethical (Anonymized ISA provider promotional investment webinar, 2020). This perceived social impact has been a key part of the marketing campaigns for ISA intermediaries. Blair, for example, leads its pitch to investors arguing that you can “combine financial returns with social impact by investing in students” while arguing that education is “the basic precondition for social participation.” Similarly, Avenify describes themselves as “creating new opportunities for investors and students” and publicly highlights student testimonials in investment materials. Here the language of investment is given a double meaning in which ISAs are promoted as not just financial investments but investments in student’s futures, reconceptualizing profit extraction as a social good.

The significance of Income Share Agreements: Social reproduction, education, capitalism

Previous sections have sought to clarify the nature of ISAs: what they are, their historical and geographical emergence, and the key actors. As we have shown, ISAs reveal a reorientation in who pays for education, when, and how; what sort of education is paid for; and how financial technologies are reorienting private markets' ability to profit from higher education. The socioeconomic and social reproductive pressures that presage the rise of ISAs—stemming from reduced public investment in higher education and the turn toward workers 'investing' in themselves as human capital—have unlocked new opportunities for private profiteering. The explicitly classed and racialized dimensions of ISAs reflect and, in their own ways, constitute broader shifts in (1) financialization of social reproduction; (2) emerging new geographies of education and, (3) the growth of digital capitalism. In exploring ISAs' intersections with each of these processes, we articulate how the phenomenon of ISAs sheds light on broader geographies of social, educational, and economic change.

ISAs and the financialization of social reproduction

Scholarship on the financialization of social reproduction helps clarify the structural conditions that make ISAs possible: ISAs are a novel social manifestation of financial logics and debt relations. The literature on financialization of social reproduction—an interdisciplinary literature comprising feminist (international) political economy, sociology, and geography—focuses on "the linking of reproductive work and capacities of households to global finance through debt and securitization" (Roberts, 2016, 146), in which families and households become subjected to the risks of over-indebtedness and the fluctuations of global financial markets. Our study of ISAs contributes to knowledge on the process and impacts of financialized social reproduction in two senses. First, ISAs involve social reproduction beyond the domestic sphere—

the most studied aspect of social reproduction—and the career paths that ISAs tend to fund are gendered, classed, and racialized in distinctive ways. Second, by ostensibly departing from the harmful relations that underpin existing loan products, ISAs are able to market themselves as facilitating social reproduction through a friendlier technology of debt that, on the surface, responds to demands for less precarious economic futures. In this they claim to be a "win-win" solution that facilitates both financial profit-making and sustainable forms of social reproduction. But this "alternative" form of education finance in fact perpetuates social segmentation according to career path and uses notions of "social impact" to valorize [commodify]—but not increase the societal value of (Dowling, 2016)—the education of marginalized students.

Education, which involves the reproduction of the labor force but also the reproduction of particular classed, racialized, and gendered cultures of work, has long been studied through the lens of social reproduction (Morrow and Torres, 1995; Mitchell et al., 2004). As Goerisch (2021) further highlights, education also acts as a gateway to debt for many Americans, linking the promise of social mobility to the creation of debt relations. Using a feminist political economy approach to examine the power relations of ISAs in the context of public disinvestment in education and social welfare allows for an expanded understanding of whose education—and whose payments funding that education—underlie contemporary manifestations of socially reproductive labor *outside* the domestic sphere (Soederberg, 2014). ISAs profit from educating workers in coding, healthcare, oil and gas extraction, and other industrial trades that contribute to "the reproduction of daily existence" (Bakker and Gill, 2003). Tracing the marketing of, and experiences with, ISAs also allows us insight into what leads households to take on debt to meet the costs of gaining the credential to access these workplaces, and how everyday experience with

debt shapes students' lives in ways that drive them to consider uncertain financial products like ISAs (Goerisch, 2021; Webb, 2021).

Indeed, from a Marxian understanding of social reproduction as the maintenance and expansion of the existing social relations of capital and the global economy (Federici, 2014), ISAs market a certain form of classed, gendered, and racialized social relations. They do so through investment products focused on careers coded as "practical" from the perspective of investors awaiting repayment and which are aimed at marginalized workers who cannot front the cost of the necessary credentials. As geographers of debt have highlighted, the debt created through this pursuit of education extends into the relations of the household, serving as a stressor that can greatly affect familial bonds and the lives of those struggling with poverty (Goerisch, 2021; Harker and Kirwan, 2019).

Understood through the lens of social reproduction and financialization, ISAs for students in trade schools and other unaccredited higher education programs attempt to circumvent the traditional four-year HEI and produce workers for "practical," recession-proof jobs more rapidly and cheaply while also producing value for investors. But with ISAs like with student loans, future workers are in no way gaining more control over their career futures or their means of reproduction. Without state support for social reproduction, financial capital has become the means of provisioning the family wage and the future of the household in often predatory forms (Bakker and Gill, 2003). This is how the development of ISAs knits finance together with the reproduction of labor and 21st century conceptions of work that is practical and essential enough to always produce a high enough wage for future workers to repay the ISA. This is different from traditional student loans, which do not tie credit to future career prospects. ISAs, on the other hand, use the future outlooks of "practical" careers as a kind of collateral to reassure investors

that working-class people's upward mobility is a good financial bet. These students' potential to repay investors is valorized—converted into investor value (Dowling, 2016)—while the type of labor in which they will eventually engage is devalued: assigned to career paths associated with working class students unable to front the cost of an education.

Financialized social reproduction is a gendered process but also a classed and racialized one ─ recent scholarship in this area explores how all three are intertwined in capitalist production and reproduction (see Bhattacharya, 2017; Rodriguez Rocha, 2021). We can see this manifesting in how ISAs from various providers and industries target different student identities ─ nursing students (women and racial minorities are overrepresented) for Avenify, "underrepresented students" in working-class industrial careers and the high-tech industry for Edly,[7] and gender- and race-coded advertising for coding schools like Holberton (see also Cowley, 2021). In sum, there are variable engagements with difference across the ISA marketplace and the specific terms of financing education are driven in part by the social identities associated with different career paths, disciplining students into particular careers.

The relations and crises of social reproduction are often part of the marketing of ISAs, both to students and investors. The sector defines itself as an alternative to oppressive student debt and claims to allow investors to help students escape an indebted future, responding to a general trend towards investors interested in the social externalities of investment activities. Yet, while ISAs trade in the narrative of financial disruption, an examination of their structure reveals relationships typical to processes of financialization that increasingly view the realm of social reproduction as one of the most 'stable' investments given ongoing economic and social crises:

[7] In 2020, Edly tweeted (https://twitter.com/edlyIBR/status/1321518014223798274) that "Ensuring a sufficient supply of workers with the appropriate skills and credentials and addressing the lack of diversity among high tech workers have become central public policy concerns" and linked to a US Equal Employment Opportunity Commission on "Diversity in High Tech" (https://www.eeoc.gov/special-report/diversity-high-tech#_ftn2).

ISAs remove income from workers' paychecks before other debts are even paid, thus making ISAs complicit in over-indebtedness even while they are marketed as a debt "alternative." This setup retains and in some way doubles down on the link between a tuition-paying student's uncertain labor market future and the disciplining influence of financial markets on student's lives. Finally, investors' perceptions that ISAs are a stable investment are, like other forms of financialized social reproduction, premised on the withdrawal of state support (in welfare, education, etc.), creating necessary and advantageous conditions for private markets to step into the breach (c.f. Goerisch, 2021). In the context of the state's acquiescence and indifference—which has constrained the possibility of upward social mobility for marginalized people—investors become vaunted as benevolent providers of 'opportunity', even as the hand of opportunity reaches, for repayment, into the back pockets of the most financially vulnerable students.

ISAs and new geographies of education

While education geographies are a growing field (see Nguyen et al., 2017; Waters, 2016), geographic research on higher education in the US has mostly focused on traditional four-year HEIs. The most vibrant areas of debate in the field are often focused on large, internationally-oriented institutions: the globalization of competition between universities (Olds, 2007), the international mobility of students (Yang and Cheng, 2018), the role of universities in regional economies (Ehlenz and Mawhorter, 2020), and the 'studentification' of neighborhoods near large universities (Revington and August, 2020). What is less understood are the lives of students at the kinds of non-elite schools that dominate the ISA market and these schools' relationships to labor markets, debt, and the circulation of financial capital (although see Goerisch, 2021).

Additionally, the rapid rise of alternative education programs like vocational schools—and the attendant rise of systems of finance outside federal student aid—has largely been overlooked by geographers of education. This is an important gap to which ISAs draw attention, especially given that education is the key process through which workers of all kinds are produced. As Mitchell (2018) highlights in her work on the connection between education and work, institutions of education are shaped by the needs of the labor market (e.g., the rise of flexible work arrangement) and the production of worker subjectivities (see also Cockayne, 2020).

ISAs function by connecting student payments to investors to these students' labor market outcomes in ways that intensify the 'yoke' that binds education to work noted by scholars like Mitchell (2018). Indeed, both the students and schools involved in ISAs explicitly describe the role of education as the generator of *both* students' future incomes and investor returns (Akers and Strossel, 2019). As such, the production of subjectivities enabled by ISAs spotlights marginalized students like those targeted by Holberton and Lambda who attend for-profit schools based on promises of social mobility and who are correspondingly locked into a new type of debt relationship that is more profitable for investors (Asher-Schapiro, 2020).

Playing close attention to ISAs as a new technology of debt highlights how financialization is reshaping the education sector in uneven ways that unlock profit-making and stratify students based on demographic characteristics. This is manifested in tightening connections between HEIs, financial capital, and labor markets dominated by lower-paid, less educated, and financially precarious workers—who are also disproportionately racialized. As Goerisch (2021) and Webb (2021) have argued in regard to traditional student loans, debt for education taken on by marginalized groups is conceptualized by such students as simultaneously an avenue to social mobility and as a potential burden on their future prospects. Indeed, attitudes

towards educational debt are often based on what Harker (2017) calls 'debt ecologies' or highly spatialized imaginaries of what debt entails. ISAs build on debt ecologies specific to education by presenting marginalized students a financial avenue to education that (supposedly) minimizes their future economic burdens while maximizing their opportunities for social and geographic mobility. That this sales pitch is designed to be most appealing to those with the most to lose (a dynamic of predatory inclusion) brings to our attention processes central to Nguyen et al.'s (2017) agenda for geographies of education: understanding systems of oppression that are embedded and contested within institutions of schooling.

ISAs also rework geographies of education through their function both as a means of accumulation for investors and a disciplining tool for educators and students. Through explicitly and intentionally creating a future-oriented system of education finance (the often referenced 'skin in the game'), in which institutions are motivated to quickly transition their students towards employment (and therefore repayment), ISAs help produce new student subjectivities towards education and work driven by the logics of finance. This can be witnessed in the prevalence of ISAs for skilled yet working-class and gendered trades that are viewed as recession-proof: coding, nursing, and welding. And given the debt relations at play within the higher education landscape more broadly, these trends are likely indicative of dynamics at play at four-year HEIs as well. ISAs are thus an illustrative example of the impact of debt relations on the tightly-bound connection between education and work— relations that are at the top of mind for students throughout the educational landscape (Seamster and Charron-Chénier, 2017; Zaloom, 2019)

Indeed, while similar debt relationships have been of interest to geographers and other social scientists of social reproduction, financialization, and debt (Federici, 2014; Roberts, 2016),

student debt itself has rarely been examined in relation to *its effects on institutions of higher education*. As Horton (2017) argues, the effect of debt on a student's orientations towards education is often left out of descriptions of how schooling produces student subjectivities and spatial relationships. Given the centrality of decisions regarding debt and work to how and why students attend post-secondary schooling and how HEIs respond to those goals, the ways ISAs and other debt instruments shape student attitudes towards education and their 'life chances' (Holloway et al., 2010, 585) is an important process that geographers must be attuned to. The explicit marketing of ISAs as linked to labor market outcomes in vocational fields, for example, highlights how new debt relations are shaping the production of spatialities of learning and work in institutions of higher education through reducing the value of education to its link to localized labour markets such as coding in the Bay Area or truck driving in Tennessee (Matus and Talbut, 2009).

The extreme racialization of student debt (Seamster and Charron-Chénier, 2017) also points to the need for research on classed, gendered, and racialized segregation of student loan "alternatives" that are marketed as helping the most marginalized students and workers and linked to place-based geographies. How, in practice, are alternative instruments like ISAs altering ongoing economic and social reproductive relations of class, gender, and race in particular sites? As described above, ISAs have largely concentrated in localized, smaller, and for-profit institutions that target marginalized students because federal loans are unavailable to their students. [8] Such students often have restricted geographic mobility in choosing educational

[8] Students at for-profit institutions (four-year) are more likely to need a loan (86% of students) than students at public (66%) / private, non-profit (69%) institutions, and are more likely to be non-white (66% of students) compared to public (44%) and private, non-profit (35%) institutions (National Center for Educational Statistics, 2019).

options, unlocking opportunities for the predatory inclusion (Harker and Kirwan, 2019).

Certainly, early reports on ISAs suggest an acceleration of the dynamics of predatory inclusion (Habash and Kaufman, 2020; Hayes and Milton, 2020; Wan, 2020). For example, Asher-Schapiro (2020) documents how the Holberton School targets its advertisements at racialized students in the San Francisco Bay Area and then garnishes their wages even if they do not finish the "peer learning" model described in the introduction. What must be further understood is how the expansion of credentials to new populations through educational "alternatives" such as coding schools may serve to undercut existing workers in these industries. ISAs are often geared at changing labor markets dynamics through the feminization of work, enrolling feminized and racialized labor forces in a new 'digital Taylorism' that increases competition for work in areas like coding and thus mobilizes systems of oppression to drive down wages (Mitchell, 2018). In sum, ISAs reveal not only changes within higher education but impacts to labor geographies more broadly.

ISAs and digital capitalism

The recent and rapid growth of ISAs in the United States can also be understood within the wider macro-economic ascendance of digital capitalism (Sadowski, 2020; Srnicek, 2017). ISAs present the leading edge of this terrain within the higher education landscape, with ISA platforms profiled on websites like TechCrunch and described as having "captured the popular imagination of Silicon Valley" (Miller, 2019). This extension of the confluence of finance and technology—commonly known as FinTech—into higher education offers important insights into the dynamics of financial technologies when they are rolled out in sectors within the social reproductive sphere, where ethical-moral registers articulate with financial logics.

Higher education is no stranger to 'the market', of course. For critical scholars, documenting the many and varied ways that higher education has been exposed to and transformed through market forces has become a "well-worked furrow" (Komljenovic and Robertson, 2017, 622). Accounts of corporate sponsorship, management-by-consultancy, contractors, vocationalisation, and other practices have emphatically made the case that HEIs and the market have become ever more closely intertwined through corporatization, privatization, and competition (Lewis and Shore, 2019). Yet only relatively recently have such scholars begun to grapple with the turn toward digital capitalism and its attendant organisational forms and logics (such as ISAs) as constituting a distinct and increasingly dominant style of market enveloping higher education around the world.

The most sustained effort to grasp the encounters between digital capitalism and higher education is arguably found in accounts of EdTech (education technology), albeit implicitly for the most part. In rare explicit fashion, Williamson (2020, 1) argues that forms of digital capitalism "have begun to infuse the higher education landscape by merging with existing political demands […] to become more data-driven, competitive, and market-focused." Focusing on Pearson (plc/ltd) as a paradigmatic case, Williamson examines the recent "digital pivot" of edu-business as part of wider tendencies toward platform-enabled dominance—or "digital enclosure" (Sadowski, 2020)—within the higher education sector. But EdTech literature has so far largely focused on what we might call education *operations* technology (EdOpTech): hardware, software, and analytics related to the performance of teaching and management functions. Overlooked are the ways that education-focused *financial* technologies (EdFinTech), like ISAs, are also being positioned to reshape higher education.

The growth and character of ISAs in recent years has much to do with FinTech. While the ISA—at its core, an 'analogue' financial contract that intermediates students and investors—is by no means specific to the era of digital technology, digital technology has been integral to upscaling and accelerating ISA use (enabling higher volume and faster processing) and increasing their seductive power via digital interfaces that promise a user-friendly, seemingly low-barrier and ostensibly benevolent pathway out of classed and racialized disadvantage (Ash et al., 2018). Existing literature on FinTech draws attention to the centrality of data aggregation and algorithmic analysis in business models, and the often-concealed power of digital infrastructures in framing financial relations and subjectivities (Langley and Leyshon, 2020).

Within geography, FinTech scholarship has focused on the spatial dimensions of FinTech-enabled economic activities and their uneven outcomes (Lai and Samers, 2020; Knight and Wojcek, 2020). Questions remain, however, regarding how FinTech responds to and reshapes socio-spatial inequalities. Here, ISAs offer an important addition to the FinTech literature through examining the ethical-moral registers and geographies that ISAs mobilise to attract students. As can be seen in the marketing of ISAs to both students and investors outlined above, EdFinTech positions itself as facilitating the 'double investment' of wealth creation (associated with social gain) and wealth extraction (associated with private gain) (to use Sayer's [2016] distinction). Indeed, by positing the mutual and beneficial dependence of each on the other, ISAs skirt over how the demands of private gain appear to dictate the nature and extent of social gain. Further, attention to the ways that ISA expansion seemingly entails the exploitation of gender, race and class identities and inequities through FinTech is an underdeveloped but needed line of inquiry in geography. Here, FinTech literature, which has not yet contained a strong focus on the connections between FinTech and the maintenance of social difference

(though see Friedline and Chen, 2021; Odinet, forthcoming) could be brought into conversation with longer-standing digital geography scholarship attuned to gender and race dynamics (see McLean et al., 2019; Elwood and Leszczynski, 2018).

While not all FinTech developments are platforms, many are or aspire to become platforms. This holds true for ISAs. Accounts of platform capitalism provide some further clues about how we might understand the work of ISAs in higher education while simultaneously allowing us to use ISAs to better appreciate how platform capitalism functions. One set of accounts highlights the structuring ambitions and effects of platform-oriented digital capitalism: the drive toward market consolidation or monopolization to achieve a form of ecological dominance, wherein economic activity is dependent on platform access, and digital enclosure provides the basis for the capitalization of data as a key source of economic value (Langley and Leyshon, 2020; Sadowski, 2020; Srnicek, 2017). Other accounts focus on the fissures or 'glitches' within ostensibly dominant formations of digital platforms, seeing the configuration of platforms, people and spaces as "open to negotiations, reconfigurations, and diffractions through tactical maneuvers rooted in everyday digital practices" (Leszczynski, 2020: 189; Barns, 2019).

These two distinct but related agendas—one on 'platform political economy' (Langley and Leyshon, 2020), the other on the 'platform everyday' (Barns, 2019)—provide fertile ground for understanding logics and practices associated with ISAs at the level of institutions and the individual. Accounts of ISAs can also be folded back into broader debates over digital capitalism (including FinTech and platforms) to highlight education as an under-explored domain through which digital capitalism is being (re)produced. For example, Defynance, a self-described 'ISA-powered FinTech platform' uses its position to profit as an intermediary in multiple ways, taking in a 1% transaction fee, 5% servicing fee, 2% sales charge and 1% management fee to capture

revenue via their mediating role; their plan is to capture more revenue from 'freemium' or 'sponsored' content in the future. Here we see attempts to build a data enclosure where Defynance can capture economic value.

Yet, at the same time, digging into the everyday details of Defynance's application process highlights how this financial arrangement is built upon conceptualizing education as a future source of income, collecting information on degree type, living arrangements, and even legally dubious categories such as race. ISAs as an EdFinTech platform are thus shaped by the sectoral logics of education in ways that highlight how these new technologies may reconfigure student subjectivities. Here ISAs present a test case in how the expansion of FinTechs remake sectoral and individual dynamics. Other platforms like nunitiux promise digital profiles that not only bring students and investors together financially, but emotionally through providing personalized information. FinTech platforms therefore operate on multiple registers that incorporate the particular ideologies associated with education. In the everyday, ISA platforms reconfigure student subjectivities, but also depend upon investor and student expectations of the role of education to build connections between investor and investee.

Conclusion

In this article we have explored how ISAs operate as a novel form of finance that targets "alternative" types of students in 21st century higher education: working-class, racialized, or otherwise marginalized students who cannot afford to gamble on a future saddled by student debt; students that HEIs and investors view as poised to enter practical, recession-proof, skill-oriented jobs that will always pay (students and investors) back. In particular, we have discussed how ISAs illuminate some of the under-studied geographies of US—and increasingly global—

higher education: (1) the relationship between a 21st-century spatial division of vocational labor and the means by which such laborers are recruited, educated, and enrolled through relationships of predatory inclusion; (2) that these new educational geographies are undergirded by the production of investor and student subjectivities under conditions of financialized social reproduction—in which a different sort of higher education becomes a site of speculation for investors; and, (3) that both the remaking of HEIs and of student subjectivities have been shaped by financial technologies with individuating logics, remapping education as a dual investment that produces both profits and students oriented towards particular types of industries.

As illustrated by our opening story of Holberton's pitch to catapult under-served Bay Area residents into tech industry employment, the growth in ISAs in the US—most dramatically within vocational higher education institutions—actively plays on classed, gendered, and racialized associations with inequality and disadvantage. In the context of narrowing pathways into economic security, the prospect of 'debt-free' financing for education, that most culturally venerated tool of upward social mobility, acquires a certain lustre. Yet despite this, ISAs are not encountering a body of empowered consumers abstracted from social and geographical context—the very existence of ISAs depends on the perpetuation of inequalities through an underfunded education system and labor market already stratified by social difference.

The industry's argument that ISAs are a "win win" for students, schools, and investors was dampened in late 2021 by the regulatory decision (referenced in the introduction) that Better Future Forward could no longer market ISAs as an alternative to student debt (CFPB, 2021). Many ISA providers are adjusting their marketing in response. Edly, for example, has rebranded its ISAs as "income based repayment student loans." This development only illuminates how ISAs extend, rather than provide an alternative to, the relations and spatialities of student debt.

Part of the critical agenda our paper seeks to promote is diagnostic: finding ways to properly assess the nature and significance of ISAs, including the ways that ISAs are products of, and contributors toward, wider systems and practices of (sometimes benevolently motivated) exploitation. This is an important element of action-oriented steps toward (1) conceptualizing ISAs as part of—not an alternative to—the debt-funded US higher education system and (2) contesting harmful aspects of ISA expansion. Such contestation could take cues from, and connect with, wider movements surrounding debt activism, which have exposed class and racial exploitation through the extension of debt, and have promoted the cancellation of debt burdens and the use of more equitable alternatives.

As ISAs expand the debt-financing options available to non-traditional students, they also contribute to an expansion of credentialing for 21st-century career paths like coding, and for trades and vocations that in the past were more associated with apprenticeships or on-the-job training. The creation of new credentials and accompanying expansion of educational finance affects the spatial division of the labor (Massey, 1984) associated with these credentials: who is able or expected to do these jobs, where these jobs are done, and under what terms. Many ISA companies, for example, highlight the "flexibility" of the careers for which workers are being trained: online work, contract work, mobile work, etc. In addition, the ongoing feminization of certain ISA-focused sectors like software development—from white collar, male Silicon Valley associations to more working-class trades (Mahmoudi, 2017)—places students enrolled in these programs into career paths that are associated with dropping rather than rising wages. Tacit and explicit marketing of ISAs towards working class, racialized, and otherwise marginalized students, framed as allowing investors to have a positive social impact on these students' lives, is another form of predatory financial inclusion. Future work on this industry should be grounded

in understanding the power relations behind the ISA marketplace, the profit-making structures of schools and investors, and the larger political economic structures perpetuating the commodification of insecure futures into educational debt.

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